

7 Atmospheric Environment

Atmospheric Environment was identified as a valued component (VC) as the Project will result in the release of air contaminants to the atmosphere. Throughout the Project, various activities will contribute to the release of air contaminants including particulate matter, gaseous air contaminants, noise, and light emissions. The most substantive emissions are expected from earth and material loading and hauling activities, blasting, and equipment movements, which could affect air and sound quality. The atmosphere also acts as a pathway for contaminants to reach freshwater (assessed in Section 9), wildlife (assessed in Section 11), and human environments (assessed in Sections 12 and 13).

Air quality is defined by the composition of the ambient air, including the presence and quantity of air contaminants that may have adverse effects on vegetation, wildlife, or human health. Air quality is highly influenced by local sources of air contaminants (e.g., nearby industrial facilities or vehicle traffic) and can also be influenced by air contaminants transported from sources that are farther away. The concentrations of contaminants in the ambient air can be compared to air quality criteria and objectives, which are established to protect the environment including human health. Greenhouse gas emissions released as a result of the Project are quantified and discussed in Section 4.7.1.1.

Sound quality is characterized by the magnitude, frequency, and duration of sound. Noise is unwanted sound that can adversely affect wildlife or human health.

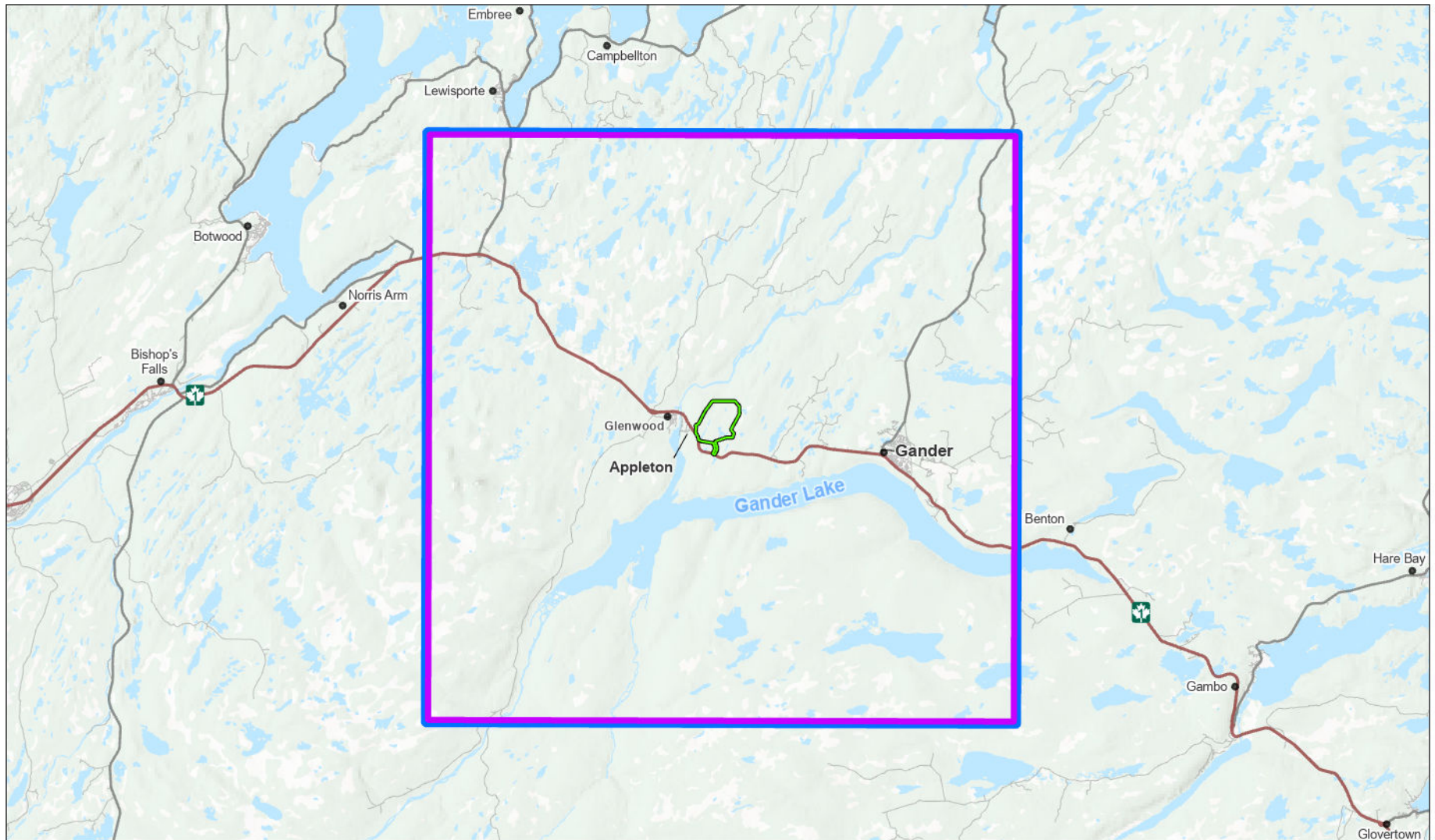
Ambient light is assessed because exterior Project lighting can affect night sky quality and affect humans and wildlife physiologically.

As shown on Figure 7.1, Project spatial boundaries for Atmospheric Environment include the Project Area (area of physical activities), the Local Assessment Area (LAA) and the Regional Assessment Area (RAA). The LAA and RAA are the same 50 kilometre (km) by 50 km area, which includes the Project Area.

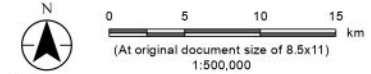
A significant residual adverse effect on the Atmospheric Environment for the Project is defined as any of the following:

- For air quality, the Project-related maximum ground level air contaminants released plus the background levels result in frequent offsite exceedances of applicable ambient air quality objectives, guidelines, or standards. Frequent is defined as once per week for one-hour objectives and once per month for 24-hour objectives.
- A significant residual adverse effect for sound quality (noise) is one where Project-related noise levels at noise-sensitive receptors are likely to exceed the nuisance criterion recommended by Health Canada.
- A significant residual adverse effect on ambient light is defined as an increase in Project-related light emissions such that the Commission Internationale de L'Éclairage (Commission on Illumination, or CIE) guidelines for light trespass and glare in a rural environment are exceeded, and sky glow levels would be altered toward those of a suburban environment.

I:\a\0151_PPF\5501\work_group\12141\active\121417598\03_data\gis_cad\mapping\AcGIS Proj\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-27 By: niwhite



- Legend**
- Project Area
 - Local Assessment Area
 - Regional Assessment Area
 - Community
 - Trans-Canada Highway
 - Highway
 - Arterial / Collector
 - Local Road
 - Waterbody
 - Forested Area



Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: GIS Database, Federal Geospatial Platform (FGP), Natural Resources Canada. <https://open.canada.ca>
3. Background: NRCan CanVec;



Project Location
Appleton,
Newfoundland and Labrador

Client/Project
Newfound Gold Corporation
Queensway Gold Project

Prepared by AC on 2026-03-03
QR by NW on 2026-04-21

121418510_736

Figure No.
7.1

Title
**Atmospheric Environment
Spatial Boundaries**

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

7.1 Existing Conditions

7.1.1 Regulatory and Policy Setting

7.1.1.1 Air Quality

Air quality in Newfoundland and Labrador (NL) is regulated by the *Air Pollution Control Regulations, 2022* under the NL *Environmental Protection Act* (NL EPA). The NL Air Quality Standards (NL AQS), prescribed under Schedule A of the *Air Pollution Control Regulations, 2022*, apply to ambient air contaminants and were originally established under NL EPA in 2004. The NL AQS values are shown in Table 7.1.

Table 7.1 Newfoundland and Labrador Air Quality Standards

Contaminant	Units	1-hour	3-hour	8-hour	24-hour	1 year
Air Quality Standards						
Aluminum ⁽⁷⁾	micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)	-	-	-	12	-
Ammonia	Parts per billion (ppb)	-	-	-	144	-
Asbestos (greater than 5 microns in length)	Fibres per cubic centimetre of air	-	-	-	0.04	-
Arsenic	$\mu\text{g}/\text{m}^3$	-	-	-	0.3	-
Cadmium	$\mu\text{g}/\text{m}^3$	-	-	-	2	-
Carbon monoxide	ppb	30,582	-	13,107	-	-
Copper	$\mu\text{g}/\text{m}^3$	-	-	-	50	-
Hydrogen sulphide	ppb	11	-	-	4	-
Iron ⁽⁸⁾	$\mu\text{g}/\text{m}^3$	-	-	-	4	-
Lead	$\mu\text{g}/\text{m}^3$	-	-	-	2	-
Mercury	$\mu\text{g}/\text{m}^3$	-	-	-	2	-
Nickel	$\mu\text{g}/\text{m}^3$	-	-	-	2	-
Nitrogen dioxide	ppb	213	-	-	106	53 ⁽¹⁾
Particulate matter < 2.5 microns	$\mu\text{g}/\text{m}^3$	-	-	-	25 ⁽⁴⁾	8.8 ⁽¹⁾⁽⁴⁾
Particulate matter < 10 microns	$\mu\text{g}/\text{m}^3$	-	-	-	50	-
Particulate matter (total)	$\mu\text{g}/\text{m}^3$	-	-	-	120	60 ⁽²⁾
Polychlorinated biphenyls	$\mu\text{g}/\text{m}^3$	-	-	-	0.15	0.035 ⁽¹⁾
Polychlorinated dibenzo -p-dioxins & polychlorinated dibenzo furans (I-TEQ)	Picograms (I-TEQ) per cubic metre of air	-	-	-	5 ⁽³⁾	-
Sulphur dioxide	ppb	344	229	-	115	23 ⁽¹⁾
Vanadium	$\mu\text{g}/\text{m}^3$	-	-	-	2	-
Zinc	$\mu\text{g}/\text{m}^3$	-	-	-	120	-

Table 7.1 Newfoundland and Labrador Air Quality Standards

Contaminant	Units	1-hour	3-hour	8-hour	24-hour	1 year
Air Quality Standards for Air Zone Management						
Nitrogen dioxide (Effective January 1, 2025)	ppb	42 ⁽⁵⁾	-	-	-	12 ⁽¹⁾
Ozone	ppb	82	-	44	-	-
Particulate matter < 2.5 microns	µg/m ³	-	-	-	25 ⁽⁴⁾	8.8 ⁽¹⁾⁽⁴⁾
Sulphur dioxide (Effective after January 1, 2025)	ppb	65 ⁽⁶⁾	-	-	-	4 ⁽¹⁾

Notes:

- (1) The arithmetic average over a single calendar year of all 1-hour average concentrations in the year.
- (2) The geometric average over a single calendar year of all 1-hour average concentrations in the year.
- (3) The International Total Equivalent Quotient (I-TEQ) concentration of polychlorinated dibenzodioxins and polychlorinated dibenzofurans is determined by multiplying the concentration of each congener listed in Column 1 of Table III by the corresponding toxicity factor set out in Column 2 of that item and by adding the products of them.
- (4) At reference conditions, a dry gas temperature of 25 degrees Celsius (°C) and a gas pressure of 101.325 kilopascals
- (5) The 3-year average of the annual 98th percentile of the NO₂ daily maximum 1 hour average concentrations.
- (6) The 3-year average of the annual 99th percentile of the SO₂ daily maximum 1 hour average concentrations.
- Source: NL *Air Pollution Control Regulations, 2022*
- (7) Aluminum is not part of the NL AQS, but is commonly modelled for other mine sites. The ambient air quality standards for aluminum were taken from the Ontario MECP Air Contaminants Benchmark (Ontario MECP 2026)
- (8) Iron is not part of the NL AQS, but is commonly modelled for other mine sites. The ambient air quality standards for iron were taken from the Ontario MECP (Ontario MECP 2025)

The applicable federal air quality criteria considered in the assessment are the Canadian Ambient Air Quality Standards (CAAQS). The CAAQS were established by the Canadian Council of Ministers of the Environment (CCME) (Table 7.2).

Table 7.2 Canadian Ambient Air Quality Standards

Air Contaminant	Averaging Period	µg/m ³	
		2025–2029	2030+
Ozone (O ₃)	8-hour ⁽¹⁾	118	-
Nitrogen Dioxide (NO ₂)	1-hour ⁽²⁾	79	-
	1-year ⁽³⁾	23	-
Sulphur Dioxide (SO ₂)	1-hour ⁽⁴⁾	170	-
	1-year ⁽⁵⁾	10	-
Fine Particulate Matter (PM _{2.5})	24-hour ⁽⁶⁾	27	23
	1-year ⁽⁷⁾	8.8	8.0

Notes:

- (1) The 3-year average of the annual 4th highest of the daily maximum 8-hour average ozone concentrations.
- (2) The 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations.
- (3) The average over a single calendar year of all 1-hour average concentrations.
- (4) The 3-year average of the annual 99th percentile of the SO₂ daily maximum 1-hour average concentrations.
- (5) The average over a single calendar year of all 1-hour average SO₂ concentrations.
- (6) The 3-year average of the annual 98th percentile of the daily 24-hour average concentrations.
- (7) The 3-year average of the annual average of the daily 24-hour average concentrations.

Source: CCME (2024)

The CCME established a framework, the Air Quality Management System (AQMS), for reducing emissions of ambient air contaminants across Canada. The NL AQS (Table 7.1) specifies air quality standards for provincial air zone management. The AQMS categorizes air quality management into four levels for air zone management. Each management level has specific actions and objectives:

- Red management level, to reduce ambient concentrations below the CAAQS through advanced air management actions
- Orange management level, to improve air quality through active air management and prevent exceedances of the CAAQS
- Yellow management level, to improve air quality using early and ongoing actions for continuous improvement
- Green management level, to maintain good air quality through proactive air management measures to keep clean areas clean

This air quality assessment considers substances that could be emitted from the Project for which there are applicable air quality objectives and standards. These include:

- Particulate matter with aerodynamic particle diameter less than or equal to 10 microns (PM₁₀)
- Particulate matter with aerodynamic particle diameter less than or equal to 2.5 microns (PM_{2.5})
- Total suspended particulate matter (TSP)
- Metals regulated by the NL AQS, plus aluminum and iron (not regulated in NL but present in ore in higher percentage).
- Combustion gases (NO₂, carbon monoxide [CO], and SO₂)

Other air contaminants are also regulated provincially; however, these compounds are not expected to be released in substantive quantities from the Project and therefore exceedances of the NL AQS or CAAQS are not anticipated due to the Project (i.e., ammonia, asbestos, hydrogen sulphide, polychlorinated biphenyls, polychlorinated dibenzo-p-dioxins, and polychlorinated dibenzo furans).

The Government of NL's Guideline for Plume Dispersion Modelling (NLDEC 2012) outlines dispersion modelling methods approved for determining compliance with provincial air quality standards. As part of this assessment, modelling has been completed in accordance with the requirements of the Guideline, including the use of CALMET/California PUFF (CALPUFF) modelling system (Scire et al. 2000) to support the determination of the potential effects of air contaminant releases from the Project on ambient air quality in the LAA/RAA.

7.1.1.2 Sound Quality

There are no regulations in place for sound quality or noise in NL, and there are no by-laws related to noise in the Town of Appleton. Health Canada provides guidance for assessing noise in their Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise document (Health Canada 2023). Health Canada's approach to acoustic assessments is based on internationally recognized standards for acoustics, including those published by the World Health Organization and the United States Environmental Protection Agency (US EPA).

Health Canada recommends quantifying changes in noise levels using the quantity known as the percent highly annoyed (%HA). The %HA is calculated based on a correlation between community annoyance and sound pressure levels averaged over a 24-hour period (Health Canada 2023). The 24-hour average sound level is referred to as the day-night sound pressure level (L_{dn}), and it includes an average daytime (7 AM to 11 PM) sound level and an average nighttime (11 PM to 7AM) sound level, with an additional 10 decibel (dB) penalty for the nighttime level to correspond to the increased sensitivity to noise during the night. Health Canada recommends mitigation measures for noise be applied when the change in the %HA value due to Project activities is greater than 6.5%.

7.1.1.3 Light

Light is known to have potential impacts on the environment through four mechanisms:

- Light trespass, which refers to the transmission of light from fixtures within a facility to the surrounding environment and receptors outside the facility. The unit of measure for light incidence either in or outside the facility is a lux. A lux is equal to one lumen lighting up an area of 1 square metre (m^2), or 1 lumen/ m^2 . A 60-watt incandescent light bulb emits approximately 800 lumens. In order to experience 1 lux from this light bulb, you would need to be approximately 8 metres (m) away.
- Glare, which refers to lighting conditions with high contrast in a field of view that reduces the ability of humans, birds and other organisms to see clearly. For example, high-beam vehicle headlights can result in poor visibility for the driver coming towards the high-beam vehicle. The unit of measure is luminance, which is equal to lumens per steradian, and this is referred to as the candela (cd).
- Upward Light Ratio (ULR) refers to the percentage of light from a luminaire that is emitted directly into the sky. The ULR is calculated as the proportion of a luminaire's total luminous flux (light output) that is emitted directly upward above the horizontal plane. The ULR contributes to sky glow by allowing light to escape into the sky, where it scatters off atmospheric particles and clouds, creating a glow that obscures stars and brightens the night sky. Reference levels for ULR for roadways are presented in Table 7.7 (CIE 2017).
- Sky glow, which is the cumulative illumination of the sky or clouds by upward directed light sources. A small fraction of light that is directed or reflected towards the sky is scattered back towards the Earth's surface by the atmosphere. As the number of light sources casting light upwards increases, the amount of scattered light increases, and can begin to obscure stars and other celestial objects in the night sky and degrade the quality of dark skies. The most common unit of measure for the brightness of the sky, including sky glow, is magnitudes per square arcsecond ($\text{mag}/\text{arcsec}^2$). A sky glow measurement representative of a clear sky in a rural or dark area would be approximately 21 to 22 $\text{mag}/\text{arcsec}^2$, while a city or urban well-lit area could be approximately 18-19 $\text{mag}/\text{arcsec}^2$ (Berry 1976). Reference levels for sky glow are presented in Table 7.6 (Berry 1976).

The province of NL does not have regulations for ambient light from industrial facilities. The CIE has guidelines and recommendations to limit obtrusive effects of light at night (CIE 2017). The CIE guidelines account for existing lighting conditions through the development of environmental lighting zones, shown in Table 7.3. The Guideline levels for light trespass, glare, and upward light ratio are then organized based on these different environmental lighting zones and recommend more stringent guidelines be applied to areas with low brightness levels.

Table 7.3 Environmental Lighting Zones

Zone	Lighting Environment	Examples
E0	Intrinsically Dark	International Dark Sky Parks
E1	Dark	Relatively uninhabited rural areas
E2	Low district brightness	Sparsely inhabited rural areas
E3	Medium district brightness	Well inhabited rural and urban settlements
E4	High district brightness	Town and city centres and other commercial areas

Source: CIE (2017)

For light trespass, the CIE recommends maximum values of illumination for the environmental lighting zones as shown in Table 7.4.

Table 7.4 Recommended Maximum Values of Light Trespass (Illumination) per Environmental Zones

Time of Day	Environmental Zones				
	E0	E1	E2	E3	E4
19:00 – 23:00	n/a	2 lux	5 lux	10 lux	25 lux
23:00 – 6:00	n/a	< 0.1 lux	1 lux	2 lux	5 lux

Source: CIE (2017)

For glare, the CIE recommends maximum values for the intensity of luminaires for environmental lighting zones as shown in Table 7.5. The glare values depend on the brightness of the luminaire, the distance from it to the observer (d), and the size of the luminaire (A_p).

Table 7.5 Recommended Maximum Values for Glare (Intensity of Luminaires)

Light Technical Parameter	Application Conditions	Luminaire group (projected area A_p in m^2)				
		$0 < A_p \leq 0.002$	$0.002 < A_p \leq 0.01$	$0.01 < A_p \leq 0.03$	$0.03 < A_p \leq 0.13$	$0.13 < A_p \leq 0.50$
Maximum luminous intensity luminaire (I in cd)	Environmental Zone E0					
	Pre-curfew*:	0	0	0	0	0
	Post-curfew:	0	0	0	0	0
	Environmental Zone E1					
	Pre-curfew:	$0.29 \cdot d$	$0.63 \cdot d$	$1.3 \cdot d$	$2.5 \cdot d$	$5.1 \cdot d$
	Post-curfew:	0	0	0	0	0
	Environmental Zone E2					
	Pre-curfew:	$0.57 \cdot d$	$1.3 \cdot d$	$2.5 \cdot d$	$5.0 \cdot d$	$10 \cdot d$
	Post-curfew:	$0.29 \cdot d$	$0.63 \cdot d$	$1.3 \cdot d$	$2.5 \cdot d$	$5.1 \cdot d$
	Environmental Zone E3					
	Pre-curfew:	$0.86 \cdot d$	$1.9 \cdot d$	$3.8 \cdot d$	$7.5 \cdot d$	$15 \cdot d$
	Post-curfew:	$0.29 \cdot d$	$0.63 \cdot d$	$1.3 \cdot d$	$2.5 \cdot d$	$5.1 \cdot d$
	Environmental Zone E4					
	Pre-curfew:	$1.4 \cdot d$	$3.1 \cdot d$	$6.3 \cdot d$	$13 \cdot d$	$26 \cdot d$
	Post-curfew:	$0.29 \cdot d$	$0.63 \cdot d$	$1.3 \cdot d$	$2.5 \cdot d$	$5.1 \cdot d$

Note:

* Curfew refers to the time of day after which light requirements are more strict to control obtrusive light. Post-curfew typically refers to 11:00 p.m. and later. Pre-curfew is daytime hours up until post-curfew.

Source: CIE (2017)

Table 7.6 Reference Levels of Sky Glow

Sky Glow (mag/arcsec ²)	Corresponding Appearance of the Sky
21.7 (Rural)	The sky is covered with stars that appear large and close. In the absence of haze, the Milky Way can be seen to the horizon. The clouds appear as black silhouettes against the sky.
21.6	Sky appearance similar to that defined for rural (above) but with a glow in the direction of one or more cities is seen on the horizon. Clouds are bright near the city glow.
21.1	The Milky Way is brilliant overhead but cannot be seen near the horizon. Clouds have a greyish glow at the zenith and appear bright in the direction of one or more prominent city glows.
20.4	The contrast to the Milky Way is reduced and detail is lost. Clouds are bright against the zenith sky. Stars no longer appear large and near.
19.5	Milky Way is marginally visible, only near the zenith. Sky is bright and discoloured near the horizon in the direction of cities. The sky looks dull grey.
(18.5 Urban)	Stars are weak and washed out and reduced to a few hundred. The sky is bright and discoloured everywhere.

Source: Berry (1976)

While CIE has not established guideline levels for sky glow, they do provide guidelines on upward light that directly contributes to sky glow. The CIE has guidelines for the upward light ratio, which is the fraction of light pointed towards the sky. The CIE maximum values of upward light ratio are presented in Table 7.7.

Table 7.7 Maximum Values of Upward Light Ratio of Installation

Light Parameter	Type of Installation	Environmental Lighting Zones				
		E0	E1	E2	E3	E4
Upward Flux Ratio (%)	Road	0	0	2.5	5	15

Source: CIE (2017)

7.1.2 Approach and Methods

7.1.2.1 Climate

Existing climate in the Project Area is characterized using climate normal and wind data from the representative meteorological stations located nearest to the Project with sufficient data availability. Climate normal for the 30-year period from 1991 to 2020 (ECCC 2025a) and wind data from 2020 to 2024 (ECCC – MSC 2020, 2021, 2022, 2023, and 2024) were used in the assessment. The information on climate normal data and wind data was obtained from Environment and Climate Change Canada (ECCC) Gander, NL, station. Further information on climate and climate change as related to the Project is provided in Section 15.1.

7.1.2.2 Air Quality

Existing air quality in the Project Area is characterized by obtaining and assessing measured ambient air quality data, as well as data for releases of air contaminants from existing sources within the LAA.

Ambient concentrations of particulate matter (TSP and PM_{2.5}) and NO₂ were measured at two locations near the Project Area, at the Town of Appleton and near Joe Batt's Pond (Figure 7.2). The ambient concentrations were measured over the period of August 19 to 22, 2023 for particulate matter and October 16 to 20, 2023 for NO₂. Baseline reports will be provided to applicable regulators pre-construction. A summary of results is provided in Section 7.1.3.1.

Ambient concentrations of TSP were measured using a Tisch Environmental TE-5170 mass-flow TSP high-volume sampler and the ambient concentrations of PM_{2.5} were measured using two BGI PQ200 Ambient Air Particulate Samplers, both of which meet the requirements outlined by the US EPA for approved particulate matter sampling systems. Ambient concentrations of NO₂ were measured using passive air sampling devices. One field blank was also collected.

Upon completion of the monitoring, the samples, along with field sampling details (i.e., sample date, duration, volume) were sent to AGAT Laboratories in Dartmouth, Nova Scotia (total particulate matter [TPM]) and Calgary, Alberta (PM_{2.5}) and Bureau Veritas in Edmonton, Alberta (NO₂). The sampling results were reported as concentration and weight, over the duration of the sampling period.

In addition to the data collected near the Project Area, the most recently available ambient air quality data (2021 to 2023) from the National Air Pollutant Surveillance (NAPS) Program, the provincial air quality report (2024), as well as air contaminant release information (2023) were obtained and used in the assessment (NLDECC 2025). Four years (2019-2023) of ambient air quality data were obtained from ECCC (ECCC 2024), and air contaminant release information was obtained from ECCC National Pollutant Release Inventory (NPRI) (ECCC 2025b).

\\s0151-PPFSS01\work_group\1214\active\12141759803_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-27 By: mwhite

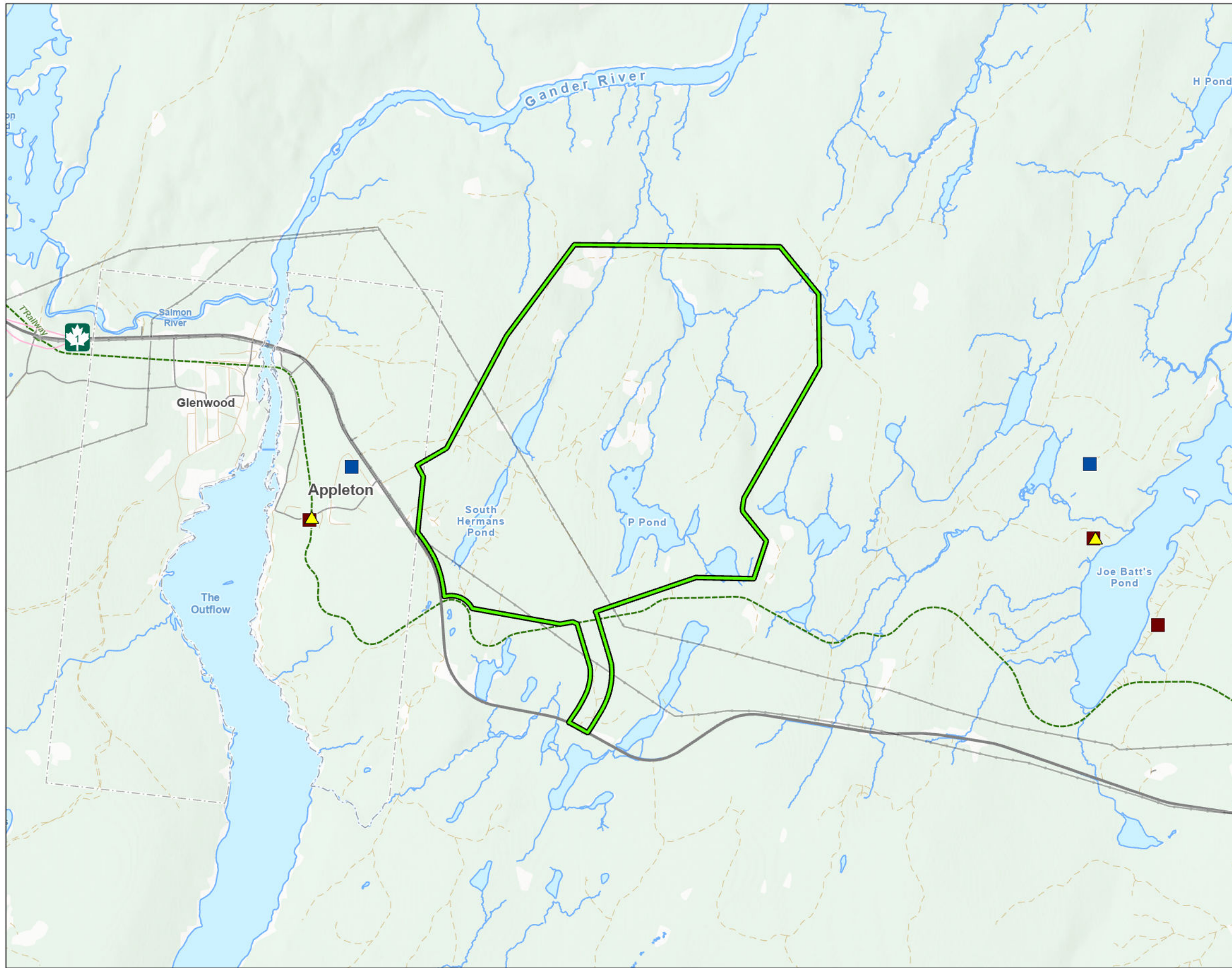


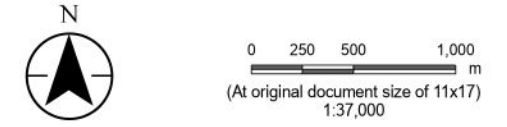
Figure No.
7.2

Title
Monitoring Locations

Client/Project
New Found Gold Corp.
Queensway Gold Project 121418510_737

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by AC on 2026-03-03
QR by NW on 2026-04-21
TR by DOM 2026-04-27



- Air Quality Monitoring Locations
 - ▲ Light Monitoring Location
 - Noise Monitoring Location
 - Project Area
 - Watercourse
 - Waterbody
 - Municipal Boundary
- Existing Infrastructure**
- Transmission Line
 - Highway
 - Collector
 - Local / Street
 - Ramp
 - Resource Road / Trail
 - NL T'Railway Provincial Park



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



7.1.2.3 Sound Quality

An understanding of the existing acoustic environment within the Project Area and at the nearest noise sensitive receptor locations is required to assess the potential effects of noise resulting from the Project. Health Canada recommends that baseline sound measurements being applied in an acoustic assessment, as part of an Environmental Assessment, be characterized through direct measurement (Health Canada 2023). Baseline sound quality monitoring was conducted at nearby receptor locations to establish baseline sound levels for the acoustic assessment.

The baseline sound quality monitoring was conducted in accordance with ISO 1996-2:2007 (*Acoustics – Description, measurement and assessment of environmental noise – Part 2L Determination of environmental noise levels*), as recommended by Health Canada (Health Canada 2023). Ambient sound levels were measured using Type 1 sound level meters. The sound pressure level meters were set up to log one-minute equivalent continuous sound level (L_{eq}) values for a period of two days. Baseline sound pressure levels were measured at two locations near the Project Area and one location farther from the Project within the Town of Appleton, the nearest town to the Project Area (Figure 7.2).

Upon completion of the sound monitoring, the baseline measurements were downloaded from the sound pressure level meters and analyzed in relation to meteorological conditions during the time of monitoring, and potential nearby sources of sound (both natural and anthropogenic). Further calculations were performed on the raw data to obtain daytime and nighttime average sound levels, or L_d and L_n , respectively. Baseline reports will be provided to applicable regulators pre-construction. A summary of results is provided in Section 7.1.3.2.

7.1.2.4 Lighting

Exterior project lighting can affect nighttime sky views and migrating wildlife, and result in visual aesthetic changes for, and in extreme cases, physiological changes, in humans. There are several residences, cabins and the Town of Appleton located near the Project that may experience lighting from Project-related activities. Baseline nighttime light levels were measured at nearby receptor locations to establish baseline light levels for the lighting assessment.

Existing ambient light levels at receptor locations near the Project were characterized by conducting ambient light monitoring, including measurements of illuminance (lux) and sky glow (mag/arcsec²). Illuminance was measured using a conventional, integrating hemispherical light meter (Extech EA33) with a resolution of 0.01 lux. Sky glow was measured using a Unihedron Sky Quality Meter with lens (SQM-L).

Two locations were selected for the ambient light monitoring program to characterize baseline light conditions at the residences near Joe Batt's Pond and in the town of Appleton, which represent the nearest receptors to the Project (Figure 7.2). The light monitoring was conducted during the night of August 20, 2023, between 11:20 PM and 11:50 PM, while the skies were mostly clear with occasional clouds overhead and the moon was not in the sky at the time of the measurement.

Existing sky glow near the Project was also characterized by reviewing satellite observations of artificial light (World Atlas 2015). Baseline reports will be provided to applicable regulators pre-construction. A summary of results is provided in Section 7.1.3.3.

7.1.3 Description of Existing Conditions

7.1.3.1 Air Quality

The air quality in the vicinity of the Project Area is characterized as that of a rural wooded forested area, with camps and cottages / houses (small rural community). The primary source of air contaminants is from personal vehicles including offroad vehicles on trails and access roads, as well as traffic in Appleton and travelling on the nearby Trans-Canada Highway. In the winter, emissions from home heating devices including wood stoves in Appleton, the nearest community are also expected to contribute to ambient air contaminants (combustion gases and particulate matter from fossil fuel and wood burning).

Key information for existing air quality included data provided in the NL 2024 Ambient Air Monitoring Report (NLDECC 2025), the most recent year available for this publication at the time of data collection. The report summarizes data obtained from the air quality monitoring network that has been operated by the government and industry in NL to monitor ambient concentrations of various air contaminants in selected communities.

In addition to the published ambient air quality data from the 2024 Ambient Air Monitoring Report, ambient concentrations of TSP, PM_{2.5}, and NO₂ were measured near the Project site over the period of August 19 to 22, 2023 for particulate matter and October 16 to 20, 2023 for NO₂ (Section 7.1.2.2). The concentration data collected near the Project site was used to characterize existing conditions in the LAA/RAA. Baseline reports will be provided to applicable regulators pre-construction. The most recently available hourly ambient air quality data for the nearest representative monitoring station to the Project site were also obtained to help characterize the existing conditions. The data are available from the ECCC NAPS program (2020-2023; ECCC 2024).

Annual release summaries for large industrial facilities nearest to the Project from the ECCC's NPRI were also reviewed to supplement ambient air quality. The NPRI is a public inventory of annual releases, disposals and transfers of over 320 pollutants from more than 7,000 facilities across Canada (ECCC 2025b).

7.1.3.1.1 Ambient Air Quality

The baseline measured concentrations of NO₂, TSP and PM_{2.5} were well below applicable 24-hour ambient air quality criteria in NL. Measured 24-hour concentrations of TSP ranged from <3 µg/m³ to 8 µg/m³ and the measured concentrations of PM_{2.5} ranged from 1.3 µg/m³ to 4.8 µg/m³. The NO₂ passive samplers were deployed for 4-days and measured concentrations ranged from <0.7 ppb to 0.9 ppb. As the four-day average samples are well below the 24-hour regulatory criteria, it is not likely that the 24-hour criteria would have been exceeded during the sampling period.

The nearest and most representative NAPS ambient air quality monitoring (AAQM) station is at Grand Falls-Windsor, approximately 70 km west of the mine site. Concentrations of the following air contaminants are measured at the Grand Falls-Windsor station: PM₁₀, PM_{2.5}, O₃, nitric oxide (NO), NO₂, nitrogen oxides (NO_x), CO and SO₂.

Based on the NL 2024 Ambient Air Quality Report, there were no measured concentrations that exceeded the NL AQS (for SO₂, NO₂, or CO) or the CAAQS (for PM_{2.5}) in 2020 or 2021 at the Grand Falls-Windsor NAPS station. However, there were seventeen exceedances of the 8-hour O₃ CCME CAAQS at the station in 2020 and eighteen exceedances in 2021 (NLDECCM 2022).

A combination of the ambient data collected at the site and data from the Grand Falls-Windsor NAPS station was used to characterize existing conditions in the Project Area, including background concentrations.

7.1.3.1.2 Background Concentrations

Existing conditions are characterized in the LAA using background concentrations of air contaminants of concern based on ambient air quality data measured near the Project. These measured background concentrations are combined with the air quality dispersion modelling results to assess the potential cumulative effects of the Project when combined with other sources of air contaminant emissions in the LAA.

Background concentrations of PM₁₀, PM_{2.5}, NO_x, NO, NO₂, CO, and O₃ are estimated using hourly ambient air quality data from 2021, 2022, and 2023, obtained from the ECCC NAPS Grand Falls-Windsor AAQM station (ECCC 2024). Due to a lack of data availability in 2023 at the Grand Falls-Windsor AAQM station, background concentrations of SO₂ are estimated using hourly ambient air quality data from 2020, 2021, and 2022 (ECCC 2024). Although PM_{2.5}, NO₂, and SO₂ concentrations were measured near the Project site, the background concentrations are estimated based on the NAPS data. This is because hourly data over a longer time frame (multiple years) are available for the NAPS station at Grand Falls-Windsor, where the samples near the Project site were collected over a relatively short period. Data collected near the Project site were relatively consistent with the background values established using the Grand Falls-Windsor data.

Background concentrations of TSP are estimated based on the results of the sampling conducted within the Project Area, as no NAPS data for TSP exists for the area. No NAPS data for trace metals exist in the area and therefore background concentrations of trace metals are assumed to be negligible. The background concentrations are expected to include / cover emissions from potential nearby sources and long-range transport of emissions from the northeastern United States. The background concentrations used in the assessment are provided in Table 7.8.

Table 7.8 Background Concentrations Used in Assessment

Air Contaminant	Average Period	Background Concentration Applied	Monitoring Location	Calculation Basis
TSP	24-hour	8 µg/m ³	Project Site	The 24-hour TSP background concentration is the maximum of the 24-hour measured concentrations at the Project site over the August 19-22, 2023, based on three samples.
	Annual	1.53 µg/m ³		The annual TSP background concentration is estimated using the 24-hour background concentration scaled using the Ontario Ministry of the Environment and Climate Change recommended relationship, $C_1 \times (t_0/t_1)^{0.28}$ (Ontario MECC 2018).
PM ₁₀	24-hour	21.3 µg/m ³	Grand Falls-Windsor NAPS Station	The 24-hour PM ₁₀ background concentration is the 2021, 2022, and 2023 average 98th percentile of the daily average concentrations.
	Annual	13.0 µg/m ³		The annual PM ₁₀ background concentration is the maximum of the 2021, 2022, and 2023 annual average concentrations.
PM _{2.5}	24-hour	7.33 µg/m ³	Grand Falls-Windsor NAPS Station	The 24-hour PM _{2.5} background concentration is the 2021, 2022, and 2023 average 98th percentile of the daily average concentrations.
	Annual	5.20 µg/m ³		The annual PM _{2.5} background concentration is the maximum of the 2021, 2022, and 2023 annual average concentrations.
NO _x	1-hour	3.67 ppb	Grand Falls-Windsor NAPS Station	The 1-hour NO _x background concentration is the 2021, 2022, and 2023 average 98th percentile of the hourly average concentrations.
	Annual	2.70 ppb		The annual NO _x background concentration is the maximum of the 2021, 2022, and 2023 annual average concentrations.
NO	1-hour	1.00 ppb	Grand Falls-Windsor NAPS Station	The 1-hour NO background concentration is the 2021, 2022, and 2023 average 98th percentile of the hourly average concentrations.
	Annual	0.95 ppb		The annual NO background concentration is the maximum of the 2021, 2022, and 2023 annual average concentrations.
NO ₂	1-hour	2.67 ppb	Grand Falls-Windsor NAPS Station	The 1-hour NO ₂ background concentration is the 2021, 2022, and 2023 average 98th percentile of the hourly average concentrations.
	Annual	1.87 ppb		The annual NO ₂ background concentration is the maximum of the 2021, 2022, and 2023 annual average concentrations.
CO	1-hour	0.21 parts per million (ppm)	Grand Falls-Windsor NAPS Station	The 1-hour CO background concentration is the 2021, 2022, and 2023 average 98th percentile of the hourly average concentrations.
	8-hour	0.20 ppm		The 8-hour CO background concentration is the maximum of the 2021, 2022, and 2023 8-hour average concentrations.

Table 7.8 Background Concentrations Used in Assessment

Air Contaminant	Average Period	Background Concentration Applied	Monitoring Location	Calculation Basis
O ₃	1-hour	39.3 ppb	Grand Falls-Windsor NAPS Station	The 1-hour O ₃ background concentration is the 2021, 2022, and 2023 average 98th percentile of the hourly average concentrations.
	8-hour	39.1 ppb		The 8-hour O ₃ background concentration is the maximum of the 2021, 2022, and 2023 8-hour average concentrations
SO ₂	1-hour	0.93 ppb	Grand Falls-Windsor NAPS Station	The 1-hour SO ₂ background concentration is the 2020, 2021, and 2022 average 98th percentile of the hourly average concentrations.
	24-hour	0.53 ppb		The 24-hour SO ₂ background concentration is the 2020, 2021, and 2022 average 98th percentile of the daily average concentrations.
	Annual	0.66 ppb		The annual SO ₂ background concentration is the maximum of the 2020, 2021, and 2022 annual average concentrations.

Note:

Calculation basis follows the CAAQS method unless otherwise stated.

7.1.3.1.3 Local Emission Sources

Based on a review of the NPRI data for NL, the nearest industrial emissions sources to the mine site consists of a petroleum storage facility. The Woodward Oil petroleum storage facility is located approximately 38 km northwest of the mine site in Lewisporte and reports releases of volatile organic compounds.

Given that the nearest sources of air contaminant emissions are outside of the LAA and distant from the Project site, it is unlikely that these air contaminant releases would contribute materially to reduced air quality within the LAA.

7.1.3.2 Sound Quality

The Project is in a sparsely populated area with the main anthropogenic noise source being the Trans Canada Highway located to the south and west of the Project Area and is in between the Project area and the Town of Appleton. The Project is located approximately 4 km east of Appleton and approximately 15 km west from Gander. Within the LAA/RAA, there are several residences and cabins, which represent the nearest sensitive receptors to the Project. Baseline sound pressure levels were measured at two locations near Joe Batt's Pond, and another location within Appleton, the nearest town to the Project Area (Figure 7.2).

A summary of the average daytime (L_d) and nighttime (L_n) sound pressure levels are provided in Table 7.9. The main contribution to noise levels were from traffic noise.

Table 7.9 Baseline L_d and L_n Values

Parameter	Joe Batt's Pond 1	Joe Batt's Pond 2	Appleton
Daytime Sound Level, L_d (dBA)	37	42	44
Nighttime Sound Level L_n (dBA)	30	39	35

Note:

dBA = a-weighted decibel(s)

Sound pressure levels were found to be higher for locations close to major roadways or nearer to more urbanized areas. Baseline reports will be provided to applicable regulators pre-construction.

7.1.3.3 Lighting

As indicated in Section 7.1.3.3, the Project is located approximately 4 km east of Appleton and approximately 15 km west of Gander. In addition to the nearby community of Appleton to the west, there are several residences and cottages that border Joe Batt's Pond to the east. The north and south of the property are large undeveloped forested lands with few to no residents and little sources of artificial light.

The main sources of light in Appleton are from streetlights, residential homes, industrial lighting from the Appleton Industrial Park, and vehicle head lights.

Two locations were selected for the ambient light monitoring program to characterize baseline light conditions at the residences near Joe Batt's Pond and in the Town of Appleton, which represent the nearest receptors to the Project (Figure 7.2). Existing sky glow near the Project was also characterized by reviewing satellite observations of artificial light (World Atlas 2015) and are shown in Figure 7.3.

The light monitoring was conducted during the night of August 20, 2023, between 11:20 PM and 11:50 PM while the skies were mostly clear with occasional clouds overhead and the moon was not in the sky at the time of the measurement.

Measurements of ambient light were less than 0.01 lux and sky glow ranged from 21.84 to 22.81 mag/arc sec². Based on the ambient light levels (both sky glow and light trespass), the LAA is considered a dark, rural environmental zone, Category E1. Baseline reports will be provided to applicable regulators pre-construction.

\\ca0151-ppfss01\work_group\1214\active\12141759803_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

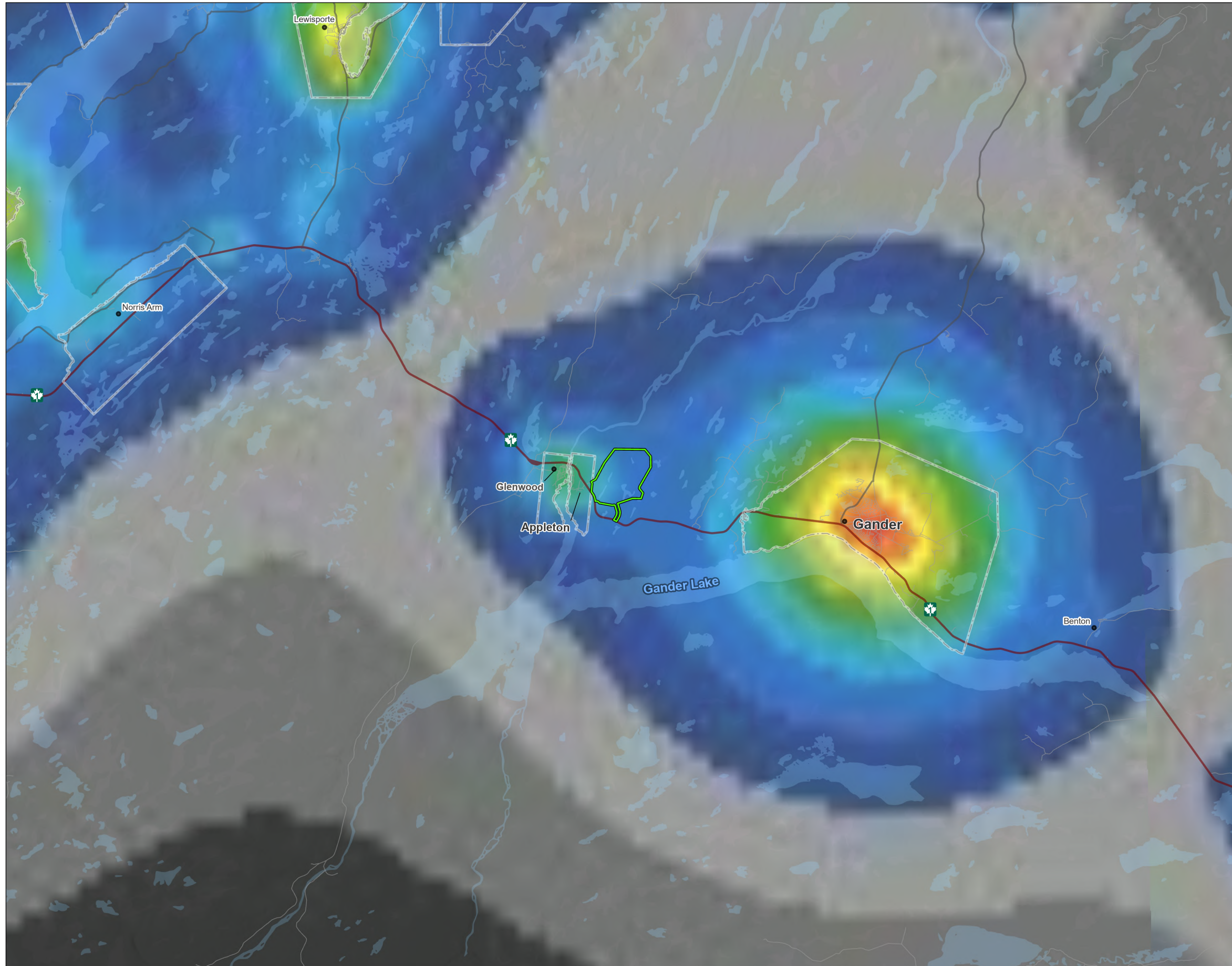
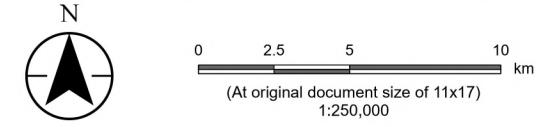


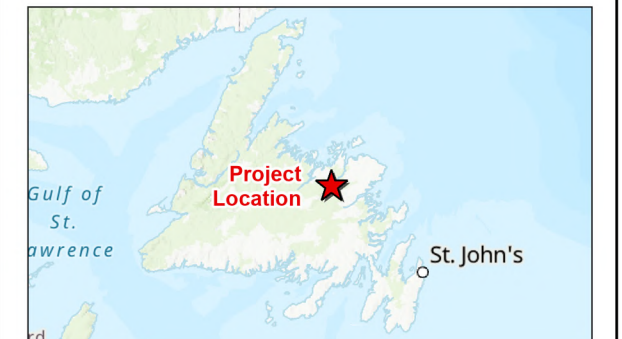
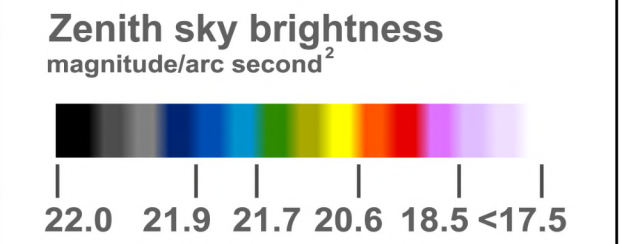
Figure No. **7.3**
Title **Distribution of Artificial Lighting Within and Surrounding the Project (World Atlas of the Artificial Night Sky Brightness 2015)**

Client/Project **New Found Gold Corp. Queensway Gold Project** 121418510_749

Project Location **North Gander Lake Newfoundland and Labrador** Prepared by AC on 2026-03-03
QR by NW on 2026-04-21
TR by DOM on 2026-04-27



- Project Area
- Trans-Canada Highway
- Highway
- Arterial / Collector
- Local Road
- Waterbody
- Municipal Boundaries



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada; Falchi et al. (2016). 'The New World Atlas of Artificial Night Sky Brightness'. *Sci. Adv.* June 2016; NOAA-NESDIS
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



7.2 Potential Effects and Effect Pathways

A summary of the potential effects and Project effect pathways to be assessed for Atmospheric Environment is provided in Table 7.10. Potential environmental effects and effects pathways were selected based on the review of similar projects in NL and other parts of Canada, and professional judgement.

Table 7.10 Potential Effects and Effect Pathways for Atmospheric Environment

Potential Effect	Effect Pathway(s)
Change in Air Quality	<ul style="list-style-type: none"> Releases of NO_x, SO₂, CO, and particulate matter (total, PM₁₀, and PM_{2.5}) from internal combustion engines associated with mobile equipment, as well as temporary use of generators for site power, lightings and pumps Particulate matter (total, PM₁₀, and PM_{2.5}) and trace metals within dust released during material handling (unloading of material), crushing, and screening Fugitive releases of NO₂, SO₂, CO, particulate matter (TSP, PM₁₀, and PM_{2.5}) and trace metals (within the dust) from blasting Fugitive releases of particulate matter (total, PM₁₀, and PM_{2.5}) and trace metals within dust due to wind erosion of ore stockpiles and waste rock pile surfaces, in addition from vehicle travel on unpaved roads (fugitive emissions are characterized as those not originating from a stack or vent, which are released over an area or with an initial volume)
Change in Sound Quality	<ul style="list-style-type: none"> Sound emissions from heavy mobile equipment and vehicles for land clearing, earth moving activities and material handling (including haul trucks) Sound emissions from rock breaking, and crushing and processing, and blasting activities
Change in Light Levels	<ul style="list-style-type: none"> Lighting required on site roads, overburden and waste rock management, ore processing, water management, and utilities and site infrastructure

7.3 Mitigation and Management Measures

Environmental management plans will be developed and/or updated by New Found Gold to mitigate the effects of the Project on the Atmospheric Environment. A list of standard mitigation measures to be applied throughout Project construction, operation, and rehabilitation and closure is provided in Table 4.31. Many of these standard mitigation measures will serve to avoid or reduce potential effects on Atmospheric Environment, including the measures identified for the following Project activities:

- Site Clearing, Site Preparation, and Erosion and Sediment Control
- Blasting
- Vehicles/Equipment/Roads

The following additional mitigation measures specific to the Atmospheric Environment have been identified for the Project:

- Idling of equipment will be reduced, where practicable to reduce noise and air contaminant emissions.

- Speed limits will be implemented on Project roads to limit fugitive dust from vehicle travel on unpaved roads.
- Grid electricity, which is primarily generated from hydroelectric power in NL, will be used as the primary source of energy for the facility, reducing air contaminant emissions at the Project site.
- Tier 4 engines are considered Best Available Control Technology (BACT) for air contaminant emissions from diesel engines and will be used for mobile equipment.
- Regular inspections, servicing, and maintenance of engines and exhaust systems will be conducted on mobile equipment and vehicles.
- Disturbed areas will be revegetated as soon as practicable to limit dust emissions, and already disturbed areas will be used for Project infrastructure where feasible to limit the extent of disturbance.
- Implementation of an adaptive management plan for dust, which will involve ongoing assessment of the effectiveness of the dust mitigation measures and determine when and where to enhance levels of dust control to further reduce project impacts on surrounding air quality if needed. The adaptive management plan will include:
 - Real time air quality monitoring, as described in Section 7.5.1
 - Water or an approved chemical dust suppressant will be used to stabilize the surface of Project unpaved roads that may generate fugitive dust. The application of dust suppressants other than water to roads as an alternative option to watering will be considered in consultation with NL Department of Environment, Conservation and Climate Change (NLDECCC). Dust suppression would be applied on an as-needed basis during dry and high wind conditions or if measured ambient particulate matter concentrations are approaching the NL AQS. The chosen dust suppressant will be approved by the NLDECCC prior to application. These suppressants, if required, will be applied, as per the manufacturer's recommendations.
 - In the event that real time monitoring indicates that standard dust suppression measures are insufficient to maintain compliance during dry and windy periods, additional mitigation will be implemented. This may include reductions or temporary suspension of Project activities such as hauling and crushing as needed to maintain compliance with the NL AQS. Further information on the Project Air Quality Management Plan (AQMP) is provided in Section 7.5.1.
- Where practicable in accessible areas (e.g., along cleared rights-of-way), trees and other vegetation will be left in place or encouraged to grow to obstruct the view of Project facilities and act as a wind break to reduce the transportation of fugitive dust, reducing the change in viewshed and muffling nuisance noise.
- Enclosures, berms, or other barriers may be considered for activities involving excessive noise emissions. Specifically, a 10 m high earth berm is proposed, as described in Section 4.7.2, to reduce potential effects of sound emissions on nearby receptors in Appleton.
- Blasting activities will be scheduled to occur during daytime hours, once per day.
- Project lighting will be limited to that which is necessary for safe and efficient Project activities. Lighting design guidelines will be followed, such as from the CIE, International Dark Sky Association, Illuminating Engineering Society.

- Light fixtures will be located so that they are not directed toward oncoming traffic on nearby roads on or off site.
- Lighting will be designed to avoid excessive use of mobile flood lighting units and will be turned off when they are not needed.
- To the extent practicable, mobile and permanent lighting will be located such that unavoidable light spill off from the working area is not directed toward receptors outside of the Project Area.
- Full cut-off luminaires (i.e., lighting with shades angling light downward) will be used where practicable to reduce glare, light trespass, and sky glow from the Project, while maintaining a safe work environment for staff.

7.4 Residual Environmental Effects

Potential environmental effects on the Atmospheric Environment were identified in Section 7.2. For the Atmospheric Environment, three effects were identified: change in air quality, change in sound quality, and change in light levels. Residual effects (i.e., those remaining following implementation of mitigation [Section 7.3]) for each Project phase are evaluated below. The assessment of residual effects considers the following key factors:

- The Project Area is a partly disturbed landscape, with mineral exploration on the western side and areas of recent forest harvesting on the eastern side.
- Baseline sound levels were measured at Joe Batt's Pond and Appleton, showing generally low rural noise levels influenced mostly by proximity to highways or residential areas. Baseline sound levels have been added to estimated Project contributions in the sound quality assessment.
- Baseline lighting conditions indicate a dark rural environment, with very low measured illuminance and minimal sky glow.
- There is a cabin located within the Project Area without an associated grant or lease in the land use atlas, and two cabins with associated land grants located immediately adjacent to the Project Area. The closest of the latter two seasonal dwellings is located approximately 55 m from the Project Area and approximately 370 m from the closest Project component. New Found Gold has and will continue to engage these cabin owners about their occupancy, future use of the cabins, and possible mitigation steps, such as relocation or purchasing of the properties. In addition, as detailed Project design progresses, New Found Gold will maintain appropriate distances between Project activities and residences and seasonal dwellings to maintain compliance with applicable air quality and noise guidelines and regulations.
- The Project is located immediately adjacent to the Town of Appleton, with the nearest residence in the town located 240 m from the Project Area and approximately 610 m from Project infrastructure, however, site infrastructure has been strategically placed east of the open pits to reduce noise, dust, and light effects on the Town of Appleton. Natural buffers and other Project design features, such as engineered berms have been included to safeguard residents and enable responsible resource development.

7.4.1 Change in Air Quality

The air quality assessment considers substances that may be released from Project-related sources in substantive quantities for which there are ambient air quality criteria (i.e., objectives, guidelines, or standards) adopted by the province (NL) and/or national regulatory agencies. In addition, iron and aluminum that are not included under the NL *Air Pollution Control Regulations* but are regulated in Ontario have been considered as data were available for ore composition for these additional substances. The predicted ambient concentrations due to Project emissions are combined with ambient background concentrations (where data exists) and the totals are compared to the regulatory criteria. Ambient concentrations are expressed in units of $\mu\text{g}/\text{m}^3$. Air contaminant releases can generally be characterized as either point or fugitive sources. Point sources are typically stacks or vents (such as the exhaust from a generator or heavy equipment). Fugitive sources include dust generated from material handling, unpaved roads, ore processing, and wind erosion of stockpiles.

Air contaminant releases during both the construction phase and the operation phase of the Project were estimated but modelling focused on the year (between both construction and operation) with the highest predicted emissions. It is assumed that during the rehabilitation and closure phase of the Project, air contaminant releases will be similar to or less than those during operation and therefore were assessed qualitatively.

These air contaminant releases were estimated using standard methods for this type of assessment. Emissions estimates were based on operational and design information provided by the New Found Gold design team and published emission factors/methods. Additional details on air contaminant emissions estimates are provided below in Sections 7.4.1.1 and 7.4.1.2, in the emissions inventory outlined in Appendix 7.A, and in the dispersion modelling strategy outlined in Appendix 7.B. For this assessment, the CALMET and CALPUFF modelling systems (Scire et al. 2000) were used to estimate the potential environmental effects of the air contaminant releases during operation of the Project on ambient air quality. The CALMET model is used to provide hourly meteorological data required as input for the CALPUFF dispersion model. The application of the modelling system followed the provincial Guideline for Plume Dispersion Modelling (GPDM) (NLDEC 2012).

The CALMET and CALPUFF modelling domain consisted of a 50 km by 50 km area centered on the Project site. Further details on the CALMET and CALPUFF modelling procedures are discussed in Appendix 7.B.

To assess environmental effects on air quality, maximum predicted ground-level concentrations around the Project Area (combined with the background concentrations where applicable) are compared to the ambient air quality standards provided in Table 7.1 and Table 7.2.

7.4.1.1 Construction

Construction activities will include mine site preparation and earthworks, including the clearing and cutting of vegetation and removal of organic materials, development of roads, excavation and preparation of areas within the mine site, and grading for infrastructure construction, as well as construction along the access road and the construction / installation of infrastructure and equipment. Air contaminants will be released during construction activities in the form of combustion gases (SO₂, NO_x, and CO) and particulate matter (total, PM₁₀, and PM_{2.5}, as well as trace metals) from earth and material moving and handling activities, blasting and equipment movements.

Air contaminant releases resulting from activities during construction that may result in substantive emissions were estimated. Releases were estimated for blasting activities, wind erosion of stockpiles, crushing and screening, material transfers, material hauling on unpaved roads, the operation of mobile heavy equipment and stationary combustion sources. The releases were estimated using activity data provided by New Found Gold and published emission factors, such as those from ECCC and the US EPA AP-42 databases. The air contaminant release estimates from construction activities are provided in Table 7.11. The detailed emissions inventory is provided in Appendix 7.A.

Generally, peak annual construction emissions are 1% to 50% lower than peak operation emissions (for instance, the stationary combustion emissions will be similar due to potential operation of the diesel generator for site power. These emissions account for a majority of the SO₂ emitted, and therefore the change is small between the construction and operational phases of the project). In consideration of this and the temporary nature of construction emissions, if significant environmental effects are not anticipated during operation, they would also not be expected during construction. See section 7.4.1.2 for the assessment of operation emissions.

Table 7.11 Air Contaminants Releases – Construction Phase

Air Contaminant	CAS #	Emission Rate (tonnes/year)							
		Blasting	Stockpile Fugitives	Transfer Points at Stockpiles	Crushing and Screening	Fugitives from Unpaved Roads	Mobile Combustion Source	Stationary Combustion	Total
NO _x	10102-44-0	9.81	-	-	-	-	34.38	689.35	733.54
CO	630-08-0	41.69	-	-	-	-	299.04	182.90	523.63
SO ₂	7446-09-5	1.23	-	-	-	-	0.57	324.67	326.47
TPM	N/A-1	3.35	13.573	69.31	28.74	227.0	1.15	1.52E+01	358.39
PM ₁₀	N/A-2	1.74	6.787	32.78	11.39	64.6	1.15	1.26E+01	130.97
PM _{2.5}	N/A-3	0.10	1.018	4.96	1.72	6.5	1.15	1.05E+01	25.96
Aluminum	7429-90-5	3.45E-01	1.269	6.93E+00	2.96	-	-	0.00E+00	11.50
Arsenic	7440-38-2	1.58E-03	4.66E-03	2.98E-02	1.35E-02	-	-	0.00E+00	0.05
Cadmium	7440-43-9	8.99E-07	3.25E-06	1.79E-05	7.70E-06	-	-	0.00E+00	< 0.01
Copper	7440-50-8	3.59E-04	1.17E-03	6.95E-03	3.08E-03	-	-	0.00E+00	0.01
Iron	7439-89-6	2.25E-01	8.51E-01	4.55E+00	1.93E+00	-	-	0.00E+00	7.56
Lead	7439-92-1	3.99E-04	1.22E-03	7.61E-03	3.42E-03	-	-	0.00E+00	0.01
Mercury	7439-97-6	1.34E-07	5.82E-07	2.84E-06	1.15E-06	-	-	0.00E+00	< 0.01
Nickel	7440-02-0	3.31E-04	1.19E-03	6.59E-03	2.83E-03	-	-	0.00E+00	0.01
Vanadium	7440-62-2	7.82E-04	2.74E-03	1.55E-02	6.70E-03	-	-	0.00E+00	0.03
Zinc	7440-66-6	3.99E-04	1.45E-03	7.98E-03	3.42E-03	-	-	0.00E+00	0.01
Benzo (a) pyrene	50-32-8	-	-	-	-	-	-	5.52E-05	< 0.01

7.4.1.2 Operation

Changes to air quality as a result of Project-related releases of air contaminants to the atmosphere during operation are assessed using an atmospheric dispersion model in combination with estimates of ambient background air contaminant concentrations. Details of the emissions estimates and dispersion modelling for the operation phase of the Project are provided in the following section.

7.4.1.2.1 Air Contaminant Emissions

Air contaminant emissions were estimated using design information provided by New Found Gold and published emission factors from regulatory agencies such as ECCC and the US EPA. The design information includes stack gas properties, exhaust gas concentrations, ore specifications, and activity data for mine operation. This information was used to estimate air contaminant emissions of particulate matter (total, PM₁₀, PM_{2.5}) and trace metals, combustion gases (SO₂, NO_x, and CO), as well other trace contaminants in exhaust gases from diesel combustion. Trace metal concentrations in particulate matter were estimated from ore analysis provided by New Found Gold. Stockpile sizes, traffic data, and diesel fuel consumption were provided by New Found Gold across the operational years of the mine site. The particulate and combustion gas emissions were developed in conjunction with published emission factors from the US EPA AP-42, CEPA, the Australian National Pollutant Inventory, and the ECCC.

The release estimates were prepared using activity data during operation Year 4. Years 4 and 5 were identified as the years with the highest activity; however, Year 4 was chosen as the peak year for modelling purposes due to the higher haul road activities, which was the main source contributor of particulate matter emissions on-site. Across all estimated emission sources, Year 4 particulate matter emissions were approximately 5% to 12% greater than in Year 5. For other air contaminants, estimated emissions for Year 4 were only slightly less than the emissions estimated for Year 5. Estimated emissions for other air contaminants were typically 1% to 2% less in Year 4 when compared with Year 5, with the exception of CO emissions, which were 4% less. As test model simulations predicted off-site particulate matter concentrations to be of higher concern relative to ambient criteria than other air contaminants, Year 4 was chosen as the worst-case year. Emission estimates in Year 4 and Year 5 are outlined in Appendix 7.A.

Stockpiles emissions were estimated based on the potential maximum stockpile size. The Project will use a 6 megawatt diesel generator as a potential power solution. Although it may not be in operation for the full mine life, it was included in this assessment to potentially overstate the emissions during operation for a conservative assessment.

Roads on site (between the pits and the stockpiles, overburden, and waste rock storage) were considered in the assessment. Although unpaved roads used for hauling material onsite (from the pits, to the stockpiles) were considered in the model, air contaminant releases associated with vehicle traffic on the site access road were not quantified or included in the dispersion modelling since releases are expected to be localized to the single road leading from the Project site, which is located away from Appleton (approximately 2 km away). The releases are also expected to be transient in nature, with approximately 10 round trips per day.

The Project sources of air contaminants during operation and the emissions estimation methods for each activity are provided in Table 7.12. The Project source locations are shown in Figure 7.4. A summary of the estimated annual air contaminant release during operation is provided in Table 7.13.

Sample calculations are provided in Appendix 7.A, as part of the emissions inventory.

Table 7.12 Sources of Air Contaminants and Release Estimation Methods – Operation Phase

Source	Basis	Operating Schedule	Estimation Approach	Expected Contaminants
Blasting	Peak Operational Year (Y4). Although the emissions from blasting were estimated to be the greatest in Year 5, Year 4 was chosen as the peak operational Year (the blasting emissions in Year 4 are only 3% less than in Year 5).	Blasting will be limited to 1 per day across the active pits, up to 365 blasts per year.	Air contaminant releases from blasting were estimated based on information provided by New Found Gold and published emission factors from the US EPA, AP-42 Chapter 13.3 (US EPA 1995). Additionally, emission factors were also estimated based on the ECCC NPRI guidance document for pits and quarries (ECCC 2022). Trace metals from blasting are estimated based on the TPM release estimates and the ore analysis data for composition. Conservatively applied the 95 th percentile for each species, using the maximum between waste rock or ore. Ammonium Nitrate Fuel Oil (ANFO) explosive is used, therefore, AP-42 emission factors for ANFO were used for combustion gases. Since a portion of the PM (TPM, PM ₁₀ , PM _{2.5} , and trace metals within the particulate matter) will not leave the pit (due to settling) retention factors were applied to sources below the surface within the pit. The retention factors applied are from the Australian National Pollutant Release Inventory Emission Estimation Technique Manual for Mining - Wings equation 1981 based on 50 m pit depth.	Particulate Matter (Total, PM ₁₀ , PM _{2.5}) Combustion Gases (NO _x , SO ₂ , CO) Trace metals
Stockpiles	Based on maximum stockpile size	Continuous operation	The equation for estimating storage pile particulate emissions was sourced from Mojave Desert Air Quality Management District, Mineral Handling and Processing Industries, Table 2, 2000, as presented in the ECCC NPRI guidance document for pits and quarries (ECCC 2022) This method is for an annual estimate and was converted to an emission rate in grams per second. CALMET predicted meteorological data for the Project site (wind speeds and precipitation) were used to estimate releases. Metal emissions were speciated from TPM based on the composition of the ore as described for blasting.	Particulate Matter (Total, PM ₁₀ , PM _{2.5}) Trace metals

Table 7.12 Sources of Air Contaminants and Release Estimation Methods – Operation Phase

Source	Basis	Operating Schedule	Estimation Approach	Expected Contaminants
Material Handling and Transfer	Peak Operation Year (Y4). Although the emissions from material handling and transfers were estimated to be the greatest in Year 5, Year 4 was chosen as the peak operational Year (the emissions in Year 4 are only 2.3% less than in Year 5).	Continuous operation	Estimated based on information provided by New Found Gold and published emission factors from the US EPA, AP-42 Chapter 13.2.4 (US EPA 2006a). Trace metal fugitives were estimated based on the TPM release estimates and the individual ore specs (for individual waste rock and ore storage piles). CALMET predicted meteorological data for the Project site (wind speeds) were used to estimate the releases. Metal emissions were speciated from TPM based on the composition of the ore as described for blasting.	Particulate Matter (Total, PM ₁₀ , PM _{2.5}) Trace metals
Crushing and Screening	Peak hourly rate of 83 t/h (hourly emissions), and a conservative maximum rate of 1,500 tonnes/day to achieve desired transport to Pine Cove.	Continuous operation	Releases were estimated based on operating information provided by New Found Gold and published emission factors from the US EPA, AP-42 Chapter 11.19.2 (US EPA 2004) as well as from the Australian National Pollutant Inventory emission estimation techniques for gold ore processing (Australian Government 2006). PM _{2.5} emissions are estimated based on emission factors for high moisture ore (>= 4%) in Table 2.3 of the Nevada Division of Environmental Protection Guidance on Emission Factors for the Mining Industry (NDEP 2017). Metal emissions were speciated from TPM based on the composition of the ore as described for blasting.	Particulate Matter (Total, PM ₁₀ , PM _{2.5}) Trace metals
Unpaved Roads	Peak Operation Year (Y4) Due to the particulate emissions, Year 4 was chosen to represent the peak operational year.	Approximately 182,300 trips per year along the haul roads	Emissions were calculated using methods from US EPA, AP-42, Chapter 13.2.2, Equation 13.2.2(1a) (US EPA 2006b).	Particulate Matter (Total, PM ₁₀ , PM _{2.5})
Mobile Equipment	Peak Operation Year (Y4). Mobile equipment did not fluctuate outside of Year 5 having 3 more haul trucks than Year 4.	Continuous operation	Air contaminant releases from combustion of fuel in large mobile equipment were estimated based on models and operational information provided by New Found Gold and published emission factors from the US EPA/Canada CEPA Tiered Emission Standards for Off-Road Heavy Duty Diesel Engines.	Particulate Matter (Total, PM ₁₀ , PM _{2.5}) Combustion Gases (NO _x , SO ₂ , CO)

Table 7.12 Sources of Air Contaminants and Release Estimation Methods – Operation Phase

Source	Basis	Operating Schedule	Estimation Approach	Expected Contaminants
Stationary Combustion	Peak Operation Year (Y4) Diesel consumption did not vary with the project lifespan.	Continuous operation	Emissions were estimated using emission factors sourced from US EPA, AP 42 Chapter 3.3 (US EPA 2025a) for the units that were <600 horsepower (450 kilowatts) and US EPA AP-42 Chapter 3.4 (US EPA 2025b) for the units >600 horsepower (450 kilowatts). The 6 megawatts diesel generator was modelled as 24/7/365 (despite knowing it will be offline once power is dropped, and it is included in the model for flexibility of its usage) located at industrial terrace. Smaller sources include lights, pumps, small equipment - assumed 24/7 in pits.	Particulate Matter (Total, PM ₁₀ , PM _{2.5}) Combustion Gases (NO _x , SO ₂ , CO) Polycyclic Aromatic Hydrocarbons (surrogate of Benzo (a) pyrene)

\\ca0151-ppfss01\work_group\12141\active\121417598003_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

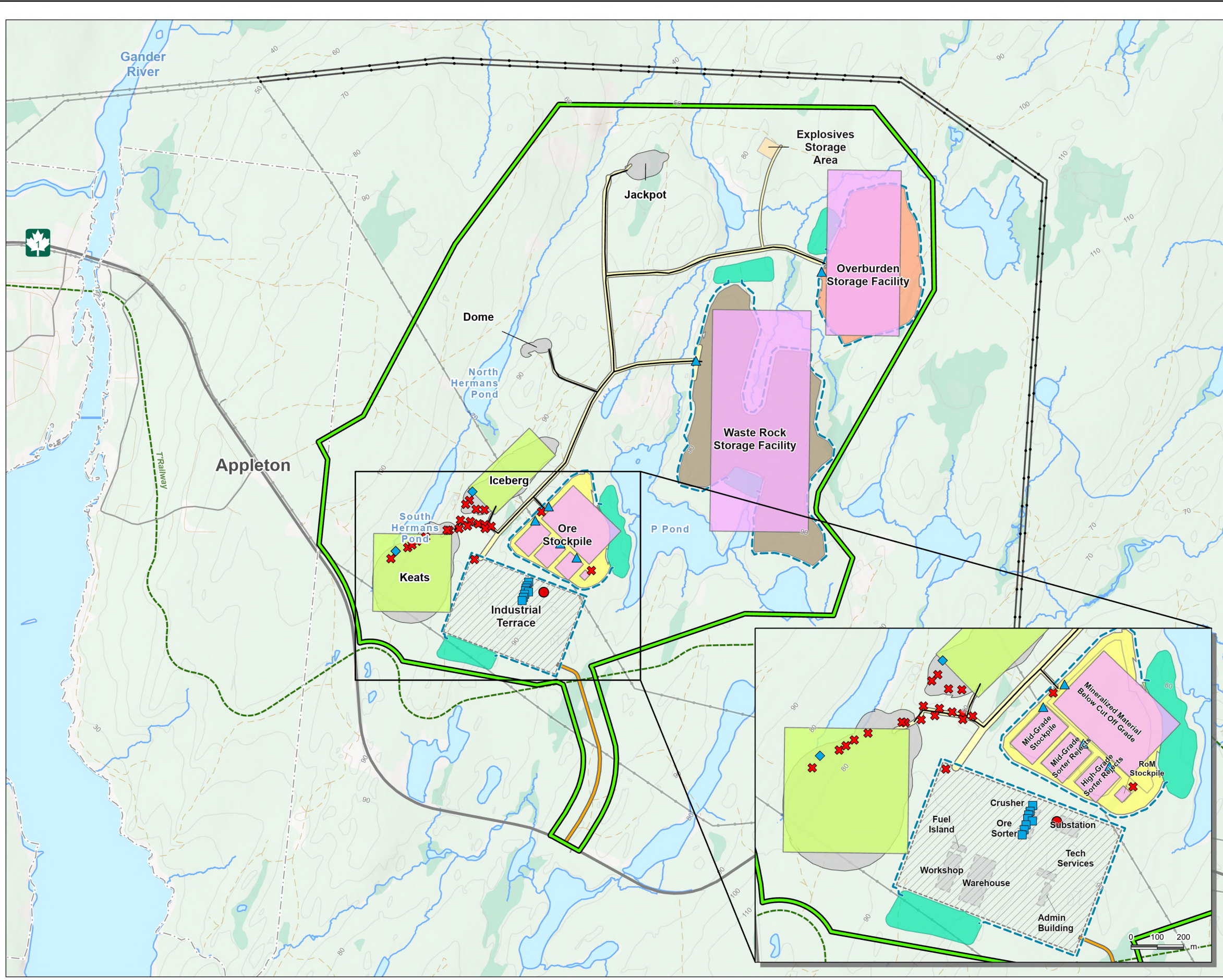
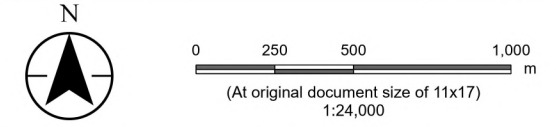


Figure No. **7.4**
Proposed Project Source Locations

Client/Project 121418510_738
 New Found Gold Corp.
 Queensway Gold Project
 Project Location North Gander Lake, Newfoundland and Labrador
 Prepared by MB2026-04-16, QR by NW on 2026-04-21, TR by DOM on 2024-07-27



- | | |
|---|---|
| ■ Project Area | Existing Infrastructure |
| Volume Sources | — Transmission Line |
| ◆ Blasting | — Proposed Transmission Line (Re-routing) |
| ■ Crushing and Screening | — Highway |
| ▲ Material Transfer | — Collector |
| Point Sources | — Local / Street |
| ● Generator | — Resource Road / Trail |
| ✕ Mobile Equipment | — NL T'Railway Provincial Park |
| — Road Source - Hauling | Wetlands and Waterways |
| Area Sources | — Watercourse |
| ■ Pit | — Waterbody |
| ■ Stockpile | — Wetland |
| Proposed Project Layout | — Wooded Area |
| ■ Access Road | Other Features |
| ■ Haul Road | — Contour (10 m) |
| - - - Ditch | — Municipal Boundaries |
| ■ Open Pit | |
| ■ Ore Stockpile | |
| ■ Overburden Storage Facility | |
| ■ Waste Rock Storage Facility | |
| ■ Sedimentation Pond | |
| ■ Other Mine Features | |
| ■ Industrial Terrace | |
| ■ Building | |



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



Table 7.13 Air Contaminants Releases – Operation Phase

Air Contaminant	CAS #	Emission Rate (tonnes/year)							Total
		Blasting	Stockpile Fugitives	Transfer Points at Stockpiles	Crushing and Screening	Fugitives from Unpaved Roads	Mobile Combustion Source	Stationary Combustion	
NO _x	10102-44-0	25.33	-	-	-	-	64.07	693.50	782.91
CO	630-08-0	107.67	-	-	-	-	556.42	183.79	847.88
SO ₂	7446-09-5	3.17	-	-	-	-	-	324.95	328.11
TPM	N/A-1	9.84	29.85	197.33	28.74	451.65	2.14	15.51	735.06
PM ₁₀	N/A-2	5.12	14.93	93.33	11.39	128.43	2.14	12.85	268.18
PM _{2.5}	N/A-3	0.30	2.24	14.13	1.72	12.84	2.14	10.84	44.21
Aluminum	7429-90-5	1.01E+00	2.78	2.02E+01	2.96E+00	-	-	-	26.95
Arsenic	7440-38-2	4.62E-03	1.01E-02	9.10E-02	1.35E-02	-	-	-	0.12
Cadmium	7440-43-9	2.64E-06	7.12E-06	5.25E-05	7.70E-06	-	-	-	0.000
Copper	7440-50-8	1.05E-03	2.55E-03	2.08E-02	3.08E-03	-	-	-	0.027
Iron	7439-89-6	6.60E-01	1.87E+00	1.32E+01	1.93E+00	-	-	-	17.64
Lead	7439-92-1	1.17E-03	2.67E-03	2.31E-02	3.42E-03	-	-	-	0.030
Mercury	7439-97-6	3.93E-07	1.28E-06	7.93E-06	1.15E-06	-	-	-	< 0.0010
Nickel	7440-02-0	9.70E-04	2.61E-03	1.93E-02	2.83E-03	-	-	-	0.026
Vanadium	7440-62-2	2.29E-03	5.99E-03	4.55E-02	6.70E-03	-	-	-	0.061
Zinc	7440-66-6	1.17E-03	3.19E-03	2.33E-02	3.42E-03	-	-	-	0.031
Benzo (a) pyrene	50-32-8	-	-	-	-	-	-	< 0.0010	< 0.0010

7.4.1.2.2 Sensitive Receptors

A number of potentially sensitive receptors have been identified, as summarized in Table 7.14 and shown in Figure 7.5. These receptors represent nearby residences and public spaces where ambient air quality may be of particular concern. Of the indicated receptors, Receptor 9 and Receptor 10 are offices related to the client and their subcontractors. Additionally, a number of cabins / cottages were identified as receptors (Receptor 3, Receptor 7, Receptor 8, and Receptor 11). New Found Gold has and will continue to engage these cabin owners about their occupancy, future use of the cabins, and possible mitigation steps, such as relocation or purchasing of the properties.

Note, the NL T'Railway Provincial Park passes south of the Project Area. The former Newfoundland Railway corridor is a multi-use linear recreational trail, which is used for a variety of motorized and non-motorized activities. In this area, most popular activities include all-terrain vehicle use and snowmobiling, but could also include walking and cycling.

Table 7.14 Sensitive Receptor Locations

Receptor Number	Easting (m)	Northing (m)	Description	Receptor Status
1	657141.6	5427943	Nearby Appleton Residence	Sensitive Receptor
2	657204.6	5427584	Nearest Appleton Residence	Sensitive Receptor
3	661467.1	5429373	Cabin on Lake just northeast of Project Area	Potential Receptor (pending agreement)
4	663774.5	5427483	Nearby Joe Batt's Pond Residence	Sensitive Receptor
5	663548.9	5426383	Nearest Joe Batt's Pond Residence	Sensitive Receptor
6	672115.9	5426214	Nearest Gander Residence	Sensitive Receptor
7	660400.7	5427054	P8 Structure #1	Potential Receptor (pending agreement)
8	660343.1	5427073	P8 Structure #2	Potential Receptor (pending agreement)
9	657558.3	5428270	Simms Road Building #1	Office/Industrial Building
10	657663.1	5428160	Simms Roads Building #2	Office/Industrial Building
11	659934.8	5429431	P13 Structure	Potential Receptor (pending agreement)
12	655280.6	5428744	Lakewood Academy	Sensitive Receptor
13	655491.5	5428328	Glenwood War Memorial	Sensitive Receptor
14	655143.9	5427847	Multidenominational Cemetery	Sensitive Receptor
15	656095.6	5427740	Derm Flynn Peace Park	Sensitive Receptor
16	655449.5	5429373	First United Church	Sensitive Receptor
17	655649.4	5429370	St. Andrews Anglican Church	Sensitive Receptor
18	655336.5	5428629	New Fun Land Day Care Centre	Sensitive Receptor
19	660746.9	5432584	P13 Structure #1	Sensitive Receptor

Table 7.14 Sensitive Receptor Locations

Receptor Number	Easting (m)	Northing (m)	Description	Receptor Status
20	660756	5432617	P13 Structure #2	Sensitive Receptor
21	655265.6	5428627	Fred L. Pritchett Memorial Park	Sensitive Receptor
22	656747.3	5420035	Remote Building	Sensitive Receptor
23	664977	5437194	Cabin/Home	Sensitive Receptor
24	660558.5	5432003	Cabin/Home	Sensitive Receptor
25	671219	5439598	Cabin/Home	Sensitive Receptor

\\ca0151-ppfss01\work_group\1214\active\121418510_NewfoundGold\GIS Pro\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

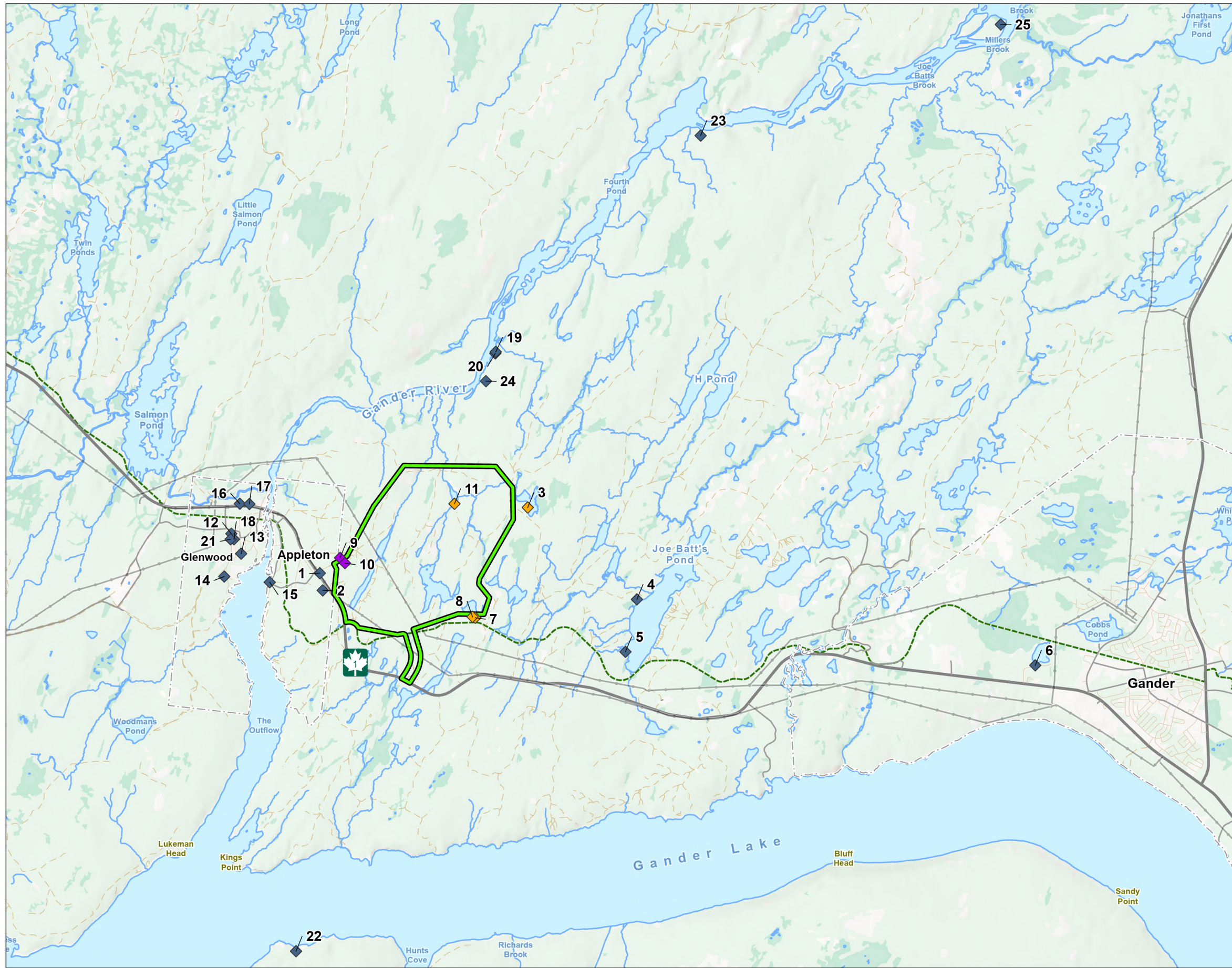


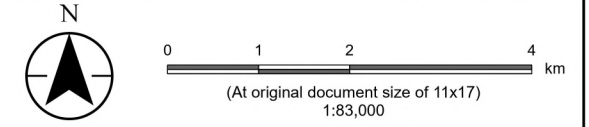
Figure No. **7.5**
Title
Sensitive Receptor Locations

Client/Project 121418510_739

New Found Gold Corp.
 Queensway Gold Project

Project Location North Gander Lake
 Newfoundland and Labrador

Prepared by MB on 2026-04-16
 QR by NW on 2026-04-21
 TR by DOM on 2024-07-27



- ▭ Project Area
- Municipal Boundaries
- Receptors**
- ◆ Sensitive Receptor
- ◆ Offices/Industrial
- ◆ Other Potential Receptor
- Wetlands and Waterways**
- Watercourse
- Waterbody
- Wetland
- Wooded Area
- Existing Infrastructure**
- Transmission Line
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- - - NL T'Railway Provincial Park



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



7.4.1.2.3 Dispersion Modelling Context and Adaptive Management Assumptions

The CALPUFF dispersion model was used to predict the maximum ground level concentrations of the substances of interest in the Project Area during the peak operation of the Project as provided in Section 7.4.1.2.1. Further information on the modelling process is included in Appendix 7.B.

Dispersion modelling was first conducted assuming full operation of the mine during the peak year of activity (Year 4). Based on this modelling, it was determined that dust (particulate matter) emissions could result in infrequent exceedances of the NL AQS at nearby Appleton residences during especially dry periods. Further discussion of these modelling results is provided in Section 7.4.1.2.4. The majority of dust emissions from the Project are associated with vehicle movement on the haul roads.

It is important to note that the air dispersion model predictions for particulate matter are expected to be conservative and overstated for a few reasons. Although the fugitive dust emission factors used for the air dispersion modelling were from the US EPA, several investigators have found consistent over-predictions when comparing the predicted dust concentrations from air dispersion models to measured concentrations, typically by a factor of two to six (Pace 2005; Countess 2007; Pouliot et al. 2012). In addition, the US EPA (2005) has indicated there are typical errors in highest estimated concentrations of 10% to 40% and within the often-quoted factor-of-two accuracy. The air dispersion modelling approach that was used for this assessment is viewed as being a best-practice conservative approach.

Additionally, the dispersion model incorporated a dust control efficiency of 80%, based on achievable values reported in literature for the application of chemical dust suppression. Fugitive dust emission sources are intermittent, and the magnitude of emissions are dependent upon dynamic factors (winds, precipitation and other meteorology, activity levels) and changing (adaptive) mitigation efforts (changes to dust control efforts in response to adverse conditions). These complexities can increase the level of air dispersion model prediction uncertainty because the emission inventory and dispersion modelling methods simplify and often cannot accurately account for these factors.

The primary use of dispersion modelling is therefore to understand areas that are likely to be most affected and sources that are important contributors, to inform Project and mitigation design, and follow-up monitoring. While the air quality modelling assumes a single, constant emission rate to represent fugitive road dust, the level of dust suppression during Project operations will be a function of the type of and intensity of dust control efforts and emission reductions that can be implemented to respond to changing activities and meteorological conditions (e.g., more frequent application of water or chemical dust suppressants on roads or temporary reductions in Project activities). Based on the results of the modelling and consultation with regulators, New Found Gold has committed to an adaptive management approach to operate the Project in compliance with the NL AQS. The approach, which was also described in Section 7.3 and 7.5.1, will include daily visual monitoring for dust generation from Project activities to qualitatively identify potential issues and an ambient air monitoring program to quantitatively evaluate compliance with the standards and provide early warning of increasing dust levels. In the event that real time monitoring indicates that standard dust suppression measures are insufficient to maintain compliance during dry and windy periods, additional mitigation will be implemented. This may include reductions or temporary suspension of Project activities such as hauling and crushing as needed to maintain compliance with NL AQS.

To demonstrate that the Project can operate in compliance with the NL AQS during especially dry periods, additional modelling was conducted assuming the application of additional adaptive management measures. Specifically, the revised model for reduced operations assumes that crushing/screening activities, hauling, and material transfer activities would be fully suspended for the day. The additional modelling also only focussed on contaminants which exceeded the NL AQS values outside of the Project Area under full operating conditions, which were TPM (24-hour), PM₁₀ (24-hour), PM_{2.5} (24-hour), aluminum (24-hour), and iron (24-hour). These contaminants are emitted as a result of dust creating activities, such as wind erosion of stockpiles, crushing and screening, blasting, material transfer and fugitive emissions from unpaved roads. The model results, which are discussed more fully below, indicate no predicted exceedances of the NL AQS for this operational scenario and demonstrates that the Project can maintain compliance through the use of an adaptive management approach. During Project operation, the exact nature of Project activity reductions would be determined based on real-time monitoring (e.g., on a given day only a partial reduction of crushing and hauling activities may be required to maintain compliance with the NL AQS).

The results of the dispersion modelling for both the full operational scenario and the reduced activity scenario are described in more detail in the following section.

7.4.1.2.4 Dispersion Modelling Results

For the full operating scenario, the maximum predicted concentrations (outside of the Project Area) of the air contaminants of concern released during the operation phase of the Project combined with the estimated background concentrations (to account for existing conditions) are provided in Table 7.15.

The predicted concentrations are also presented graphically in the form of isopleth plots (concentration contour plots). Following the NLDECCC guidance, these plots are prepared for contaminants exceeding 50% of the threshold values. These plots are provided for the 1-hour NO₂, 24-hour NO₂, 24-hour TSP, 1-year TSP, 24-hour PM₁₀, 24-hour PM_{2.5}, 1-year PM_{2.5}, 24-hour Aluminum, and 24-hour Iron. Contours of contaminant concentrations are shown in Figure 7.6 through Figure 7.14. Concentrations at sensitive receptors, for species which exceed the threshold (24-hour TSP, 24-hour PM₁₀, 24-hour PM_{2.5}, 24-hour Aluminum, and 24-hour Iron), are presented in Table 7.16. The number of times concentrations at these receptors are predicated to exceed the ambient air quality guidelines are presented in Table 7.17.

For the reduced activity scenario, Table 7.18 shows the reduced maximum concentrations at or outside the Project Area as a result of temporarily suspending crushing and hauling activities. Contours are shown for these contaminants (24-hour TSP, 24-hour PM₁₀, 24-hour PM_{2.5}, 24-hour Aluminum, and 24-hour Iron) in Figure 7.6 through Figure 7.14 where applicable.

Table 7.15 Maximum Predicted Ground-level Concentrations – Operation

Contaminant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Predicted Ground Level Concentration ($\mu\text{g}/\text{m}^3$)	Predicted plus Background ($\mu\text{g}/\text{m}^3$)	NL AQ Standard or Adopted Standard ($\mu\text{g}/\text{m}^3$)	Percent of NL/Adopted Standard
Sulphur Dioxide	1-hour	2.4	141	144	900	16%
	3-hour	2.4	113	115	600	19%
	24-hour	1.4	78	79	300	26%
	Annual	1.7	4	6	60	10%
Nitrogen Dioxide	1-hour	5	179	184	400	46%
	24-hour	5	95	100	200	50%
	Annual	3.5	7	11	100	10%
TPM	24-hour	8	302	310	120	258%
	Annual	1.53	30	31	60	52%
PM ₁₀	24-hour	21.3	148	169	50	339%
PM _{2.5}	24-hour	7.3	20	29	25	108%
	Annual	5.2	2	7	8.8	78%
Carbon Monoxide	1-hour	241	1,891	2,132	35,022	6%
	8-hour	393	612	1,005	15,010	7%
Aluminum	24-hour	-	15	15	12	126%
Arsenic	24-hour	-	0.07	0.069	0.3	23%
Cadmium	24-hour	-	< 0.01	< 0.01	2	< 1%
Copper	24-hour	-	0.02	0.02	50	< 1%
Iron	24-hour	-	10	10	4	246%
Lead	24-hour	-	0.02	0.02	2	< 1%
Mercury	24-hour	-	< 0.01	< 0.01	2	< 1%

Table 7.15 Maximum Predicted Ground-level Concentrations – Operation

Contaminant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Predicted Ground Level Concentration ($\mu\text{g}/\text{m}^3$)	Predicted plus Background ($\mu\text{g}/\text{m}^3$)	NL AQ Standard or Adopted Standard ($\mu\text{g}/\text{m}^3$)	Percent of NL/Adopted Standard
Nickel	24-hour	-	0.01	0.01	2	< 1%
Vanadium	24-hour	-	0.03	0.03	2	1.71%
Zinc	24-hour	-	0.02	0.02	120	< 1%
Benzo[a]pyrene	1-year	-	< 0.01	< 0.01	0.00001	7.60%

Note:

- represents a contaminant with no background data

Table 7.16 Maximum Predicted Ground-level Concentrations at Sensitive Receptors (Bolded Entries Exceed the Threshold)

Receptor	Description	Receptor Status	Concentration, Including Background, $\mu\text{g}/\text{m}^3$ (% of Threshold)				
			TPM	PM ₁₀	PM _{2.5}	Aluminum	Iron
			24-hour	24-hour	24-hour	24-hour	24-hour
1	Nearby Appleton Residence	Sensitive Receptor	147.62 (123.0%)	100.82 (201.6%)	17.55 (70.2%)	4.83 (40.2%)	3.15 (78.7%)
2	Nearest Appleton Residence	Sensitive Receptor	163.54 (136.3%)	86.90 (173.8%)	15.62 (62.5%)	4.79 (39.9%)	3.12 (78.1%)
3	Cabin on Lake North East of Proposed Site	Potential Receptor (pending agreement)	116.73 (97.3%)	70.91 (141.8%)	13.41 (53.6%)	3.54 (29.5%)	2.32 (58.1%)
4	Nearby Joe Batt's Pond Residence	Sensitive Receptor	31.50 (26.3%)	33.95 (67.9%)	8.89 (35.5%)	0.66 (5.5%)	0.43 (10.7%)
5	Nearest Joe Batt's Pond Residence	Sensitive Receptor	31.93 (26.6%)	34.59 (69.2%)	8.98 (35.9%)	0.71 (5.9%)	0.46 (11.6%)
6	Nearest Gander Residence	Sensitive Receptor	12.05 (10.0%)	24.35 (48.7%)	7.71 (30.8%)	0.19 (1.6%)	0.12 (3.0%)
7	P8 Structure #1	Potential Receptor (pending agreement)	158.46 (132.0%)	86.29 (172.6%)	15.12 (60.5%)	4.36 (36.3%)	2.85 (71.1%)
8	P8 Structure #2	Potential Receptor (pending agreement)	162.13 (135.1%)	88.54 (177.1%)	15.34 (61.3%)	5.22 (43.5%)	3.41 (85.2%)

Table 7.16 Maximum Predicted Ground-level Concentrations at Sensitive Receptors (Bolded Entries Exceed the Threshold)

Receptor	Description	Receptor Status	Concentration, Including Background, $\mu\text{g}/\text{m}^3$ (% of Threshold)				
			TPM	PM ₁₀	PM _{2.5}	Aluminum	Iron
			24-hour	24-hour	24-hour	24-hour	24-hour
9	Simms Road Building #1	Office/Industrial Building	242.16 (201.8%)	138.65 (277.3%)	21.66 (86.6%)	5.81 (48.4%)	3.79 (94.7%)
10	Simms Road Building #2	Office/Industrial Building	272.23 (226.9%)	147.38 (294.8%)	22.57 (90.3%)	5.80 (48.3%)	3.78 (94.5%)
11	P13 Structure	Potential Receptor (pending agreement)	299.68 (249.7%)	120.38 (240.8%)	18.62 (74.5%)	5.50 (45.8%)	3.59 (89.7%)
12	Lakewood Academy	Sensitive Receptor	35.16 (29.3%)	35.03 (70.1%)	8.96 (35.9%)	0.57 (4.7%)	0.37 (9.2%)
13	Glenwood War Memorial	Sensitive Receptor	41.52 (34.6%)	36.15 (72.3%)	9.04 (36.2%)	0.66 (5.5%)	0.43 (10.8%)
14	Multidenominational Cemetery	Sensitive Receptor	45.69 (38.1%)	38.87 (77.7%)	9.39 (37.6%)	0.77 (6.4%)	0.50 (12.5%)
15	Derm Flynn Peace Park	Sensitive Receptor	55.95 (46.6%)	42.80 (85.6%)	9.85 (39.4%)	0.84 (7.0%)	0.55 (13.7%)
16	First United Church	Sensitive Receptor	36.68 (30.6%)	35.75 (71.5%)	9.02 (36.1%)	0.60 (5.0%)	0.39 (9.8%)
17	St. Andrews Anglican Church	Sensitive Receptor	38.39 (32.0%)	35.94 (71.9%)	9.04 (36.2%)	0.67 (5.6%)	0.44 (10.9%)
18	New Fun Land Day Care Centre	Sensitive Receptor	34.65 (28.9%)	34.69 (69.4%)	8.93 (35.7%)	0.57 (4.7%)	0.37 (9.3%)
19	P13 Structure #1	Sensitive Receptor	32.81 (27.3%)	32.42 (64.8%)	8.60 (34.4%)	0.59 (4.9%)	0.38 (9.6%)
20	P13 Structure #2	Sensitive Receptor	32.60 (27.2%)	32.34 (64.7%)	8.59 (34.4%)	0.58 (4.9%)	0.38 (9.6%)
21	Fred L. Pritchett Memorial Park	Sensitive Receptor	34.36 (28.6%)	34.60 (69.2%)	8.92 (35.7%)	0.56 (4.7%)	0.38 (9.6%)
22	Remote Building	Sensitive Receptor	16.60 (13.8%)	26.40 (52.8%)	7.96 (31.8%)	0.30 (2.5%)	0.19 (4.8%)
23	Cabin/Home	Sensitive Receptor	15.47 (12.9%)	26.72 (53.4%)	8.01 (32.0%)	0.31 (2.6%)	0.20 (4.9%)
24	Cabin/Home	Sensitive Receptor	38.00 (31.7%)	34.38 (68.8%)	8.83 (35.3%)	0.68 (5.7%)	0.45 (11.2%)
25	Cabin/Home	Sensitive Receptor	12.27 (10.2%)	24.49 (49.0%)	7.71 (30.8%)	0.18 (1.5%)	0.12 (3.0%)

Table 7.17 Frequency of Exceedance at Each Sensitive Receptor

Receptor	Description	Receptor Status	Number of Periods Exceeded (% of year)				
			TPM	PM ₁₀	PM _{2.5}	Aluminum	Iron
			24-hour	24-hour	24-hour	24-hour	24-hour
Max Receptor Outside Project Area			35 (9.6%)	64 (17.5%)	2 (0.6%)	2 (0.6%)	16 (4.4%)
1	Nearby Appleton Residence	Sensitive Receptor	3 (0.8%)	15 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
2	Nearest Appleton Residence	Sensitive Receptor	4 (1.1%)	17 (4.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
3	Cabin on Lake just Northeast of Proposed Site	Potential Receptor (pending agreement)	2 (0.5%)	7 (1.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
4	Nearby Joe Batt's Pond Residence	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
5	Nearest Joe Batt's Pond Residence	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
6	Nearest Gander Residence	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
7	P8 Structure #1	Potential Receptor (pending agreement)	5 (1.4%)	20 (5.5%)	0 (0.0%)	0 (0.0%)	1 (0.3%)
8	P8 Structure #2	Potential Receptor (pending agreement)	5 (1.4%)	22 (6.0%)	0 (0.0%)	0 (0.0%)	1 (0.3%)
9	Simms Road Building #1	Office/Industrial Building	8 (2.2%)	20 (5.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
10	Simms Road Building #2	Office/Industrial Building	13 (3.6%)	25 (6.8%)	0 (0.0%)	0 (0.0%)	1 (0.3%)
11	P13 Structure	Potential Receptor (pending agreement)	66 (18.1%)	118 (32.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
12	Lakewood Academy	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
13	Glenwood War Memorial	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
14	Multidenominational Cemetery	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
15	Derm Flynn Peace Park	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
16	First United Church	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
17	St. Andrews Anglican Church	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
18	New Fun Land Day Care Centre	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 7.17 Frequency of Exceedance at Each Sensitive Receptor

Receptor	Description	Receptor Status	Number of Periods Exceeded (% of year)				
			TPM	PM ₁₀	PM _{2.5}	Aluminum	Iron
			24-hour	24-hour	24-hour	24-hour	24-hour
19	P13 Structure #1	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
20	P13 Structure #2	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
21	Fred L. Pritchett Memorial Park	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
22	Remote Building	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
23	Cabin/Home	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
24	Cabin/Home	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
25	Cabin/Home	Sensitive Receptor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 7.18 Maximum Predicted Ground-level Concentrations –Reduced Operations Scenario

Contaminant	Averaging Period	Background Concentration (µg/m ³)	NL AQ Standard or Adopted Standard (µg/m ³)	Maximum Predicted Ground Level Concentration Full Operation (Including Background) (µg/m ³)	Percent of NL/Adopted Standard	Maximum Predicted Ground Level Concentration Reduced Operation (Including Background) (µg/m ³)	Percent of NL/Adopted Standard
TPM	24-hour	8	120	310	258%	24	20%
PM ₁₀	24-hour	21.3	50	169	339%	31	62%
PM _{2.5}	24-hour	7.3	25	29	108%	10	39%
Aluminum	24-hour	-	12	15	126%	1.6	14%
Iron	24-hour	-	4	10	246%	1.1	27%

Note:

‘-’ represents a contaminant with no background data

\\ca0151-ppfss01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

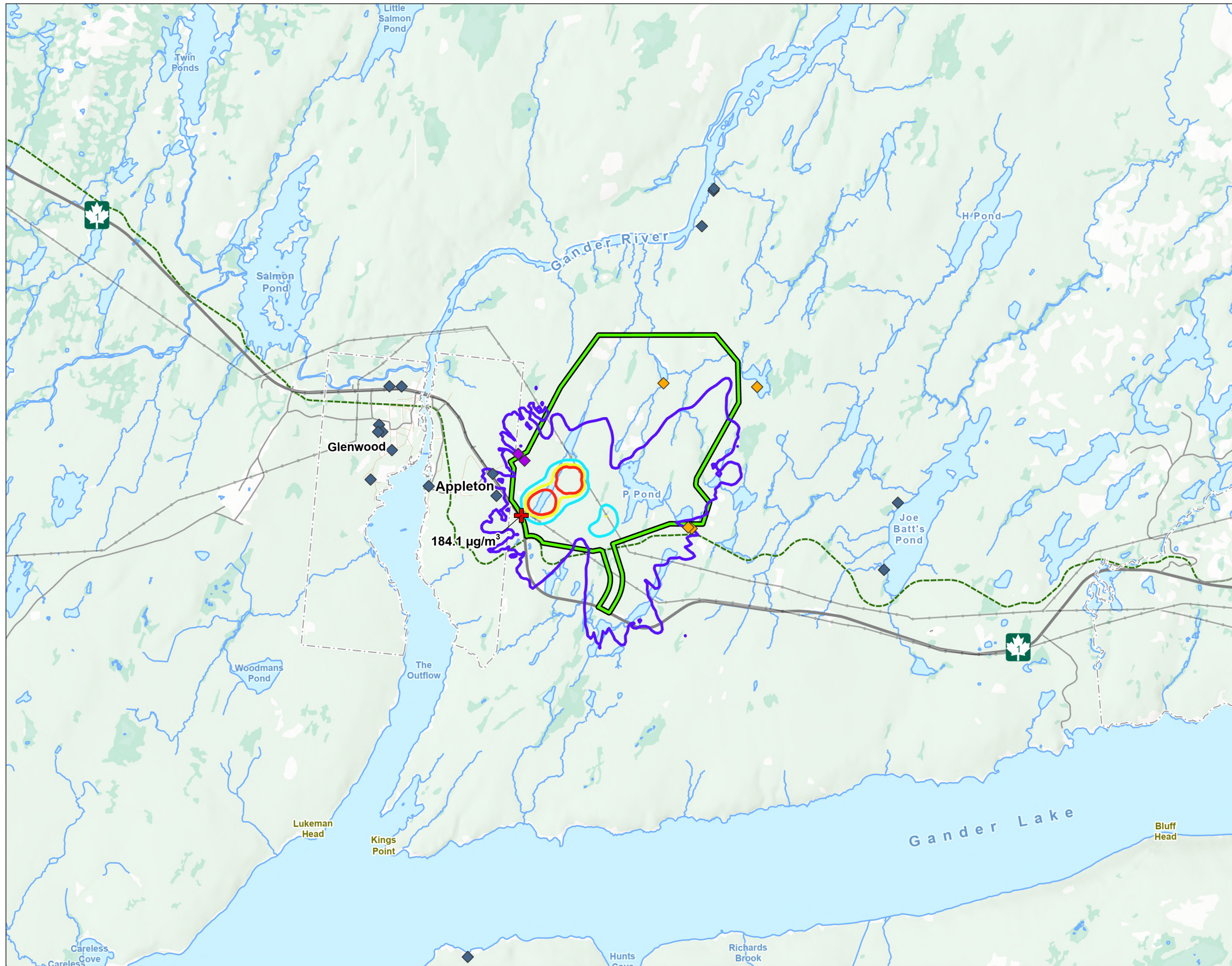
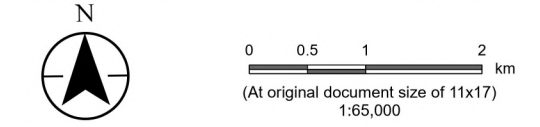


Figure No. **7.6**
 Title **Maximum Predicted 1-hour Concentration of Nitrogen Dioxide (Including Background) for Full Operations**
 Client/Project New Found Gold Corp. Queensway Gold Project 121418510_740
 Project Location North Gander Lake Newfoundland and Labrador Prepared by MB on 2026-04-16 QR by NW on 2026-04-21 TR by DOM on 2026-04-27



- ▭ Project Area
 - ◆ Sensitive Receptor
 - ◆ Offices / Industrial
 - ◆ Other Potential Receptor
 - 100
 - 200
 - 300
 - 400 - AAQS
 - + Maximum Concentration
- Existing Infrastructure
 - Transmission Line
 - Highway
 - Collector
 - Local / Street
 - - - NL T'Railway
 - - - Provincial Park
 - ▭ Municipal Boundaries
 - Wetlands and Waterways
 - Watercourse
 - ▭ Waterbody
 - ▭ Wetland
 - ▭ Wooded Area



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



\\ca0151-ppfss01\work_group\1214\active\121417596\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

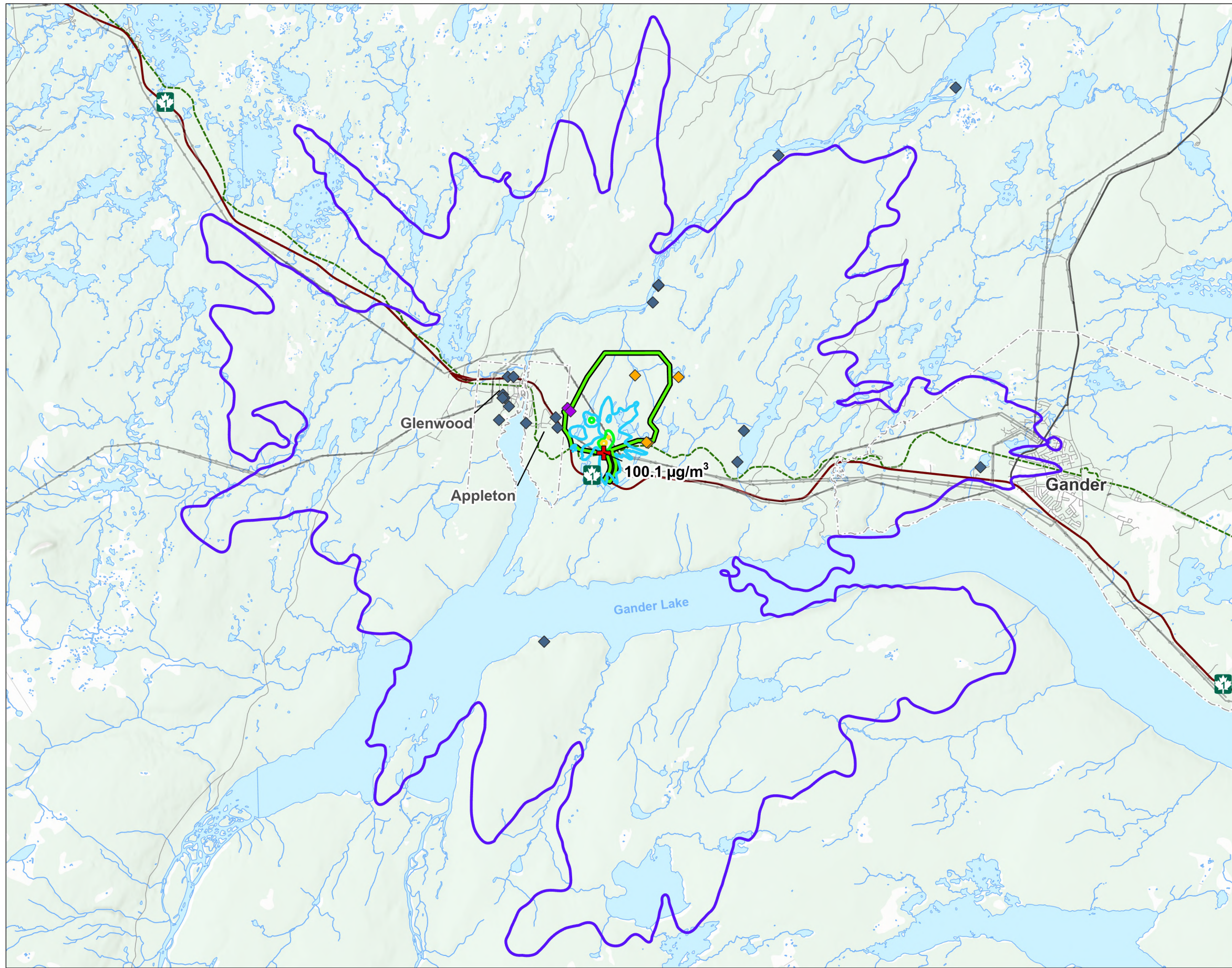
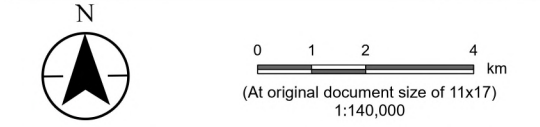


Figure No. **7.7**
 Title **Maximum Predicted 24-hour Concentration of Nitrogen Dioxide (Including Background) for Full Operations**
 Client/Project **New Found Gold Corp. Queensway Gold Project** 121418510_741
 Project Location **North Gander Lake Newfoundland and Labrador** Prepared by MB on 2026-04-16
 QR by NW on 2026-04-21
 TR by DOM on 2026-04-27



- Project Area
- Receptors**
 - Sensitive Receptor
 - Offices / Industrial
 - Other Potential Receptor
- NO₂ Maximum Predicted 24-hour Concentration (µg/m³) Contours (5 µg/m³ Background)**
 - 8
 - 50
 - 100
 - 150
 - 200 - AAQS
 - Maximum Concentration
- Existing Infrastructure**
 - Transmission Line
 - Trans-Canada Highway
 - Highway
 - Arterial / Collector
 - Local Road
 - NL T'Railway Provincial Park
 - Municipal Boundaries
- Waterways**
 - Watercourse
 - Waterbody



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



\\ca0151-ppfss01\work_group\1214\active\121418510_NewfoundGold\GIS Pro\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

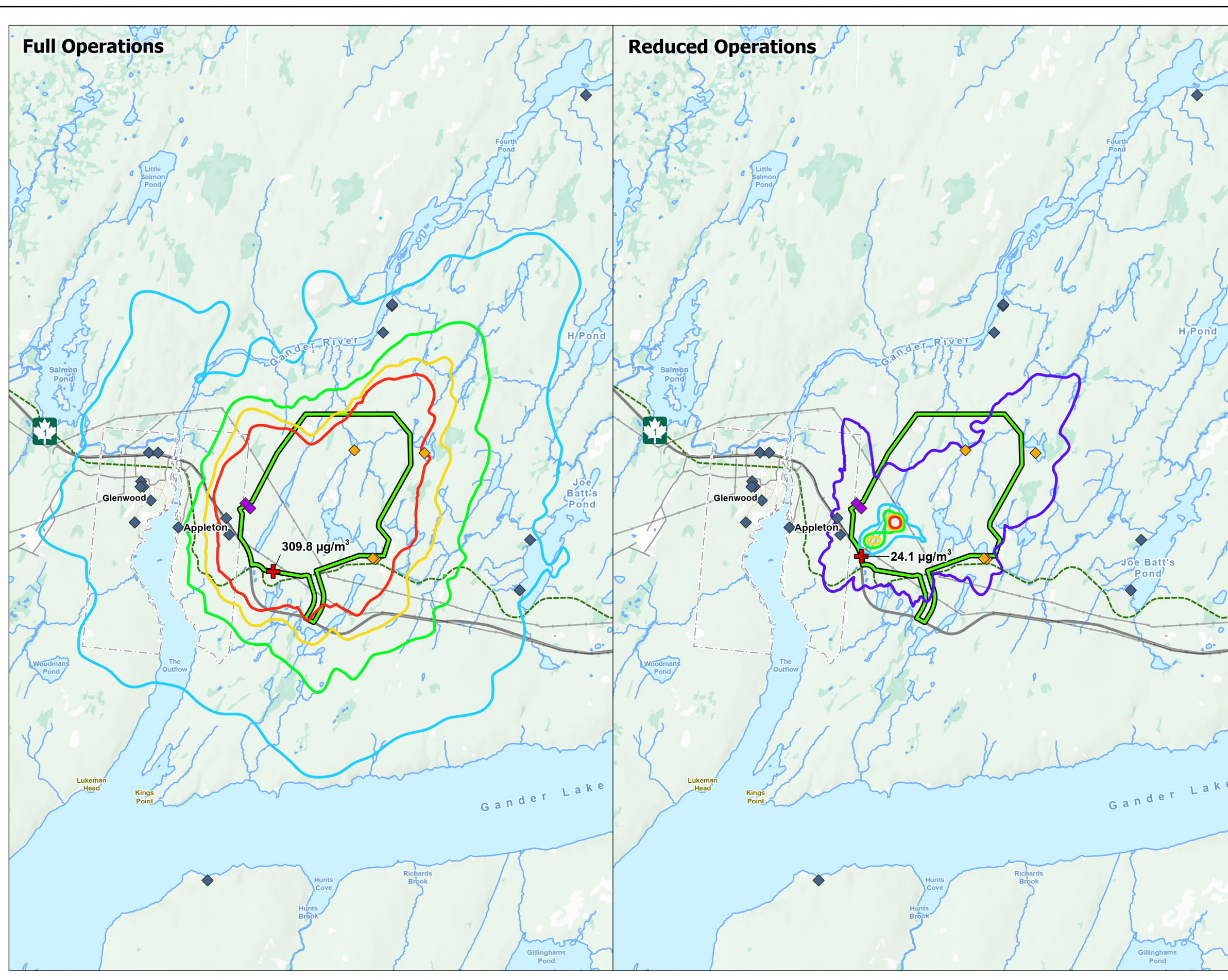


Figure No. **7.8**
Title
Maximum Predicted 24-hour Concentration of Total Particulate Matter (Including Background) for Full and Reduced Operations
Client/Project
 New Found Gold Corp.
 Queensway Gold Project
 121418510_742
Project Location
 North Gander Lake
 Newfoundland and Labrador
 Prepared by MB on 2026-04-16
 QR by NW on 2026-04-27
 TR by DOM on 2026-04-27

N

0 0.5 1 2 km
 (At original document size of 11x17)
 1:85,000

Project Area
 [Green outline]

Receptors
 [Black diamond] Sensitive Receptor
 [Purple diamond] Offices / Industrial
 [Orange diamond] Other Potential Receptor

Existing Infrastructure
 [Grey line] Transmission Line
 [Thick grey line] Highway
 [Thin grey line] Collector
 [Thin grey line] Local / Street
 [Green dashed line] NL T'Railway
 [Green dashed line] Provincial Park
 [Dashed line] Municipal Boundaries

Total Particulate Matter Maximum Predicted 24-hour Concentration (µg/m³) Contours (8 µg/m³ Background)
 [Purple line] 10
 [Cyan line] 30
 [Green line] 60
 [Yellow line] 90
 [Red line] 120 - AAQS
 [Red cross] Maximum Concentration

Wetlands and Waterways
 [Blue line] Watercourse
 [Light blue area] Waterbody
 [Light green area] Wetland



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



\\ca0151-ppfss01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

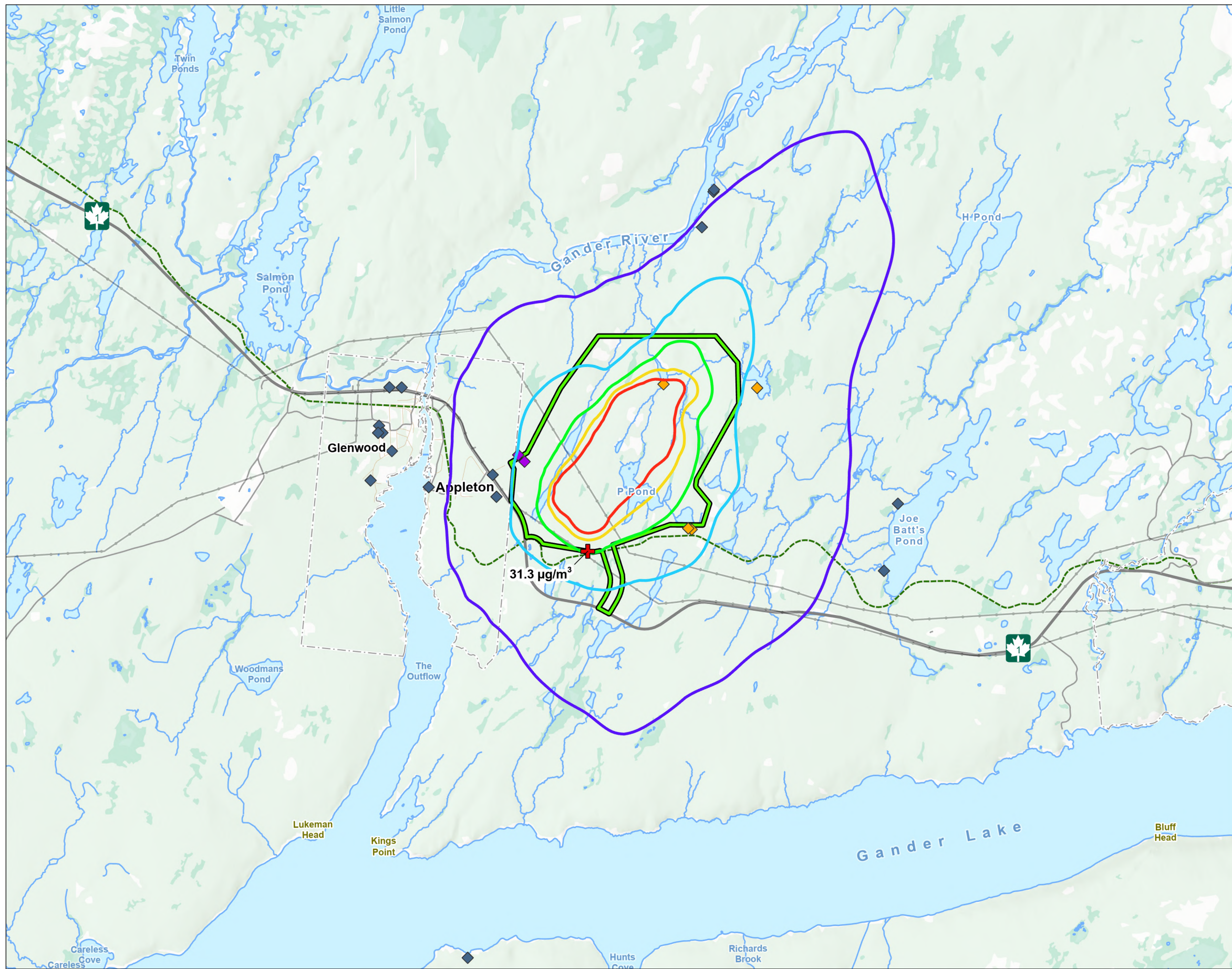
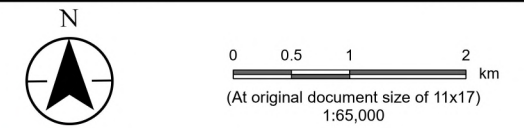


Figure No. **7.9**
Title
Maximum Predicted 1-year Concentration of Total Particulate Matter (Including Background) for Full Operations
 Client/Project 121418510_743
 New Found Gold Corp.
 Queensway Gold Project
 Project Location North Gander Lake
 Newfoundland and Labrador
 Prepared by MB on 2026-04-16
 QR by NW on 2026-04-21
 TR by DOM on 2026-04-27



- Project Area
- Receptors**
 - ◆ Sensitive Receptor
 - ◆ Offices / Industrial
 - ◆ Other Potential Receptor
- Total Particulate Matter Maximum Predicted 1-year Concentration ($\mu\text{g}/\text{m}^3$) Countours (1.53 $\mu\text{g}/\text{m}^3$ Background)**
 - 5
 - 15
 - 30
 - 45
 - 60 - AAQS
 - + Maximum Concentration
- Existing Infrastructure**
 - Transmission Line
 - Highway
 - Collector
 - Local / Street
 - - - NL T'Railway
 - - - Provincial Park
 - Municipal Boundaries
- Wetlands and Waterways**
 - Watercourse
 - Waterbody
 - Wetland



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



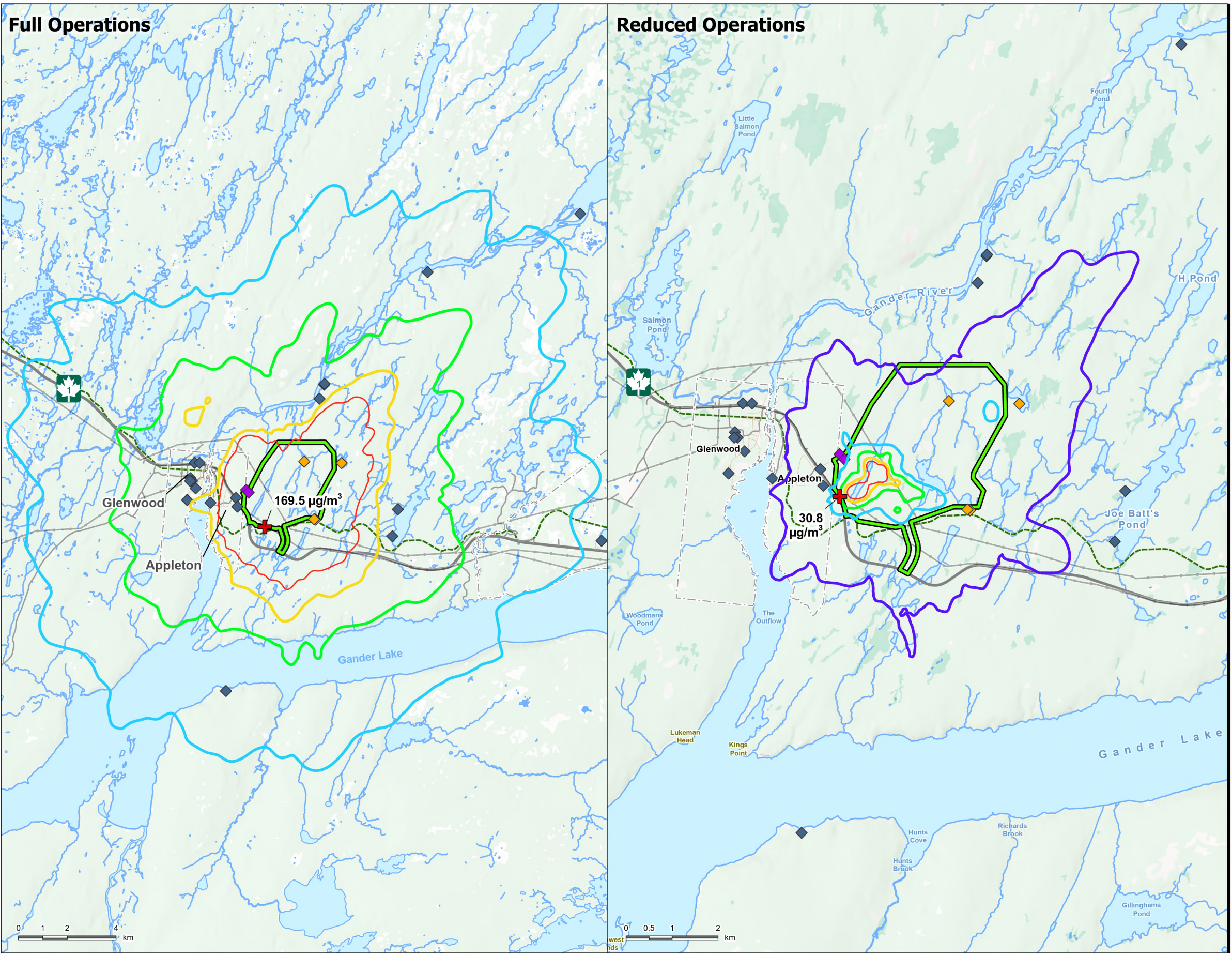


Figure No. 7.10
Title
 Maximum Predicted 24-hour Concentration of Particulate Matter (<10 microns) (Including Background) for Full and Reduced Operations
Client/Project
 New Found Gold Corp. Queensway Gold Project
 121418510_744
Project Location
 North Gander Lake Newfoundland and Labrador
 Prepared by MB on 2026-04-16
 QR by NW on 2026-04-27
 TR by DOM on 2026-04-27

N

Project Area
 Project Area

Receptors
 Sensitive Receptor
 Offices / Industrial
 Other Potential Receptor

Existing Infrastructure
 Transmission Line
 Highway
 Collector
 Local / Street
 NL T'Railway
 Provincial Park
 Municipal Boundaries

Particulate Matter (<10µm) Maximum Predicted 24-hour Concentration (µg/m³) Contours (21.3 µg/m³ Background)
 22
 25
 30
 40
 50 - AAQS
 Maximum Concentration

Wetlands and Waterways
 Watercourse
 Waterbody



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



\\ca0151-ppf5501\work_group\12141\active\121418510_NewFoundGold\GIS Pro\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

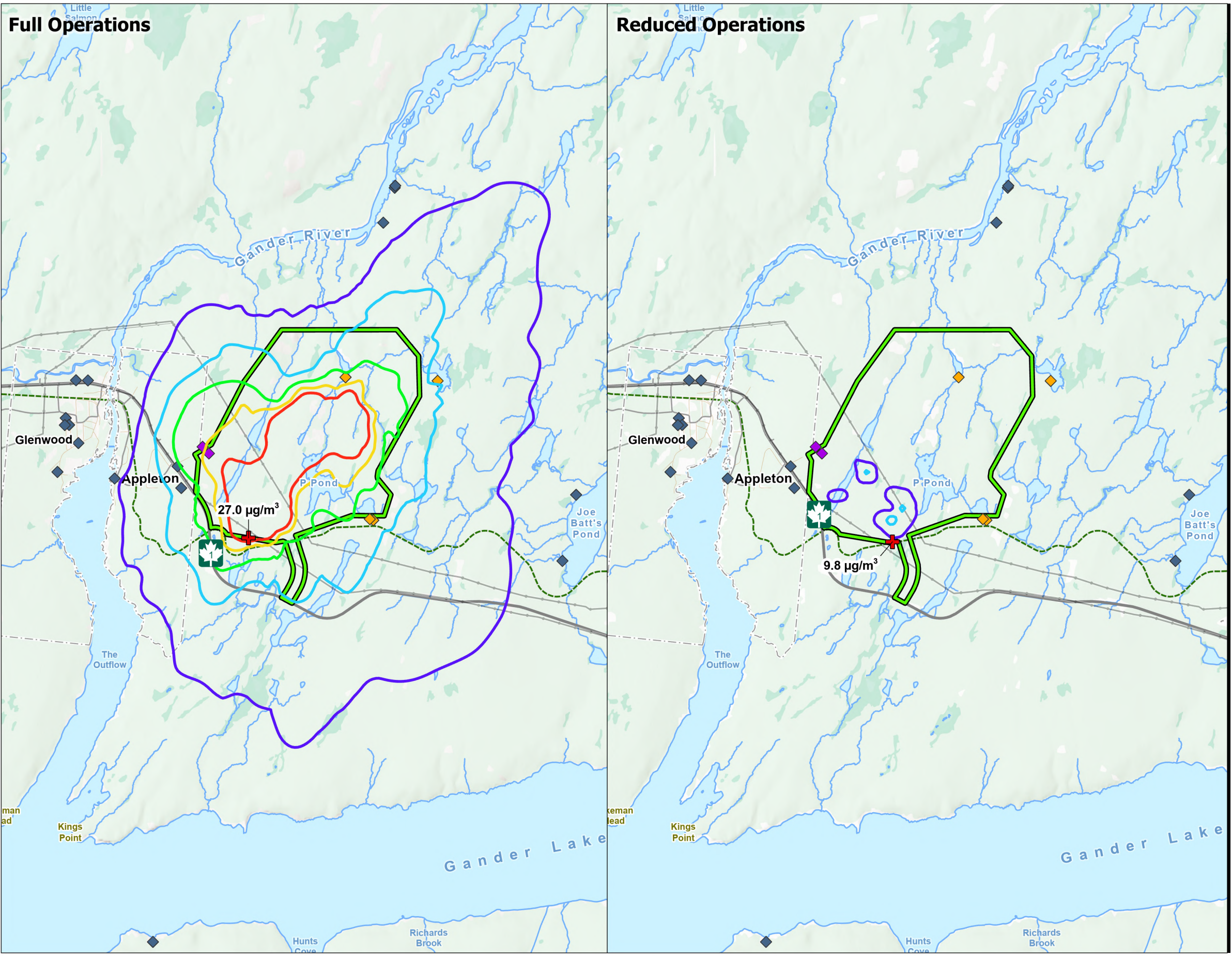


Figure No. 7.11
Title
Maximum Predicted 24-hour Concentration of Particulate Matter (<2.5 microns) (Including Background) for Full and Reduced Operations
Client/Project
 New Found Gold Corp.
 Queensway Gold Project
 121418510_745
Project Location
 North Gander Lake
 Newfoundland and Labrador
 Prepared by MB on 2026-04-16
 QR by NW on 2026-04-27
 TR by DOM on 2026-04-27

N

0 0.5 1 2 km
 (At original document size of 11x17) 1:65,000

- Project Area**
- Receptors**
 - Sensitive Receptor
 - Offices / Industrial
 - Other Potential Receptor
- Particulate Matter (<2.5 µm) Maximum Predicted 24-hour Concentration (µg/m³) Contours (7.3 µg/m³ Background)**
 - 10
 - 14
 - 18
 - 22
 - 25 - AAQS
- Maximum Concentration**
- Existing Infrastructure**
 - Transmission Line
 - Highway
 - Collector
 - Local / Street
 - NL T'Railway
 - Provincial Park
- Wetlands and Waterways**
 - Watercourse
 - Waterbody
 - Wetland
 - Municipal Boundaries



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



Lead: 151-PPFSS01/work_group/121418510/active/121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

\\ca0151-ppfss01\work_group\1214\active\121417596\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

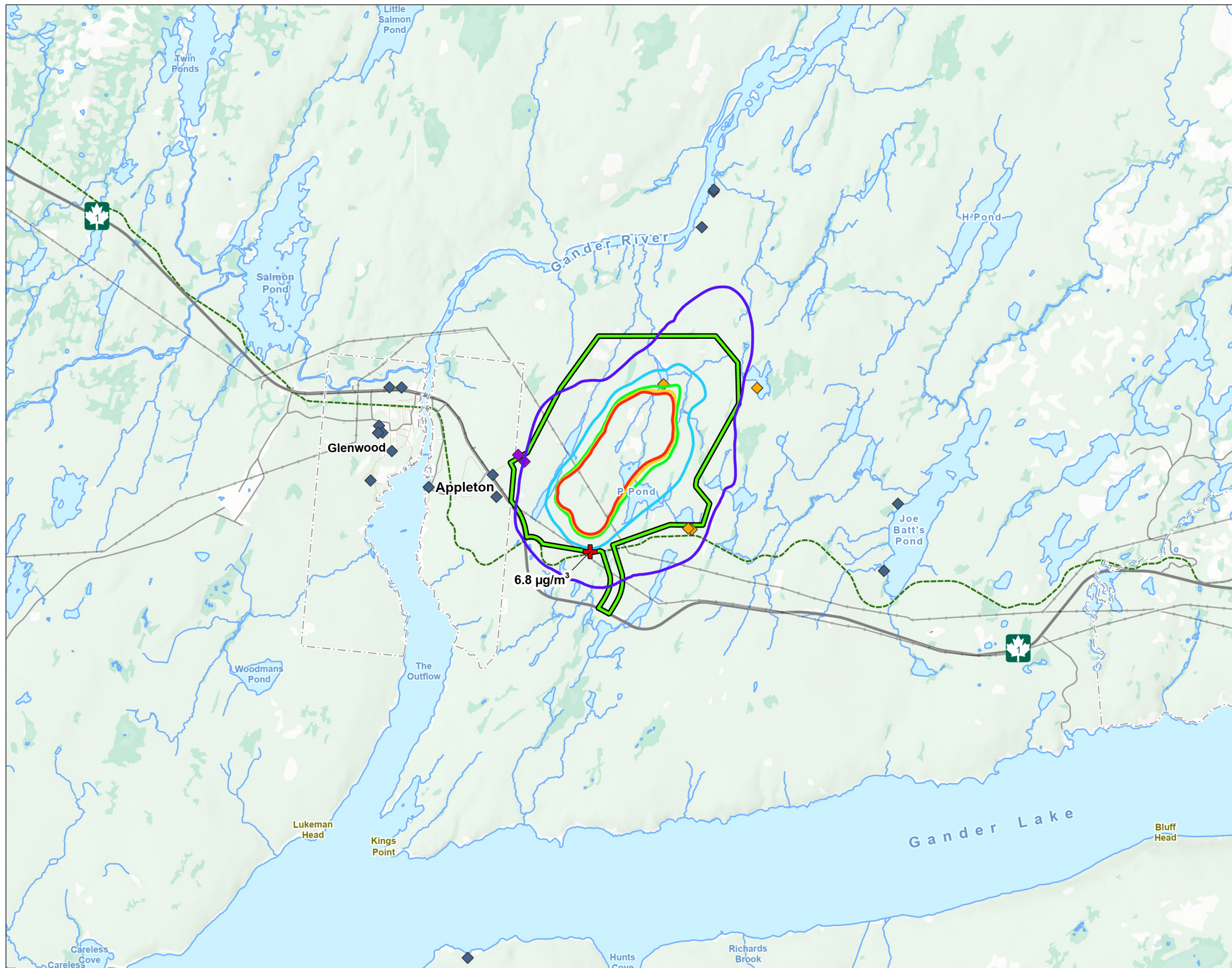


Figure No. **7.12**
Title
Maximum Predicted 1-year Concentration of Particulate Matter (<2.5 microns) (Including Background) for Full Operations
Client/Project
 New Found Gold Corp.
 Queensway Gold Project
 121418510_746
Project Location
 North Gander Lake
 Newfoundland and Labrador
 Prepared by MB on 2026-04-16
 QR by NW on 2026-04-21
 TR by DOM on 2026-04-27

N

0 0.5 1 2 km
 (At original document size of 11x17)
 1:65,000

Project Area
 Project Area

Receptors
 Sensitive Receptor
 Offices / Industrial
 Other Potential Receptor

Existing Infrastructure
 Transmission Line
 Highway
 Collector
 Local / Street
 NL T'Railway
 Provincial Park
 Municipal Boundaries

Particulate Matter (<2.5 µm) Maximum Predicted Concentration (µg/m³) Contours (6.8 µg/m³ Background)
 6
 7
 8
 8.3
 8.5 - AAQS

Wetlands and Waterways
 Watercourse
 Waterbody
 Wetland

Maximum Concentration
 Maximum Concentration



Notes
 1. Coordinate System: NAD 1983 CSRS MTM 2
 2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
 3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



Full Operations

Reduced Operations

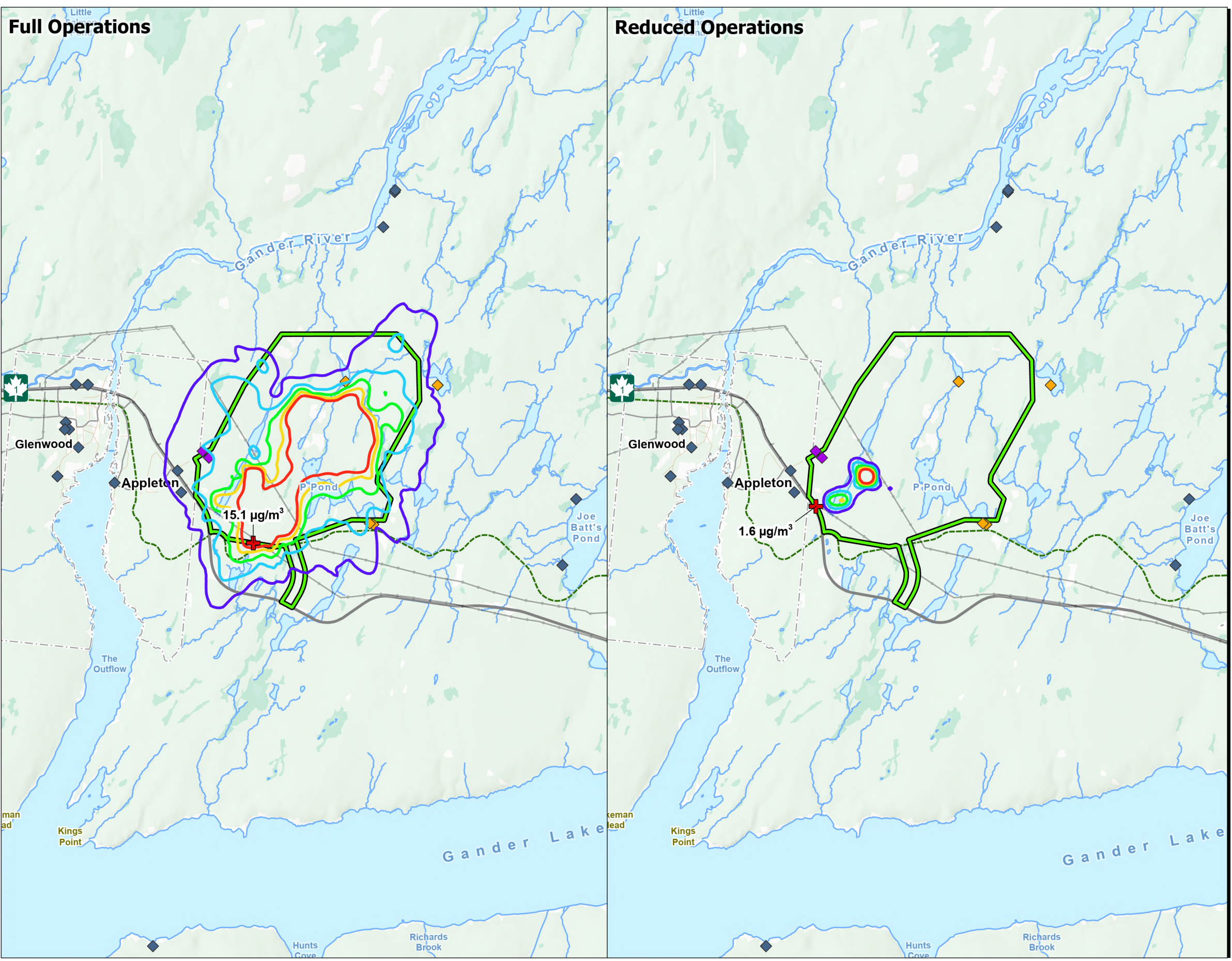


Figure No. **7.13**
Title
Maximum Predicted 24-hour Concentration of Aluminum (No Background Data) for Full and Reduced Operations
 Client/Project: New Found Gold Corp. Queensway Gold Project
 Project Location: North Gander Lake, Newfoundland and Labrador
 Prepared by MB on 2026-04-16, QR by NW on 2026-04-27, TR by DOM on 2026-04-27

Scale: 0 0.5 1 2 km
 (At original document size of 11x17) 1:65,000

Legend

- Project Area**: Green outline
- Receptors**:
 - Sensitive Receptor: Black diamond
 - Offices / Industrial: Purple diamond
 - Other Potential Receptor: Orange diamond
 - Maximum Concentration: Red cross
- Existing Infrastructure**:
 - Transmission Line: Grey line
 - Highway: Thick grey line
 - Collector: Thin grey line
 - Local / Street: Light grey line
 - NL T'Railway: Green dashed line
 - Provincial Park: Dotted green line
 - Municipal Boundaries: Dashed white line
- Aluminum Maximum Predicted 24-hour Concentration (µg/m³) Countours (no Background)**:
 - 4: Purple
 - 6: Blue
 - 8: Green
 - 10: Yellow
 - 12 - AAQS: Red
- Wetlands and Waterways**:
 - Watercourse: Blue line
 - Waterbody: Light blue area
 - Wetland: Light green area



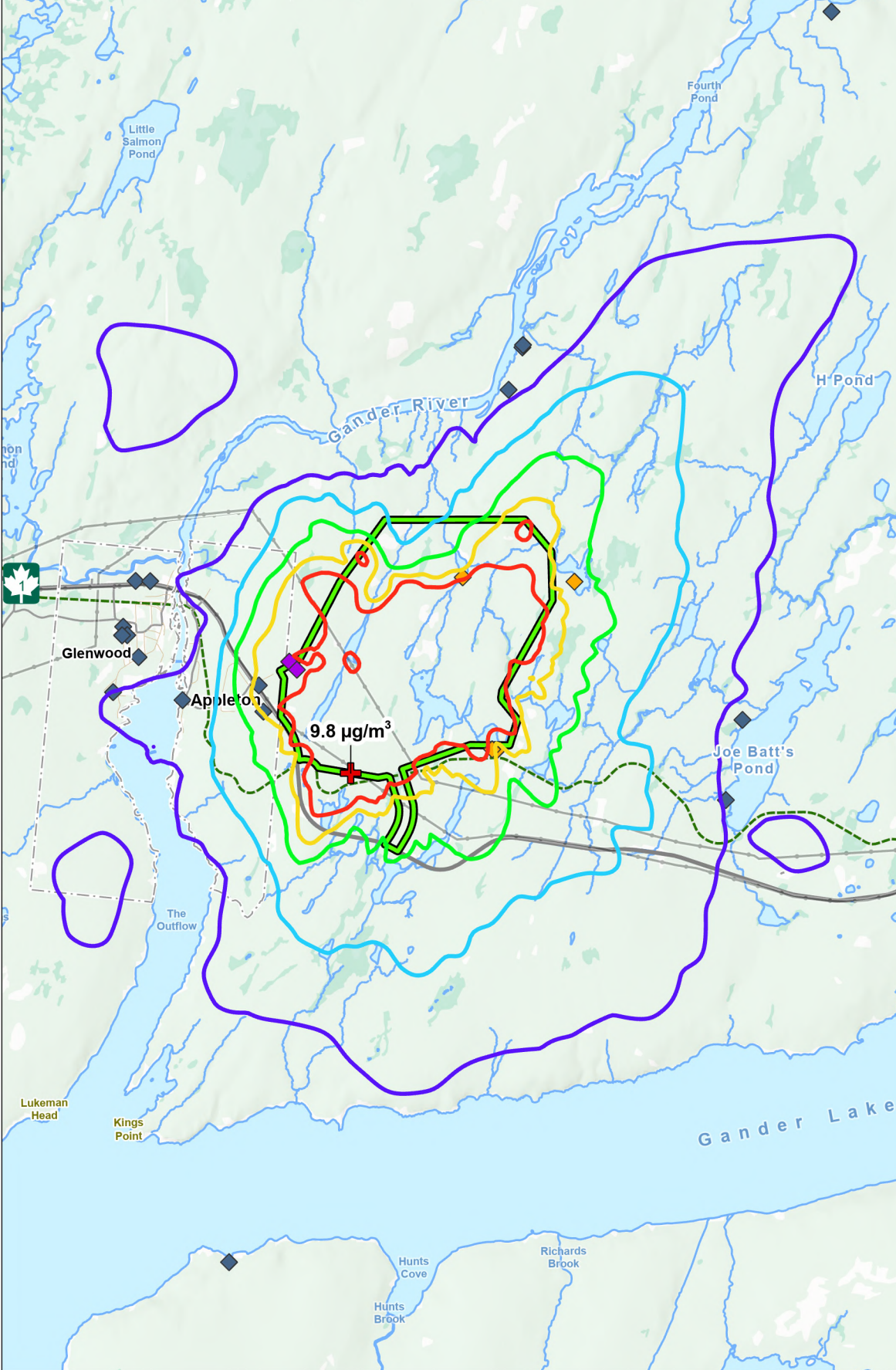
Notes

- Coordinate System: NAD 1983 CSRS MTM 2
- Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
- Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



\sca0151-PPFSS01\work_group\1214\active\121417596003_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: mwhite

Full Operations



Reduced Operations

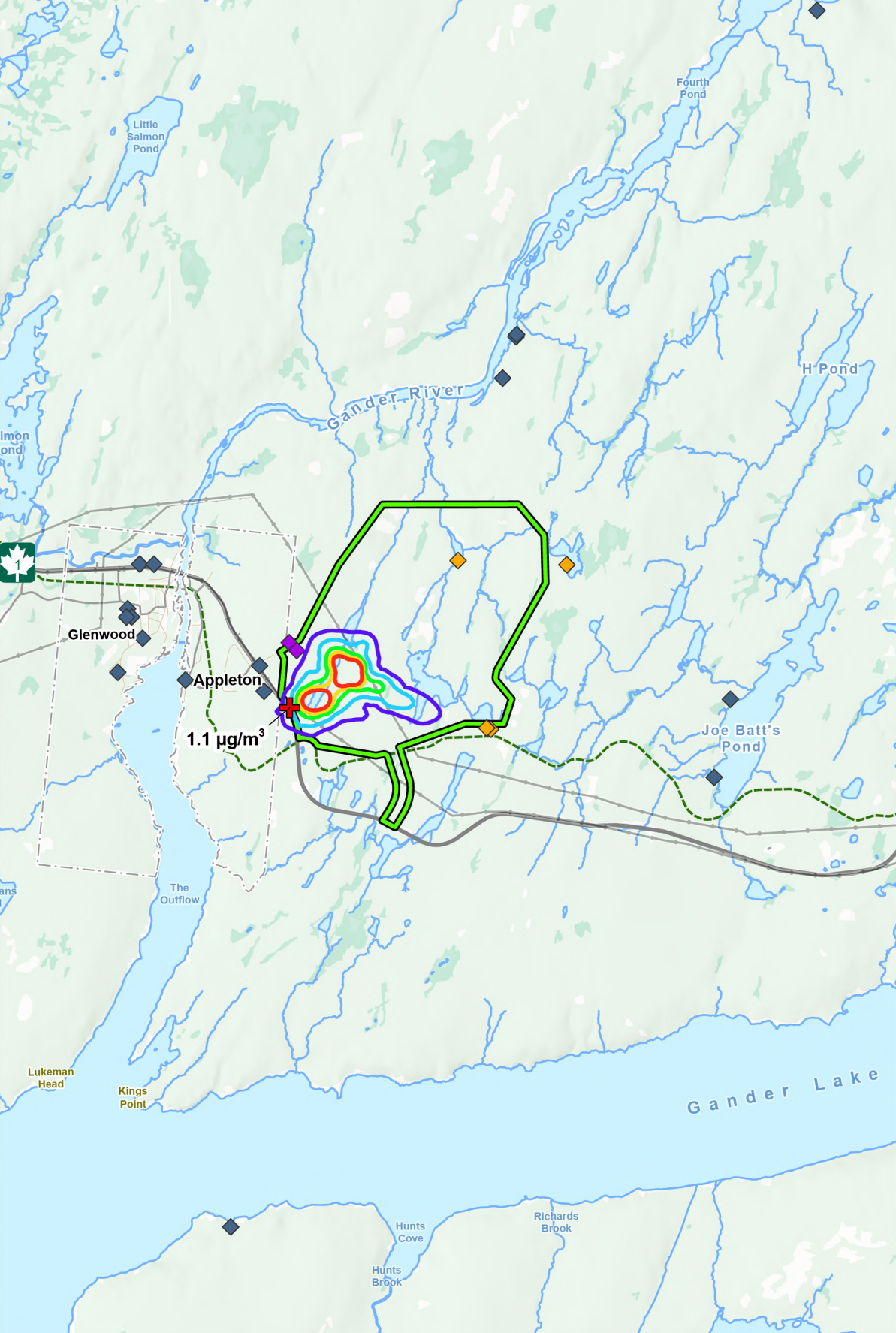


Figure No. **7.14**
Title
Maximum Predicted 24-hour Concentration of Iron (No Background Data) for Full and Reduced Operations
 Client/Project: New Found Gold Corp. Queensway Gold Project
 Project Location: North Gander Lake, Newfoundland and Labrador
 Prepared by MB on 2026-04-16, QR by NW on 2026-04-27, TR by DOM on 2026-04-27

Legend

- Project Area**: Green outline
- Receptors**:
 - Sensitive Receptor: Black diamond
 - Offices / Industrial: Purple diamond
 - Other Potential Receptor: Orange diamond
- Iron Maximum Predicted 24-hour Concentration (µg/m³) Countours (no Background)**:
 - 0.5: Purple
 - 1: Cyan
 - 2: Green
 - 3: Yellow
 - 4 - AAQS: Red
 - Maximum Concentration: Red cross
- Existing Infrastructure**:
 - Transmission Line: Grey line
 - Highway: Thick grey line
 - Collector: Thin grey line
 - Local / Street: Light grey line
 - NL T'Railway: Dashed green line
 - Provincial Park: Dashed green line
 - Municipal Boundaries: Dashed black line
- Wetlands and Waterways**:
 - Watercourse: Blue line
 - Waterbody: Light blue area
 - Wetland: Light green area



Notes

- Coordinate System: NAD 1983 CSRS MTM 2
- Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
- Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping, Topographic Mapping - Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



\\ca0151-ppf5501\work_group\1214\active\121418510_NewfoundGold\GIS Pro\121418510_NFG_Atmosphe.aprx Revised: 2026-04-28 By: mwhite

For the full operating scenario, maximum 24-hour average concentrations of PM_{2.5}, and aluminum are predicted to infrequently exceed the ambient air quality standards in some areas outside of the Project Area as shown in Figure 7.11 and Figure 7.13. The maximum concentrations for both PM_{2.5} and aluminum are predicted to occur on the south fenceline of the Project Area. During the peak operational year (Year 4), the majority of hauling traffic and material transfers occur between the Keats / Iceberg pits and the stockpiles and waste rock, towards the south end of the Project Area. Additionally, the industrial terrace, where the crushers are located, is at the south end of the Project Area. For these two substances, the area where exceedances are predicted to occur is limited to within 100 m south of the Project Area, and occur for less than 0.6% of the year (two days in a given 365-day period). At the identified sensitive receptors (including nearby Appleton residents), predicted concentrations are not anticipated to exceed the threshold. Infrequent exceedances of air quality standards are predicted at the T'Railway Provincial Park along the south end of the Project Area, but concentrations are predicted to be in compliance within residential areas. As indicated in Table 7.18, these parameters are predicted to comply with NL AQS in the reduced operating scenario.

For the full operating scenario, maximum 24-hour average concentrations of iron are predicted to exceed the ambient air quality standards outside of the Project Area as shown in Figure 7.14. The exceedances are predicted to occur primarily along the northwest (445 m) and south (640 m) sides of the Project Area, with some smaller areas along the west (75 m) and east (160 m) sides of the Project Area. At the identified sensitive receptors, the predicted concentrations are not anticipated to exceed the ambient air quality threshold. However, the exceedances are predicted to occur in a region overlapping the Trailway along the south side of the Project Area. Across the meteorological years assessed, the offsite receptor with the greatest number of predicted concentrations exceeding the ambient air quality standard was 16 days in that year (4.4% of a given year). The exposure duration associated with the standard is 24 hours, while members of the public are anticipated to be present in the area of predicted exceedances only for short durations while travelling along the trail, rather than over a continuous 24-hour period. As indicated in Table 7.18, these parameters are predicted to comply with NL AQS in the reduced operating scenario.

For TPM under peak operation, the exceedances extend along the west and south sides of the Project Area out to a maximum predicted distance of 950 m as shown in Figure 7.8. This region would cover the east edge of Appleton. Across the meteorological years assessed, the offsite receptor with the greatest number of predicted concentrations exceeding the ambient air quality standard was 35 days in that year, a low percentage (9.6% of a given year). At nearby Appleton residences, the predicted concentrations are lower than the predicted maximum, but still may exceed the threshold infrequently based on the model results. For the closest Appleton residence (Receptor #5), the frequency of exceedance is approximately 1.1% of a given year. As indicated in Table 7.18, these parameters are predicted to comply with NL AQS in the reduced operating scenario.

For PM₁₀ during peak operation, the exceedances extend around the Project Area out to a maximum of 1.8 km as shown in Figure 7.10. The concentrations are predicted to exceed at some nearby residential receptors in Appleton, as well as in a region overlapping the public trail that runs along the south side of the Project Area. Across the meteorological years assessed, the offsite receptor with the greatest number of predicted concentrations exceeding the ambient air quality standard was 64 days in that year (17.5% of a given year). At nearby Appleton residences, the predicted concentrations are lower than the predicted maximum, but still exceed the threshold. For the closest Appleton residence (Receptor #5), the frequency of exceedance is predicted to be approximately 4.7% of a given year. As indicated in Table 7.18, these parameters are predicted to comply with NL AQS in the reduced operating scenario.

7.4.1.3 Summary

Based on the results of the assessment and the implementation of planned mitigation and management measures, Project related effects on air quality are predicted to be as follows:

- **Magnitude:** Through the application of mitigation measures, residual effects from the Project on air quality are anticipated to result in moderate effects on air quality. Project emissions could contribute to predicted ambient concentrations for some parameters of interest and averaging periods that are greater than 100% of the NL AQS infrequently (i.e., for TPM, PM_{2.5}, PM₁₀, aluminum and iron exceedances could occur without reduced operation during dry periods). While the model predicts exceedances at peak operation levels, an adaptive management approach is proposed which includes reductions or temporary suspension of Project activities such as hauling and crushing as needed to maintain compliance with NL AQS during dry and/or windy periods. Other substances are predicted to have low magnitude effects, being well below the applicable NL AQS (as shown in Table 7.15).
- **Geographic Extent:** Project effects on air quality are limited to near the Project Area, with maximum concentrations predicted at the edge of the Project Area, and measurable Project contribution to ambient concentrations extending out several kilometres.
- **Durations:** Residual effects are anticipated to begin during the construction phase and persist throughout the life of the Project with the predicted operation-related increase in ambient concentrations within the 7-year operation phase.
- **Frequency:** Residual effects will be continuous, although ambient concentrations (magnitude of effects) change with meteorological conditions and Project activities. The frequency at which adaptive management measure would be required are predicted to be infrequent.
- **Reversibility:** The predicted increase in air contaminant concentrations would return to baseline conditions after the end of the operation phase; therefore, effects are reversible.

7.4.2 Change in Sound Quality

Noise emissions from Project activities were assessed based on the change to sound quality at nearby receptor locations.

7.4.2.1 Construction

During Project construction, sound emissions are expected from heavy mobile equipment and vehicles used for land clearing, earth moving activities and material handling. Other vehicle activities, such as those associated with the access road (e.g., delivery of supplies, rotation changes), will also generate sound emissions. Mitigation measures to manage noise associated with these activities are identified in Section 7.3. Sound emissions will also result from blasting during construction. Blast energy that liberates into the atmosphere can generate air overpressure and noise. Blasting will be limited to daytime hours. Best management plans outlined in guidance documents such as the Blasters Handbook (ISEE 2016) and the Environmental Code of Practice for Metal Mines (Environment Canada 2009) will be followed to design the blasting layout and sequence to reduce impulsive noise emissions.

7.4.2.2 Operation

Sound emissions during Project operation will result from activities similar to those expected during construction. Material handling, earth moving, and blasting will continue throughout operation, and heavy truck traffic will increase relative to an increase in production levels in the initial few years of operation. Rock breaking and crushing will also occur during operation. Like the construction phase, blasting is expected to occur once per day and will be managed using best practices such as those outlined in the Blaster’s Handbook and the Environmental Code of Practice for Metal Mines (Environment Canada 2009; ISEE 2016).

Noise levels occurring at nearby receptor locations due to Project activities during operation were predicted using Cadna/A acoustic modeling software (DataKustik 2025). Cadna/A uses internationally accepted sound propagation algorithms and includes conservative assumptions about terrain, land cover, and meteorological conditions that can contribute to sound propagation in the environment (ISO 9613-1: 1993, ISO 9613-2: 2024).

The sound power levels of mobile equipment used during Project operation, including the number and type of equipment, are shown in Table 7.19. Sound power levels for material handling, including rock breaking and crushing, are shown in Table 7.20. Sound power levels for haul truck activities between the pits and the crusher, the waste rock storage facility, and the overburden storage facility, are shown in Table 7.21. Sound power levels are based on published sound power level data for similar equipment (DEFRA 2004, 2005)

It was conservatively assumed that the mining equipment will operate simultaneously and at full power during the year of peak production in Year 4.

Table 7.19 Sound Power Levels for Mobile Equipment

Source	Number of Units	Sound Power Level (dB) for each source by Octave Band (Hz)									Total Sound Power Level	
		31.5	63	125	250	500	1000	2000	4000	8000	dB	dBA
Drill	3 (mine pit)	114	114	120	113	116	112	111	106	105	124	118
Loader / Excavator	3 (mine pit)	117	117	120	111	109	110	106	101	93	124	114
Water truck	1 (mine pit and haul roads)	121	121	107	104	102	101	100	97	94	124	107
Front End Loader	1 (processing area)	114	114	110	105	102	98	94	90	83	118	104
Dozer	3 (1 at each stockpile)	103	103	107	105	105	102	99	93	85	113	107
Grader	3 (1 at each stockpile)	109	109	115	107	105	105	102	98	95	118	109

Note: Hz = hertz

Table 7.20 Sound Power Levels for Stationary Noise Sources

Source	Number of Units	Sound Power Level (dB) for each source by Octave Band (Hz)									Total Sound Power Level	
		31.5	63	125	250	500	1000	2000	4000	8000	dB	dBA
Crusher	1	114	114	120	113	116	112	111	106	105	124	118
Sorter	2	117	117	120	111	109	110	106	101	93	124	114
Conveyor	3	121	121	107	104	102	101	100	97	94	124	107
Material Drop Points	4	114	114	110	105	102	98	94	90	83	118	104

Table 7.21 Sound Power Levels from Material Hauling

Hauling Route	Number of Pass-Bys Per Hour	Sound Power Level (dB) by Octave Band (Hz) for Each Haul Truck Pass-By									Total Sound Power Level Per Pass-By	
		31.5	63	125	250	500	1000	2000	4000	8000	dB	dBA
From Mine to Crusher	3	118	118	119	116	113	111	110	105	101	125	117
From Mine to Overburden Storage Facility	6											
From Mine to Waste Rock Storage Facility	33											

The location of the key noise sources in the model are shown in Figure 7.15, along with the closest points of reception (PORs) to the Project. In addition to these PORs, other potential receptors are highlighted in yellow, and are locations where New Found Gold has and will continue to engage these cabin owners about their occupancy, future use of the cabins, and possible mitigation steps, such as relocation or purchasing of the properties.. Noise modelling was based on activities related to mining at the Keats pit since that is the closest pit to the Town of Appleton and so it is likely to lead to the biggest changes to PORs close to the Project. To mitigate the effects of noise from the Project, New Found Gold is proposing to construct a 10 m-high earth berm as shown in Figure 7.15 and further described in Section 4.7.2. The noise model includes the presence of this noise berm.

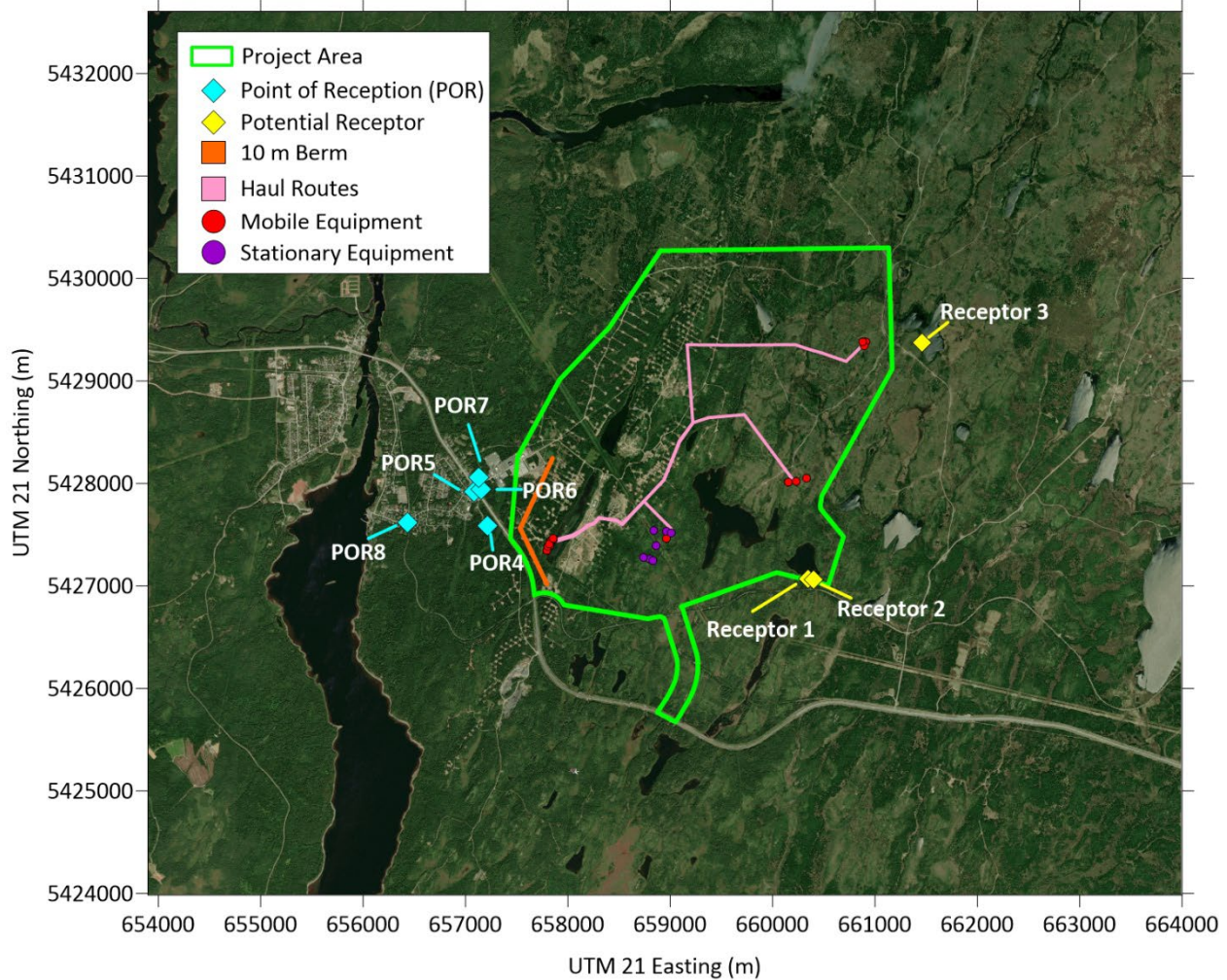


Figure 7.15 Location of Nearest Points of Reception and Noise Sources during Project Operation

The predicted change in sound quality as a result of Project operation is summarized in Table 7.22. The sound pressure levels are used to calculate the day-night sound pressure level (L_{dn}) that includes a 10 dB penalty for noise occurring at night (i.e., between 11 PM and 7 AM) that is meant to reflect an individual’s increased sensitivity to noise at night. The Project-related L_{dn} is then added logarithmically to the baseline L_{dn} to calculate a cumulative L_{dn} . The cumulative L_{dn} is then used to calculate the %HA that occurs from the Project. The predicted L_{dn} from Project activities is shown in Figure 7.16.

Receptors 1, 2, 3, and 8 are located far from the Trans-Canada Highway, and so were considered to be in a quiet rural area. Health Canada recommends adding an additional 10 dB penalty to the L_{dn} for quiet rural areas for both baseline and project sound levels for the purposes of calculating the %HA.

Health Canada recommends that the change in %HA from a Project (as compared to baseline) should not be greater than 6.5%. Based on the modelling and incorporation of mitigation, including the earth berm, the change in noise levels from Project operation is predicted to comply with the Health Canada Guidelines at each of the PORs (Table 7.22).

Table 7.22 Sound Pressure Levels, Day-Night Sound Pressure Level (L_{dn}), and Change in Percent Highly Annoyed (%HA) at Points of Reception near the Project

Receptor	Project SPL (dBA)	Project L_{dn} (dBA)	Penalty for Quiet Rural Area (dB)	Total Project L_{dn} (dBA)	Baseline L_{dn} (dBA)	Cumulative L_{dn} (dBA)	Change in %HA
Receptor 1	44	50	10	60	54	61	5.2
Receptor 2	44	50	10	60	54	61	4.9
Receptor 3	43	49	10	59	54	61	4.4
POR4	50	56	0	56	44	56	3.8
POR5	47	53	0	53	44	54	2.5
POR6	48	54	0	54	44	55	2.9
POR7	47	53	0	53	44	54	2.6
POR8	40	46	10	56	54	58	2.4

Note:

Receptor 1, Receptor 2, Receptor 3, and POR8 were considered to be in a quiet rural area and so the %HA Calculation included an additional 10 dB penalty

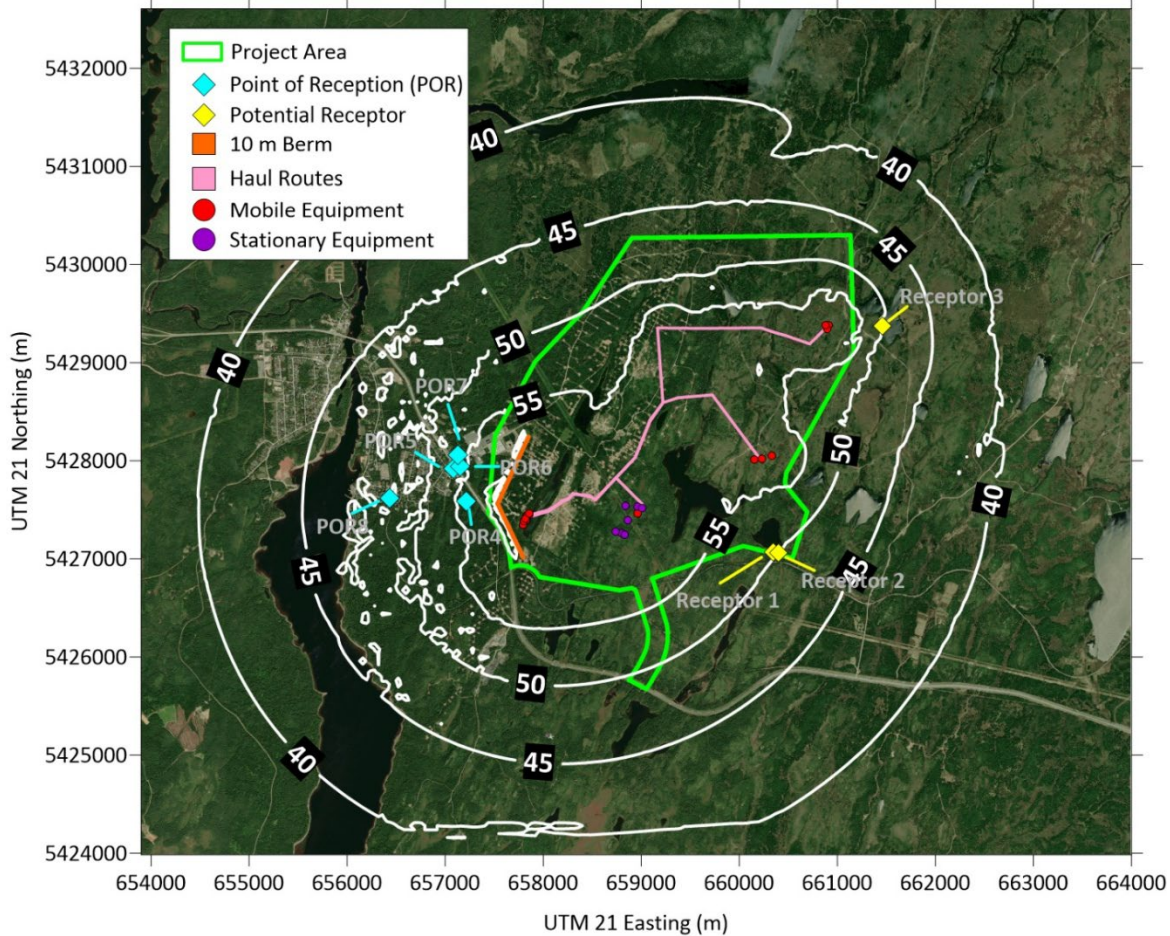


Figure 7.16 Predicted Day-Night Sound Pressure Level (L_{dn}) (dBA) from Project Activities

7.4.2.3 Summary

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Through the application of mitigation measures, a moderate change in noise levels is predicted. Noise levels are predicted to increase at nearby PORs, however based on modelling and implementation of mitigation measures, the increase in noise levels is predicted to comply with Health Canada guidelines.
- **Geographic Extent:** Effects are limited to the LAA/RAA. Sound pressure levels are predicted to be below background noise levels within approximately 2 km of the Project Area.
- **Durations:** Residual effects occur throughout the life of the Project, but would return to existing conditions once mining activities cease.
- **Frequency:** Residual effects will occur continuously, though the change in noise levels are likely overstated since it was conservatively assumed that equipment would be running at maximum capacity and simultaneously. Noise from blasting would occur once a day.
- **Reversibility:** The residual effects are reversible, since there will not be noise emissions once mining stops.

7.4.3 Change in Light Levels

During construction, the primary source of light will be mobile artificial lighting used intermittently across the Project Area. The specific quantity and placement of mobile lighting units have yet to be determined, as the Project design is still in progress. However, it is anticipated that this equipment will be deployed across the Project Area, particularly around designated construction and installation sites. Directional lighting and best practices will be applied to reduce light trespass, glare, and contributions to sky glow to acceptable levels. To the extent practicable, mobile lighting will be located such that unavoidable light spill off the working area is not directed toward receptors outside of the Project Area. In consideration of the potential levels of light trespass and glare from the operation of mobile lighting units and the proposed mitigation, it is unlikely that sky glow levels would increase to such a level that would be representative of an urban environment (18.5 mag/arcsec²).

In the operation phase, nighttime lighting may be required for site roads, waste and water management, and site infrastructure. The final lighting design is still in development but will follow industry best practices that achieve requirements for worker safety and operations while also reducing light trespass, glare, and sky glow contributions to acceptable levels (Sullivan et al. 2023). These best practices include the use of full cut-off fixtures so that light is only directed where needed, and variable lighting that can use motion detection or other technologies so that lighting is only used when needed.

It therefore expected that changes to light trespass glare, and sky glow will not exceed applicable guideline criteria developed by the CIE for nearby receptors.

7.4.3.1 Summary

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Through the application of mitigation measures, residual effects from the Project on change in light levels are anticipated to result in a small measurable change and are not expected to exceed CIE guidelines at nearby receptor locations.
- **Geographic Extent:** Project effects on light quality are limited to near the Project Area.
- **Durations:** Residual effects are anticipated to begin during the construction phase and persist throughout the life of the Project.
- **Frequency:** The residual effects from lighting at night would occur regularly throughout the life of the Project.
- **Reversibility:** The residual effect on light levels will be reversible, with the increase in lighting due to the Project ending when mining ceases.

7.5 Follow-up and Monitoring Programs

7.5.1 Air Quality

An Air Quality Management Plan will be created for Project construction and operation. The AQMP will specify the mitigation measures for the management and reduction of air contaminant emissions during Project construction, operation and rehabilitation and closure, including an ambient air quality monitoring program.

Ambient air and meteorology monitoring will be implemented in conjunction with emissions mitigation to provide an understanding of the meteorological conditions and offsite concentrations and evaluate the need for more rigorous mitigation. Monitoring will include meteorological monitoring (wind speed and wind direction) and monitoring of ambient TSP, PM₁₀ and PM_{2.5} concentrations. The final ambient air quality monitoring plan would be developed and reviewed with stakeholders and regulatory agencies during the permitting process.

The monitoring will include continuous, real-time monitoring of dust (TSP, PM₁₀, PM_{2.5}) emissions at or near the fenceline, integrated with a data management system that can enable remote access and timely alerts to site personnel when action-level thresholds are exceeded. These action levels will be developed based on applicable ambient air quality criteria and short-term health-based exposure limits with the objective to provide early warning prior to exceedance of ambient standards. Exceedances of action levels will trigger an investigation into the cause and the implementation of necessary mitigation measures. Based on the assessment, as described in Section 7.4.1.2, potential mitigation could include further dust suppression, or permanent engineered solutions or reduced activities until conditions improve. For example, given that fugitive dust from the haul roads is the largest source of dust emissions, more frequent road watering or an application of a chemical dust suppressant could be implemented. This may also include restriction or temporary suspension of Project activities such as hauling and crushing, which has been demonstrated through modelling to achieve compliance with NL AQS. The level of mitigation will scale with the monitored dust concentration, with the results of the ambient dust monitoring after implementing mitigations measures being used to assess the effectiveness of current dust mitigation levels and evaluate the need for additional mitigation (such as moving from reduced hauling to a complete suspension of hauling).

7.5.2 Sound Quality

Based on the results of noise modelling, the change in noise levels from Project operation is predicted to comply with the Health Canada Guidelines. Therefore, the need for noise monitoring has not been identified. New Found Gold will have a grievance management process in place as described in Section 5.1.6. If community members identify concerns with respect to noise from operation of the Project, New Found Gold will implement adaptive management procedures in consultation with regulators and the community, which could include noise monitoring.

7.6 References

- Australian Government (Australian Government, Department of the Environment and Heritage). 2006. National Pollutant Inventory: Emission estimation technique manual for Gold Ore Processing, version 2.0. Available at: <https://www.dcceew.gov.au/sites/default/files/documents/gold.pdf>
- Berry, R.L. 1976. Light Pollution in Southern Ontario. *The Journal of the Royal Astronomical Society of Canada*, 70(3): 97–115. Available at: https://articles.adsabs.harvard.edu/cgi-bin/nph-iarticle_query?bibcode=1976JRASC..70...97B&db_key=AST&page_ind=0&data_type=GIF&type=SCREEN_VIEW&classic=YES
- CCME (Canadian Council of Ministers of the Environment). 2024. Canadian Ambient Air Quality Standards. Available at: <https://ccme.ca/en/air-quality-report>
- CIE (Commission Internationale de L'Éclairage [International Commission on Illumination]). 2017. Technical Report: Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, 2nd Edition. CIE 150:2017.
- Countess, R. 2007. Reconciling Fugitive Dust Emission Inventories with Ambient Measurements. Countess Environmental, 4001 Whitesail Circle, Westlake Village, CA 91361 12th International Emission Inventory Conference "Emission Inventories Applying New Technologies". San Diego, April 29 - May 1, 2003.
- Datakustik. 2025. CadnaA Technical Notes.
- DEFRA (Department of Environment Food and Rural Affairs). 2005. Update of Noise Database for Prediction of Noise on Construction and Open Sites.
- DEFRA. 2006. Update of Noise Database for Prediction of Noise on Construction and Open Sites Phase 3: Noise measurement data for construction plant used on quarries.
- ECCC (Environment and Climate Change Canada). 2022. Pits and Quarries Reporting Guide Available at: <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/report/pits-quarries-guide.html>
- ECCC. 2024. National Air Pollutant Surveillance (NAPS) Program. Ambient Air Quality data for Grand Falls-Windsor 2019-2023. Available at: <https://data-donnees.az.ec.gc.ca/data/air/monitor/national-air-pollution-surveillance-naps-program/?lang=en>
- ECCC. 2025a. 1991-2020 Climate Normals for Gander, Newfoundland and Labrador. Available at: https://climate.weather.gc.ca/climate_normals/index_e.html
- ECCC. 2025b. National Pollutant Release Inventory (NPRI) 2024 reporting year. Available at: <https://www.canada.ca/en/services/environment/pollution-waste-management/national-pollutant-release-inventory.html>
- ECCC – MSC (Environment and Climate Change Canada – Meteorological Services of Canada). 2020. Data for Gander Airport. Available at: https://climate.weather.gc.ca/historical_data/search_historic_data_e.html

- ECCC – MSC. 2021. Data for Gander Airport. Available at:
https://climate.weather.gc.ca/historical_data/search_historic_data_e.html
- ECCC – MSC. 2022. Data for Gander Airport. Available at:
https://climate.weather.gc.ca/historical_data/search_historic_data_e.html
- ECCC – MSC. 2023. Data for Gander Airport. Available at:
https://climate.weather.gc.ca/historical_data/search_historic_data_e.html
- ECCC – MSC. 2024. Data for Gander Airport. Available at:
https://climate.weather.gc.ca/historical_data/search_historic_data_e.html
- Environment Canada. 2009. Environmental Code of Practice for Metal Mines. Environmental Stewardship Branch. Available online: https://publications.gc.ca/collections/collection_2009/ec/En4-107-2009E.pdf
- Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Available at: <https://iaac-aeic.gc.ca/050/documents/p80054/119378E.pdf>
- ISEE (International Society of Explosives Engineers). 2016. Blasters' handbook (18th ed.). ISEE Publications.
- NDEP (Nevada Division of Environmental Protection). 2017. Guidance of Emission Factors for the Mining Industry. Available at: <https://ndep.nv.gov/uploads/air-permitting-docs/ndep-mining-emissions-guidance.pdf>
- NLDEC (Newfoundland and Labrador Department of Environment and Conservation). 2012. Guideline for Plume Dispersion Modelling. GD-PPD-019.2. Available at: <https://www.gov.nl.ca/mae/files/env-protection-science-gd-ppd-019-2.pdf>
- NLDECC (Newfoundland and Labrador Department of Environment and Climate Change). 2025. 2022-2024 Air Zone Management Report. May 2025. Available at: <https://www.gov.nl.ca/eccc/files/2022-2024-Air-Zone-Management-Report.pdf>
- NLDECCM (Newfoundland and Labrador Department of Environment, Climate Change and Municipalities). 2022. 2020-2022 Air Zone Management Report. Available at: <https://www.gov.nl.ca/eccc/files/ECCMAnnualReport2020-21.pdf>
- Ontario MECC (Ontario Ministry of the Environment and Climate Change). 2018. Procedure for Preparing an Emission Summary and Dispersion Modelling Report [Guideline A-10]. Available at: https://www.ontario.ca/files/2026-01/20180309_moecc_65_emission_aoda_en-aoda.pdf
- Ontario MECP (Ontario Ministry of the Environment, Conservation and Parks). 2025. Ontario's Ambient Air Quality Criteria. Available at: <https://www.ontario.ca/page/ontarios-ambient-air-quality-criteria>
- Ontario MECP. 2026. Ontario's Air Contaminants Benchmark List. Available at: <https://www.ontario.ca/document/air-contaminants-benchmarks-list-standards-guidelines-and-screening-levels-assessing-point>

- Pace, T.G. 2005. Methodology to Estimate the Transportable Fraction (TF) of Fugitive Dust Emissions for Regional and Urban Scale Air Quality Analyses. U.S. EPA, Research Triangle Park NC, August 2005. Available at: <https://www.nrc.gov/docs/ML1321/ML13213A386.pdf>
- Pouliot, G., H. Simon, P. Bhave, D. Tong, D. Mobley, T. Pace and T. Pierce. 2010. Assessing the Anthropogenic Fugitive Dust Emission Inventory and Temporal Allocation using an Updated Speciation of Particulate Matter. 19th Annual International Emission Inventory Conference "Emissions Inventories Information Emerging Issues". San Antonio, Texas, September 27 30, 2010. Available at: <https://www3.epa.gov/ttnchie1/conference/ei19/session9/pouliot.pdf>
- Scire, J.S., D.G. Strimaitis and R.J. Yamartino. 2000. A User's Guide for the CALPUFF Model (Version 5.0). Earth Technologies Inc. Available at: http://www.src.com/calpuff/download/CALPUFF_UsersGuide.pdf
- Sullivan, R., N. Glines-Bovio, K.N. Rogers, J.H. McCarty, D. Korzilius, and H. Hartmann. 2023. Night Sky and Dark Environments: Best Management Practices for Artificial Light at Night on BLM-Managed Lands. Tech Note 457. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.
- U.S. EPA (Environmental Protection Agency). 1995. AP-42, Fifth Edition, Volume I, Q 13.3: Explosives Detonation. Available at: https://www.epa.gov/sites/default/files/2020-10/documents/13.3_explosives_detonation.pdf
- U.S. EPA. 2004. AP-42, Fifth Edition, Volume I, Chapter 11.19.2: Crushed Stone Processing and Pulverized Mineral Processing. Available at: <https://www.epa.gov/sites/default/files/2020-10/documents/c11s1902.pdf>
- U.S. EPA. 2005. 40 CFR (Code of Federal Regulations) Part 51 Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule. Available at: <https://www.epa.gov/scram/2024-appendix-w-final-rule>.
- U.S. EPA. 2006a. AP-42, Fifth Edition, Volume I, Chapter 13.2.4: Aggregate Handling and Storage Piles. Available at: https://www.epa.gov/sites/default/files/2020-10/documents/13.2.4_aggregate_handling_and_storage_piles.pdf
- U.S. EPA. 2006b. AP-42, Fifth Edition, Volume I, Chapter 13.2.2: Unpaved Roads. Available at: https://www.epa.gov/sites/default/files/2020-10/documents/13.2.2_unpaved_roads.pdf
- U.S. EPA. 2025a. AP-42, Fifth Edition, Volume I, Chapter 3.3: Gasoline and Diesel Industrial Engines. Available at: https://www.epa.gov/system/files/documents/2025-04/c03s03_april2025.pdf
- U.S. EPA. 2025b. AP-42, Fifth Edition, Volume I, Chapter 3.4: Large Stationary Diesel and All Stationary Dual-fuel Engines. Available at: https://www.epa.gov/system/files/documents/2025-04/c03s04_april2025.pdf

World Atlas. 2015. Data Credits: Falchi, Fabio; Cinzano, Pierantonio; Duriscoe, Dan; Kyba, Christopher C. M.; Elvidge, Christopher D.; Baugh, Kimberly; Portnov, Boris; Rybnikova, Nataliya A.; Furgoni, Riccardo (2016): Supplement to: The New World Atlas of Artificial Night Sky Brightness. GFZ Data Services. <https://dataservices.gfz-potsdam.de/contact/showshort.php?id=escidoc:1541893&contactform>