Appendix 4.A Water Management Plan

Queensway Gold Project - Water Management Plan

Final Report

April 29, 2026

Prepared for:
New Found Gold Corp.

Prepared by:
Stantec Consulting Ltd.

Project Number:
121417976

Limitations and Sign-off

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Acronyms / Abbreviations

AEP	Annual Exceedance Probability
CDA	Canadian Dam Association
CSA	Canadian Standards Association
CWQG-FAL	Canadian Water Quality Guidelines for Protection of Freshwater Aquatic Life
ESC	Erosion and Sediment Control
FDP	Final Discharge Point
GCDWQ	Guidelines for Canadian Drinking Water Quality
ha	hectare
HEC-HMS	Hydrologic Engineering Center Hydrologic Modeling System
IDF	Intensity-Duration-Frequency
LiDAR	Light Detection and Ranging
m	metres
m^3	cubic metres
MDMER	*Metal and Diamond Mining Effluent Regulations*
ML/ARD	Metal Leaching / Acid Rock Drainage
mm	millimetres
MOE	Ontario Ministry of Environment
New Found Gold	New Found Gold Corp.
NL	Newfoundland and Labrador
NLDECCC	Newfoundland and Labrador Department of Environment, Conservation and Climate Change
PAG	Potentially Acid Generating
PPWSA	Protected Public Water Supply Area
SCS	Soil Conservation Service
SSP	Shared Socioeconomic Pathway
Stantec	Stantec Consulting Ltd.
TSS	Total Suspended Solids
USACE	United States Army Corps of Engineers
WaMP	Water Management Plan

1 Introduction

This Water Management Plan (WaMP) supports and guides the construction, operation, and rehabilitation closure of the proposed open pit gold mine known as the Queensway Gold Project (the Project), being developed by New Found Gold Corp. (New Found Gold) in Newfoundland and Labrador (NL). The Project is located immediately east of the Town of Appleton and approximately 6.3 kilometres west of the Town of Gander's municipal boundary. The Project is located centrally between Gander Lake (to the south), Gander River (to the west), and Joe Batts Pond (to the east). The Project includes four open-pit mining areas, an overburden storage facility, waste rock storage facility, ore stockpile, an explosives magazine, and an industrial terrace that houses the administrative and office trailers, maintenance and workshop buildings, sorting and crushing facility, fuel storage and distribution, and electrical substation. Supporting and nearby infrastructure includes roads, power lines, and highways.

Stantec Consulting Ltd. (Stantec) was retained by New Found Gold to prepare the WaMP to support the open pit gold mine site development, operation, and rehabilitation and closure. Closely integrated documents that supported the preparation of the WaMP can be found in the references section of this document and are listed below:

- 2024 and 2025 Surface Water Baseline Study (Stantec in prep)
- Queensway Gold Project Environmental Registration (New Found Gold 2026): Section 4 (Project Description), Section 8 (Groundwater Resources), Section 9 (Surface Water Resources), and Section 10 (Fish and Fish Habitat)

1.1 Objectives

The primary objective of the water management design is to reduce operational risks and environmental effects of the Project. For this Project, 'non-contact water' is defined as surface runoff resulting from natural precipitation that does not come into contact with mine workings or mined materials. 'Mine contact water' refers to runoff or seepage that comes in direct contact with ore, waste rock, or terrain where Project infrastructure components are built and/or where mining activity will occur. The specific objectives of the water management design include:

- Reduce water inventory requiring management through perimeter berms to divert external non-contact runoff
- Reduce the number of final discharge points (FDPs) through grading of ditches and the use of a central water management pond for treatment while maintaining the natural conditions of the receiving environment to extent practicable
- Maintain flow to fish bearing watercourses and waterbodies by maintaining natural drainage patterns and flow regimes, and protecting fish and fish habitat, including relocation of fish from in-water work areas (e.g., South Herman's Pond) where required

- Discharge contact runoff directed into the Gander River sub-watersheds with no contact water discharge within the Gander Lake Protected Public Water Supply Area (PPWSA)
- Reduce water management costs during operation through grading and gravitational drainage where applicable
- Monitor the quality of contact water discharge to meet applicable guidelines and environmental protection objectives

The WaMP was developed to support the mine works and infrastructure (Figure 1.1) during the seven-year life of the mine. A description of the Project facilities and Project development (construction, operation, and rehabilitation and closure) can be found in Section 4 (Project Description) of the Project Environmental Registration (New Found Gold 2026).

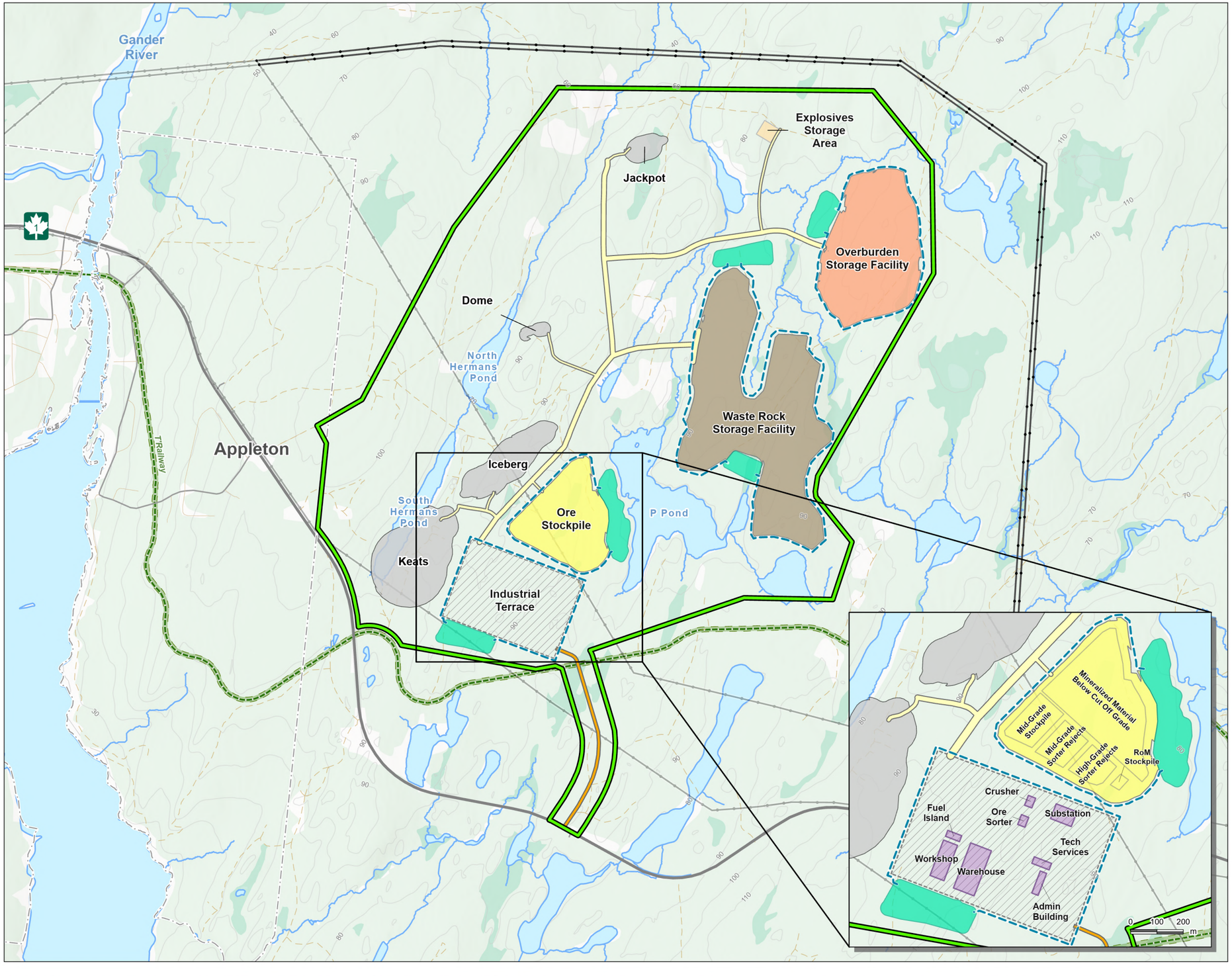


Figure No.

1

Title

Queensway Gold Project
Proposed Site Layout

Client/Project 121418510_135

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-03-09
QR by PM on 2026-04-14
TR by KF on 2026-03-09

N

0 250 500 1,000 m

(At original document size of 11x17)
1:24,000

- Project Area

Proposed Project Layout

- Access Road
- Haul Road
- Ditch
- Open Pit
- Ore Stockpile
- Overburden Storage Facility
- Waste Rock Storage Facility
- Sedimentation Pond
- Other Mine Features
- Industrial Terrace
- Building

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Route
- Provincial Park

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland
- Forested Area

Other Features

- Contour (10 m)
- 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

Stantec

1.2 Surface Water Quantity Criteria

The Project will be registered under the *Metal and Diamond Mining Effluent Regulations* (MDMER). MDMER, pursuant to the federal *Fisheries Act*, comes into force on the first day that a mine releases more than 50 cubic metres (m^3) of effluent in a single day. MDMER sets a daily flow volume monitoring requirement at each FDP. Therefore, a criterion in design was to combine points of water management pond effluent, where feasible, to reduce the amount of FDPs subject to MDMER.

Under MDMER, the deposit of mine waste into a fish bearing watercourse or water body would trigger a Schedule 2 application. A criterion in the design of water management infrastructure was to avoid overprinting fish-bearing watercourses or water bodies with mine waste. Therefore, this Project will not require a Schedule 2 application. In addition, Mine effluent will be compliant with the effluent criteria set out in MDMER.

Design criteria for water management ponds and ditching will refer to the provincial Mining Act and Water Resources Act, regulation requirements, and guidance. Where a water management pond requires a dam meeting the definition of a dam in the NL Water Resources Act and Canadian Dam Association (CDA), then further criteria become relevant.

Water use is regulated by the NL Department of Environment, Conservation and Climate Change (NLDECCC) through permitting requirements for activities within 15 metres (m) of a water body related to withdrawal of water, installation of intake structures, dams, and culverts, and discharge of wastewater. A 15 m setback from field identified fish bearing or assumed fish bearing streams and bogs/ponds was applied. This design criterion is in line with the NL Policy on Flood Plain Management (NLDECC 2014).

Climate change was considered in water management design by using the Shared Socioeconomic Pathway (SSP)2-4.5 applied to climate records to simulate precipitation over the next 25 years. The higher precipitation events and associated flows were incorporated into pond design through sizing the spillway for the climate change 100-year, 24-hour event.

Regulation of dam safety in Canada is primarily a provincial responsibility. Design criteria for the water management design was to meet the most stringent requirements of the CDA and the NL Mining Act. The CDA classifies a dam as an embankment of 2.5 m or greater from the toe of the downstream slope to the dam crest and is capable of impounding at least 30,000 m^3 of liquid storage. A criterion was to design berms to avoid the CDA dam classification, where practical.

Water management costs were also considered during operation. Consistent with industry best practice, this was accomplished by reducing mine site water inventory as much as feasible. Perimeter ditching around stockpiles and mine work areas is designed to gravity drain into collection ponds from where they will be pumped to a central treatment pond. The perimeter ditches will collect surface runoff and intercept shallow groundwater seepage where feasible from the source zones as mine seepage is considered a mine effluent. Additionally, the mine site's water inventory will be reduced by construction of perimeter berms around the open pits to divert overland flow from entering the pits. Placement of infrastructure will reduce stranded areas of runoff and allow for diversion of overland flow of non-contact water away from the site. Water management design also considered optimization of cuts and fills to reduce initial trucking cost and use local materials.

Water management features were designed under a centralized water treatment framework. The overburden storage facility, waste rock storage facility, and ore stockpile will have localized water management ponds fed by gravity drainage to reduce pumping requirements into the ponds. Water will then be pumped from the water management ponds to a central water treatment pond, sized to contain the 100-year return period volume for each water management pond pumped over a 12-day period. Water from the open pits will also have pumps sized to send the 100-year return period volume (plus daily dewatering needs) to the central treatment pond over a 12-day period. The central water treatment pond, located next to the industrial terrace, will be able to contain one day's worth of pumping inflow from the contributing water management ponds and open pits, plus the direct 100-year surface water runoff volume from its direct catchment, the industrial terrace.

The water management ponds and open pits will pump water to a main pipeline that will run parallel to the main road. A berm will be constructed between the roads and pipeline alignments as an additional safety mechanism to reduce likelihood of impact to the pipeline should a vehicle leave the haul road.

Water quantity control criteria applied in design of water management infrastructure, include:

- Size ditches to convey runoff for the 24-hour, 1:100 Annual Exceedance Probability (AEP) design event without climate change
- Store runoff from the Project component areas in water management ponds for storm events up to the 24-hour, 1:100 AEP without climate change, and management of runoff up to the 1:100 AEP with climate change
- Implement pumps from the open pits and water management ponds sized to distribute the 24-hour, 1:100 AEP over a 12-day period, discharged to the central treatment pond
- Size the central treatment pond to store the 1:100 AEP from direct catchment areas, plus one day's worth of pumping rates from applicable open pits and water management ponds
- Pump central treatment pond-treated effluent back to the environment to provide flood attenuation and reduce downstream scour and erosion
- Incorporate climate change by sizing the pond and spillway for water management ponds and the central treatment pond for the Inflow Design Flood based on climate change adjusted (SSP2-4.5) 24-hour, 1:100 AEP for the 2021-2050 time horizon (122.0 millimetres [mm])

1.3 Surface Water Quality Criteria

The primary water quality criteria applicable to the Project are:

- Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL; Canadian Councils of Ministers of the Environment 2025)
- Schedule 4 of the MDMER under the *Fisheries Act*
- Schedule C of NL Regulation 65/03 *Environmental Control Water and Sewage Regulations*, 2003 under the *Water Resources Act* (O.C. 2003-231)

Schedule C of NL Reg. 65/03 states:

> *"A person primarily in the Metal Mining Industry shall comply with sections 3 and 19.1 and 20 and Schedule 4 of the Metal Mining Effluent Regulations (Canada) SOR/2002-222, including any changes or amendments to those sections of and that schedule to those regulations over time."*

Therefore, as the Project is the proposed development of a metal mine, the CWQG-FAL and MDMER are the primary water quality criteria. The CWQG-FAL are those used to assess baseline quality and assimilative capacity and MDMER are those used to establish effluent limits. Localized stockpile water management ponds will be constructed to treat runoff in contact with Project facilities for sediment removal. Further water treatment to meet MDMER discharge requirements will be conducted, if required, of pond outflow prior to discharge at the FDP. The treatment system may include pH adjustment, particulate flocculation, sedimentation, and pH rebalancing.

Water quality control criteria that will be applied in future design of the water management ponds, include:

- Contact water collection from the Project component areas for storm events up to 1:10 AEP to allow settlement of sediments to meet MDMER
- Designed to treat a silt sized particle of 5.0×10^{-3} mm in diameter (British Columbia Ministry of Environment, Lands and Parks 1996), which is the target particle size in design of a water management pond, until particle size analysis has been undertaken for the various stockpiles. Trapping efficiency target will be 80%.
- Contact water from the water quality design storm event detained in the water management pond for a minimum of 24 hours
- A minimum length to width ratio of the water management ponds of 2:1 to reduce potential for short circuiting

1.4 Groundwater Quantity Criteria

The main potential effect to groundwater quantity during mine operation is potential dewatering of the surficial and bedrock aquifer surrounding the open pits. Groundwater quantity is also expected to be affected by reduced recharge in the vicinity of the stockpiles. These changes in water level and recharge will be monitored in the groundwater monitoring network throughout the Project phases of development.

1.5 Groundwater Quality Criteria

Although groundwater resources in Canada are generally managed by provincial regulatory bodies as described above, the Guidelines for Canadian Drinking Water Quality (GCDWQ) published by Health Canada are also applicable to groundwater across Canada and have been adopted by the government of NL for regulated public drinking water supplies. As the Project site is near a current domestic water source (Gander Lake), these regulations are applicable for groundwater and will also be compared to water quality results to assist in identifying elevated parameter concentrations. The GCDWQ are "*established based on current published scientific research related to health effects, aesthetic effects and operational considerations*" (Health Canada 2022).

2 Water Management Analysis

2.1 Methods

Catchment areas for mine site components were delineated in AutoCAD based on the available Project Light Detection and Ranging (LiDAR) data. Other catchment parameters such as longest travel path and catchment slope were based on available aerial imagery collected for the Project.

Hydrologic conditions, runoff rate volume, and flow hydrographs were simulated using the United States Army Corps of Engineers (USACE) Hydrologic Engineering Center Hydrologic Modeling System (HEC-HMS) (USACE 2000, 2010) and the design criteria storm events. The Soil Conservation Service (SCS) Curve Number method, as maintained by the Natural Resources Conservation Service, was used to simulate the runoff hydrograph in each Project component area (United States Department of Agriculture [USDA] 2010). The watershed parameters required for simulation of the SCS Curve Number method included catchment areas, SCS Curve Number, initial abstraction, lag time, and baseflow. Initial abstraction defines the amount of precipitation that must fall before excess precipitation results. Lag time for the stockpile was calculated as 0.6 of the time of concentration. Time of concentration for the stockpile was calculated using the SCS unit hydrograph equation and the travel time in the ditch was calculated using Manning's equation for open channel flow. The total lag time was equal to the lag time for the stockpile plus the ditch travel time. Toe seepage was calculated based on an estimated infiltration factor through the stockpile, using topography, soils, and land cover factors developed by the Ontario Ministry of Environment (MOE; now the Ministry of Environment, Conservation and Parks) (MOE 2003). An evaporation rate, assumed from the comparison of the average yearly actual evapotranspiration and annual precipitation rates (Stantec in prep), was subtracted from the infiltration factor to estimate the seepage rate through the stockpile that was applied to the total area of the stockpile as a volume. The Gander International Airport (Station ID 8401703) Intensity-Duration-Frequency (IDF) curve was selected to represent precipitation at the site using 72 years of data (1937-2021). The Gander International Airport IDF curve was adjusted to account for the effects of climate change as per Canadian Standards Association (CSA) guidance (CSA 2019). Under this scenario, projected precipitation increases by approximately 11.8% relative to historical conditions, resulting in higher rainfall depths across various storm durations and return periods (Stantec in prep). In the model, the storms were distributed using a 10-minute timestep over 24 hours based on the SCS Type II distribution.

2.2 Hydrologic Conditions

The curve numbers were selected for a worst-case scenario of snow and ice cover on the stockpiles for the highest potential runoff to the stockpile ponds, which increased the curve numbers for the different soil types as snow and ice would lead to increased imperviousness. For overburden a curve number of 86 was selected for the soil group C material, 81 for the waste rock and ore (soil group A), 99 for the open pits (assumed to be mostly solid rock), and 85 for the industrial terrace (assuming area will be graded using a gravel pad) (USDA 1986).

Table 2.1 presents the hydrologic model input values used to simulate hydrological characteristics for each Project component. The predicted peak flows and runoff volumes from each area of the Project are presented in Table 2.2 for the existing 1:100-AEP, 24-hour storm event, used to size pond containment volume, and the climate change adjusted 1:100-AEP, 24-hour storm event, which will be used as the IDF and to size the spillway and freeboard below the pond crest. The model assumed an initial abstraction of 5 mm. Baseflow is considered to be toe seepage for stockpiles and groundwater seepage for pits.

Table 2.1 Hydrologic Inputs

Hydrologic ID	Discharge To	Area of the Project	Catchment Area (km²)	Time Lag (min)		Baseflow (m³/day)
				Pile	Ditch	
Ditches						
OB-DR-01	OB-SP-01	Overburden	0.168	24.2	3.5	114
OB-DR-02			0.315	26.7	4.2	215
WR-DR-01	WR-SP-01	Waste Rock Storage Facility (North Side)	0.149	46.6	3.4	203
WR-DR-02			0.473	64.4	10.8	646
WR-DR-03	WR-SP-02	Waste Rock Storage Facility (South Side)	0.100	18.6	4.4	136
WR-DR-04			0.179	43.0	5.7	244
OS-DR-01	OS-SP-01	Overburden Storage Facility	0.187	43.1	6.8	255
OS-DR-02			0.090	32.4	1.5	122
IT-DR-01	IT-TP-01	Industrial Terrace	0.046	20.1	1.0	78
IT-DR-02			0.046	20.5	1.1	79
IT-DR-03			0.027	11.7	0.1	46
IT-DR-04			0.184	35.3	4.1	315
IT-DR-05			0.038	19.9	1.1	65
IT-DR-06			0.050	21.1	0.3	86
Pits						
Keats			0.226	-	-	2,357
Iceberg			0.120	-	-	1,030
Dome			0.012	-	-	491
Jackpot			0.031	-	-	223

Notes:

Baseflow rates (groundwater seepage) into pits are from Section 8 of the Environmental Registration (New Found Gold 2026)

"-" = not applicable

km² = square kilometres; min = minutes; m³/day = cubic metres per day

Table 2.2 Hydrologic Outputs

Hydrologic ID	Existing 1:100 Yr Peak Inflow (m^3/s)	Existing 1:100 Yr Volume (m^3)	Climate Change 1:100 Yr Peak Inflow (m^3/s)	Climate Change 1:100 Yr Volume (m^3)
Ponds				
OB-SP-01	6.0	37,900	6.9	44,000
WR-SP-01	4.1	46,700	4.9	54,100
WR-SP-02	2.7	20,900	5.0	24,200
OS-SP-01	2.4	20,800	2.8	24,100
IT-TP-01	4.5	32,900*	5.6	37,800
Pits				
Keats	-	39,300	-	-
Iceberg	-	19,300	-	-
Dome	-	4,700	-	-
Jackpot	-	4,700	-	-

Note:
*Indicates treatment pond volume is based on direct catchment contribution only
"-" = not applicable
m^3/s = cubic metres per second; Yr = year

2.3 Water Quality

The water management and treatment ponds have been sized to include a permanent pool to reduce the chance for particles to become re-suspended, take advantage of extended detention between inflow events, trap particles below the outlet pump elevation to prevent discharge to the environment, and reduce blockages to the outlet pump. The permanent pool for this stage of design has been assumed to be 1 m in depth, the recommended minimum permanent pool depth as per MOE (2003) to limit re-suspension.

The water management ponds providing water containment and sedimentation for each of the stockpiles will be pumped to the central treatment pond (IT-TP-01) for treatment, prior to discharge to the environment. The pumps will be sized to convey water from the water management ponds for the 1:100 AEP event over a 12-day period, to reduce the treatment pond size and provide additional time for sediment removal within the water management ponds. Water from the pits under 1:100 AEP event conditions will also be pumped to the central treatment pond over the course of 12 days.

Current results from the ongoing metal leaching / acid rock drainage (ML/ARD) testing program of 279 waste rock and metallurgical samples indicate the majority of samples (75%) are expected to be non-potentially acid generating (PAG). Approximately 20% of the samples are considered uncertain with mixed acid generation potential and 6% are classified as PAG. Water quality modelling indicates treatment will be required to meet regulatory discharge requirements. An appropriate treatment process (pH adjustment, particulate flocculation, sedimentation, and pH rebalancing or equivalent) will be added to the central treatment pond or appropriate source pond (e.g., ore stockpile, waste rock storage facility) prior to discharge to P Pond and North Herman's Pond.

2.4 Drainage Analysis

Discharge from the treatment pond (IT-TP-01) will be split between P Pond and North Herman's Pond, both part of the Herman's Pond watershed that discharges to the Gander River. In compliance with the protective guidelines for maintaining the Gander Lake PPWSA contact water flows will be redirected away from the Gander Lake PPWSA. Contact water generated within the Project footprint will be collected and conveyed to IT-TP-01 and subsequently discharged to the Herman's Pond watershed. Contact water originating within the Project Area draining toward the Gander Lake watershed will be redirected to IT-TP-01 to prevent discharge to Gander Lake PPWSA. The majority of the Project Area is part of the Herman's Pond watershed. Final discharge locations have been selected to discharge treated contact water effluent within the Herman's Pond watershed and not to the Gander Lake watershed.

3 Water Management Design

The Water Management Design is provided in the next sections at pre-feasibility level. The design will be progressed to feasibility level and detailed design stages. Design will be subject to change as additional information becomes available, such as geotechnical borehole/test pitting programs, regulator consultation, refinements in design of facilities, water quantity and quality modelling, and detailed surveying.

3.1 Construction

The primary water management activity during construction will be erosion and sediment control (ESC) measures, mine excavation dewatering, and the collection, treatment, and discharge of surface runoff and groundwater inflow to construction areas. ESC measures will be required for various construction phases and include clearing, stripping, and grubbing of vegetation, excavation and storage of overburden, blasting and removal of mine rock and ore, and dewatering of the pits, and structural fill excavations within the industrial terrace and run-of-mine pad. Other construction activities include construction of water management infrastructure, road construction, and preparation of surfaces for major Project facilities.

ESC will be implemented to reduce environmental impacts involving earthwork activities during the development of the Project. The four basic principles to be adopted in implementation of ESC measures include:

- Direct runoff away from active work areas before construction commences, reducing the volume of sediment-laden water to be managed
- Limit the amount and timing of exposed soil to reduce the potential for erosion
- Control sediment-laden runoff leaving the site, following ESC measures put in place for the construction of the Project
- Protect sensitive receptors (Gander Lake PPSWA) from sediment-laden runoff by directing untreated runoff away from these drainage areas, treating it and then pumping effluent into the Herman’s Pond system

Sensitive receptors on and adjacent to the site will require protection from sediment-laden runoff generated during site development activities. The Gander Lake PPSWA is considered to be a sensitive receptor. A 300 m buffer will be applied from the high-water mark of Gander Lake for construction activities, and contact water will be treated and discharged through Herman’s Pond watershed to maintain the Gander Lake PPSWA water management plan guidelines (Environmental Design and Management Ltd. 1996).

Standard sediment control features will be used during construction, including installation of silt fencing and construction of diversion ditches and berms to divert non-contact water away from Project activities and/or collect surface water runoff for treatment. During construction, water from construction areas will be directed to temporary sediment ponds, energy dissipation pools, sediment traps, sediment filter bags,

or proposed operational water management ponds constructed early during construction. Water in the temporary sediment ponds will either be discharged overland or directly to local receivers if water quality meets regulatory standards.

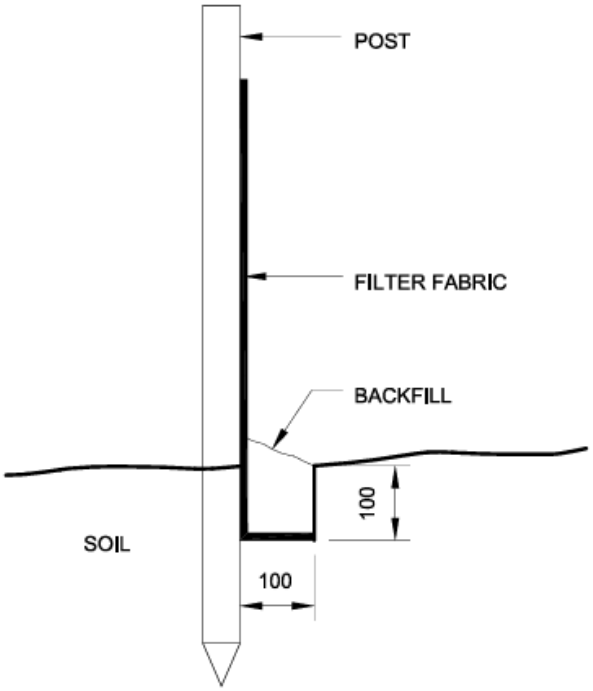
During construction, parameters of potential concern in runoff are expected to be total suspended solids (TSS) and potentially elevated metal concentrations resulting from the storage of topsoil, overburden, and waste rock.

Recommended water management best practices during construction are presented in Table 3.1 to manage surface runoff and reduce the erosion and sedimentation potential.

Table 3.1 Recommended Water Management Best Practices during Construction

General	Construction of perimeter (or ring) ditches around the footprint of Project facilities prior to clearing and grubbing on the site. The ditches will be constructed to collect and treat sediment-laden runoff inside the work area and divert runoff outside the work area. Placement of rock check dams consisting of riprap stone in ditches to reduce the velocity of flow and deposit sediment load. Periodic removal of sediment build up from rock check dams may be required to maintain sediment removal. Construct in the dry by dewatering areas prior to construction or installing temporary flow diversion measures to reduce the amount of suspended sediment. Divert sediment-laden runoff to collection ponds or water management ponds for treatment prior to discharge. Periodic removal of excess sediment from the collection ponds may be required to reinstate the design storage capacity. During topsoil and overburden removal, surface water runoff and seepage will be collected in excavation sumps and pumped to either temporary water management ponds or discharged to the environment through filter bags. Sedimentation aids such as the use of non-toxic flocculants, floc blocks, coagulants, haybales and sections of turbidity, or filter fabric may also be used to reduce TSS concentrations in ditches and water management ponds.
Piles	Topsoil, overburden, and bedrock removed for construction will be stored for rehabilitation and closure purposes in the designated pile areas. Prior to development of the waste rock storage facility and other piles, perimeter ditches and water collection ponds will be constructed to collect and store surface runoff. The drainage ditches will be constructed to drain by gravity to the water management ponds, where practicable. In low areas where gravity flow to the water management ponds is not practical, sumps will be constructed to collect water and pump it to the water management ponds. Water quality in the ponds will be monitored, sent to the central treatment pond for final treatment as required, and discharged to the environment once water quality meets regulatory criteria.
Open Pits	During clearing and grubbing activities associated with the open pits, surface water runoff and seepage will be collected in excavation sumps in the pit floor and pumped to the central management pond for further treatment if required. The footprint of the Keats pit overlays a waterbody (South Herman's Pond) that flows to the north. South Herman's Pond will be dewatered once appropriated permitting and approvals are in place and flow discharged further downstream to maintain flows within the same watershed.
Access and Haul Roads	Temporarily divert flow in the watercourses, construct the haul road and site access road. Water will be discharged to a vegetated area through a perforated polyvinyl chloride pipe, or alternatively into a filter bag. Culverts under the site access and haul road may be installed as localized drainage dictates.

Implementation and maintenance of the ESC measures will be monitored on a daily basis and in more detail prior to and immediately following a precipitation event of 25 mm or more. ESC measures will be put in place to support effluent discharge limits in the receiving watercourse. Maintenance and monitoring of the ESC measures are the responsibility of the contractor. Typical details for a silt fence installation, energy dissipation pool, and sediment traps are provided in Figures 3.1 to Figure 3.3, respectively.



INSTALLATION OF GEOTEXTILE SILT FENCE

1. EXCAVATE A 100 x 100 TRENCH IN A CRESENT SHAPE ACROSS THE FLOW PATH WITH ENDS POINTING UPSLOPE.
2. DRIVE STURDY STAKES, SPACED 3000 APART, INTO THE GROUND ALONG THE DOWNSLOPE SIDE OF THE TRENCH.
3. INSTALL THE FILTER FABRIC FROM A CONTINUOUS ROLL AND CUT TO REQUIRED LENGTH. THE FILTER FABRIC SHOULD BE STAPLED TO THE UPSTREAM SIDE OF THE STAKES, EXTENDING THE BOTTOM 200 INTO THE TRENCH.
4. BACKFILL AND COMPACT THE SOIL IN THE TRENCH OVER THE FILTER FABRIC.

Figure 3.1 Installation of Geotextile Silt Fence (Government of NL 2011)

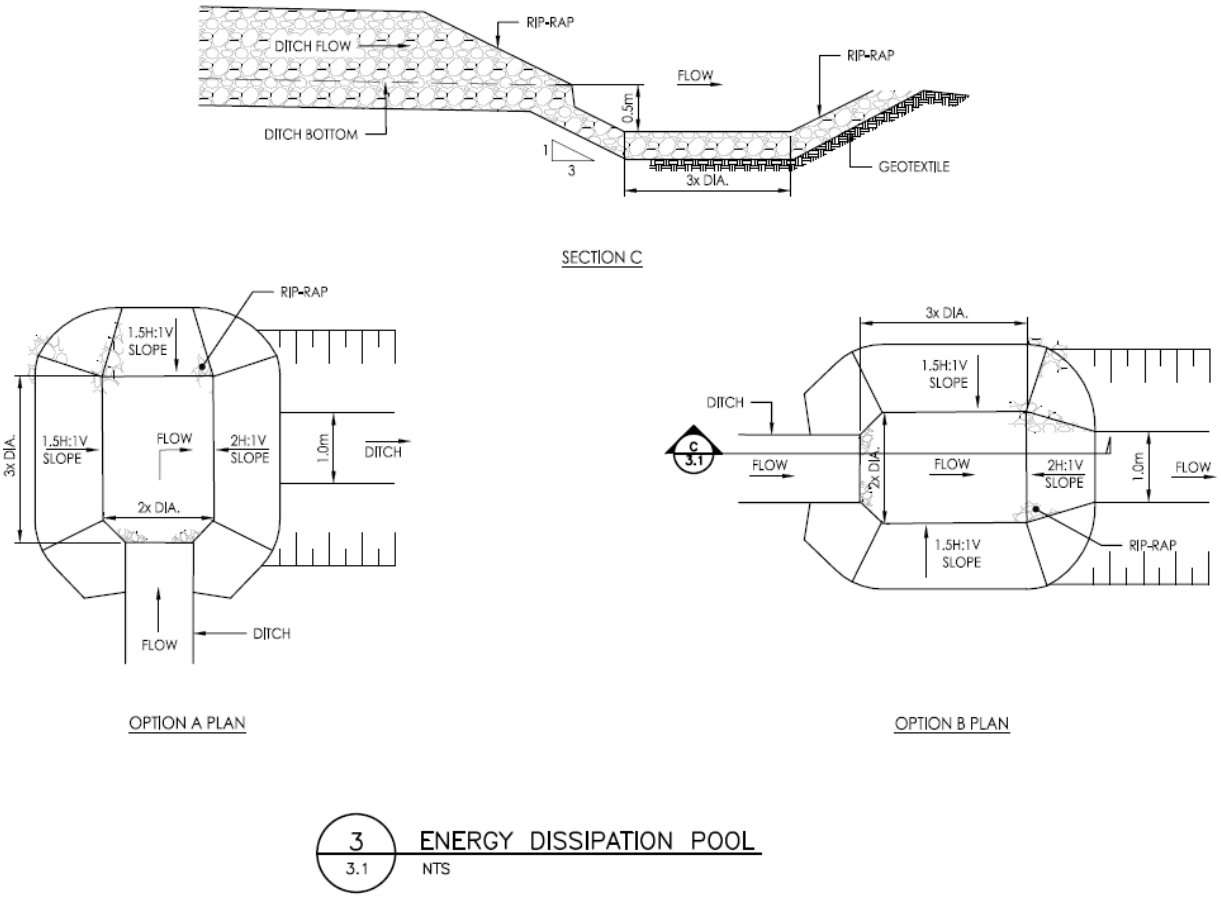


Figure 3.2 Energy Dissipation Pool Typical Detail

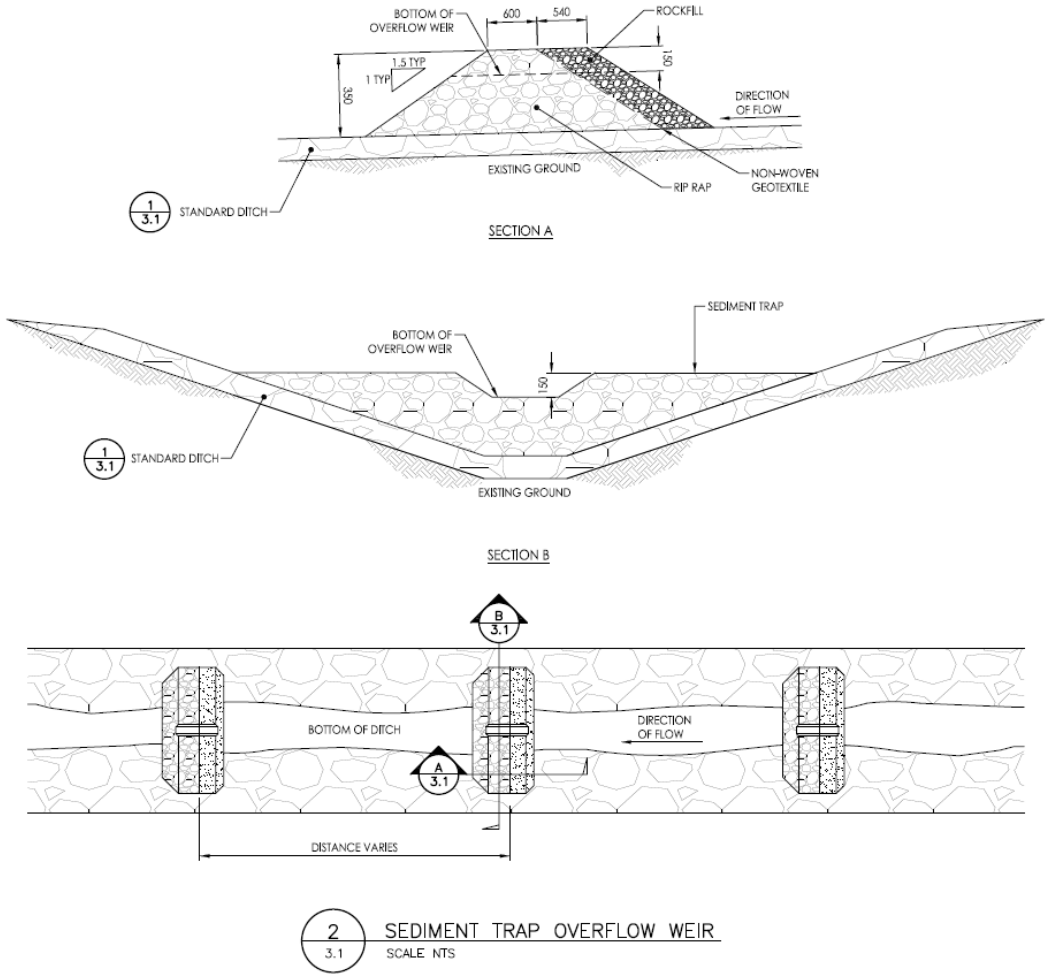


Figure 3.3 Sediment Trap Overflow Weir Typical Detail

3.1.1 South Herman's Pond Dewatering Plan

The operation of Keats pit will require dewatering of South Herman's Pond (Figure 1.1). A proposed dewatering sequence is provided below to reduce impacts to fish and water quality.

1. Turbidity curtains to be installed around South Herman's Pond and through the connecting watercourse from South Herman's Pond to North Herman's Pond (Stream 4) to reduce potential for TSS elevations from construction works and vehicles.
2. Fish salvage to occur within South Herman's Pond, with fish relocated downstream of the turbidity curtain fish barrier (or fish exclusion fencing, if required).
3. Construction of a temporary cofferdam downstream of South Herman's Pond within Stream 4. The cofferdam will include an emergency spillway that drains to Stream 4.
4. Pump South Herman's Pond to downstream side of the cofferdam. If additional sediment removal is required, pump to a filter bag.
5. After South Herman's Pond is lowered, construct a sump pit at the bottom of the pond to achieve pond drainage to pump. Install trenches, as required, to gravity drain stranded areas in pond to sump.
6. Stabilize disturbed ground (outside the pit footprint) with vegetation.
7. Complete additional grading required to facilitate long-term gravity drainage away from pit.
8. Install perimeter berms around the pit footprints to divert natural drainage.

3.2 Operation

Each facility will have a localized water management pond that will receive contact water runoff via gravity, where possible. Localized water management ponds will be pumped to the central water management pond, which will also act as the industrial terrace localized water management pond. Dewatering water from the pits will also be pumped to the central water management pond. To reduce the mine water inventory, non-contact runoff is proposed to be diverted using perimeter berms to allow runoff to naturally flow offsite.

The water management design diverts non-contact water from the mine facilities natural water drainage areas that flow to the north, where possible. Diversion of surface flows using berms should be constructed around the crest of open pits or up-gradient of mine rock piles and other developed areas to reduce the contact water inventory. Where possible, water collected in pits or in the water management ponds will be used for other purposes on site rather than discharged to the environment.

A buffer of approximately 15 m was maintained from fish-bearing watercourses for the water management design. Flow to fish-bearing streams will be maintained by draining mine site components to pre-development streams and bogs and designing a low flow pumped outlet from the central water management pond to receivers (P Pond and North Herman's Pond) to augment baseflow and reduce the potential for downstream scour and erosion. Flow to these fish-bearing watercourses will be maintained by targeting pre-development flows, where feasible. MDMER limits will be met at FDPs.

3.2.1 Ditch and Water Management Pond Design

Water management infrastructure is summarized in Tables 3.2 to 3.4 and presented in Figures 3.4 to 3.6. Catchment areas for mine site components were delineated in AutoCAD based on the available Project LiDAR and have been included on Figure 3.6.

Table 3.2 Water Management Pond and Ditch Design Management Infrastructure

Mine Facility [Facility Area]	Ditch Run	Ditch Length (m)	Water Management Pond	Final Discharge Point
Overburden Storage Facility [48.2 ha]	OB-DR-01	1,160	OB-SP-01	IT-TP-01
	OB-DR-02	1,375		
Waste Rock Storage Facility [90.0 ha]	WR-DR-01	995	WR-SP-01	
	WR-DR-02	2,684		
	WR-DR-03	650	WR-SP-02	
	WR-DR-04	1,200		
Ore Stockpile [27.6 ha]	OS-DR-01	1,300	OS-SP-01	
	OS-DR-02	400		
Industrial Terrace [39.1 ha]	IT-DR-01	276	IT-TP-01	P Pond and North Herman's Pond
	IT-DR-02	302		
	IT-DR-03	44		
	IT-DR-04	1,085		
	IT-DR-05	372		
	IT-DR-06	113		

Note:
ha = hectares

Table 3.3 Maximum Pit Pumping Requirements

Pit	Existing 1:100-Yr Volume (m^3)	Daily Pit GW Inflow Dewatering Volume (m^3)	12-Day Distribution (m^3/d)	12-Day Pumping Rates (m^3/s)
Keats	39,300	2,357	3,275	0.0379
Iceberg	19,300	794	1,608	0.0186
Dome	4,700	174	392	0.0045
Jackpot	4,700	206	392	0.0045

Table 3.4 Pond Storage

Pond ID	Permanent Pool/Inactive Storage (m³)	Active Storage (m³)	Total Pond Containment Storage (m³)	Maximum Discharge Pumping Rates* (m³/s)
OB-SP-01	21,238	40,549	61,787	0.037
WR-SP-01	25,163	48,258	73,420	0.045
WR-SP-02	16,342	21,787	38,129	0.020
OS-SP-01	45,130	23,940	69,070	0.020
IT-TP-01	26,494	50,452	76,946	0.240

Note:

*Maximum discharge pumping rates are for a 12-day distribution for localized water management ponds. The central treatment pond discharge rate is equal to the sum of peak runoff rate inflows in addition to the direct catchment volume dewatered over a 12-day period.

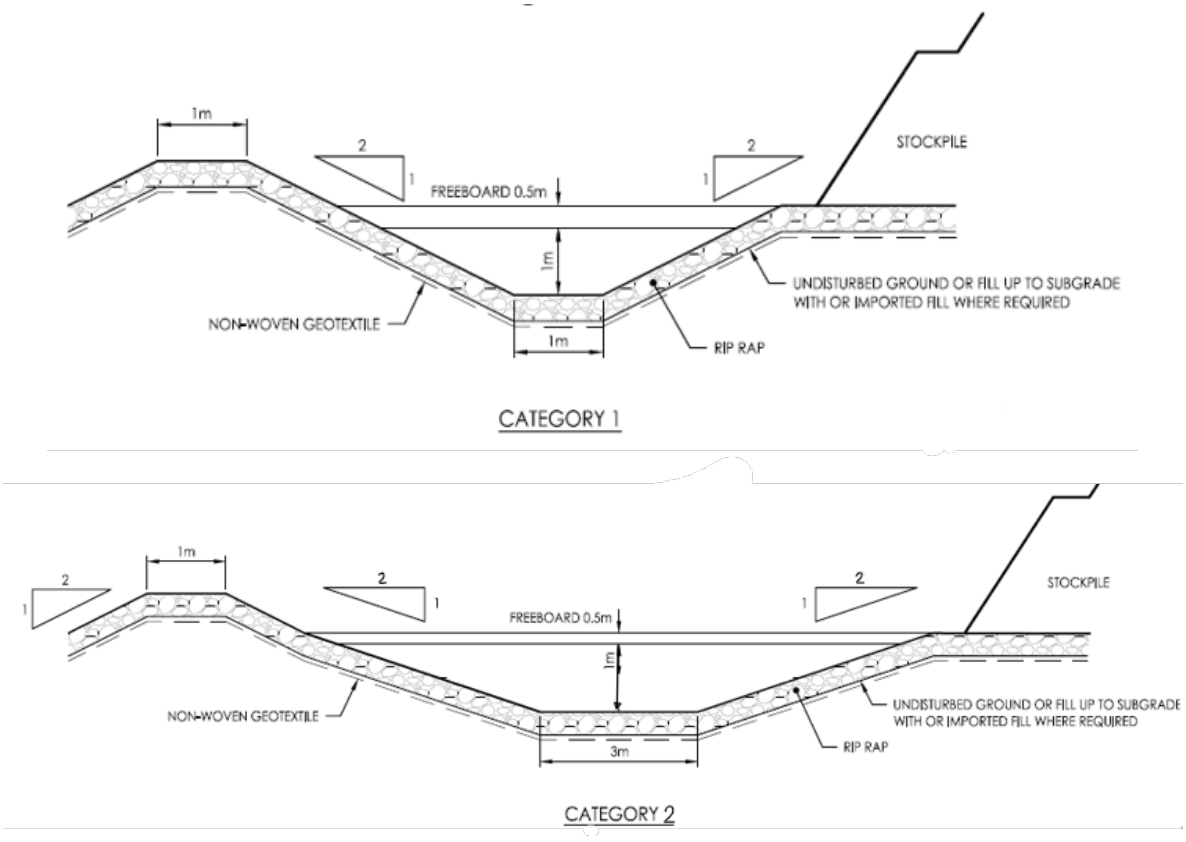


Figure 3.4 Ditch Typical

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Notes

1. ELEV'S ARE REFERRED TO THE CANADIAN GEODETIC VERTICAL DATUM (CGVD-1928:1978)

Key Map NTS.

Legend

- PROPERTY BOUNDARY
- 15.0m WATERCOURSE SETBACK
- 30.0m WATERCOURSE SETBACK
- EXISTING WATERCOURSE
- PROPOSED PIT FOOTPRINT
- PROPOSED DITCH
- PROPOSED SLOPE (3:1 UNLESS NOTED OTHERWISE)
- EXISTING WATERBODY
- PROPOSED AREA TO BE REMOVED FROM STOCKPILE

Revision	By	Appd	YYYY.MM.DD

File Name: 121417976_C-SD_C-110	SM	AS	SE	2026.04.06
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit-Seal

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Client/Project

NEW FOUND GOLD CORP.

QUEENSWAY GOLD PROJECT

NORTH GANDER LAKE, NEWFOUNDLAND AND LABRADOR

Title

PRELIMINARY POND & DITCHING PLAN

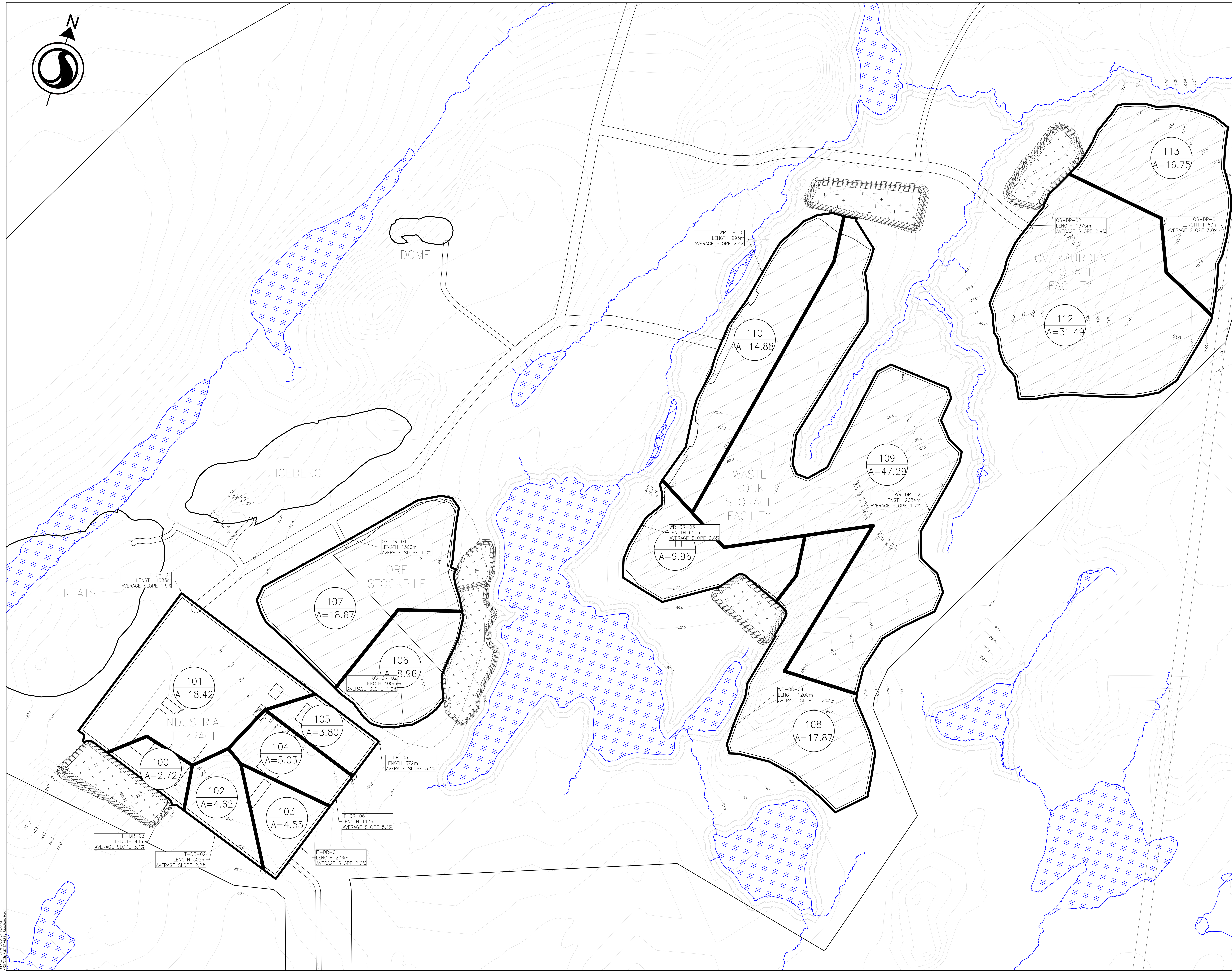
Project No. 121417976

Scale 1:5000 — 0, 50, 150, 250m

Revision

Sheet of

Drawing No. **01**



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- 30.0m WATERCOURSE SETBACK
- EXISTING WATERCOURSE
- PROPOSED PIT FOOTPRINT
- PROPOSED DITCH
- PROPOSED SLOPE (3:1 UNLESS NOTED OTHERWISE)
- EXISTING WATERBODY
- PROPOSED AREA TO BE REMOVED FROM STOCKPILE
- 109 AREA ID
- A=0.25 CONTRIBUTING AREA (ha)
- DRAINAGE BOUNDARY

Revision	By	Appd	YYYY.MM.DD

File Name: 121417976_C-SD_C-110	SM	AS	SE	2026.04.06
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

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Client/Project

NEW FOUND GOLD CORP.

QUEENSWAY GOLD PROJECT

NORTH GANDER LAKE, NEWFOUNDLAND AND LABRADOR

Title

PRELIMINARY STORMWATER CATCHMENT AREAS

Project No. 121417976

Scale 1:5000 0 50 150 250m

Revision

Sheet of

Drawing No. 02

Water management ponds provide on-site storage of runoff with controlled releases permitted after appropriate residence time for particulate settling for the 1:100 AEP 24-hour precipitation design event. Permanent pools depths will be excavated below grade, reducing the total berm height required to achieve the storage while improving dam safety. Water management ponds will include outlet control through a pumped discharge above the permanent pool elevation and a spillway to attenuate flows up to climate change adjusted design event.

Water management pond erosion protection will be provided through riprap lining of the berm and spillway and a scour pad at the toe of slope of spillways. A geotextile filter layer will be placed between materials to reduce the opportunity for piping.

Ditches will be constructed along the perimeter of piles to convey the design event for contributing catchment surface runoff and toe drainage to water management ponds for water quality and quantity control. Ditches will be designed to convey gravity flow to reduce operational costs that would result from pumping, where possible. The ditches will follow a standard trapezoidal geometry with a maximum 2H:1V side slope tied into existing grade to reduce cost of construction and will maintain a minimum of 20 centimetres freeboard. Materials excavated from ditches will be sidecast, and berms will be constructed from the sidecast material on the outside bank of the ditches to reduce cost of construction and divert external, non-contact water away from the perimeter ditches. Rockfill toe berms may be constructed between the ditch and its source stockpile for enhanced sediment removal. Water diversion berms should not be placed between the ditch and its source stockpile.

Ditches will be lined with riprap for erosion protection. In areas with ditch gradients steeper than 8%, sediment traps (i.e., check dams) will be installed. Energy dissipation pools will be installed at the change in ditch gradient from slopes of 10% or higher to shallower slopes. Figure 3.4 presents the typical section views for the two ditch size categories. Table 3.2 summarizes details on water management pond and ditch design.

Pumps will be required to dewater the four pits. The pit pumps have been designed to pump up to a maximum of the 1:100-year AEP volume (direct precipitation on the pit footprint) plus the daily dewatering groundwater inflow rates over a 12-day distribution. This approach will reduce requirements for additional dewatering containment ponds and provide enhanced sedimentation within the pits during the extended dewatering period. The expected maximum pit pumping requirements are presented in Table 3.3.

The design inactive (permanent pool) and 1:100-year active pond storage below the spillway are summarized in Table 3.4 for each pond as presented in Figure 3.5. The central water treatment pond (IT-TP-01) has been sized to contain one day’s worth of inflow from each of the localized water management ponds (OB-SP-01, WR-SP-01, WR-SP-02, OS-SP-01) and pits expected to be dewatered concurrently with the greatest combined dewatering volume (Keats, Iceberg, Dome, Jackpot).

A main roadside pipeline will convey water from the ponds and pits to the central treatment pond. Discharge from the localized ponds and pits will be connected to the main pipeline by smaller pipelines connected in a series circuitry. The main roadside pipeline will be offset from the road with a berm between the road and pipeline for increased operational safety.

3.2.1.1 Potential Additional Groundwater Seepage Interception Measures

Elevated arsenic concentrations in seepage from select mine rock piles (e.g., waste rock storage facility, overburden storage facility and ore stockpiles) are predicted by the site-wide water quality model. The groundwater model predicts a minimum travel time of 0.04 years for this seepage to potentially reach local surface water features (Stantec 2026). As part of detailed design, a detailed hydrogeological study will be conducted to confirm predicted travel times from pile areas (overburden, waste rock storage facility and ore stockpile) to local surface water receivers. A seepage-surface water mixing assessment will be conducted to confirm the expected change in water quality in local receivers. Results of the study will be incorporated into the design of perimeter seepage collection ditches to improve collection of shallow groundwater flow from the piles, including grading and perimeter drainage infrastructure (e.g., liners, rockfill drains). Interceptor wells and/or deep sump collection systems will be designed and installed as required at locations within or adjacent to the perimeter ditches of the piles. Interceptor wells and deep sumps are commonly used in management of contaminated seepage at mine sites to reduce potential contaminant loads to local surface water receivers (NL Department of Environment and Conservation 2005).

3.2.2 Grey Water and Sewage

A septic system with disposal field will be installed to service the office and dry trailers.

3.3 Closure

3.3.1 Rehabilitation and Closure

Water management during progressive rehabilitation and rehabilitation and closure will be consistent with operation. However, due to the ground disturbance associated with the rehabilitation activities, standard ESC measures for construction will also be implemented to supplement the existing water quality treatment infrastructure.

The duration of rehabilitation and closure activities provides adequate time for earthworks cover placement activities to be completed, vegetation to establish, and water quality to improve and the open pits to fill and eventually discharge to the environment. Water management ponds will be breached to allow drainage to natural ground and local receivers. Water quality treatment in water management ponds will continue during rehabilitation and closure until water quality monitoring demonstrates that water quality is acceptable to release to the environment and that chemical stability has been achieved. At that time, water management features will be removed and restored to pre-development drainage conditions (to the extent practical) and the water treatment plant decommissioned. Perimeter ditches will be backfilled with overburden and covered with a vegetated soil cover as per the piles themselves creating the following conditions:

- Non-contact runoff will drain down the pile slopes and benches or beaches, over the perimeter ditch footprints and overland to local receivers following natural drainage patterns

- Contact seepage will be substantially reduced from the uncovered condition due the increase in runoff and evapotranspiration potential of the vegetated soil cover. The reduced volume of contact seepage will migrate across the perimeter ditches and assimilate (attenuate naturally) with local groundwater to discharge into local receiving waters

As part of detailed design development for closure, the installation of passive treatment measures, including permeable reactive barriers, retrofitting deep sumps and seepage collection ditches as passive treatment systems to treat contact seepage prior to discharge to local receivers will be considered. These potentially will be installed in the existing surface water management infrastructure (e.g., ditches, sedimentation ponds).

3.3.2 Post-Closure and Monitoring

During the post-closure period, site monitoring will be carried out to demonstrate that closure strategies of Project facilities are performing as intended. Monitoring will be conducted at FDPs of the water management facilities (e.g., P Pond, North Herman's Pond, open pit spillways) and at receiving locations simulated in the groundwater model to intercept seepage from the pits and stockpiles. Post-closure monitoring and maintenance will be carried out at a reduced frequency from the operation phase or closure period.

The post-closure monitoring program will continue after final closure activities are completed. Post-closure monitoring will cease once the Project-related effects are deemed to be physically and chemically stable, and accepted by regulatory agencies. The site can then be closed out or released by NL Department of Energy and Mines and an application made to relinquish the property back to the Crown.

4 Monitoring Programs

The objective of the surface water and groundwater monitoring programs are to confirm compliance with regulatory requirements, support predictions of effects of the Project on water quality, identify changes in drainage patterns and surface water flow, and determine if additional mitigation or emergency response measures are required. Monitoring results will be submitted to NLDECCC as per the Certificate of Approval. Depending on regulatory requirements (e.g., MDMER), monitoring frequency may be monthly, quarterly, or bi-annually. An annual report will be submitted to NLDECCC identifying relative trends in parameters and a discussion of the findings as per the Certificate of Approval.

The proposed monitoring programs will include surface and groundwater quality monitoring, surface water flow monitoring of nearby watercourses and effluent discharge locations, and groundwater level monitoring of installed monitoring wells. It will also include visual inspections of facility infrastructure. The proposed monitoring locations are preliminary and will be reviewed and modified as design proceeds in consultation with regulators, and in accordance with permits and approvals.

A Project Environmental Effects Monitoring program will be developed under a separate cover, which should be used in conjunction with the monitoring plan to meet federal MDMER requirements. These details will be developed in partnership with Environment and Climate Change Canada prior to operation.

Quality Assurance and Quality Control is an integral component of proper field and laboratory procedures. As stated in the MDMER (Schedule 5, Section 7(e)), water quality monitoring is to be conducted by implementing quality assurance and quality control measures that will improve the accuracy of water quality monitoring data (MDMER 2002).

4.1 Surface Water Quantity Monitoring

As part of routine operation, effluent discharge, mine water and process water, and potable water volumes will be recorded on a daily basis. Records will include a monthly total and average volumes.

Hydrometric monitoring will be conducted at the FDPs at a minimum accuracy of 15% of the total discharge once ponds are commissioned and discharge occurs. Water level will be translated to flow through an established stage-discharge curve. Water levels will be manually measured periodically using a staff gauge at the time of data logger retrieval for comparison to the automated level to detect measurement drift in pressure transducers and make required data adjustments.

Flow monitoring of pumping equipment on site will be conducted using flow totalizing meters, including the open pit dewatering rates, pumped discharge from the localized ponds to the central water treatment pond, and pumped discharge from the central water treatment pond to the receivers. Water levels in the water management ponds will be monitored using pressure transducers to estimate the daily flow volume discharge from the water management ponds.

Hydrometric monitoring will also be conducted at existing provincial real-time hydrometric stations and other existing hydrometric stations within the Project Area. Continuous water level measurements and periodic manual flow measurements will be conducted to develop rating curves. Monitored flows will be compared against predicted reductions (indirect loss) of fish habitat in watercourses as outlined in the anticipated *Fisheries Act* Authorization

4.2 Surface Water Quality Monitoring

Surface water quality will be impacted when runoff is in contact with mine infrastructure. A surface water quality monitoring program will be implemented during construction, operation, and closure to assess compliance with applicable regulatory requirements and to evaluate the effectiveness of water management measures.

In accordance with the MDMER (subsections 5, 14, and 17), effluent discharged from the FDPs will be subject to the monthly characterization and acute toxicity testing, and bi-annual sublethal toxicity testing.

The locations of the surface water monitoring stations may require some adjustments in the field post-construction, where applicable. The sampling frequency at FDPs may be decreased from monthly to quarterly if the MDMER parameter concentrations are found to be less than 10% of the value set out in column 2 of Schedule 4 for 12 consecutive months. Water quality monitoring stations that are not associated with an FDP will be reevaluated after the first year of operation.

Two real-time water quality monitoring stations (NF02YQ0075 – Herman’s Pond Brook, and NF02YQ0076 – Pond 226 Brook) will continue to operate throughout the Project. These stations will collect real-time water quality data for the ice-free period to identify trends and monitor the health of aquatic ecosystems within the Local Assessment Area of the Project.

4.3 Groundwater Quantity Monitoring

Potential groundwater interactions at the open pits include seepage into the pit through water-bearing fractures intersecting the pit walls, and gradual lowering of the static water table in bedrock surrounding the open pit due to progressive mine dewatering. Groundwater monitoring wells will be monitored for static water levels on a monthly basis to assess effects to groundwater quantity.

The groundwater level measurement at open pits will identify if the resultant depressed groundwater table is as predicted and if the depression has an influence on stream flows of adjacent waterbodies. Should groundwater monitoring identify impacts to nearby surface water tributary flows, groundwater contingency measures will be implemented to maintain flow.

4.4 Groundwater Quality Monitoring

Groundwater in contact with the mine site is expected to experience changes in water quality due to seepage through the Project Area mine infrastructure. Other potential groundwater effects at the site may include accidental release of petroleum hydrocarbon or other compounds into groundwater. Therefore, groundwater quality will be monitored to identify changes in water quality in down-gradient wells due to recharge of runoff from the site, identify interactions with surface water bodies, identify areas of seepage and/or to support calibration of the seepage models, identify an accidental release of petroleum hydrocarbon or other compounds into groundwater, or to identify potential ML/ARD impacts to groundwater. Monitoring will be conducted of the seepage quality during operation and active closure periods to confirm changes in intercepted groundwater seepage quality.

Groundwater monitoring will be conducted during pre-development, construction, operation, and closure stages. Quarterly monitoring and maintenance of the reclaimed facilities will be carried out during operation and into closure. It is anticipated that monitoring and maintenance will be carried out during the active closure stage at frequencies similar to those required during operation. Post-closure monitoring and maintenance will be carried out at a reduced frequency depending on the results of the monitoring and the measures of success selected for closure.

4.5 Closure Monitoring

Surface water and groundwater monitoring will continue into closure and post-closure. The objective of the monitoring will be to determine if the rehabilitation measures were successful and the Project produces stable runoff and seepage quality compliant with regulatory closure regulations. The monitoring frequency will continue as per operation and will be revisited one year into closure with respect to locations and monitoring frequency.

The proposed closure monitoring and maintenance activities include visual inspections of reclaimed areas to identify unstable areas, maintain facilities and equipment to be used during closure until they are no longer required, install instrumentation at selected facilities for monitoring of the reclaimed areas, and test surface and groundwater quality and measure water volumes at select locations to confirm that the closure measurements are performing as predicted and are not adversely affecting the environment, as required by the NL *Mining Regulations* (NLR 42/00).

5 References

British Columbia Ministry of Environment, Lands and Parks. 1996. Guidelines for Assessing the Design, Size, and Operation of Sedimentation Ponds used in Mining. Available at: https://www.bcrock.com/reports/Design_SedimentPonds.pdf

Canadian Councils of Ministers of the Environment. 2025. Canadian Environmental Quality Guidelines for the Protection of Aquatic Life. Available at: https://ccme.ca/en/resources.

CSA (Canadian Standards Association). 2019. TECHNICAL GUIDE: Development, interpretation, and use of rainfall intensity-duration-frequency (IDF) information: Guideline for Canadian water resources practitioners. CSA PLUS 4013-12. ISBN 978-1-4883-2625-7.

Environmental Design and Management Ltd. 1996. Watershed Management Plan for Gander Lake and its Catchment. Prepared for the Government of Newfoundland and Labrador, Department of Environment, and Environment Canada, February 1996.

Government of NL. 2011 – Typical Silt Fence Installation Detail -1238. Available at: https://www.gov.nl.ca/ti/files/1238-March-2011.pdf

Health Canada. 2022. Guidelines for Canadian Drinking Water Quality. Available online at: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html

MOE (Ontario Ministry of Environment). 2003. Stormwater Management Planning and Design Manual, Ministry of Environment, Ontario.

MDMER. 2002. *Metal and Diamond Mining Effluent Regulations*. Available at: https://laws-lois.justice.gc.ca/eng/regulations/sor-2002-222/FullText.html

NL Department of Environment and Conservation. 2005. Policy Directive: Management of Impacted Sites. February 22, 2005. https://www.gov.nl.ca/mca/files/env-protection-ics-guidance-document-for-the-management-of-impacted-sites-v2.0-feb-6-2014.pdf

NLDECC (Newfoundland and Labrador Department of Environment and Climate Change). 2014. "Policy for Flood Management." Newfoundland and Labrador Department of Municipal Affairs and Environment. March 19. Available at: https://www.mae.gov.nl.ca/waterres/regulations/policies/flood_plain.html

New Found Gold (New Found Gold Corp.) 2026. Queensway Gold Project Environmental Registration.

Stantec Consulting Ltd. (Stantec). in prep. Queensway North Property Surface Water Baseline Report. Draft Prepared for New Found Gold Corp, to be submitted prior to construction.

Stantec. 2026. Valued Component – Surface Water Resources. Queensway Gold Project. Environmental Registration. Prepared for New Found Gold Corp.

USACE (United States Army Corps of Engineers). 2000. Hydrologic Modeling System HEC-HMS, Technical Reference Manual, US Army Corps of Engineers, Institute of Water Resources, Hydrologic Engineering Center, California, US.

USACE. 2010. Hydrologic Modeling System HEC-HMS, User's Manual, US Army Corps of Engineers, Institute of Water Resources, Hydrologic Engineering Center, California, US.

USDA (United States Department of Agriculture). 1986. Urban Hydrology for Small Watersheds. Technical Release -55. Natural Resources Conservation Service. Conservation Engineering Division. June 1986.

USDA. 2010. Chapter 15 Time of Concentration. Part 630 Hydrology National Engineering Handbook. Natural Resources Conservation Service.

Appendix 4.B GHG Emissions Inventory

Appendix 4B Greenhouse Gas Emissions Inventory

4B.1 Combustion

Emissions of carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) were estimated for diesel combustion in mobile and stationary combustion equipment following the methods in the NL's "Guidance Document for Reporting Greenhouse Gas Emissions for Large Industry in Newfoundland and Labrador" (NLDECC 2017). The equation used for each greenhouse gas (GHG):

$$CO_2 | CH_4 | N_2O \ tonnes = Diesel\ Volume\ (L) \times Emission\ Factor\ (g/L) \times 1\ t/10^6 g$$

To convert the mass of each GHG to a carbon dioxide equivalent (CO_2e) basis, the mass of each GHG is multiplied by its global warming potential (GWPs). The GWPs applied in the assessment are consistent with the Newfoundland and Labrador's *Management of Greenhouse Gas Reporting Regulations*. The emission factors used were sourced from the Newfoundland and Labrador Department of Environment and Climate Change (NLDECC) Guidance Document (2017). The emission factors and GWPs applied are presented in Table 1.

Table 1 Diesel Combustion Emission Factors and GWPs

GHG	Emission Factor (g/L)	GWP
CO_2	2,663	1
CH_4	0.133	28
N_2O	0.4	265

The annual amount of diesel used in the various equipment is presented in Table 2.

Table 2 Annual Diesel Use

GHG	Construction (kL)	2028 (kL)	2029 (kL)	2030 (kL)	2031 (kL)	2032 (kL)	2033 (kL)	2024 (kL)
Loaders	276	276	630	656	656	656	432	97.1
Haulers	1,349	1,349	3,459	3,547	3,501	4,193	3,255	863
Drills	197	197	464	434	509	523	344	77.4
Support Equipment	1,134	1,134	2,268	2,268	2,268	2,268	2,268	1,770
Crusher	27.0	27.0	-	-	-	-	-	-
Diesel Contingency	364	364	944	952	955	1,026	891	436
Hauling to Pine Cove	-	654	2,615	2,615	2,615	2,615	2,615	1,549
Total Onsite (excluding hauling to Pine Cove)	**3,346**	**3,346**	**7,765**	**7,858**	**7,889**	**8,666**	**7,191**	**3,243**

Notes:
Values have been rounded for presentation and may not add up.
Crusher begins to use electricity in year 2029.
kL = kilolitres

Land-use Change

Emissions of CO_2 from the decomposition of vegetation that is cleared for the Project were estimated following the guidance of the Intergovernmental Panel on Climate Change (IPCC) and using the total Project disturbed area of 311 hectares (ha). The carbon that becomes CO_2 comes from three carbon pools: living biomass, dead organic matter, and soil organic carbon. The following sections describe the calculations used.

Change in Living Biomass

The relevant equation for change in living biomass is:

$$\Delta C_B = \Delta C_G + \Delta C_{conversion} - \Delta C_L$$

Where,

ΔC_B is the change in the living biomass stock (t C/y)

ΔC_G is the change due to growth in living biomass (t C/y)

$\Delta C_{conversion}$ is the change due to land-use change (t C/y), and

ΔC_L is the change due to losses of living biomass (t C/y).

For the estimate of land-use change emissions, ΔC_G is set to zero. There will be no regrowth of vegetation in the Project Area. Although a portion of wood is planned to be salvaged, ΔC_L is conservatively set to zero so that more carbon is included in the calculation of emissions.

The calculation of $\Delta C_{conversion}$ uses this equation:

$$\Delta C_{conversion} = \{(B_{After} - B_{Before}) \times Area\} \times CF$$

Where,

B_{After} is the amount of biomass (dry basis, t/ha) that exists immediately after the project disturbance

B_{Before} is the amount of biomass (dry basis, t/ha) that exists before the project disturbance,

Area is the land area that is disturbed (ha), and

CF is the carbon fraction of the biomass (t C/t biomass).

The B_{After} can be set to zero with the assumption that all living biomass will be cleared for construction. The B_{Before} value for forest land was obtained from Penner et al. (1997) for the Newfoundland mixed wood forest (71.8 tonnes of dry matter per hectare). The carbon fraction used was 0.51 tonnes of carbon per tonne of dry matter (IPCC 2006).

Change in Dead Organic Matter

Dead organic matter (DOM) includes dead wood and litter. The relevant equation from the IPCC is:

$$\Delta C_{DOM} = \{(C_n - C_o) \times A\} \div T_{on}$$

Where,

ΔC_{DOM} is the total annual change in carbon stocks in DOM in land converted to another land-use category (t C/yr)

C_n is the dead wood/litter present post-disturbance (t C/ha)

C_o is the dead wood/litter present prior to the disturbance (t C/ha)

A is the area undergoing conversion (ha), and

T_{on} is the time period of the transition from pre- to post-disturbance.

To estimate the total change in the dead organic matter carbon pool, T_{on} has been set to 1, assuming that all DOM will be removed in the first year. Similar to the calculation for living biomass, the value of C_n is conservatively set to zero with the assumption that all carbon will be removed during disturbance. The value of C_o used for the assessment was 25 tonnes carbon per hectare; this was obtained from IPCC (2006a).

Change in Soil Organic Carbon

An estimate of the change in the soil organic carbon is needed as all soil is intended to be disturbed. The relevant equation is:

$$\Delta C_{Soils} = \Delta C_{Mineral} - L_{Organic} + \Delta C_{Inorganic}$$

Where,

$\Delta C_{Mineral}$ is the annual change in organic carbon stocks in mineral soils (t C/y)

$L_{Organic}$ is the annual loss of carbon from drained organic soils (t C/y), and

$\Delta C_{Inorganic}$ is the annual change in inorganic carbon stocks from soils (t C/y).

Soil may contain both organic and inorganic carbon. The contribution from inorganic carbon can be set to zero as an approximation. The equation for $\Delta C_{Mineral}$ is:

$$\Delta C_{Mineral} = \frac{SOC_0 - SOC_{0-T}}{D}$$

Where,

SOC_0 is the soil organic carbon stock at the last year of the inventory time period (default is 20 years) (t C),

SOC_{0-T} is the soil organic carbon stock in the beginning of the inventory time period (t C),

T is the number of years over the inventory time period, and

D is the time dependence which usually equals T (IPCC default is 20 years).

The equation to calculate SOC is:

$$SOC = \sum_{c,s,i} SOC_{REF_{c,s,i}} \times F_{LU_{c,s,i}} \times F_{MG_{c,s,i}} \times F_{I_{c,s,i}} \times A_{c,s,i}$$

Where,

SOC_{REF} is the reference carbon stock (t C/ha),

$F_{LU_{c,s,i}}$ is the stock change factor for land-use systems,

$F_{MG_{c,s,i}}$ is the stock change factor for management regime,

$F_{I_{c,s,i}}$ is the stock change factor for input of organic matter, and

$A_{c,s,i}$ is the land area.

The subscripts c, s, and i represent climate zone, soil type, and set of management systems, respectively. The reference SOC can be found in the IPCC Guidelines (IPCC 2006a) for forest land. The three F factors are set as 1 in the beginning of the inventory, reflecting no management of the forest land prior to the disturbance, and are set as 0.8 (combined) at the end of the inventory, reflecting that some organic carbon is maintained in the stockpiled soil (IPCC 2006b).

Calculation of CO_2

The amount of carbon in the living biomass, dead organic matter, and soil organic carbon that is converted to CO_2 depends on the fate of the materials. For this assessment, it is assumed that vegetation will be mulched and spread. Under these conditions, the carbon in the biomass is more likely to become CO_2 than CH_4. As such, the calculation of CO_2 emissions is:

$$CO_2\ tonnes = (\Delta C_B + \Delta C_{DOM} + \Delta C_{SOC}) \times 3.664$$

Where the 3.664 represents the conversion between carbon and carbon dioxide assuming complete oxidation.

Electricity Use

GHG emissions from the production of electricity off-site but used on-site (i.e., taken from the NL electrical grid) were estimated using projected NL electricity GHG emissions intensities provided by Environment and Climate Change Canada (ECCC 2025) and the estimate of electricity used annually. The intensities used are provided in Table 3.

Table 3 Electricity GHG Emissions Intensities (NL)

Year	GHG Emissions Intensity (t CO_2e/GWh)
2028	5.8
2029	6.4
2030	5.6
2031	5.5
2032	5.3
2033	5.2
2034	5.1

Notes: GWh gigawatt-hour
Source: ECCC (2025)

The annual electricity consumption by the Project was conservatively estimated as 20.1 gigawatt-hours (GWh) using the peak winter (10.2 GWh) and peak summer diesel (10.0 GWh). The calculation of annual GHG emissions from electricity use is:

$$GHG\ tonnes\ in\ Year\ X = \ 20.1\ GWh \times EI_X\ (t\ CO_{2e}/GWh)$$

Where the EI_X represents the electricity emissions intensity for the year X.

Explosives

CO_2 emissions from explosive detonation were estimated using the quantity of ammonia nitrate/fuel oil (ANFO) explosives used annually and an emission factor of 0.189 t CO_2 per tonne of ANFO from the Mining Association of Canada (MAC 2014). The quantity of ANFO used annually is provided in Table 4.

Table 4 Annual Explosive Use

Year	ANFO (tonnes)
2028 (including construction)	2,453
2029	2,889
2030	2,705
2031	3,167
2032	3,255
2033	2,142
2034	482

Notes: GWh gigawatt-hour
Source: ECCC (2025)

The equation to calculate CO_2 emissions is:

$$CO_2\ tonnes\ =\ 0.189\ t\ CO_2/t\ explosive\ \times Quantity$$

References

IPCC (Intergovernmental Panel on Climate Change). 2006a. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4: Agriculture, Forestry and Other Land Use. Chapter 4: Forest Land. Last updated July 2023.

IPCC. 2006b. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4: Agriculture, Forestry and Other Land Use. Chapter 8: Settlements. Last updated July 2023.

NLDECC (Newfoundland and Labrador Department of Environment and Climate Change). 2017. A Guidance Document for Reporting Greenhouse Gas Emissions for Large Industry in Newfoundland and Labrador. Available online: https://www.gov.nl.ca/eccc/files/greenhouse-gas-data-ghg-reporting-guidance-document.pdf

Penner, M., K. Power, C. Muhairwe, R. Tellier, Y. Wang. 1997.Canada's Forest Biomass Resources: Estimates from Canada's Forest Inventory. Natural Resources Canada, Canadian Forest Service, Pacific Forestry Centre, Victoria, B.C. Information Report BC-X-370. 33 p. Available at: https://ostrnrcan-dostrncan.canada.ca/entities/publication/f657d903-ba86-4bb9-962f-914619bdcb20

Appendix 4.C BACT Study

Queensway Gold Project - Greenhouse Gas Best Available Control Technology Report

Final Report

April 2026

Prepared for:
New Found Gold Corporation

Prepared by:
Stantec Consulting Ltd.

Project Number:
121418510

Limitations and Sign-off

The conclusions in the Report titled Greenhouse Gas Best Available Control Technology Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

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Prepared by: Digitally signed by Varner, Christina Date: 2026.04.29 09:35:58 -03'00'

Signature

Christina Varner

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Signature

Vicki Corning

Printed Name and Title

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Acronyms / Abbreviations

ºC	degree Celsius
BACT	Best Available Control Technology
CFR	*Clean Fuel Regulations*
CH_4	methane
CI	carbon intensities
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
ECCC	Environment and Climate Change Canada
GHG	Greenhouse gas
GHG Reg	Newfoundland and Labrador *Management of Greenhouse Gas Regulations*
GWP	global warming potential
ICE	internal combustion engine
kg	kilogram
km	kilometre
L	litre
N_2O	nitrous oxide
New Found Gold	New Found Gold Corp.
NL	Newfoundland and Labrador
the Project	the Queensway Gold Project
t	tonne
tpd	tonnes per day

1 Introduction

New Found Gold Corp. (New Found Gold) has engaged Stantec Consulting Ltd. (Stantec) to complete a Best Available Control Technology (BACT) assessment for greenhouse gas (GHG) emissions in support of the Queensway Gold Project (the Project). This assessment is required under the Newfoundland and Labrador (NL) *Management of Greenhouse Gas Regulations* (NLR 116/18) (the GHG Regulations).

GHGs are chemical species that cause heat to become “trapped” in the atmosphere and contribute to global climate change. The most common GHGs related to fuel combustion are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Although there are other gases considered GHGs, these three are the ones that would be emitted in substantive quantities from the Project.

The degree to which each GHG traps heat varies; when referring to total GHGs emissions, the emissions are put on a carbon dioxide equivalent (CO_2e) basis using global warming potentials (GWPs). The set currently used by Environment and Climate Change Canada (ECCC) is that carbon dioxide has a GWP of 1, methane has a GWP of 28, and nitrous oxide has a GWP of 265 (ECCC 2025a).

2 Project Overview

New Found Gold is proposing a new open pit gold mine at the Queensway North Property. It is located east of the Town of Appleton, NL and approximately 6.3 kilometres (km) west of the Town of Gander's municipal boundary.

The Project will involve the extraction of gold-rich mineralized ore from the Project Area with four open pits, waste rock and overburden storage facilities, a run-of-mine pad containing multiple ore stockpiles, a modular crushing and sorting plant, and associated operational facilities including water management facilities, office, and maintenance shops. A detailed site layout is provided in Figure 1. The on-site crushing and sorting plant will be designed to produce 700 tonnes per day (tpd) of pre-concentrated product feed. Ore will be transported to and processed at the existing, permitted Pine Cove processing facility. The pre-concentration process improves overall processing efficiency, reduces the number of trucks on provincial highways and roads, and reduces waste, as less material will be transported to Pine Cove.

The Project has a Life of Mine plan of seven years of operation, based on current production rates and gold price estimates. Progressive rehabilitation will occur during mining, with final rehabilitation and closure after operation's end. Post-closure monitoring will follow rehabilitation and closure.

In general, the open pit mine will operate as follows:

- Drilling and blasting with an explosive to loosen rock
- Use heavy equipment to load material onto haul trucks, which then travel down a haul road and deposit the material in a storage pile
- Material is recovered from stockpile via covered conveyors or mobile equipment and directed to the crusher
- The crushed material is then sorted, resulting in preconcentrated ore that is stored before transport to Pine Cove for processing

The Project components that require energy during operation are:

- Mobile equipment used for moving material, stockpiling, pile management, and reclaiming.
- Stationary equipment used for screening, crushing, and sorting material, as well as smaller sources such as light plants.

The use of explosives will generate small amounts of GHG emissions, particularly CO_2. Because blasting emissions are smaller than other GHG emissions, alternate technologies related to blasting will not be part of the BACT assessment.

This BACT assessment will help inform New Found Gold about GHG emission reduction technologies and is being completed along side advancement of detailed engineering.

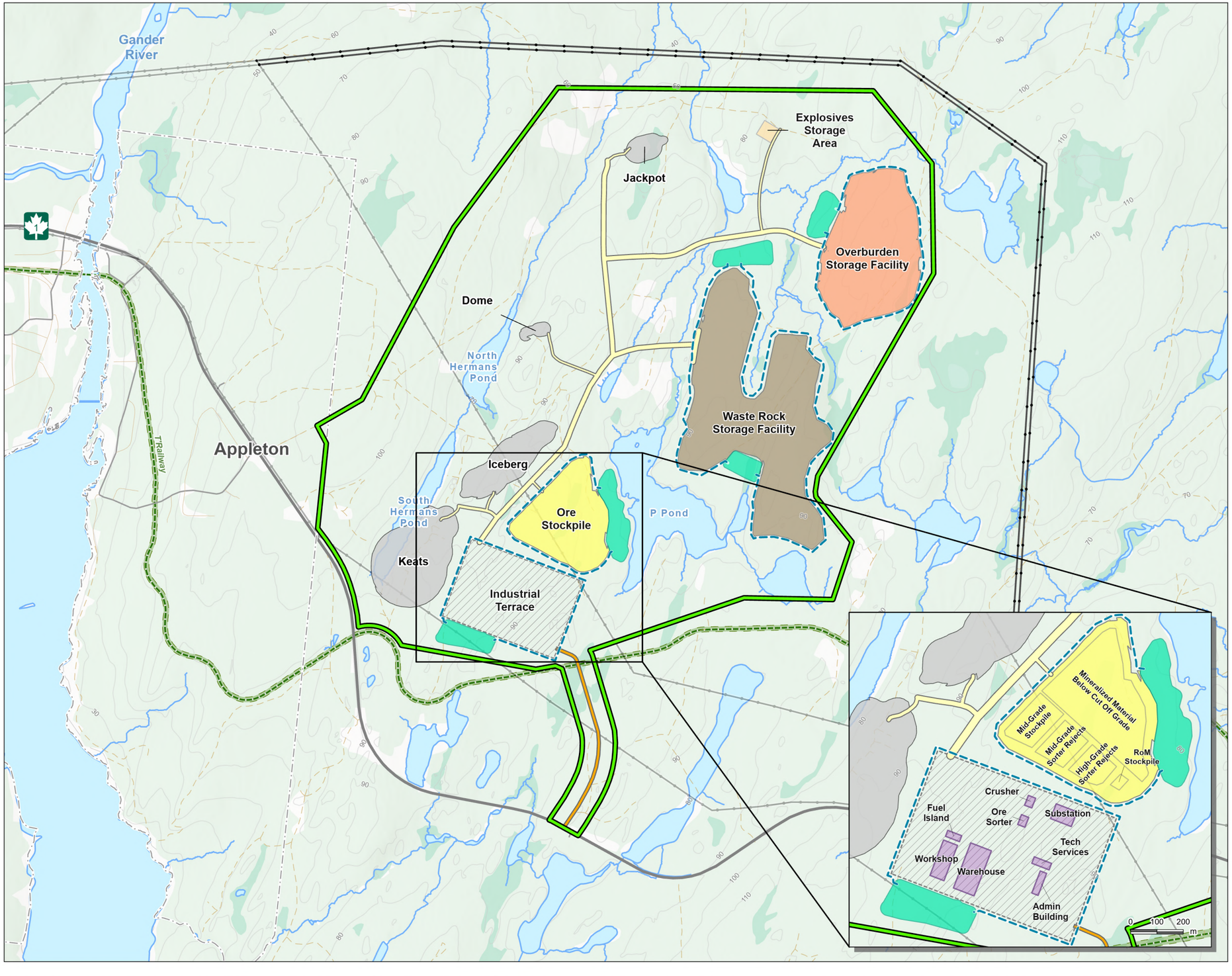


Figure No.

1

Title

Queensway Gold Project
Proposed Site Layout

Client/Project 121418510_135

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-03-09
QR by PM on 2026-04-14
TR by KF on 2026-03-09

N

0 250 500 1,000 m

(At original document size of 11x17)
1:24,000

- Project Area

Proposed Project Layout

- Access Road
- Haul Road
- Ditch
- Open Pit
- Ore Stockpile
- Overburden Storage Facility
- Waste Rock Storage Facility
- Sedimentation Pond
- Other Mine Features
- Industrial Terrace
- Building

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Route
- Provincial Park

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland
- Forested Area

Other Features

- Contour (10 m)
- 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

Stantec

3 Regulatory Context

Based on the GHG estimates completed, the Project is estimated to release approximately 24,643 tonnes of carbon dioxide equivalent (t CO_2e) in the peak year of operation from direct activities, through the use of diesel combustion in mobile equipment (80%), stationary equipment (17%), and blasting (2%). An additional 107 t CO_2e from indirect electricity use in the peak year at the Project is planned (electricity from the NL electrical grid).

The GHG Regulations require GHG emissions quantification, reporting, and emissions reductions for industrial facilities that exceed 25,000 t CO_2e annually in direct emissions. Further, Section 12.1 of the GHG Regulations states that:

> ***12.1*** *(1) Where a person registers an industrial facility to which these regulations may apply, other than an offshore industrial facility or a mobile offshore industrial facility, in accordance with the Environmental Protection Act, the person shall, on the date the industrial facility is registered, provide information regarding best available control technology to the minister.*
>
> *(2) Where a person submits a project description in accordance with legislation that requires an environmental assessment in relation to an offshore industrial facility or a mobile offshore industrial facility to which these regulations may apply, the person shall, on the date the project description is submitted, provide information regarding best available control technology to the regulator.*
>
> *(3) Where information is provided under subsection (1) or (2), the industrial facility is required to employ best available control technology in accordance with this Part in the operation of the industrial facility.*
>
> *(4) An industrial facility is considered to meet the best available control technology requirements where the Lieutenant-Governor in Council is satisfied that the combination of machinery and equipment in the industrial facility*
>
> *(a) has the most effective greenhouse gas emissions control;*
>
> *(b) has proven performance and reliability in comparable industrial facilities;*
>
> *(c) is economically feasible, based on consultation with the operator; and*
>
> *(d) complies with an Act or regulation relating to air pollution, occupational health and safety and fire and life safety.*

The objective of the BACT assessment is to identify the technologies that could reduce GHG emissions from Project activities over a “business as usual” case. Because mining equipment has traditionally relied on diesel combustion for energy, the combustion of diesel in mining equipment is considered business as usual. Diesel combustion releases approximately 2.8 kg CO_2e per 1,000 litres (L) of diesel combusted.

4 BACT Assessment

The BACT assessment process includes the following steps:

- Identify Project components that may release GHG emissions during operation
- Identify the potential fuel and energy technologies that could be used by the Project components
- Describe the level of GHG emissions from the use of each fuel and energy technology
- Assess the technical feasibility of the technologies in light of the Project's needs
- Assess the economical feasibility of the technologies in light of the Project's needs
- Select the BACT that are technically and economically feasible during the Project's operation

With the selected BACT, a refined estimate of the annual Project GHG emissions and GHG emissions intensity on the basis of ore mined or processed can be made. Comparing the GHG emissions to other, similar mines in Canada provides context for the Project's GHG emissions.

The scope of the BACT assessment will follow the reporting scope of the GHG Regulation. In general, activities that occur within the Project's physical footprint for the purpose of production and that are controlled by New Found Gold are included. Vehicles or equipment that enter the physical footprint to bring in supplies or transport product are not included in the BACT assessment, including transport of ore to Pine Cove. Vehicles and equipment that are not directly related to the operation of the Project, such as passenger vehicles and snowplows, are not included in the BACT assessment.

The decision to send the Project's pre-concentrated gold ore to an existing processing facility rather than building a processing facility at the Project site is based on economically feasibility. Operations at Pine Cove are not included in the BACT assessment.

The technical and economic feasibility for technologies will be evaluated using the criteria in Table 4.1.

Table 4.1 Assessment Criteria

Aspect	Criteria	Possible Results
Technical Feasibility	Maturity	Mature, commercial testing, bench scale *If not mature, anticipated timeline to maturity is presented*
	Adoption	Widespread, limited, project-specific
	Geographic Limitations	None, climate-specific
	Availability of Equipment or Fuel	Widespread, limited, project-specific
Economic Feasibility	Anticipated Capital Cost	Low, medium, high
	Anticipated Operation Cost	Low, medium, high
	Overall Return on Investment	Good, neutral, negative

4.1 Project Components and Technologies Considered

The considered technology options available for each Project component are summarized in Table 4.2.

Table 4.2 Technologies for Consideration

Project Component	Existing Technologies	Emerging Technologies
Mobile Equipment	• Diesel • Biodiesel • Renewable diesel • Electric battery (requires grid connection or on-site diesel generation) • Autonomous operation • Anti-idling	• Hydrogen fuel cell • Hydrogen combustion
Stationary Equipment	• Diesel • Biodiesel • Renewable diesel • Electricity: - Generated on-site with diesel with or without carbon capture and utilization - Grid electricity connection	• None

The following sections describe the technologies considered.

4.2 Mobile Equipment

Mobile equipment, particularly excavators and haul trucks, are used to move material from the pit for stockpiling, sorting, and eventually transportation to the processing facility. The equipment will be sized to meet the 700 tpd product target. Depending on the technology selected to provide energy to the equipment, GHGs can be released directly onsite (e.g., with hydrocarbon fuel) or indirectly/offsite (e.g., with grid electricity). Another consideration is the fuel efficiency of the equipment, where a higher fuel efficiency corresponds with lower GHG emissions as less fuel is required to produce the same amount of output. Technologies that increase fuel efficiency include anti-idling software and autonomous operation.

4.2.1 Diesel, Biodiesel, and Renewable Diesel

Construction equipment that is commercially available in Canada are typically fueled with diesel derived from crude oil. Manufacturers offer a wide variety of equipment in a range of sizes, which makes it easier for users to find equipment that best suits the anticipated conditions and tasks required by a given project. Diesel fuel is typically trucked to sites in bulk and stored in tanks for on-site fuelling. A diesel engine combusts diesel with air and is a compression ignition type engine (ignites fuel through high-pressure compression rather than a spark plug). The combustion of diesel fuel releases GHGs and air contaminants, such as nitrogen oxides, into the atmosphere.

The use of diesel fueled construction equipment is well established in many sectors and is in use throughout the world. Regulatory requirements and best operational practices for diesel storage and fuelling technologies are well defined in Canada. Diesel trucks sold for use in Canada are designed to meet health and safety, fire and life safety, and air pollution control requirements in Canada. The use of petroleum derived diesel fuel in equipment during construction is thus technically feasible.

Diesel-fuelled equipment currently represents the 'business as usual' scenario for mining projects. In terms of economic feasibility, it is ranked as a medium capital cost with a medium relative operating cost, giving it an overall good return on investment.

Equipment that operates on diesel can also use biodiesel that is blended with regular diesel. Biodiesel is produced from renewable feedstocks, such as soybean oil and animal fat, via a process called transesterification. Biodiesel is more temperature-sensitive than 100% petroleum-based diesel; diesel can start to gel at 0°C to -7°C without additives (Cope 2025), whereas biodiesel can gel at -1°C to 7°C (Helsper et al. 2022), leading to clogged fuel filters. Using a low biodiesel blend (less than 5%) can alleviate this issue. Biodiesel used in engines is always blended with petroleum-based diesel. A 5% blend, referred to as B5, is typically endorsed by North American engine manufacturers for on-road vehicles (Natural Resources Canada 2025). Federally, the *Clean Fuel Regulations* (CFR) require blending of biodiesel at a minimum 2% average rate across Canada, as well as maximum carbon intensities (CI, same as GHG emissions intensities) that decrease over time. The blending requirement does not apply to NL, but the CI requirement does (Navius Research 2025). In this way, a diesel supplier in NL must meet the CI requirement but does not have to use biodiesel to do so.

Blended 5% biodiesel fuel represents a higher operating cost than traditional diesel due to the need to procure a speciality blend. In terms of economic feasibility, it is therefore ranked as a medium capital cost with a medium operating cost, giving it an overall neutral return on investment.

Renewable diesel, also referred to as hydrogenation derived renewable diesel, is produced from the same feedstocks as biodiesel through a process involving hydrotreating, isomerization, and fractionation. Hydrotreating uses hydrogen and high temperature and pressures to convert the oils in the feedstock to simple paraffins (Digital Refining 2010). Isomerization results in the specific chemicals required and fractionation results in the finished product. This equipment is commonly found at traditional oil refineries. Chemically, renewable diesel is the same as petroleum-derived diesel, has a better emissions profile, and has better low temperature operability (Valero 2024). Renewable diesel does not need to be blended with petroleum diesel; it can be used directly with existing engines and infrastructure (Valero 2024). Because it is a low CI fuel, renewable diesel can be blended with petroleum diesel to achieve the CFR requirements for CI as well as the 2% volume requirement.

Renewable diesel first came on the Canadian market in 2019. It is currently manufactured in relatively small quantities in Canada, whereas in the United States approximately 19 facilities have a combined capacity of 308,000 barrel per day (United States Energy Information Administration 2025). Since 2021, US renewable diesel and other biofuel production has tripled (Stephenson 2024). This renewable diesel is being imported into Canada, primarily to BC, to help meet the Low Carbon Fuel Standard requirements. Because producers generate credits under the Low Carbon Fuel Standard, and now more recently under the CFR, there is an incentive to produce and sell renewable diesel in Canada. However, production of

renewable diesel in Canada is primarily taking place in the western provinces, with several facilities coming online in recent years. In NL, the Braya Renewable Fuels' refinery produces renewable diesel; however, the product is all sent for export.

Because renewable diesel is not commercially available in NL, the use of renewable diesel is not considered technically feasible at the start of construction. However, it may become technically feasible during the Project's operation. This is dependent on a local supplier of renewable diesel, as the current suppliers being in western Canada make this economically unfeasible.

From a GHG-perspective, diesel combustion releases approximately 2.8 kilograms (kg) of GHGs per L of diesel combusted. Conventional diesel is produced from crude oil and the carbon in the diesel has been sequestered away from the atmosphere for millions of years. When converted to carbon dioxide and released into the atmosphere, this incremental carbon dioxide contributes to rising carbon dioxide concentrations and, indirectly, climate change. By replacing a portion of the crude oil-based carbon with carbon from recently living sources, such as soybean oil, less incremental carbon dioxide is produced. By convention, carbon dioxide from a fuel that was recently living is reported separately from the emissions of methane and nitrous oxide generated by combustion. This has the effect of lowering the GHG emissions intensity of the fuel. Biodiesel, at a 5% blend, releases approximately 2.6 kg CO_2e per L and renewable diesel at 100% releases approximately 0.1 kg CO_2e per L.

4.2.2 Electric Battery

Electric-drive equipment uses electricity from batteries for energy instead of a fuel such as diesel. Such equipment must be charged from an energy source, such as a connection to an electrical grid or through on-site generation and a battery energy storage system.

Electric mining equipment are becoming increasingly used in underground and open pit mines around the world. While the focus on electric equipment is mainly for underground mines where diesel exhaust is also a health concern due to air quality, more mines are decarbonizing by retrofitting their existing fleet with electric drive trains that do not produce GHG emissions directly. In addition to retrofits, some manufacturers, such as Komatsu, offer electric transport trucks for sale in the 200-ton to 400-ton capacity range (Komatsu 2026). More prototype electric mine transport trucks are being tested by equipment manufacturers including Liebherr and Caterpillar (Anyadike 2023). Other mining equipment, such as hydraulic excavators, are also being designed with fully electric systems; examples include the Hitachi EX3600 7E and EX5600 7E with gross horsepower ratings starting at 1,609 horsepower. The transport trucks and hydraulic excavators considered for the Project's are much smaller than these models. It is unlikely that electric equipment or vehicles will become commercially available in the scale needed for the Project during the Project's operation phase, which is relatively short at seven years. Therefore, the use of electric drive equipment is not considered technically feasible for the Project.

4.2.3 Autonomous Operation

Equipment that has software installed to automatically direct its operation is becoming more common in the mining industry as operators strive to improve efficiencies. Its main use is for large-scale, high-volume mines. Traditionally, the drivers behind automation have been operational: increased safety, reduced operating costs, and increased productivity. Automation can also provide a solution to a lack of operators in remote areas. The GHG benefit to using equipment that can direct itself is an increase in fuel efficiency, because the software prioritizes constant speed rather than the accelerations and decelerations caused by human drivers, even those trained for fuel efficient operation. It also has the benefits of decreasing maintenance requirements and reducing worker exposure to hazards.

Caterpillar, Komatsu, Sandvik, Volvo, Atlas Copco, and Epiroc have some notable market-share in autonomous equipment and the systems needed to operate them (Patrick 2026). However, these equipment and systems are designed for very large operations (e.g., 200 t loads) or very specific operations, such as underground mining in Québec (Migneault 2024, Jarratt 2025). In addition, the capital costs of autonomous or semi-autonomous equipment and the supporting systems are high and the resulting reduction in fuel and personnel costs may not fully offset the capital cost plus the ongoing electricity consumption cost. The small size of the equipment needed and open pit mining method for the Project makes autonomous or tele-remote equipment and systems not technically feasible at the start of operation and are not expected to become feasible over the Project's operation.

4.2.4 Anti-idling Software

The idling of haul trucks while waiting for loading or unloading or during breaks and shifts changes result in extra fuel being combusted. Modern large haul trucks come equipped with software and technology to monitor the equipment's conditions and shutdown the engine when certain criteria are met, such as zero speed and parking brake applied. In very large haul trucks, a small auxiliary engine is used to maintain critical systems such as lighting, climate control, and radios. At any time, an operator can override the software and turn the engine back on. This technology is not currently commercially available in the size of haul trucks required for the Project; therefore, equipment with anti-idling software is not considered to be technically feasible. Although 65 ton-haul trucks with this technology may become feasible during the Project's lifetime, it would not be economically feasible to purchase new haul trucks during operation.

4.2.5 Hydrogen Fuel Cell and Combustion

Hydrogen fuel cell technology and hydrogen internal combustion engines (ICEs) for off- and on-road equipment are relatively new. A hydrogen fuel cell generates electricity through the chemical reaction between hydrogen and oxygen, whereas a hydrogen ICE burns hydrogen in a similar way to conventional diesel engines (Fox 2023). Provided that there is a zero-carbon source of energy used to produce hydrogen (i.e., green hydrogen, produced from renewable energy), no GHGs are released from a hydrogen fuel cell; water is the only by-product. Like an electric battery in a vehicle, a hydrogen fuel cell remains in the equipment and is refueled in a similar manner as diesel equipment. Prototype operation suggests that refuelling may need to occur once or twice per day, depending on the tank size and equipment operating hours.

Leading manufacturers are well on the way to bringing hydrogen fuel cells and ICE to commonly used construction equipment in various sizes. While these manufacturers continue to develop and test hydrogen equipment, commercial scale is not expected until 2030.

The other aspect of technical feasibility of hydrogen is its production, transportation, and storage. Hydrogen can be produced through a variety of technologies; the most common technology currently used is steam methane reforming, which has associated GHG emissions (uses CH_4 as a feedstock and produces CO_2 in addition to hydrogen. Electrolysis of water, which requires high amounts of electricity to split the water, produces oxygen in addition to hydrogen. As this process does not produce GHGs, electrolysis could produce green hydrogen if the electricity used is renewable.

Similar to natural gas, hydrogen may be transported as a high-pressure gas in a pipeline or by road or rail via a tube trailer or liquefied for transport in a cryogenic tank (Alsaba et al. 2023).

Hydrogen in equipment is not technically feasible due to the emerging nature of the technology and lack of availability on the market as well as lack of hydrogen supply in NL. Depending on how hydrogen production technologies advance, particularly whether hydrogen can be made with a lower GHG emissions intensity and efficiently transported and stored, hydrogen powered equipment are unlikely to become technically feasible fuel during operation.

4.2.6 Summary of Technical Feasibility

A summary of the technical feasibility of each mobile equipment technology is provided in Table 4.3.

Table 4.3 Technical Feasibility Evaluation – Mobile Equipment

Aspect	Criteria	Result
Diesel	Maturity	Mature
	Adoption	Widespread
	Geographic Limitations	None
	Availability of Equipment or Fuel	Widespread
Biodiesel	Maturity	Mature
	Adoption	Widespread
	Geographic Limitations	Climate-specific
	Availability of Equipment or Fuel	Limited
Renewable Diesel	Maturity	Mature
	Adoption	Limited
	Geographic Limitations	None
	Availability of Equipment or Fuel	Limited

Table 4.3 Technical Feasibility Evaluation – Mobile Equipment

Aspect	Criteria	Result
Autonomous	Maturity	Commercial testing ongoing to the size of vehicles required for the Project
	Adoption	Project-specific
	Geographic Limitations	None
	Availability of Equipment or Fuel	Limited
Electric Battery	Maturity	Not available in size required for Project, unlikely to become available during Project lifetime
	Adoption	Not applicable
	Geographic Limitations	Not applicable
	Availability of Equipment or Fuel	Not applicable
Anti-idling Software	Maturity	Not available in size required for Project, may become available during Project lifetime
	Adoption	Not applicable
	Geographic Limitations	Not applicable
	Availability of Equipment or Fuel	Not applicable
Hydrogen Fuel Cell	Maturity	Commercial testing
	Adoption	Project-specific
	Geographic Limitations	None
	Availability of Equipment or Fuel	Project-specific
Hydrogen Combustion	Maturity	Commercial testing
	Adoption	Project-specific
	Geographic Limitations	None
	Availability of Equipment or Fuel	Project-specific

4.2.7 Summary of Economic Feasibility

A summary of the economic feasibility of each technology judged to be technically feasible is provided in Table 4.4.

Table 4.4 Economic Feasibility Evaluation – Mobile Equipment

Aspect	Criteria	Result
Diesel	Anticipated Capital Cost	Medium
	Anticipated Operation Cost	Medium
	Overall Return on Investment	Good
Biodiesel Diesel	Anticipated Capital Cost	Same as diesel
	Anticipated Operation Cost	Medium
	Overall Return on Investment	Neutral
Renewable Diesel	Anticipated Capital Cost	Same as diesel
	Anticipated Operation Cost	High
	Overall Return on Investment	Negative

4.3 Stationary Equipment

The main stationary equipment at the mine will be the crushing, screening, and sorting plants. A jaw crusher and a cone crusher will be used in series to reduce the mined material to approximately 30 millimetres. Screening in a closed circuit conveys the correctly sized material to the sorting plant while removing fines. Two sorting machines acting in series will sort the material into a concentrate stockpile and a waste stockpile using x-ray transmission technology.

The equipment requires a high amount of energy. Crushers can be used with diesel (or biodiesel or renewable diesel) directly or can use electric motors. Screens tend to be run with electric motors and x-ray transmission sorting equipment uses electricity.

Smaller stationary equipment could include light plants, dewatering pumps, and temporary generators. This equipment typically uses diesel and the information reviewed for diesel and biodiesel in mobile equipment is relevant for this stationary equipment. Renewable diesel was not carried forward for stationary equipment because it was deemed to be not economically feasible (see Section 4.2.1).

4.3.1 Diesel and Biodiesel

Diesel and biodiesel are available options for providing energy to crushing equipment. Details on the manufacture of these fuels are provided in section 4.2.1. With respect to capital costs and operating costs, diesel powered equipment tend to have lower capital costs but higher operating costs than electric-driven equipment. The cost of diesel and ongoing maintenance can be significant for small mines. Diesel powered crushing equipment are technically feasible and have a neutral economic feasibility.

4.3.2 On-site Diesel Generation

Another energy option for stationary equipment is to run electric equipment that uses electricity generated at the site using diesel, biodiesel, or renewable diesel combustion. This option is commonly used in industrial settings in areas without a connection to an electrical grid. There is commercially available generating equipment in the size required for the Project. The capital and operating costs associated with an electricity generation system are high. Although on-site diesel generation is technically feasible, it is not economically feasible for the Project.

4.3.3 Grid Electricity

Two existing transmission lines run through the Project site and will be rerouted during construction. Because of this, making a connection to the electrical grid with the installation of a substation is technically feasible. The capital cost of a substation and the operating cost of electricity are considered economically feasible for the Project. The completion of the substation installation and provision of electricity NL Hydro is expected to occur by Year 2 of operation. The use of grid electricity instead of on-site diesel combustion has the benefit of not producing air contaminants and GHG emissions directly at the site. Indirect GHG emissions will occur at the source of electricity generation but because the NL electrical grid has a low GHG emissions intensity (approximately 6 t CO_2e per gigawatt-hour), fewer GHG emissions are generated by using the electrical grid instead of diesel combustion, for the same amount of electricity use.

4.3.4 Summary of Technical Feasibility

A summary of the technical feasibility of each stationary equipment technology is provided in Table 4.5.

Table 4.5 Technical Feasibility Evaluation – Stationary Equipment

Aspect	Criteria	Result
Diesel and Biodiesel	Maturity	Mature
	Adoption	Widespread
	Geographic Limitations	Biodiesel is climate-specific
	Availability of Equipment or Fuel	Widespread
On-site Diesel Generation	Maturity	Mature
	Adoption	Widespread
	Geographic Limitations	None
	Availability of Equipment or Fuel	Widespread
Grid Electricity	Maturity	Mature
	Adoption	Widespread
	Geographic Limitations	None
	Availability of Equipment or Fuel	Widespread

4.3.5 Summary of Economic Feasibility

A summary of the economic feasibility of each stationary technology judged to be technically feasible is provided in Table 4.6.

Table 4.6 Economic Feasibility Evaluation – Stationary Equipment

Aspect	Criteria	Result
Diesel and Biodiesel	Anticipated Capital Cost	Medium
	Anticipated Operation Cost	Medium
	Overall Return on Investment	Good
On-site Diesel Generation	Anticipated Capital Cost	High
	Anticipated Operation Cost	Medium
	Overall Return on Investment	Negative
Grid Electricity	Anticipated Capital Cost	Medium
	Anticipated Operation Cost	Low
	Overall Return on Investment	Good

5 BACT Selection

The BACT for each Project component was selected following the results of the technical and economic feasibility assessments in the previous sections. The selected BACT for each Project component are identified in Table 5.1.

Table 5.1 BACT Selection

Project Component	Technologies	Notes
Mobile Equipment	• Diesel, biodiesel, renewable diesel	• Biodiesel must be blended with diesel at a rate appropriate to the equipment manufacturer's specification. Use is limited in colder months. • Renewable diesel offers the lowest GHG emissions intensity but is not currently economically feasible for the Project. • Fuel carbon intensity is subject to the CFR, regardless of type of diesel used.
Stationary Equipment	• Grid electricity	• Availability of electricity is subject to substation construction timing and provision of electricity by NL Hydro.

The sourcing of diesel will depend on Project economics and diesel costs at the time. It is anticipated that diesel will be sourced from local suppliers that comply with the CFR.

6 GHG Emissions

The GHG emissions presented in Section 4.7.1.1 of the Project's Environmental Registration are based on the use of:

- Diesel in mobile equipment for all years of operation
- Diesel in the crusher until electrical grid connection is established in Year 2 of operation
- Electrical grid for stationary equipment once grid connection is established

The estimated GHG emissions for the peak operational year (Year 5) are shown in Table 6.1.

Table 6.1 Peak Annual GHG Emissions (Y5)

Source	CO_2 (t)	CH_4 (t)	N_2O (t)	CO_2e (t)
On-site Equipment (direct/onsite)	23,077	1.15	3.47	24,028
Blasting (direct/onsite)	615	-	-	615
Electricity Use (indirect/offsite)	-	-	-	107
Total Direct	23,692	1.15	3.47	24,643
Total Direct and Indirect from Electricity	23,692	1.15	3.47	24,750

If biodiesel (B5) is used instead of diesel for 50% of the year (due to cold weather), the peak year GHG emissions from on-site equipment would decrease from 24,028 t CO_2e to 23,451 t CO_2e, a reduction of 577 t CO_2e or 2%.

The reduction in GHG emissions from using grid electricity instead of on-site diesel combustion are approximately 7,187 t CO_2e per year.

7 Comparison to Other Facilities

To provide context for the direct GHG emissions from the Project against other mining operations in Canada, Table 7.1 compares the peak year direct operational GHG emissions from the Project to GHG emissions reported by select existing gold and silver mining operations in Canada (for 2024, the most recent year of published data, ECCC 2025b). The emissions in Table 7.1 do not take into account indirect emissions from electricity use, resulting in lower apparent GHG emissions. For 2024, 33 gold and silver mine and processing facilities with GHG emissions over 10,000 t CO_2e reported their emissions to the ECCC Greenhouse Gas Reporting Program (ECCC 2025b). Six very large mines, such as the Detour Lake mine in Ontario that have over 100,000 t CO_2e in direct emissions, were excluded from the table. Both underground and open pit mines are shown, with some mines including production of concentrate while others produce gold bars. The reported emissions represent direct GHG emissions from stationary combustion and mobile combustion. The Project information is in **bold**.

Table 7.1 2024 Annual GHG Emissions from Select Gold Mines in Canada

Facility	Province	Type	Production Capacity (tpd) [A]	2024 Annual Direct GHG Emissions (t CO_2e) [B]
SGO Mining Inc. - Seabee	Saskatchewan	Underground	1,400	10,053
Lake Shore Gold - Bell Creek Complex	Ontario	Underground	4,500	11,256
Iamgold Corporation - La mine Doyon	Quebec	Underground and open pit	Unknown	12,155
Lake Shore Gold - Timmins West Mine	Ontario	Underground	3,300	12,365
Agnico-Eagle Mines Ltd. - Division Goldex	Quebec	Underground	9,044	13,686
Alamos Gold Incorporated - Island Gold Mine	Ontario	Underground	1,200	18,730
Alamos Gold Incorporated - Young-Davidson	Ontario	Underground	8,000	22,621
Project – Queensway Gold Mine (peak year)	**NL**	**Open pit**	**700**	**24,028**
Agnico Eagle Mines Ltd. - Macassa Mine	Ontario	Underground	1,570	24,215
Pretium Resources Inc. - Brucejack Gold Mine	British Columbia	Underground	4,950	25,186
Evolution Mining - Red Lake Operation	Ontario	Underground	960	25,994
Marathon Gold Corporation – Valentine Gold Mine[C]	NL	Open pit	6,850	26,077
TMAC Resources Inc[D] - Hope Bay Site	Nunavut	Underground	Exploration	27,929

Table 7.1 2024 Annual GHG Emissions from Select Gold Mines in Canada

Facility	Province	Type	Production Capacity (tpd) [A]	2024 Annual Direct GHG Emissions (t CO_2e) [B]
Goldcorp Canada Ltd[E] - Musselwhite Mine	Ontario	Underground	914	31,638
Dhilmar Éléonore Société en commandite - Mine Éléonore	Quebec	Underground	7,000	34,761
Les Mines Agnico Eagle Limitée - Division Laronde	Quebec	Underground	9,000	45,900
Hecla Québec Inc. - Casa Berardi[F]	Quebec	Underground and open pit	3,835	46,566
Goldcorp Canada Ltd. - Porcupine Gold Mines[G]	Ontario	Underground and open pit	12,000	58,643

Notes:

[A] Either mining rate or processing rate provided

[B] 2024 emissions as reported to Greenhouse Gas Reporting Program (ECCC 2025b).

[C] Now owned by Equinox

[D] Now owned by Agnico Eagle

[E] Now owned by Orla Mining

[F] Now owned by Orezone

[G] Now owned by Discovery Silver Corp.

References: SSR Mining Inc. 2024; Pan American Siler 2021; Agnico Eagle Mines Limited 2026a; Alamos Gold Inc. 2022; Alamos Gold Inc. 2017; Pretium Resources Inc. 2026; Evolution Mining 2026; Marathon Gold Corporation 2022; Agnico Eagle Mines Limited 2026b; Orla Mining 2025; Mining Technology 2026; Orezone 2025; Discovery Silver Corp. 2025.

The majority of the operations that reported in 2024 had GHG emissions that were below 50,000 t CO_2e per year (23). Therefore, the Project has similar or lower GHG emissions than the majority of other gold mining operations in Canada.

Three key factors underscore the overall GHG emissions from a mine: mining method (i.e., underground or open pit), gold concentration, and age of the mine. Open pit mines, especially ones that have been running for a long period of time, tend to require large mobile equipment, haul over longer distances from pit to processing, and move larger amounts of waste rock. Conversely, underground mines have less waste rock, tend to use smaller equipment, and tend to use electric-driven equipment.

Production data from individual mines are not routinely published. However, some mining companies publish annual environmental, social, and governance reports that provide GHG emissions totals and emissions intensities of their operations. Typically, these data are aggregated to a global level, such that data for individual operations are not available. However, the data tables for the 2024 Alamos Gold Sustainability Report show the GHG emissions intensity of the Young-Davidson and Island Gold operations as 0.01 t CO_2e per tonne of ore mined and 0.06 t CO_2e per tonne of ore mined, respectively (Alamos Gold Inc. 2025). These are both large underground gold mines with processing to produce gold doré occurring on-site. The estimated GHG emissions intensity of the Project, when averaged over the seven-year lifetime, is approximately 0.002 t CO_2e per tonne of ore mined. While the Project and the Alamos Gold operations are not directly comparable, the Project's projected GHG emissions intensity is similar or lower than two existing large mines.

8 References

Agnico Eagle Mines Limited. 2026a. Annual Information Form for the year ended December 31, 2025.

Agnico Eagle Mines Limited. 2026b. Hope Bay, Nunavut, Canada. Available online at: https://www.agnicoeagle.com/English/operations-and-projects/exploration-projects/hope-bay/default.aspx. Accessed April 28, 2026.

Alamos Gold Inc. 2017. NI-43-101 Technical Report for the Young-Davidson Mine, Matachewan, Ontario. Available online at: https://s24.q4cdn.com/779615370/files/doc_downloads/davidson_reports/Young-Davidson-Technical-Report-%E2%80%93-Dec-31-2016.pdf. Accessed April 28, 2026.

Alamos Gold Inc. 2022. NI 43-101 technical Report for the Island Gold Mine, Dubreuilville, Ontario, Canada. Available online at: https://s24.q4cdn.com/779615370/files/doc_downloads/2022/08/Island-Gold-Phase-3-Expansion-NI-43-101-Technical-Report-Final.pdf. Accessed April 28, 2026.

Alamos Gold Inc. 2025. Environmental, Social and Governance Report: 2024. Available online at: https://esg2024.alamosgold.com/. Accessed April 28, 2026.

Alsaba, W., S.A. Al-Sobhi, M.A.l Qyyum. 2023. Recent Advancements in the Hydrogen Value Chain: Opportunities, Challenges, and the Way Forward – Middle East Perspectives. International Journal of Hydrogen Energy. *48*, 68, pp 26408-26435.

Anyadike, N. 2023. Around the World of Mining Vehicle Electrification. Available online at: https://www.mining-technology.com/features/mining-vehicle-electrification. Accessed on April 23, 2026.

Cope, L. 2025. At What Temperature Does Diesel Gel Up? Available online at: https://engineerfix.com/at-what-temperature-does-diesel-gel-up/. Accessed April 28, 2026.

Digital Refining. 2010. Hydrotreating in the production of green diesel. Available online at: https://www.digitalrefining.com/article/1000156/hydrotreating-in-the-production-of-green-diesel. Accessed April 23, 2026.

ECCC (Environment and Climate Change Canada). 2025a. National Inventory Report 1990-2023: Greenhouse Gas Sources and Sinks in Canada. Available online at: https://publications.gc.ca/site/eng/9.506002/publication.html.

ECCC. 2025b. Greenhouse Gas Reporting Program data search. Available online at: https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/facility-reporting/about.html. Accessed April 22, 2026.

Discovery Silver Corp. 2025. Porcupine Complex, Ontario Canada: NI 43-101 Technical Report on Preliminary Economic Assessment. Available online at: https://discoverysilver.com/site/assets/files/6583/2025-01-13-porcupine-tr-pea.pdf. Accessed April 28, 2026.

Evolution Mining. 2026. Red Lake Operations. Available online at: https://evolutionmining.com/our-operations/red-lake/. Accessed April 28, 2026.

Fox, J. 2023. The Road to Hydrogen Powered Equipment. Construction Equipment. Available online at: https://www.constructionequipment.com/sustainability/article/33002949/the-road-to-hydrogen-powered-equipment. Accessed April 23, 2026.

Helsper, S., W.A. Hatem, L. Young, Z. Wilhelm, M.W. Liberatore. 2022. Flow and crystallization of saturated fatty acid methyl esters and their binary mixtures. Journal of American Oil Chemists' Society. 99, 7, pp 613-619. https://doi.org/10.1002/aocs.12598. Accessed April 28, 2026.

Jarratt, E. 2025. Autonomous battery-electric loaders now in operation at Canadian gold mine. Available online at: https://electricautonomy.ca/automakers/2025-01-08/sandvik-autonomous-electric-loaders-canada-mine/. Accessed April 28, 2026.

Komatsu. 2026. Trucks. Available online at: https://www.komatsu.com/en-us/products/equipment/trucks/electric-drive-mining-trucks. Accessed April 23, 2026.

Marathon Gold Corporation. 2022. Valentine Gold Project; NI 43-101 Technical Report and Feasibility Study, NL, Canada. Available online at: https://www.equinoxgold.com/wp-content/uploads/2025/06/2022-Valentine.pdf. Accessed April 28, 2026.

Migneault, J. 2024. At this open-pit gold mine in northeastern Ontario, the trucks drive themselves. Available online at: https://www.cbc.ca/news/canada/sudbury/cote-gold-mine-automation-1.7092319. Accessed April 28, 2026.

Mining Technology. 2026. Eleonore Gold Project, Quebec, Canada. Available online at: https://www.mining-technology.com/projects/eleonore-gold-project-quebec/?cf-view. Accessed April 28, 2026.

Natural Resources Canada. 2025. Biodiesel. Available online at: https://natural-resources.canada.ca/energy-efficiency/transportation-energy-efficiency/biodiesel. Accessed April 23, 2026.

Navius Research. 2025. Biofuels in Canada 2024: Annual Report. February 12, 2025.

Orezone. 2025. Casa Berardi, Quebec. Available online at: https://orezone.com/operations-overview/casa-berardi/. Accessed April 28, 2026.

Orla Mining. 2025. Musselwhite. Available online at: https://orlamining.com/asset/musselwhite/. Accessed April 28, 2026.

Pan American Silver. 2021.Nationa Instrument 43-101 Technical Report, Updated Mineral Resource and Mineral Reserve Estimate for the Bell Creek Mine Property, Hoyle Township, Timmins, Ontario, Canada.

Patrick, G. 2026. Top 7 autonomous mining equipment manufacturers revolutionizing industry. Available online at: https://www.verifiedmarketresearch.com/blog/top-autonomous-mining-equipment-manufacturers/. Accessed April 17, 2026.

Pretium Resources Inc. 2026. Brucejack Mine 2025 CEAA Annual Report. Available online at: https://operations.newmont.com/_doc/operation/brucejack/annual-reports/Brucejack%20Mine%202025%20CEAA%20Annual%20Report.pdf. Accessed April 28, 2026.

SSR Mining Inc. 2024. Technical Report Summary on the Seabee Gold Operation, Saskatchewan, Canada. S-K 1300 Report. Available online at: https://s22.q4cdn.com/546540291/files/doc_financials/2023/q4/slr-ssr-mining-seabee-trs-final-feb-12-2024.pdf?v=042812. Accessed April 28, 2026.

Stephenson, A. 2024. Imperial Oil remains confident in renewable diesel project as construction progresses. The Canadian Press. August 2, 2024. Available online at: https://www.cbc.ca/news/canada/calgary/imperial-oil-renewable-diesel-project-construction-1.7284204. Accessed April 23, 2026.

United States Energy Information Administration. 2025. U.S. Renewable Diesel Fuel and Other Biofuels Plant Production Capacity. Available online at: https://www.eia.gov/biofuels/renewable/capacity/. Accessed on April 23, 2026.

Valero. 2024. The Technical Side of Renewable Diesel. Available online at: https://www.valero.com/renewables/renewable-diesel/renewable-diesel-science-process. Accessed November 20, 2024.

Appendix 4.D New Found Gold Policies

NEWFOUNDGOLD

TSX-V: NFG | NYSE-A: NFGC

Company-Wide Corporate Social Responsibility Strategy

TSM- and SASB-Aligned | AAA Target within 3 Years

Effective Date: April 2026 | Approved by: VP Sustainability

1 Strategic Objective

New Found Gold ("NFG") is committed to responsible mineral exploration and development of its assets in Newfoundland and Labrador in a manner that creates long-term value for shareholders while respecting Indigenous rights, protecting people and the environment, and contributing positively to host communities.

This Corporate Social Responsibility (CSR) Strategy is designed to:

- Builds trust with Indigenous Peoples and local communities
- Protects land, water, and biodiversity
- Protects the health and safety of workers and the public
- Creates long-term social and economic benefits
- Achieve AAA performance ratings under the Mining Association of Canada (MAC) *Towards Sustainable Mining* (TSM) framework within three years
- Meet or exceed Canadian mining industry ESG expectations
- Align with *SASB Metals & Mining standards* for external disclosure
- Support regulatory approvals, Indigenous consultation, and investor confidence

This CSR Strategy establishes the governance systems, policies, performance metrics, and reporting structures required to deliver those commitments.

2 Governance & Accountability Framework

CSR performance is monitored through a formal governance structure:

Level	Responsibility
ESG & Sustainability Committee (Board of Directors)	Quarterly oversight of TSM and ESG performance
Vice President, Sustainability	Approves CSR strategy, policies, targes, and disclosures
Corporate Social Responsibility Manager	TSM conformance, reporting, audits, and community relationships
Site & Project Managers	Site-level implementation of CSR policies
All Employees & Contractors	Compliance with CSR policies

Annual TSM self-assessments and third-party verifications will be conducted as required by the Mining Association of Canada.

3 Core CSR Pillars (Aligned to TSM Protocols)

TSM has 9 mandatory protocols. NFG's CSR Strategy is structured directly around them:

TSM Protocol	NFG CSR Pillar
Community & People	
Indigenous & Community Relationships	*Indigenous & Community Relationships:* Respectful, transparent, and ongoing relationships with Indigenous Peoples and local communities.
Safety, Health and Respectful Workplaces	*Safety, Health & Respectful Workplaces:* Protecting the physical and psychological well-being of workers, contractors, and communities.
Crisis Management and Communications Planning	*Crisis Management & Communications:* Preparedness for emergencies that may affect people, communities, or the environment.
Equitable, Diverse and Inclusive Workplaces	*Equitable, Diverse & Inclusive Workplaces:* Building a workplace that is inclusive, equitable, and representative of the communities where NFG operates.
Prevention of Child and Forced Labour	*Human Rights & Ethical Supply Chains:* Respect for human rights across operations and the supply chain.
Environment & Climate Change	
Tailings Management	*Tailings & Mine Waste Governance:* Safe and responsible management of tailings and mine waste, where applicable.
Water Stewardship	*Water Stewardship:* Protection of surface water, groundwater, and aquatic ecosystems.
Biodiversity Conservation Management	*Biodiversity Conservation Management:* Avoiding, minimizing, and restoring impacts to ecosystems and species.
Climate Change Protocol	*Climate Change & Energy Transition:* Managing greenhouse gas emissions and climate-related risks.

4 CSR Policies Required for AAA Ratings

To support implementation of this CSR Strategy and achieve AAA performance under TSM, New Found Gold will maintain a suite of Board-approved policies aligned with each CSR pillar. Each TSM protocol requires a formal documented policy, management system, targets, monitoring, reporting, and continuous improvement. The following policies are required:

4.1 Indigenous & Community Engagement Policy

Commitments

- Early, continuous, and proactive engagement
- Clear, accurate, and accessible information
- Respect for Indigenous rights and title
- Transparency regarding decision-making
- Community investment
- Transparent grievance resolution
- Responsiveness and follow-up
- Thorough documentation and continuous improvement

Key Metrics

Metric	AAA Performance Expectation
Indigenous and community engagement activities	Ongoing; documented across project lifecycle
% of identified Indigenous groups engaged	100%
Formal grievance mechanism in place	Yes
Grievances received and resolved	≥ 95% resolved within agreed timelines
Average grievance resolution time	≤ 30 days
Indigenous and local employment	≥ 50% of workforce (where feasible)
Indigenous and local procurement	≥ 25% of eligible spend
Annual community investment	≥ 0.5% of pre-tax exploration/development spend

TSM Evidence Focus: records, issues tracking, outcomes, improvement actions
SASB Topics: Indigenous Peoples' Rights, Community Relations

4.2 Safety, Health & Respectful Workplaces Policy

Commitments

- Zero harm
- Physical and psychological safety
- Harassment-free workplaces
- Contractor safety management

Key Metrics

Metric	AAA Performance Expectation
Total Recordable Injury Frequency (TRIF)	< 1.0
Lost Time Injury Frequency (LTIF)	0
Fatalities	0
Safety training hours	≥ 20 hours per employee/year
% employees and contractors trained	100%
Workplace harassment incidents	0 substantiated
Safety audits and inspections	100% of sites annually

TSM Evidence Focus: training logs, audits, leadership involvement
SASB Topics: Workforce Health & Safety

4.3 Crisis Management & Communications Policy

Commitments

- Protect people and environment
- Rapid incident response
- Community notification

Key Metrics

Metric	AAA Performance Expectation
Emergency Response Plans (ERPs)	100% of active sites
ERP review frequency	Annual
Emergency drills conducted	≥ 2 per site/year
Community notification procedures	Documented and tested
Incident response time	< 30 minutes
Post-incident reviews completed	100%

TSM Evidence Focus: drills, lessons learned, communications records
SASB Topics: Risk Management, Emergency Preparedness

4.4 Gender Equity, Diversity, and Inclusion Policy

Commitments

- Gender equity
- Indigenous participation
- Non-discrimination
- Inclusive leadership

Key Metrics

Metric	AAA Performance Expectation
Gender diversity (overall workforce)	Year-over-year improvement

Women in leadership roles	≥ industry average
Indigenous representation	Reflective of local demographics
Pay equity assessments	Conducted periodically
EDI training completion	100% of workforce
Discrimination complaints	0 substantiated

TSM Evidence Focus: policies, targets, demonstrated progress
SASB Topics: Workforce Diversity & Inclusion

4.5 Human Rights & Ethical Supply Chain Policy

Commitments

- Zero tolerance for corruption
- Transparent reporting
- Whistleblower protection
- Prevention of child and forced labour
- Supplier due diligence
- Contractor compliance
- Human rights risk management

Key Metrics

Metric	AAA Performance Expectation
Supplier Code of Conduct	Implemented
% critical suppliers screened	100%
Supplier audits (risk-based)	Conducted where applicable
Confirmed child or forced labour	0
Human rights grievances	0 unresolved
Ethics & human rights training	100% of relevant staff

TSM Evidence Focus: due diligence systems, enforcement actions
SASB Topics: Human Rights, Supply Chain Management

4.6 Tailings & Mine Waste Governance Policy

Commitments

- Board and executive oversight
- Independent review readiness
- Emergency preparedness
- Public transparency

Key Metrics

Metric	AAA Performance Expectation
Tailings governance policy	Board-approved

Senior accountability defined	Yes
Independent review framework	Established
Emergency preparedness planning	In place
Public disclosure readiness	Demonstrated
Annual governance review	Completed

TSM Evidence Focus: governance structure, preparedness (not volume)
SASB Topics: Tailings Storage Facility Governance

4.7 Water Stewardship Policy

Commitments

- Water quality monitoring
- Responsible withdrawals
- Watershed-based management
- Continuous improvement

Key Metrics

Metric	AAA Performance Expectation
Water quality exceedances	0
Water withdrawals monitored	100% of sites
Water management plans	Site-specific
Monitoring frequency	As per permits or higher
Water-related grievances	0 unresolved
Continuous improvement actions	Documented

TSM Evidence Focus: monitoring data, responses, trend analysis
SASB Topics: Water Management

4.8 Biodiversity Conservation Management Policy

Commitments

- Baseline studies
- Habitat avoidance
- Minimization and restoration
- Long-term monitoring

Key Metrics

Metric	AAA Performance Expectation
Biodiversity baseline studies	100% of projects
Projects with avoidance measures	100%
Disturbance in critical habitat	0
Reclamation success rate	≥ 90% vegetation establishment

Post-reclamation monitoring	Conducted
Net biodiversity loss	Avoided where feasible

TSM Evidence Focus: baselines, mitigation hierarchy, outcomes
SASB Topics: Biodiversity Impacts

4.9 Climate Change & Energy Transition Policy

Commitments

- Measuring and managing GHG emissions
- Assessing climate-related risks
- Improving energy efficiency
- Supporting transition-aligned practices

Key Metrics

Metric	AAA Performance Expectation
Scope 1 & 2 GHG inventory	Completed annually
Energy use tracked	100% of operations
GHG intensity	Year-over-year improvement
Climate risk assessment	Conducted
Energy efficiency initiatives	Implemented
Climate disclosure	Public and consistent

TSM Evidence Focus: measurement, governance, improvement
SASB Topics: GHG Emissions, Climate Risk

5 Three-Year TSM Roadmap

Year	Target
Year 1	Formal policies, stakeholder mapping, baseline data, minimum – **Level B**
Year 2	Management systems, audits, KPIs – **Level A**
Year 3	External verification, continuous improvement – **AA or AAA across all protocols**

For **TSM AAA rating**, each metric must be supported by:

- A defined owner
- A data source
- Evidence (records, logs, reports)
- Demonstrated improvement over time

6 Reporting, Disclosure & Verification

New Found Gold is committed to transparent, accurate, and credible disclosure of its CSR and sustainability performance.

6.1 Towards Sustainable Mining (TSM) Reporting

New Found Gold will:

- Complete annual TSM self-assessments across all applicable protocols
- Participate in MAC's external verification cycle
- Publicly disclose verified TSM results in accordance with MAC requirements

6.2 SASB-Aligned ESG Disclosure

New Foung Gold will align its external sustainability reporting with the *SASB Metals & Mining standard*, including disclosure of:

- Indigenous and community relations performance
- Workforce health, safety, and diversity metrics
- Human rights and supply chain practices
- Tailings governance readiness
- Water use and water quality management
- Biodiversity impacts and mitigation
- Greenhouse gas emissions and climate risk

6.3 Public Reporting

CSR and ESG performance will be disclosed through:

- Annual sustainability or ESG reports
- TSM public reporting platforms
- Corporate website disclosures
- Investor presentations and filings, as appropriate

6.4 Continuous Improvement

Performance data will be reviewed annually to:

- Identify trends and risks
- Drive corrective actions
- Inform strategy and capital planning
- Support continuous improvement under TSM

7 Strategic Value for New Found Gold

This CSR Strategy will:

- Protect NFG's social license in Newfoundland and Labrador
- Reduce regulatory and permitting risk

- Improve access to institutional capital
- Support valuation in M&A or development scenarios
- Align NFG with best-in-class Canadian miners

8 Monitoring & Continuous Improvement

New Found Gold is committed to the ongoing monitoring and continuous improvement of its Corporate Social Responsibility (CSR) performance. NFG will maintain systems and processes to regularly measure, evaluate, and improve performance across all CSR pillars and associated policies. This includes:

- Tracking key performance indicators (KPIs) aligned with the Company's CSR Strategy, the Mining Association of Canada *Towards Sustainable Mining* (TSM) framework, and *SASB Metals & Mining standards*
- Conducting annual TSM self-assessments and participating in external verification in accordance with TSM requirements
- Reviewing CSR performance at least annually at the management and Board levels
- Identifying gaps, risks, and opportunities for improvement through internal reviews, audits, and stakeholder feedback
- Implementing corrective and preventative actions to address identified issues
- Updating policies, procedures, and systems as required to reflect evolving best practices, regulatory requirements, and stakeholder expectations

NFG will also incorporate feedback from Indigenous Peoples, local communities, employees, and other stakeholders to strengthen its CSR approach over time. Continuous improvement is a core principle of this Strategy and is essential to achieving and maintaining AAA-level performance under TSM.

9 Declaration

This CSR Strategy reflects New Found Gold's commitment to responsible and sustainable mineral exploration and development. The Company affirms that it will implement this Strategy in good faith and will allocate appropriate resources to support its execution. All employees, contractors, and representatives of NFG are expected to adhere to the principles and requirements outlined herein.

This Strategy has been reviewed and approved by senior management and is endorsed at the executive level.

Signed:  Dated: April 2026

Position: VP Sustainability

NEWFOUNDGOLD

TSX-V: NFG | NYSE-A: NFGC

Sustainability Policy

Effective Date: April 2026

Approved by: VP Sustainability

1 Purpose & Scope

New Found Gold is committed to implementing sustainable practices that promote environmental stewardship, social responsibility, economic viability, and health and safety. This policy outlines our approach to sustainability, ensuring that our operations contribute positively to the environment, society, economy, and the well-being of our employees.

2 Key Elements

2.1 Environmental Sustainability

- **Resource Management**: We aim to minimize environmental degradation by adopting practices that promote sustainable resource use. This includes reducing waste through recycling and efficient resource management.
- **Energy Conservation**: Implementing energy conservation methods to reduce our carbon footprint and operate more sustainably.
- **Biodiversity Protection**: Protecting and conserving biodiversity.
- **Pollution Prevention**: Developing contingency plans for spill response and ensuring proper storage and handling of petroleum products and other hazardous materials.

2.2 Social Responsibility

- **Community Engagement**: Building relationships based on mutual respect with local communities, including Indigenous Peoples, through meaningful consultation and clear grievance mechanisms.
- **Stakeholder Engagement**: Involving employees, management, suppliers, and the community to build awareness, responsibility, and commitment to sustainability goals.
- **Regulatory Compliance**: Meeting all relevant health, safety, and environmental regulations to maintain legal and ethical standards.
- **Risk Management**: Identifying, assessing, and mitigating risks related to health, safety, and environmental issues before they escalate.
- **Continuous Improvement**: Regularly evaluating and improving our sustainability practices to adapt to changing conditions and achieve better outcomes.

2.3 Health and Safety

- **Employee Engagement**: Ensuring that employees have a clear understanding of the Health, Safety and Environment (HSE) policies.
- **Workplace Safety**: Providing a safe and healthy work environment by implementing comprehensive safety protocols and regular training sessions. This includes routine audits and inspections to maintain high safety standards and promptly address any issues.
- **Incident Reporting and Management**: Encouraging employees to report incidents, near misses, injuries, and anticipated loss of work time. This includes participating in inspections and investigations, and recommending enforcement of health and safety standards.
- **Training and Competency**: Identifying training needs for employees and providing HSE training programs to ensure workers understand the risks and controls. Promoting awareness through campaigns and communication.

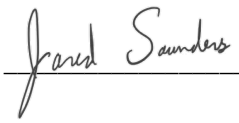
3 Review & Continuous Improvement

This policy will be reviewed annually and updated as needed to align with legal, industry, and operational changes.

4 Declaration

This Sustainability Policy reflects New Found Gold's commitment to responsible and sustainable mineral exploration and development. The Company affirms that it will implement this Strategy in good faith and will allocate appropriate resources to support its execution. All employees, contractors, and representatives of NFG are expected to adhere to the principles and requirements outlined herein.

This policy has been reviewed and approved by senior management and is endorsed at the executive level.

Signed:  Dated: April 2026

Position: VP Sustainability

NEWFOUNDGOLD

TSX-V: NFG | NYSE-A: NFGC

Ethics, Transparency & Governance Policy

Effective Date: April 2026

Approved by: VP Sustainability

1 Purpose & Scope

This Ethics, Transparency & Governance Policy (the "**Policy**") sets out New Found Gold's commitment to the highest standards of corporate governance, ethical conduct, transparency, and accountability. It establishes expectations for directors, officers, employees, contractors, consultants, and agents (collectively, "**Representatives**"), ensuring our conduct aligns with:

- applicable legal and regulatory requirements;
- Company values and commitments; and
- key principles of the Mining Association of Canada's *Towards Sustainable Mining* (TSM) protocol – particularly governance, accountability, transparency, and ethical business practices.

This Policy is intended to operate in concert with existing Company documentation including, without limitation: *Code of Business Conduct and Ethics*, *Anti-Bribery and Anti-Corruption Policy*, *Whistleblower Policy*, and *Corporate Governance Guidelines*.

2 Guiding Principles

2.1 Ethical Conduct

The Company is committed to acting with integrity, fairness, and respect in all aspects of its business. All Representatives must:

- comply with applicable laws, regulations, and professional standards;
- uphold the Company's *Code of Business Conduct and Ethics*, including honest dealings with stakeholders; and
- refrain from any form of corruption, bribery, fraud, or unethical influence.

2.2 Accountability & Governance

Good governance is fundamental to Company credibility and performance. The Board of Directors has overall responsibility for governance oversight. Key governance commitments include:

- clear delineation of Board and management responsibilities as set out in Board mandates and charters;
- regular review of governance structures, risk management systems, and policy frameworks; and

- integration of sustainability, ethics, and stakeholder considerations into strategic and operational decision-making.

Representatives are accountable for implementing governance practices in their functions and reporting issues or concerns promptly and appropriately.

2.3 Transparency & Disclosure

Consistent with TSM's transparency expectations, the Company commits to:

- timely, accurate, and accessible disclosure of information material to stakeholders;
- disclosure of relevant performance indicators, where applicable, including sustainability and governance results; and
- public reporting that avoids misleading statements and provides stakeholders with meaningful insight into Company performance.

The Company's disclosure practices are aligned with applicable securities laws and best-practice governance frameworks.

2.4 Stakeholder Engagement

We value constructive engagement with a broad range of stakeholders, including Indigenous communities, local communities, employees, investors, regulators, and civil society. Engagement activities will be conducted respectfully and transparently, with consideration for stakeholder interests and concerns.

3 Key Elements

3.1 Code of Business Conduct & Ethics

All Representatives are expected to:

- act ethically and with integrity in all business dealings;
- respect diversity, equity, inclusion, and human rights in the workplace; and
- avoid conflicts of interest or disclose and manage them transparently.

Violation of this requirement may result in disciplinary action up to and including termination.

3.2 Anti-Bribery & Anti-Corruption

The Company maintains a zero-tolerance approach to bribery and corruption. Representatives must not offer, pay, solicit, or accept bribes in any form. All such activities are prohibited and may be subject to legal penalties.

3.3 Whistleblower & Reporting Mechanisms

The Company maintains a *Whistleblower Policy* that enables confidential, anonymous reporting of concerns related to ethics, governance, compliance, and misconduct without fear of retaliation.

Reports may be made through established channels and will be investigated impartially.

3.4 Transparency in Governance Practices

The framework for corporate governance shall ensure:

- Board committees and mandates are publicly disclosed;
- roles, responsibilities, and decision-making authorities are documented and accessible;
- material governance policies and charters are available to stakeholders; and
- results of governance performance assessments are disclosed, where applicable.

3.5 Continuous Improvement & Compliance

The Company will:

- regularly review and update governance, ethics, and transparency practices;
- benchmark against leading frameworks (including TSM principles and protocols);
- provide training and education to employees and leadership; and
- address any identified gaps or risks in policies, systems, and behaviours.

4 Monitoring & Reporting

The Board, through its designated committees, shall:

- oversee compliance with this Policy;
- monitor adherence to ethical, governance, and transparency standards;
- receive periodic reports on internal compliance, whistleblower matters, and corrective actions;
- ensure appropriate corrective measures are taken to address deficiencies in governance practice or ethical conduct; and
- regularly report to stakeholders on key governance and ethics performance outcomes.

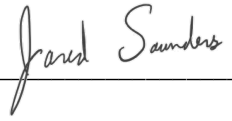
5 Review & Updates

This Policy shall be reviewed at least annually or more frequently as required by changes in legal, regulatory, or stakeholder expectations, industry best practices, and the Company's operational context.

6 Declaration

By following this policy, New Found Gold commits to the highest standards of corporate governance, ethical conduct, transparency, and accountability. The Company affirms that it will implement this policy in good faith and will allocate appropriate resources to support its execution. All employees, contractors, and representatives of NFG are expected to adhere to the principles and requirements outlined herein.

This policy has been reviewed and approved by senior management and is endorsed at the executive level.

Signed:  Dated: April 2026

Position: VP Sustainabilty

NEWFOUNDGOLD

TSX-V: NFG | NYSE-A: NFGC

Health, Safety & Environment Policy

Effective Date: April 2026

Approved by: VP Sustainability

1 Policy Statement

New Found Gold is dedicated to prioritizing the health, safety, and welfare of employees and the public, aiming to provide a safe work environment and prevent accidents, injuries, and illnesses.

2 Responsibilities

2.1 Responsibilities of Management

Responsibilities of Management may include, but are not limited to:

- Implement, maintain, and communicate health and safety policies.
- Provide resources to support policy enforcement.
- Collaborate with the OHS Committee on safety matters.
- Support early and safe return-to-work after injuries.
- Regularly review and update safety policies and procedures.

2.2 Responsibilities of Employees

Responsibilities of Employees include, but are not limited to:

- Adhere to all health and safety procedures and policies.
- Report any unsafe conditions or practices to management.
- Participate in all safety training and drills.
- Inform your supervisor of work-related injuries and time lost promptly.

3 Key Elements

3.1 Hazard Assessments

Regular hazard assessments will be conducted to identify potential hazards. Mitigation strategies will be developed and implemented to control identified hazards.

3.2 Training and Awareness

All employees will receive role-specific health and safety training, with ongoing updates to maintain current standards.

3.3 Incident Reporting and Investigations

All incidents and near-misses must be reported immediately to supervisors. Investigations will be conducted to determine the cause of incidents and to prevent future occurrences.

3.4 Emergency Procedures

Emergency and evacuation procedures will be established, communicated to all employees, and regularly drilled for preparedness.

3.5 Health & Safety Monitoring

Regular inspections and audits will verify compliance, with prompt action taken on any non-compliance.

4 Review & Continuous Improvement

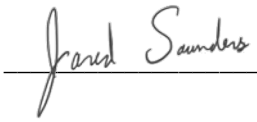
This policy will be reviewed annually and updated as needed to align with legal, industry, and operational changes.

5 Declaration

By following this policy, New Found Gold commits to ensuring a safe and healthy environment for all employees, contractors, vendors, visitors, and the public. The Company affirms that it will implement this policy in good faith and will allocate appropriate resources to support its execution. All employees, contractors, and representatives of NFG are expected to adhere to the principles and requirements outlined herein.

This policy has been reviewed and approved by senior management and is endorsed at the executive level.

The safety information in this policy does not take precedence over the OHS Act. All personnel should be familiar with the OHS Act and Regulations.

Signed:  Dated: April 2026

Position: VP Sustainability

NEWFOUNDGOLD

TSX-V: NFG | NYSE-A: NFGC

Indigenous & Community Engagement Policy

Effective Date: April 2026

Approved by: VP Sustainability

Applies to: All employees, contractors, consultants, and subsidiaries of New Found Gold

1 Purpose

New Found Gold ("NFG") recognizes that mineral exploration and development can only proceed responsibly where there is mutual respect, trust, and ongoing dialogue with Indigenous Peoples and local communities.

This Policy establishes NFG's commitment to:

- Respect Indigenous rights and interests
- Build and maintain positive, long-term community relationships
- Engage early, transparently, and continuously
- Manage concerns and grievances fairly
- Create lasting social and economic benefits in areas where NFG operates

This Policy supports NFG's obligations under Canadian law and aligns with the Mining Association of Canada's *Towards Sustainable Mining (TSM)* Indigenous and Community Relationships Protocol.

2 Scope

This Policy applies to all NFG activities, including:

- Mineral exploration
- Project development
- Environmental assessment and permitting
- Operations and closure
- Contractor and supplier activities

It applies to all:

- Indigenous Peoples
- Local communities
- Municipal and regional authorities
- Community organizations and stakeholders

3 Core CSR Pillars (Aligned to TSM Protocols)

NFG commits to conducting its activities in accordance with the following principles:

3.1 Respect for Indigenous Rights

NFG recognizes and respects the rights of Indigenous Peoples, including rights protected under the Constitution of Canada, treaties, and applicable legislation. Engagement will be carried out in a

manner that supports meaningful participation in decisions that may affect Indigenous lands, rights, and interests.

3.2 Meaningful and Early Engagement

Engagement will begin at the earliest stages of project planning and continue throughout the project lifecycle. NFG will provide timely, accessible, and culturally appropriate information to support informed dialogue.

3.3 Transparency and Accountability

NFG will communicate openly about its activities, potential impacts, and mitigation measures, and will respond to concerns in a timely and respectful manner.

3.4 Mutual Benefit

NFG seeks to create shared value by supporting local employment, procurement, training, and community investment opportunities.

3.5 Continuous Improvement

NFG will regularly review its engagement practices and incorporate feedback to improve performance over time.

4 Roles and Responsibilities

Role	Responsibility
VP Sustainability	Approves this Policy and oversees its implementation
CSR / Sustainability Manager	Reviews community and Indigenous performance. Leads engagement strategy and TSM conformance
Site Managers	Implement engagement plans at site level
Employee & Contractors	Conduct themselves in accordance with this Policy

5 Indigenous and Community Engagement

NFG will maintain a formal *Indigenous and Community Engagement Strategy* that:

- Identifies all affected and interested parties
- Defines appropriate engagement methods
- Establishes engagement schedules
- Documents issues, concerns, and responses
- Tracks commitments and outcomes

Engagement records will be maintained and reviewed regularly.

6 Grievance and Concern Management

NFG will maintain a formal grievance mechanism that allows Indigenous Peoples and community members to raise concerns related to NFG activities. Formal grievance procedure is outlined in the *Indigenous and Community Engagement Strategy*.

The grievance process will be:

- Accessible
- Transparent
- Fair
- Free of retaliation
- Culturally appropriate

All grievances will be recorded, investigated, and resolved in a timely manner.

7 Community Investment and Participation

NFG will support community development through:

- Local hiring and training
- Indigenous and local business procurement
- Sponsorships and donations
- Education and skills development
- Support for cultural and community initiatives

Community investments will be aligned with community priorities and managed through the NFG Foundation or equivalent program.

8 Monitoring, Reporting, and Continuous Improvement

NFG will track and report on:

- Engagement activities
- Issues and grievances
- Community investment
- Indigenous and local participation
- TSM performance indicators

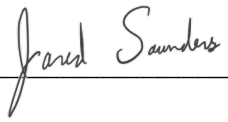
Performance will be reviewed annually and disclosed in sustainability and TSM reports.

9 Declaration

This Indigenous & Community Engagement Policy reflects New Found Gold's commitment to responsible and sustainable mineral exploration and development. The Company affirms that it will implement this policy in good faith and will allocate appropriate resources to support its execution.

All employees, contractors, and representatives of NFG are expected to adhere to the principles and requirements outlined herein.

This policy has been reviewed and approved by senior management and is endorsed at the executive level.

Signed:  Dated: April 2026

Position: VP Sustainability

Appendix 5.A Engagement Materials

NEWFOUNDGOLD

NOTICE

YOU ARE INVITED TO ATTEND A PUBLIC INFORMATION SESSION ON THE PROPOSED QUEENSWAY GOLD PROJECT

September 17, 6 PM - Appleton **Appleton Town Hall** **62 Bowater Drive, Appleton, NL**	**September 18, 6 PM - Gander** **Steele Community Centre, 2nd Floor** **153 Airport Blvd, Gander, NL**

This session is being hosted by New Found Gold Corp. as part of the environmental assessment process for the project. The purpose of the session is to:

- Share information about the proposed project and associated activities.
- Answer questions from community members.
- Provide an opportunity to share feedback or raise concerns.

Your input is an important part of this process, and we encourage everyone with an interest in the project to attend.

NEWFOUNDGOLD

SUBMIT QUESTIONS FOR DISCUSSION

Do you have specific questions for the New Found Gold team? Submit your questions through the online form so we can discuss this information during the session.

Question Submission

COMPLETE A LAND AND RESOURCE USE SURVEY

This survey helps us learn about the communities, and land and resource use activities that occur in and around the proposed Project Area. The survey does not record contact information and responses are anonymous. It is conducted by a third party consultant, therefore New Found Gold will not receive individual results. The survey should take 10 minutes or less and will remain until October 15, 2025.

LRU Survey

NEWFOUNDGOLD

NOTICE

YOU ARE INVITED TO ATTEND A PUBLIC INFORMATION SESSION ON THE PROPOSED QUEENSWAY GOLD PROJECT

January 21, 2026 at 7 PM
Appleton Town Hall
62 Bowater Drive, Appleton, NL

This session is being hosted by New Found Gold Corp. as part of the environmental assessment process for the project. The purpose of the session is to:

- Share information about the proposed project and associated activities.
- Answer questions from community members.
- Provide an opportunity to share feedback or raise concerns.

Your input is an important part of this process, and we encourage everyone with an interest in the project to attend.

NEWFOUNDGOLD

SUBMIT QUESTIONS FOR DISCUSSION

Do you have questions for the New Found Gold team? Scan the QR code to submit your questions, which will be answered in detail during the session. Any personal information collected in the form is for internal use only. All questions will be addressed anonymously.

NEWFOUNDGOLD

TSX-V: **NFG**
NYSE-A: **NFGC**

AN EMERGING CANADIAN GOLD PRODUCER

Key Stakeholder Meeting, Feb 2026

EMERGING CANADIAN **GOLD PRODUCER**

CREATION OF AN EMERGING CANADIAN GOLD PRODUCER IN A STRONG GOLD PRICE ENVIRONMENT

- Hammerdown: ramping up to full production in 2026
- Queensway Phase 1 production late 2027

PROXIMITY OF ASSETS > OPERATIONAL SYNERGIES

- Fully permitted infrastructure: Pine Cove Mill and Nugget Pond HGP
- Queensway PEA: secured offsite processing facilities for Phase 1

RE-RATE UNDERWAY

- Unlocking operational synergies
- Addition of near-term production and cash flow
- Increased scale and capital markets presence

1 See the New Found Gold news release dated Nov. 13, 2025

STRATEGIC COMBINATION

Nov. 13, 2025: New Found Gold Completes Acquisition of Maritime Resources Creating an Emerging Canadian Gold Producer[1]

ADDITION OF HAMMERDOWN, A HIGH-GRADE GOLD PRODUCER IN CENTRAL NEWFOUNDLAND

- First gold poured November 2025
- Ramp up to full production at Hammerdown in 2026

HAMMERDOWN CASH FLOW TO SUPPORT QUEENSWAY DEVELOPMENT

- Near-term expected cash flow from Hammerdown expected to fund a material portion of Queensway initial capex

CREATION OF AN EMERGING CANADIAN GOLD PRODUCER IN A RISING GOLD PRICE ENVIRONMENT

- Hammerdown: full production in 2026
- Queensway Phase 1 production targeted 2027

PROXIMITY OF ASSETS = OPERATIONAL SYNERGIES

- Maritime infrastructure: Pine Cove Mill and Nugget Pond HGP
- Queensway PEA: secures offsite processing facilities for Phase 1

SIGNIFICANT RE-RATE POTENTIAL

- Unlocking operational synergies
- Opportunity due to addition of near-term production/cash flow
- Increased scale and capital markets presence

1 See the New Found Gold news release dated Nov. 13, 2025

KEY ASSETS

QUEENSWAY
Advancing to Production

QUEENSWAY GOLD PROJECT

At surface deposit with high-grade core

Robust PEA with solid low-cost production profile, low initial capex & phased approach[1,2]:

- 1.5 Moz Au over a 15 year LOM
  US$1,256/oz Au AISC
- Phase I: high-grade 700 tpd open pit
  (offsite mill & tailings)
- Phase II: 7,000 tpd open pit
  (onsite mill & inpit tailings)
- Phase III: addition of UG mine
  (onsite mill & inpit tailings)

New high-grade discoveries / camp-scale potential

HAMMERDOWN
Production Ramp Up

HAMMERDOWN

Open-pit deposit commencing production in strong gold price environment

2022 Feasibility Study[2,3,4]:

- 50 koz annual production
  at a US$912/oz AISC
- P&P mineral reserves:
  1.9Mt @ 4.46 g/t Au (272k oz)

2025: First gold pour

2026: Production ramp up

PINE COVE
Fully Permitted Mill and Tailings

PINE COVE MILL

Fully permitted mill and tailings facility

1,300 tonnes per day nominal throughput

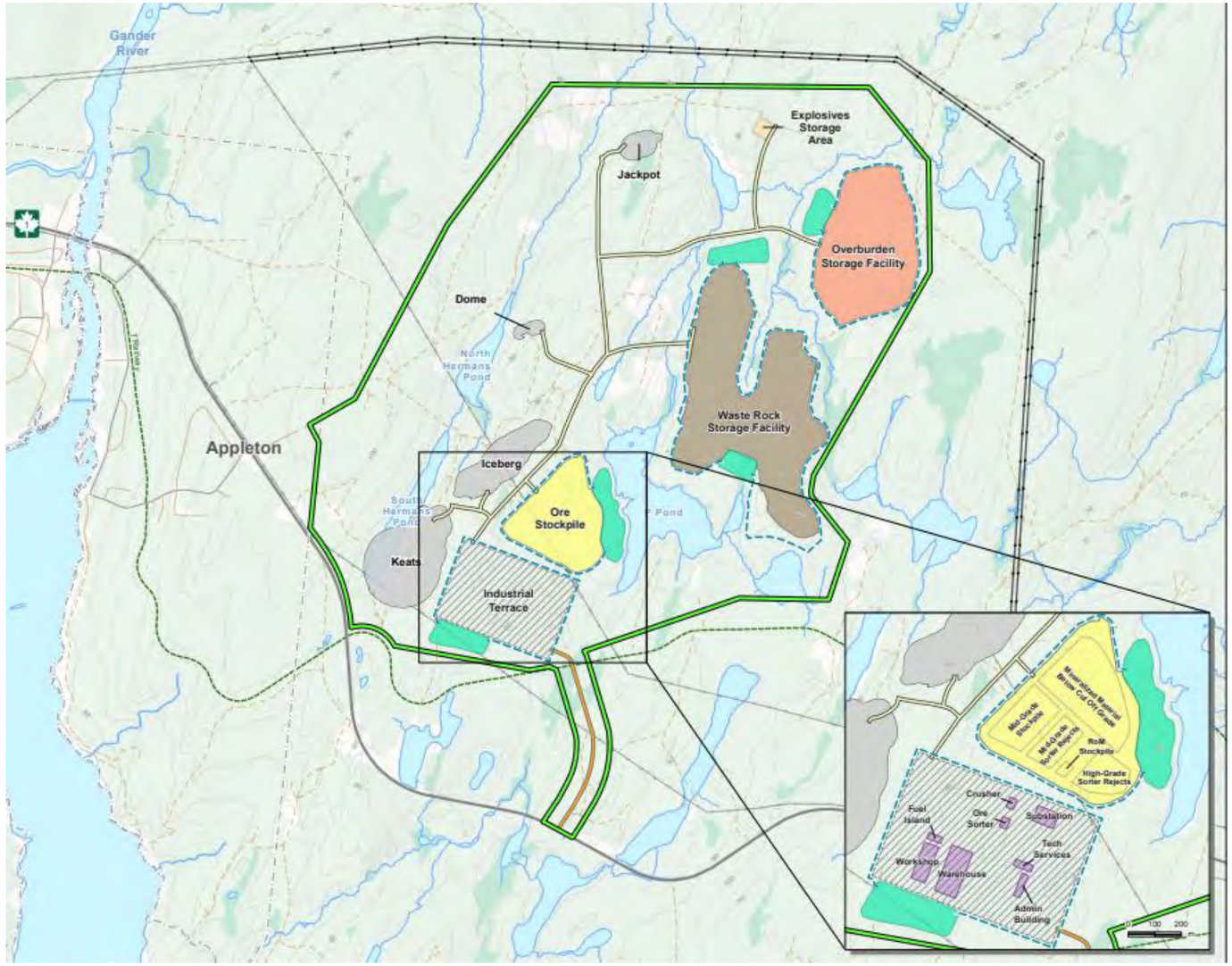
NUGGET POND HGP

700 tpd Hydrometallurgical gold plant (HGP) in 3rd party facility

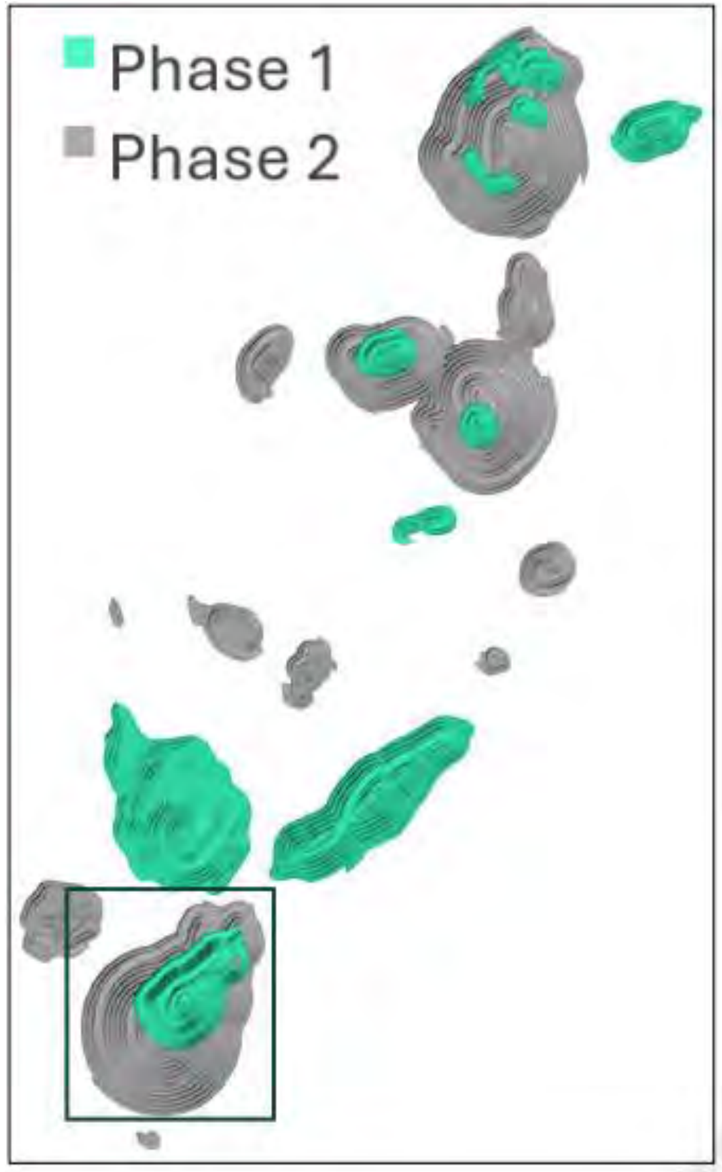
1 See New Found Gold's technical report titled "NI 43-101 Technical Report for the Queensway Gold Project, Newfoundland and Labrador, Canada", dated Sept. 2, 2025 prepared by SLR
2 See additional notes on non-GAAP measures and AISC in the Appendix
3 See Maritime's technical report titled "Hammerdown Feasibility Study Technical Report Hammerdown Gold Project" dated effective August 15, 2022, with a report date of October 6, 2022 prepared by JDS Energy & Mining Inc.
4 See additional information in the Appendix pertaining to Maritime's Mineral Reserve Estimate

SITE LAYOUT SUMMARY

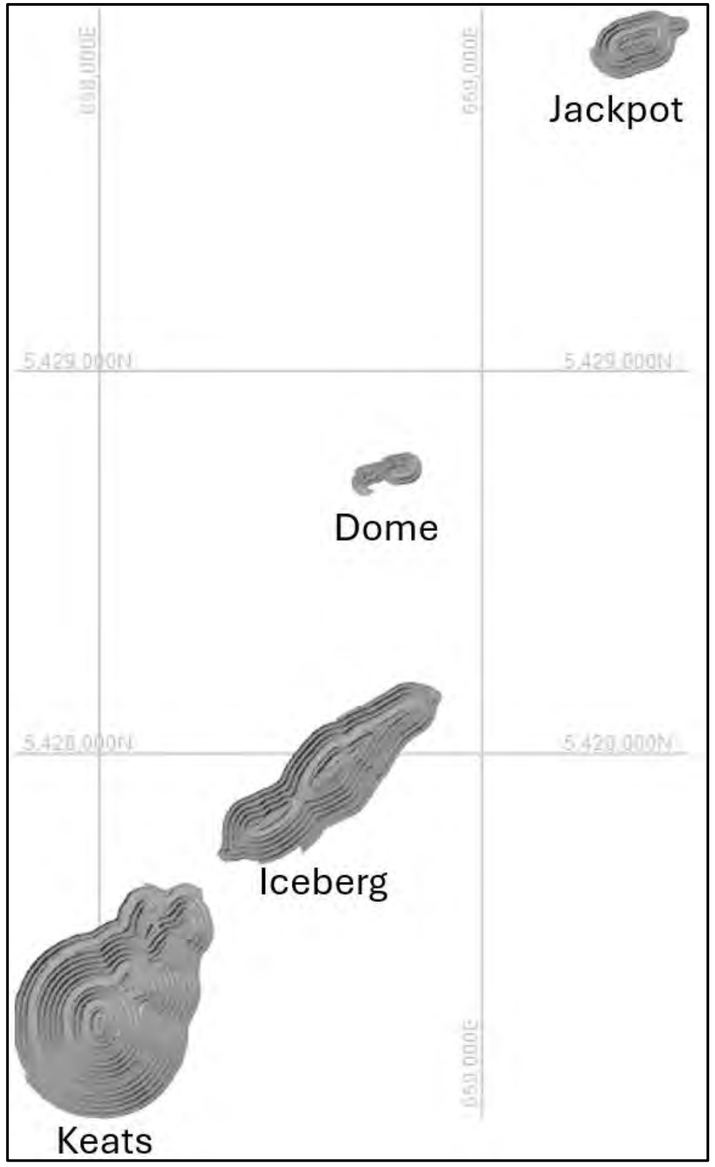
- 700 t/day mine
- Mine infrastructure located to east of pits
- Separate entrance away from Town of Appleton
- No Tailings on Site
- No mine waste within fish habitat
- Located outside of Watersheds flowing to Gander Lake and Joe Batt's Pond Cabin Area



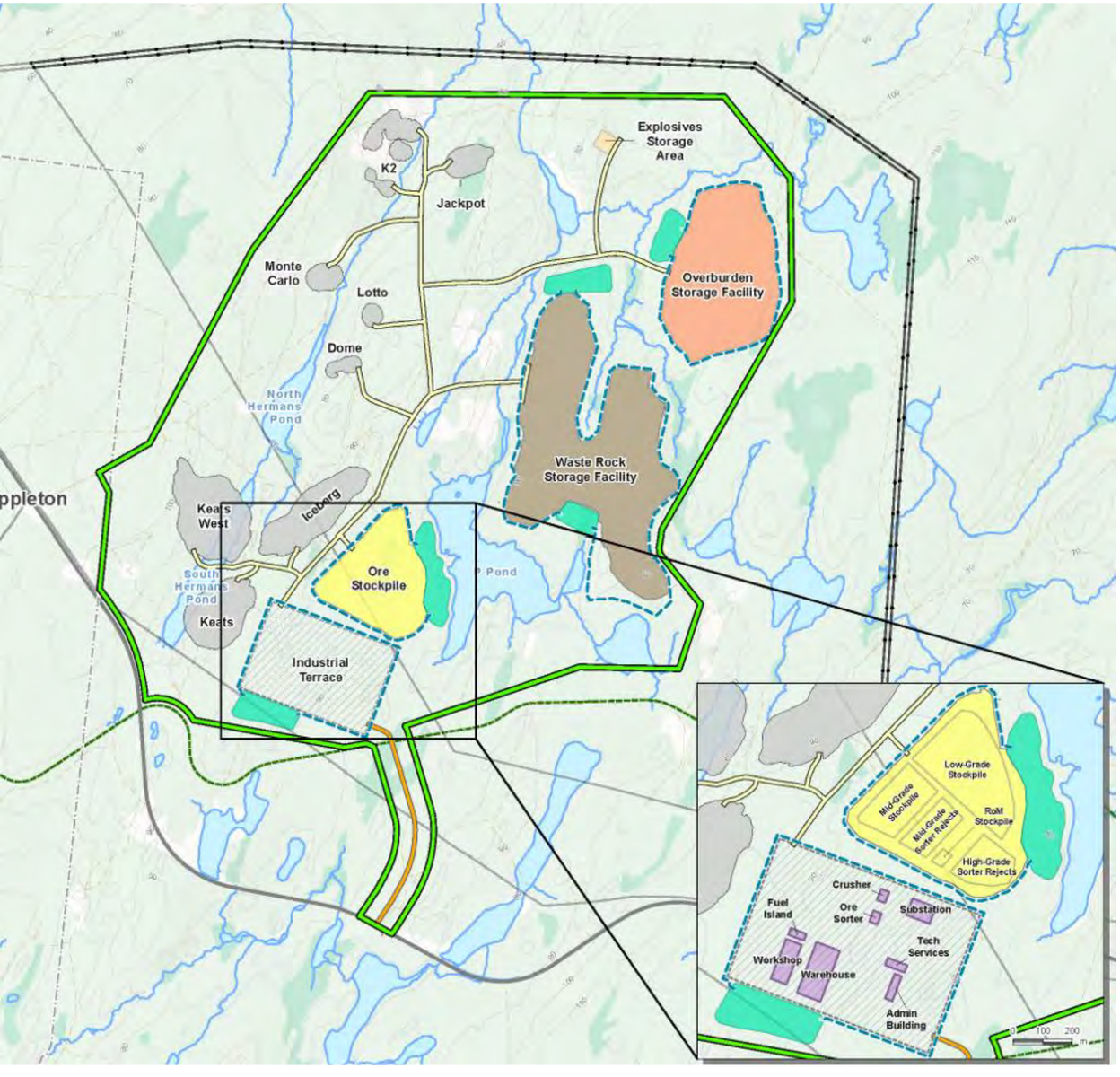
Initial Plan



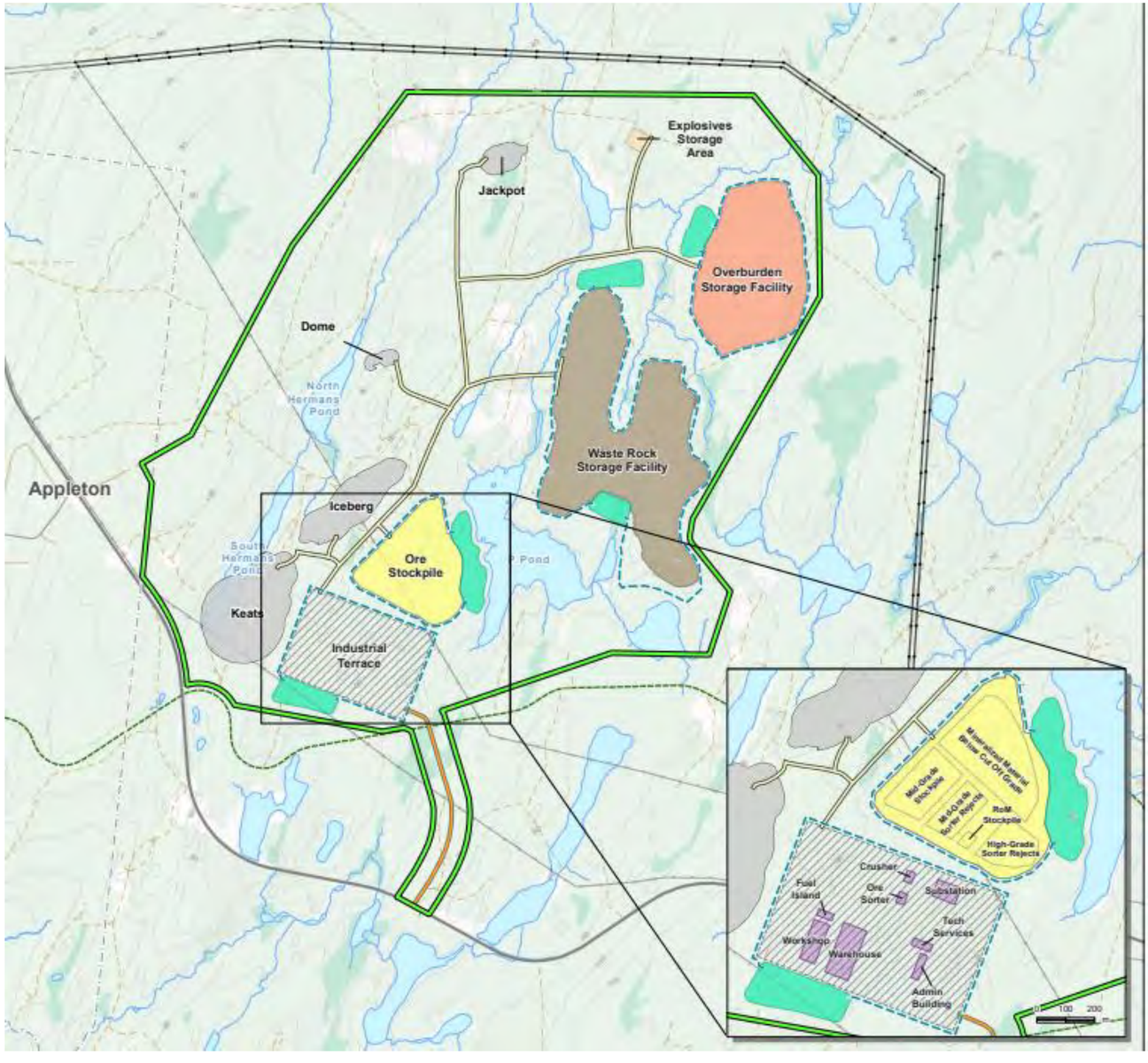
Current Plan - Project



Initial Plan



Current Plan - Project



EMPLOYMENT AT NEW FOUND GOLD

WE ARE PROUD TO BE OPERATING IN CENTRAL NEWFOUNDLAND

- We continually aim to partner with communities surrounding the Queensway project.

MOVING FROM EXPLORATION TO MINING WILL CREATE NEW JOB OPPORTUNITIES

- We believe the necessary workforce is located right here in the province, and we will continue to hire locally whenever possible.

WE STRIVE FOR LOCAL PROCUREMENT

- NFG and its contractors are always encouraged to source local labour, supplies, and service providers.

>200 direct jobs tied to the Queensway Project (as of December 2025)

Other indirect jobs and contracts have been created through local service companies

2025 EMPLOYEE **DEMOGRAPHICS**

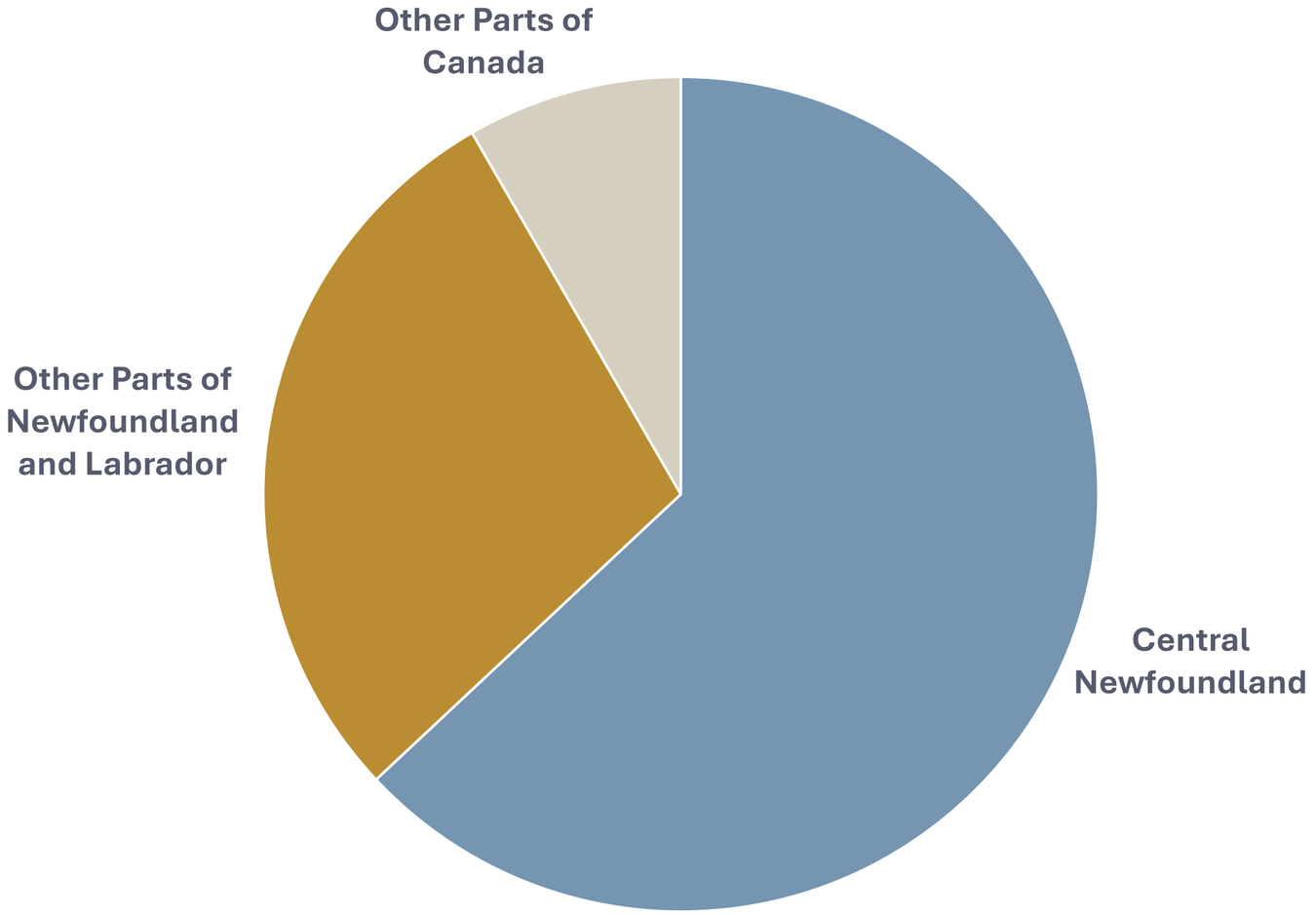
Employee Profiles as of December 31, 2025

Breakdown of All Employment at the Queensway Project

- Direct Employees – 99
- Contractors – 102
- Total Employment – 201

Regional Breakdown of All Employees Working at NFG Sites

- 61% from Central Newfoundland
- 88% from Newfoundland and Labrador



NEWFOUNDGOLD

TSX-V: **NFG**
NYSE-A: **NFGC**

AN EMERGING CANADIAN GOLD PRODUCER

Public Information Session, January 2026

DISCLAIMER

This presentation, and the information contained herein, has been provided to you by New Found Gold Corp. ("New Found Gold", "NFG", "NFGC" or the "Company") solely for information purposes.

While the information contained in this presentation is believed to be accurate, New Found Gold expressly disclaims any and all liability for any losses, claims or damages of whatsoever kind based upon the information contained in, or omissions from, this presentation or any oral communication transmitted in connection therewith. In addition, none of the statements contained in this presentation are intended to be, nor shall be deemed to be, representations or warranties of the Company. Where the information is from third-party sources, the information is from sources believed to be reliable, but the Company has not independently verified any of such information contained herein. This presentation is not, and under no circumstances is to be construed as, a prospectus, an offering memorandum, an advertisement or a public offering of securities. Under no circumstances should the information contained herein be considered an offer to sell or a solicitation of an offer to buy any securities.

Cautionary Note to United States Investors Regarding the Presentation of Mineral Resource Estimates.

As a British Columbia corporation and a "reporting issuer" under Canadian securities laws, we are required to provide disclosure regarding our mineral properties in accordance with Canadian National Instrument 43-101 –Standards of Disclosure for Mineral Projects ("NI 43-101"). NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosure a reporting issuer makes of scientific and technical information concerning mineral projects. In accordance with NI 43-101, we use the terms mineral reserves and mineral resources as they are defined in accordance with the 2014 CIM Definition Standards for Mineral Resources & Mineral Reserves (the "CIM Definition Standards") adopted by the Canadian Institute of Mining, Metallurgy and Petroleum. In particular, the terms "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" used in this presentation, are Canadian mining terms defined in accordance with CIM Definition Standards. These definitions differ from the definitions in the disclosure requirements promulgated by the U.S. Securities and Exchange Commission (the "SEC"). Accordingly, information contained in this presentation may not be comparable to similar information made public by U.S. companies reporting pursuant to SEC disclosure requirements.

United States investors are also cautioned that while the SEC will now recognize "measured mineral resources", "indicated mineral resources" and "inferred mineral resources", investors should not assume that any part or all of the mineralization in these categories will ever be converted into a higher category of mineral resources or into mineral reserves. Mineralization described using these terms has a greater amount of uncertainty as to their existence and feasibility than mineralization that has been characterized as mineral reserves. Accordingly, investors are cautioned not to assume that any "measured mineral resources", "indicated mineral resources", or "inferred mineral resources" that we report are or will be economically or legally mineable. Further, "inferred resources" have a greater amount of uncertainty as to their existence and as to whether they can be mined legally or economically. Therefore, United States investors are also cautioned not to assume that all or any part of the inferred resources exist. In accordance with Canadian rules, estimates of "inferred mineral resources" cannot form the basis of feasibility or other economic studies, except in limited circumstances where permitted under NI 43-101.

Cautionary Note Regarding Forward Looking Information

This presentation contains certain forward-looking statements within the meaning of Canadian securities legislation (the "Forward-looking Statements"), including with respect to the Company's plans, including the plans for the Company's Queensway Project in Newfoundland (the "Queensway Project"); relating to completion of the combination of the Company and Maritime Resources Corp. (the "Transaction") by way of plan of arrangement (the "Arrangement") and the anticipated timing thereof; assessments of and expectations for the combined entity after completion of the Arrangement; pro forma ownership of the combined entity; the anticipated premium and benefits for Maritime Resources Corp. ("Maritime") shareholders; assessments of and expectations for Hammerdown; assessments of and expectations for Queensway; expectations regarding the existing infrastructure of Maritime; expectations regarding the significant re-evaluation potential; results of the feasibility study for Hammerdown and the interpretation of such results; future plans for Hammerdown and Pine Cove and the timing thereof; results of the Queensway preliminary economic assessment ("PEA") and interpretation of such results; the satisfaction of closing conditions for the Transaction, including receipt of regulatory approvals; and the composition of the New Found Gold board following completion of the Arrangement. Although the Company believes that such statements are reasonable, it can give no assurance that such expectations will prove to be correct. Forward-looking statements are not historical facts; they are generally, but not always, identified by the words "expects," "plans," "anticipates," "believes," "intends," "estimates," "indicates," "projects," "aims," "potential," "goal," "objective," "prospective," and similar expressions, or that events or conditions "will," "would," "may," "can," "could" or "should" occur, or are those statements, which, by their nature, refer to future events. The Company cautions that these Forward-looking Statements are based on the beliefs, estimates and opinions of the Company's management on the date the statements are made and they involve a number of risks and uncertainties. Consequently, there can be no assurances that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements.

Factors that could cause future results to differ materially from those anticipated in these Forward-looking Statements include risks associated with the failure of the companies to satisfy the requisite conditions to complete the Transaction, the possibility that the arrangement agreement may be terminated by one or both of the companies; the effect of the announcement of the Transaction on each of the companies' strategic relationships, operating results and business generally; significant transaction costs or unknown liabilities; the risk of litigation that could prevent or hinder the completion of the Transaction; other customary risks associated with transactions of this nature; possible accidents and other risks associated with mineral exploration operations; the risk that the Company will encounter unanticipated geological factors; risks related to the results and timing of other studies; risks related to the interpretation of assay results and the results of the drilling and exploration programs; the possibility that the Company may not be able to secure permitting and other governmental clearances necessary to carry out the Company's exploration and other plans; the risk that the Company will not be able to raise sufficient funds to carry out its plans; and the risk of political uncertainties and regulatory or legal changes that might interfere with the Company's business and prospects. The reader is urged to refer to the Company's Annual Information Form and Management's Discussion and Analysis, publicly available through the Canadian Securities Administrators' System for Electronic Document Analysis and Retrieval (SEDAR+) at www.sedarplus.ca for a more complete discussion of such risk factors and their potential effects. Except to the extent required by applicable securities laws and the policies of the TSX Venture Exchange, the Company undertakes no obligation to update these Forward-looking Statements if management's beliefs, estimates or opinions, or other factors, should change. New factors emerge from time to time, and it is not possible for the Company to predict all of them or assess the impact of each such factor or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any Forward-looking Statement. Any Forward-looking Statements contained in this presentation are expressly qualified in their entirety by this cautionary statement.

Compliance with NI 43-101

Unless otherwise indicated, New Found Gold has prepared the scientific and technical information in this presentation ("Technical Information") based on information contained in the news releases and Technical Report (collectively the "Disclosure Documents") available under New Found Gold's-profile on SEDAR+ at www.sedarplus.ca. Each Disclosure Document was prepared by or under the supervision of a qualified person (a "Qualified Person") as defined in NI 43-101. Readers are encouraged to review the full text of the Disclosure Documents which qualifies the Technical Information. Readers are advised that mineral resources that are not mineral reserves do not have demonstrated economic viability. The Disclosure Documents are each intended to be read as a whole, and sections should not be read or relied upon out of context. The Technical Information is subject to the assumptions and qualifications contained in the Disclosure Documents.

Disclosure Documents include the news release titled "NI 43-101 Technical Report for the Queensway Gold Project, Newfoundland and Labrador, Canada", dated Sept. 2, 2025; the news release titled "*New Found Reports Positive Phase 1 Metallurgical Test Results Demonstrating 90% to 96% Gold Extraction at Queensway*", dated April 3, 2024; the news release entitled "*New Found Reports Positive Phase II Metallurgical Test Results Demonstrating 97% Gold Extraction at Iceberg and Iceberg East*", dated November 1, 2024; and the technical report titled "*43-101 Technical Report for the Queensway Gold Project, Newfoundland and Labrador, Canada*", dated April 15, 2025, as amended and restated on May 20, 2025, with an effective date of March 18, 2025, prepared by Pierre Landry, P.Geo., Lance Engelbrecht, P.Eng., and David M. Robson, P.Eng., of SLR Consulting (Canada) Ltd., in conjunction with Sheldon H. Smith, P.Geo. of Stantec Consulting, each independent qualified persons under NI 43-101 (the "Technical Report").

Melissa Render, P.Geo., President of New Found Gold, and a Qualified Person pursuant to NI 43-101, has reviewed and approved the scientific and technical information contained in this presentation relating to the Queensway Gold Project. Ms. Render has verified the data disclosed herein, including sampling, analytical and test data underlying the technical information contained herein.

Keith Boyle, P.Eng., CEO of New Found Gold, and a Qualified Person pursuant to NI 43-101, has reviewed and approved the scientific and technical information contained in this presentation relating to the Maritime Division. Mr. Boyle has verified the data disclosed herein, including sampling, analytical and test data underlying the technical information contained herein.

The disclosure regarding the Hammerdown Proven and Probable mineral reserves contained in this presentation is supported by Maritime's technical report titled "Feasibility Study Technical Report Hammerdown Gold Project" dated effective August 15, 2022, with a report date of October 6, 2022 prepared by JDS Energy & Mining Inc. (the "**Hammerdown Technical Report**").

SECTION 1

YOUR QUESTIONS

TOPICS SUBMITTED FOR DISCUSSION

- Why are areas around the project site closed during hunting season?
- How will the Town of Appleton benefit from the Project in the long-term?
- How will mining operations (ex: blasting) impact daily life?
- What will happen to our property value?
- Is any exploration or developments planned for south of Gander Lake?
- What is the plan for processing and transporting ore from the Queensway site?
- Are there any plans for further development at Queensway?

SECTION 2

COMPANY PROFILE

EMERGING CANADIAN **GOLD PRODUCER**

CREATION OF AN EMERGING CANADIAN GOLD PRODUCER IN A STRONG GOLD PRICE ENVIRONMENT

- Hammerdown: ramping up to full production in 2026
- Queensway Phase 1 production late 2027

PROXIMITY OF ASSETS > OPERATIONAL SYNERGIES

- Fully permitted infrastructure: Pine Cove Mill and Nugget Pond HGP
- Queensway PEA: secured offsite processing facilities for Phase 1

RE-RATE UNDERWAY

- Unlocking operational synergies
- Addition of near-term production and cash flow
- Increased scale and capital markets presence

1 See the New Found Gold news release dated Nov. 13, 2025

KEY ASSETS

QUEENSWAY
Advancing to Production

QUEENSWAY GOLD PROJECT

At surface deposit with high-grade core

Robust PEA with solid low-cost production profile, low initial capex & phased approach[1,2]:

- 1.5 Moz Au over a 15 year LOM
  US$1,256/oz Au AISC
- Phase I: high-grade 700 tpd open pit
  (offsite mill & tailings)
- Phase II: 7,000 tpd open pit
  (onsite mill & inpit tailings)
- Phase III: addition of UG mine
  (onsite mill & inpit tailings)

New high-grade discoveries / camp-scale potential

HAMMERDOWN
Production Ramp Up

HAMMERDOWN

Open-pit deposit commencing production in strong gold price environment

2022 Feasibility Study[2,3,4]:

- 50 koz annual production
  at a US$912/oz AISC
- P&P mineral reserves:
  1.9Mt @ 4.46 g/t Au (272k oz)

2025: First gold pour

2026: Production ramp up

PINE COVE
Fully Permitted Mill and Tailings

PINE COVE MILL

Fully permitted mill and tailings facility

1,300 tonnes per day nominal throughput

NUGGET POND HGP

700 tpd Hydrometallurgical gold plant (HGP) in 3rd party facility

1 See New Found Gold's technical report titled "NI 43-101 Technical Report for the Queensway Gold Project, Newfoundland and Labrador, Canada", dated Sept. 2, 2025 prepared by SLR
2 See additional notes on non-GAAP measures and AISC in the Appendix
3 See Maritime's technical report titled "Hammerdown Feasibility Study Technical Report Hammerdown Gold Project" dated effective August 15, 2022, with a report date of October 6, 2022 prepared by JDS Energy & Mining Inc.
4 See additional information in the Appendix pertaining to Maritime's Mineral Reserve Estimate

SECTION 3

OUR EMPLOYEES

EMPLOYMENT AT NEW FOUND GOLD

WE ARE PROUD TO BE OPERATING IN CENTRAL NEWFOUNDLAND

- We continually aim to partner with communities surrounding the Queensway project.

MOVING FROM EXPLORATION TO MINING WILL CREATE NEW JOB OPPORTUNITIES

- We believe the necessary workforce is located right here in the province, and we will continue to hire locally whenever possible.

WE STRIVE FOR LOCAL PROCUREMENT

- NFG and its contractors are always encouraged to source local labour, supplies, and service providers.

>200 direct jobs tied to the Queensway Project (as of December 2025)

Other indirect jobs and contracts have been created through local service companies

2025 EMPLOYEE **DEMOGRAPHICS**

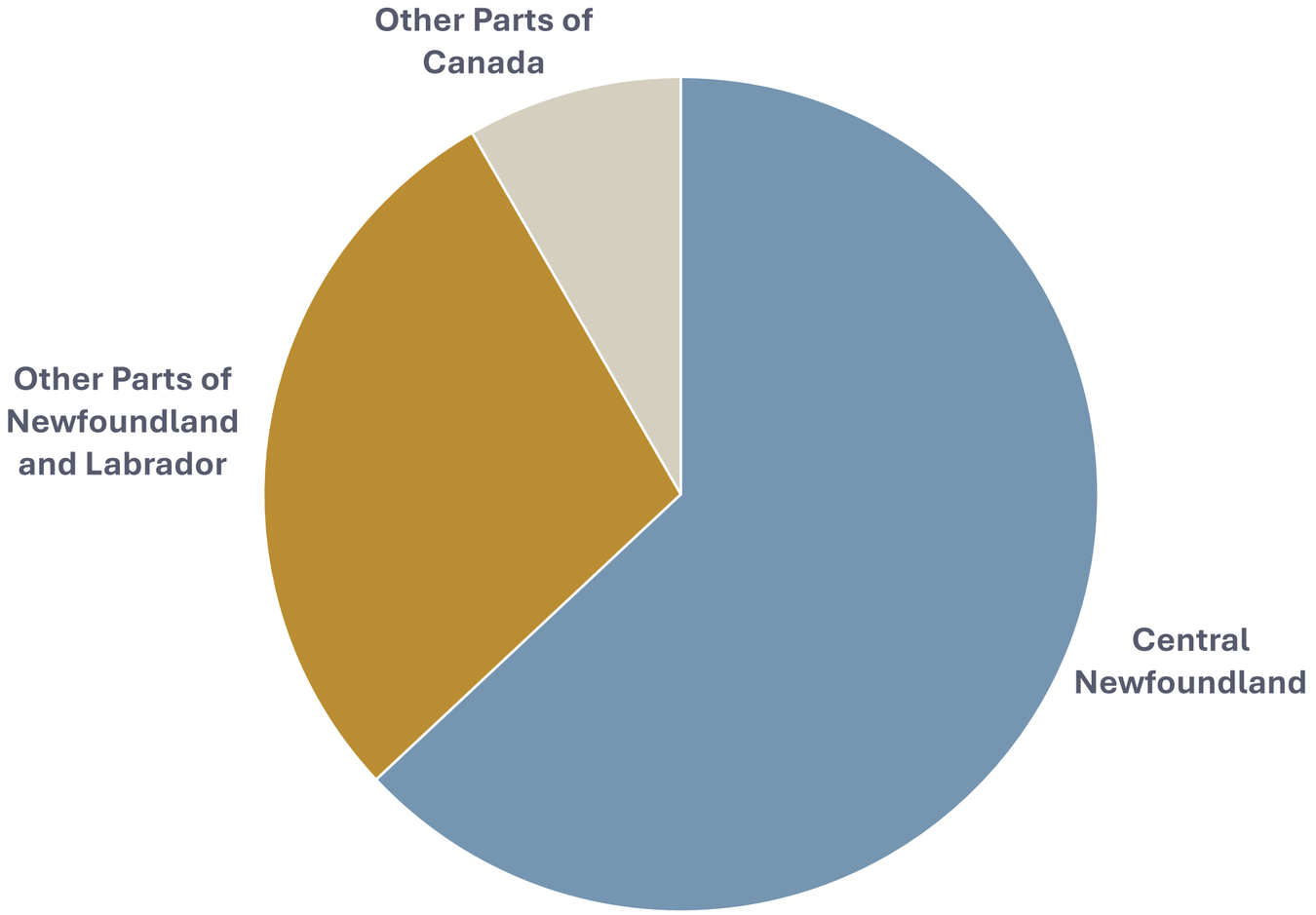
Employee Profiles as of December 31, 2025

Breakdown of All Employment at the Queensway Project

- Direct Employees – 99
- Contractors – 102
- Total Employment – 201

Regional Breakdown of All Employees Working at NFG Sites

- 61% from Central Newfoundland
- 88% from Newfoundland and Labrador



SECTION 4

ENVIRONMENTAL PROTECTION

ENVIRONMENTAL PROTECTION

PREVENTION IS THE BEST MEANS TO REDUCE ENVIRONMENTAL IMPACT

ONGOING ENVIRONMENTAL MONITORING ACTIVITIES

- Pre-work environmental assessments
- Daily environmental inspections
- Dedicated environmental team

PROGRESSIVE REHABILITATION AND RECLAMATION

- Reclaiming of sumps
- Tree planting program (silviculture) -
- Seeding program (local grasses)

WATER QUALITY MONITORING

- Near real-time water quality monitoring
- Surface water monitoring both upstream and downstream of all NFG site activities

STRINGENT REGULATORY REQUIREMENTS

ONGOING WATER MONITORING PROGRAM

PUBLIC WATER QUALITY MONITORING

- Near real-time water quality monitoring measures the following parameters:
  - Temperature
  - pH
  - Specific conductance
  - Dissolved oxygen
  - Turbidity
- Unfiltered data
- Stations may be removed by the government during the winter months

MONITORING STATION

SECTION 5

EXPLORATION UPDATE

EXPLORATION AND DRILLING PROGRAMS

Diamond Drilling

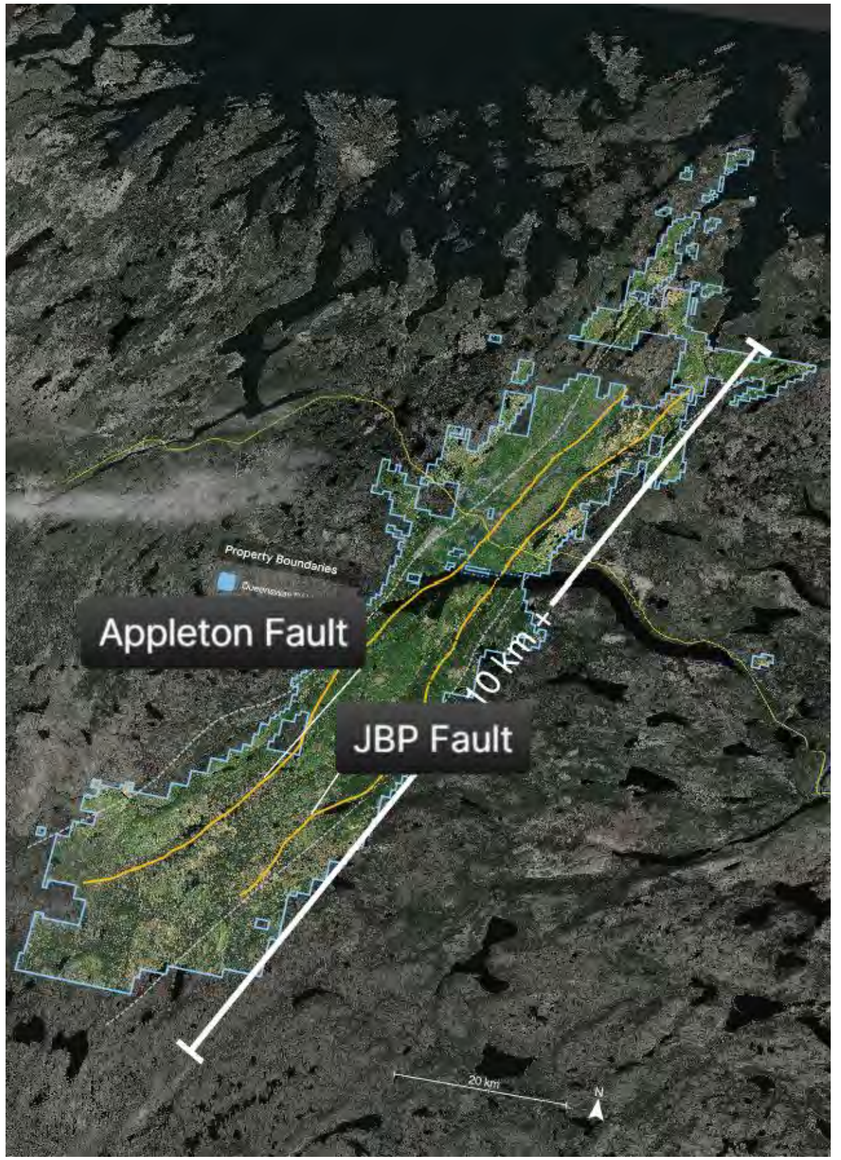
- Provides the highest level of confidence by allowing mineralization to be traced at depth and along structure.
- Diamond drilling is planned on priority targets across the Queensway Project, including North Dog Bay Line, Paul's Pond, and Greenwood.

Fly Drilling

- Used to test targets in environmentally sensitive or difficult to access areas. Allows early-stage drilling with minimal surface disturbance.
- Fly drilling is planned within South of Gander Lake and select underexplored areas across Queensway South.

Trenching

- Used to follow up on prospective areas identified through soil sampling and surface mapping.
- Trenching is planned along priority targets on the North Dog Bay Line.



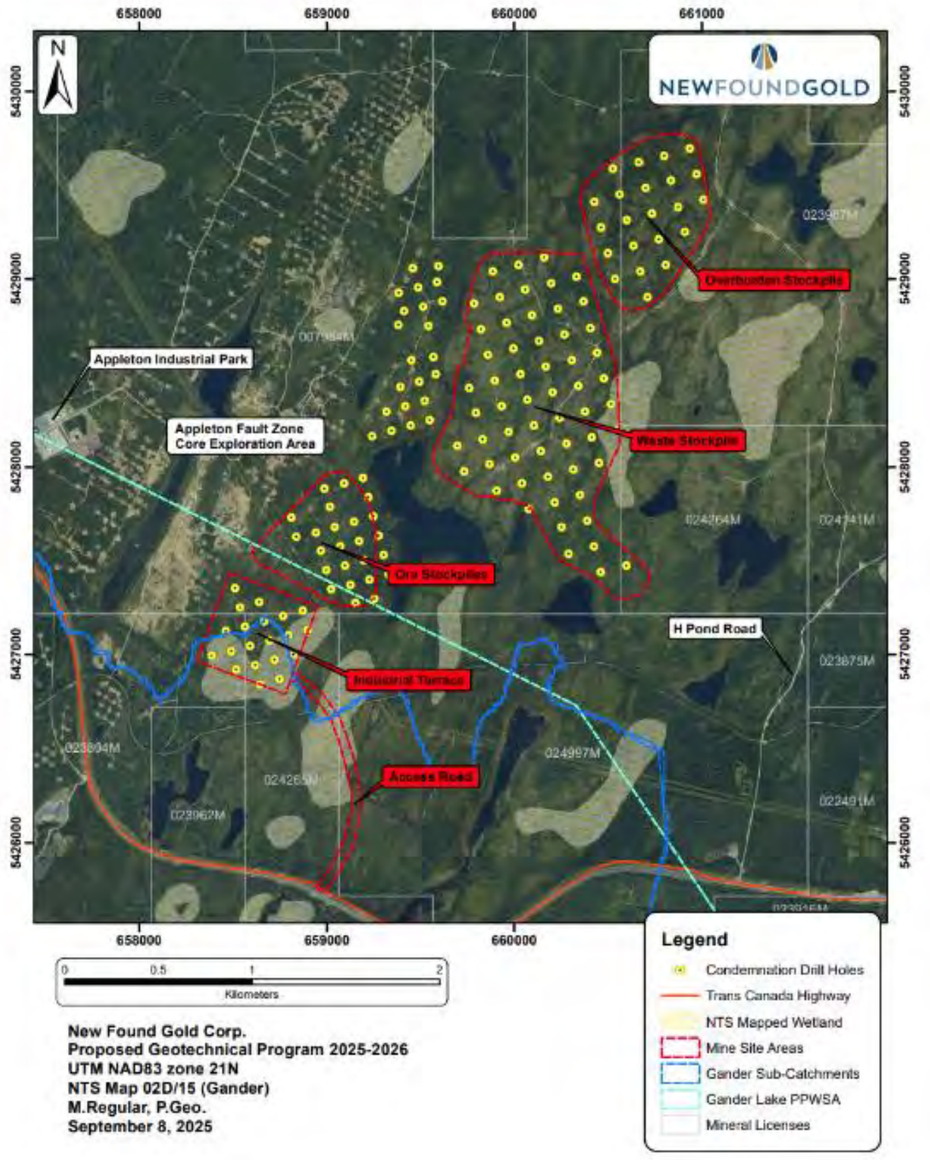
INFRASTRUCTURE DRILLING

Condemnation Drilling:

- Critical step in responsible mine development
- Used to confirm that proposed infrastructure sites are free of valuable mineralization
- Conducted so mining facilities do not inadvertently cover or destroy potential resources

Geotechnical Drilling:

- Critical step in building infrastructure
- Used to determine soil, rock, and subsurface layers
  - Looking at strength, density and composition of the material

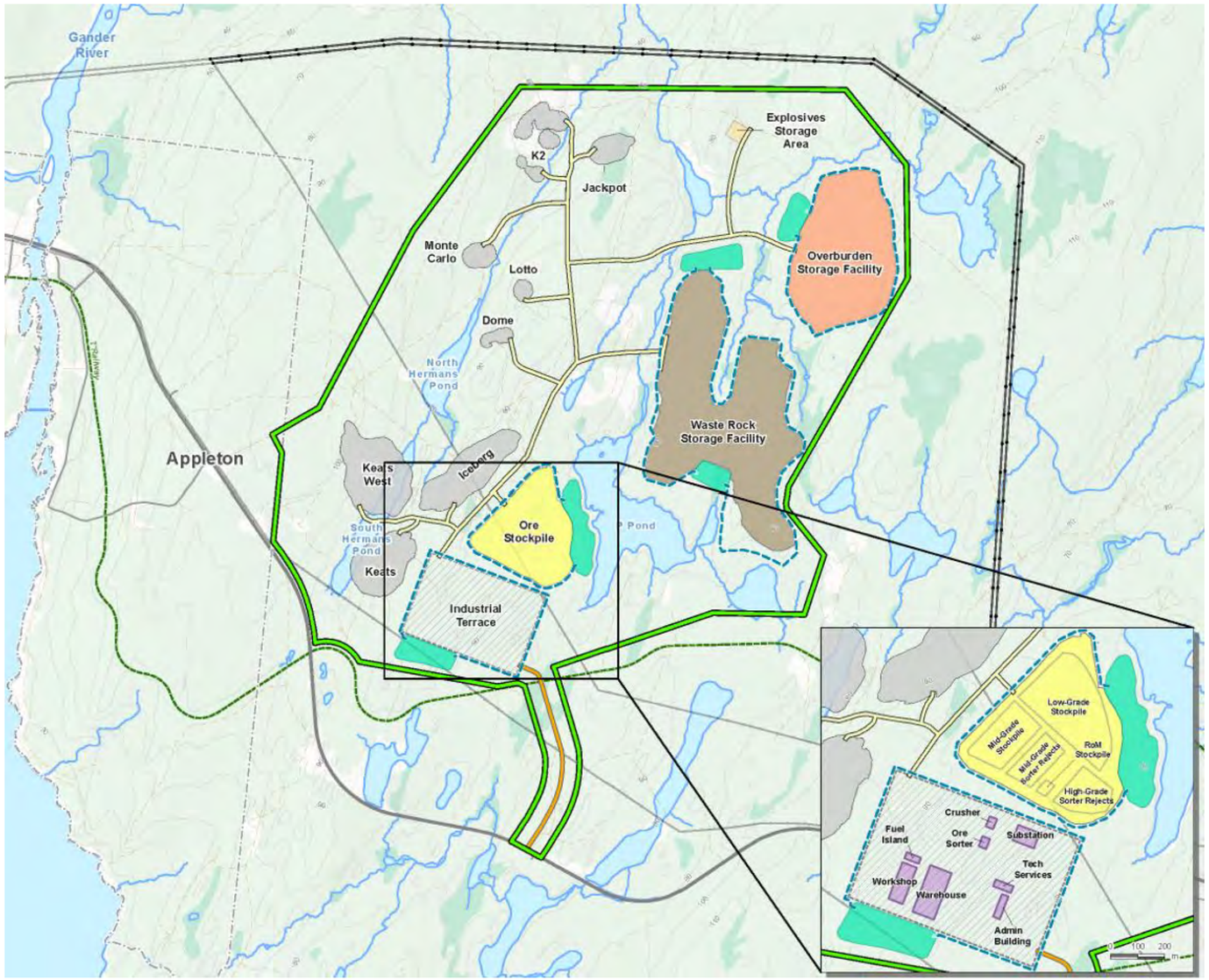


SECTION 6

NEXT STEPS TOWARDS DEVELOPMENT

SITE LAYOUT SUMMARY

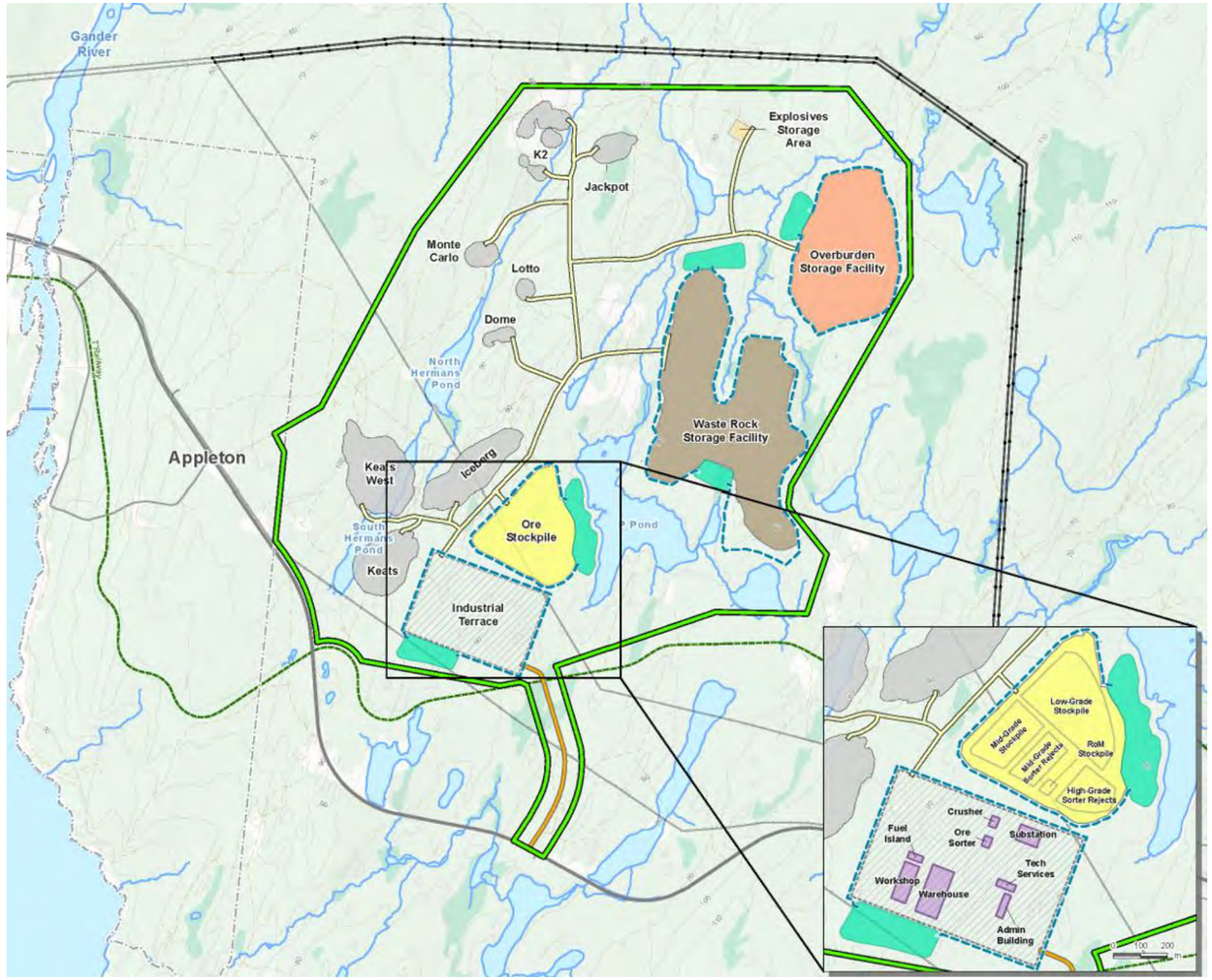
- 700 t/day mine
- Mine infrastructure located to east of pits
- Separate entrance away from Town of Appleton
- No Tailings on Site
- No mine waste within fish habitat
- Located outside of Watersheds flowing to Gander Lake and Joe Batt's Pond Cabin Area



PHASE I DEVELOPMENT

The Project includes 700 t/day mine with the following physical components:

- Open pits and associated infrastructure
- Organics and overburden storage facility
- Waste rock storage facility
- Ore stockpile
- Crushing and sorting plant
- Roads (new highway access point, haul roads, site roads)
- Buildings and supporting infrastructure
- Water management infrastructure



ORE PROCESSING AND TRANSPORT

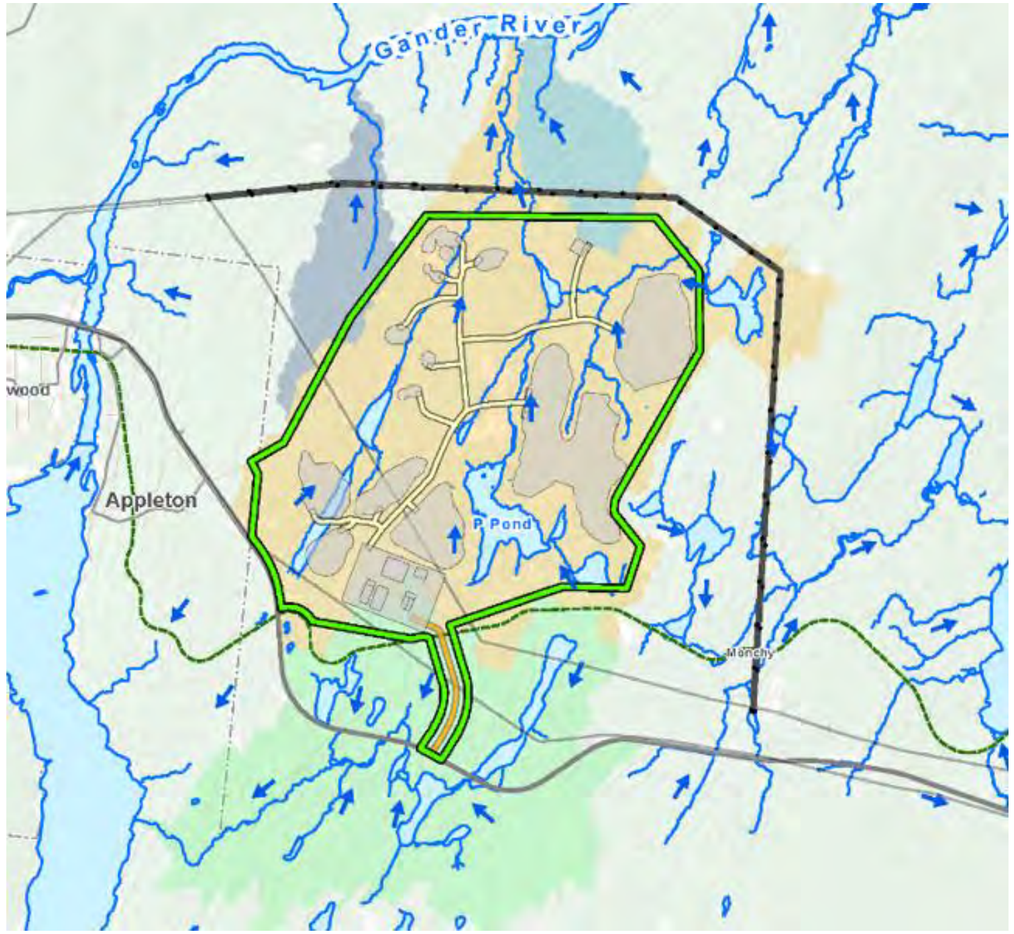
Phase 1 Operations:

- Material from the mine will be transported to a two-stage crushing plant
- Ore crushing and sorting to take place at Queensway
- Once ore has been sorted, high-grade ore will be transported via the TCH and Route 410 to an offsite processing facility

WATER MANAGEMENT

Queensway Water Management:

- Primary mine infrastructure is located within a single sub-watershed
- This sub-watershed does not flow towards Gander Lake or Joe Batt's Pond area
- Queensway water management plan is designed to satisfy stringent guidelines from Environment Canada and industry best-practices in the province



PRELIMINARY PROJECT SCHEDULE

Phase	2025		2026				2027				2028			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Public, Stakeholder and Regulatory Engagement	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Assessment and Permitting	■	■	■	■	■	■								
Detail Design	■	■	■	■	■	■								
Early Works						■	■							
Construction							■	■						
Operation*									■	■	■	■	■	■
*Operation will extend for 10 years, until 2037														

Scheduling Notes

- NFG will initiate early works and construction activities upon receipt of required permits. Possible start in late 2026, with most construction activities likely to begin early in 2027.
- The timing of early works is contingent upon the Project receiving release from the EA process.
- Construction of the Project is expected to occur over a period of 6-12 months.

SECTION 7

COMMUNITY ENGAGEMENT

SOCIAL LICENSE TO OPERATE

New Found Gold is committed to responsible exploration and development, **strong community partnerships,** and ongoing engagement of key stakeholders

Environmental Monitoring

Ongoing baseline studies include surface water and sediment sampling, vegetation, wetlands, bird, wildlife, and aquatic assessments.

Local-First Hiring

Local-first hiring and procurement strategy to build the local skills base. Over 85% of our employees and contractors call Newfoundland and Labrador home.

Open House – Town of Appleton

Active in the Community

Financial support to charities, educational institutions, and community social events to concentrate economic spinoffs locally.

Stakeholder Engagement

Continuing positive engagement with stakeholders, regulators, and our local communities.

Earth Day Community Cleanup

COMMUNITY PARTNERSHIPS

MOVING TOWARD COMMUNITY-MINDED SPONSORSHIPS

- New Found Gold has recently implemented a new sponsorship strategy.
- Types of sponsorships include:
  - ➢community development projects
  - ➢youth and education initiatives
  - ➢environmental stewardship causes
  - ➢health and wellness programs
  - ➢economic stimulus projects

RECENT SUPPORT

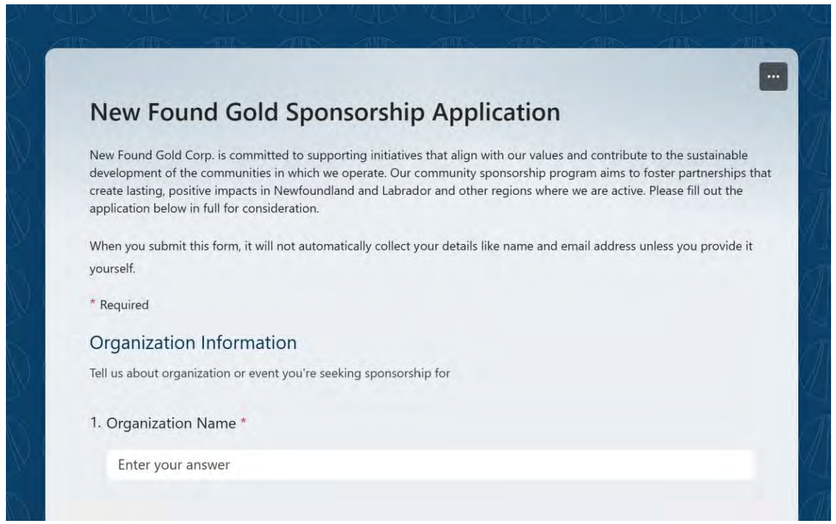
- Town of Appleton Sheppard's Trail Upgrades
- Town of Appleton Senior's Christmas Dinner
- Lakewood Academy
- Gander and Area Food Bank
- Glenwood Fire Department
- Kikmanaq Indigenous Cultural Revival Association (Qalipu First Nation)

Mushroom Identification Event Kikmanaq Indigenous Cultural Revival Association

Gander and Area Food Bank

COMMUNITY INVESTMENT & SPONSORSHIPS

- New formal sponsorship policy and application process as of 2026
- Requests will be collected and reviewed on a monthly basis, with approvals based on the community sponsorship criteria
- New dedicated email – community@newfoundgold.ca



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Community Sponsorship Criteria & Application Process

Overview
New Found Gold is dedicated to supporting initiatives that reflect our Purpose and Values, while also advancing the sustainable development of the communities where we conduct our operations. Our community sponsorship program aims to foster partnerships that create lasting, positive impacts in Newfoundland and Labrador, with a focus on Central Newfoundland.

New Found Gold Purpose and Values
Generating prosperity through exploration and mining.

Our Values:

- Leadership: Leaders with integrity, accountability, and transparency; a company of leaders, not managers.
- Safety: Work and care for each other; keep each other safe and ensures we go home safe EVERYDAY.
- Sustainability: Development focused on sustainability; we continuously strive for improvement.
- Community: We are a contributing community member; building trust and being a good neighbour.
- Courage: Courage to make the right decisions, even when they are difficult.

Strategic Focus on Community Impact
New Found Gold is evolving its community investment approach to focus on initiatives that create meaningful, lasting impacts. Rather than providing one-time or event-specific donations, our goal is to support programs and partnerships that deliver measurable benefits and strengthen communities over time.

We prioritize sponsorships that:

- Align with our purpose and values;
- Address identified community needs; and
- Demonstrate potential for long-term, positive outcomes rather than short-term or one-off contributions.

SECTION 8

SUMMARY

SUMMARY

- **Rapid Change from Exploration-only towards Development**
  - ✓ Integrate Maritime resources acquisition
- **Maritime - Hammerdown and Pine Cove Facilities**
  - ✓ Hammerdown ramp-up in 2026
  - ✓ Pine Cove already operating and producing
- **Queensway**
  - ✓ Queensway Permitting and Regulatory Approvals
  - ✓ Start early earthworks as soon as permitting allows
  - ✓ First production planned for 2027
  - ✓ Continue to explore
- **Continue to become a contributing neighbour in the community**

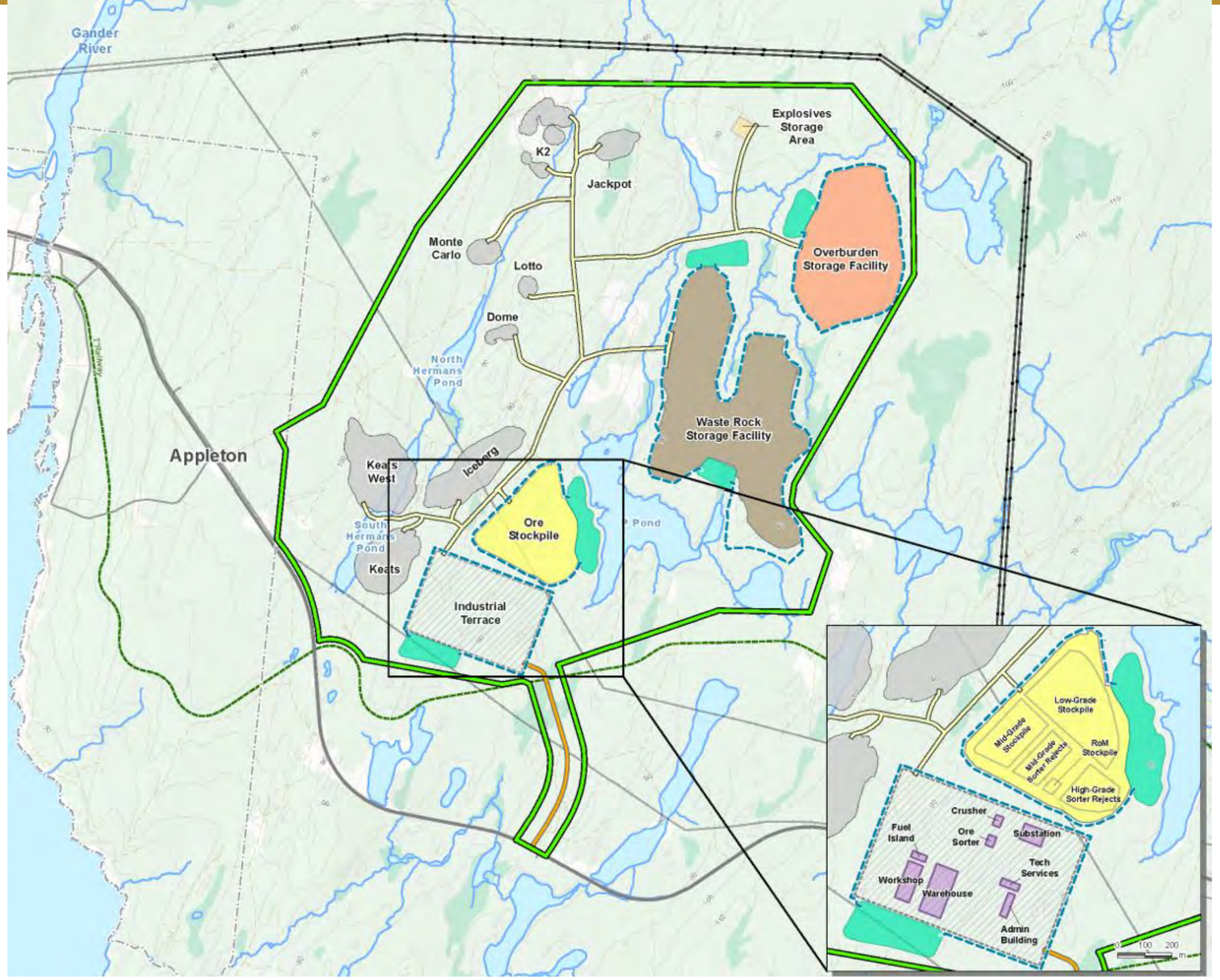
THANK YOU
Questions?

- **Why are areas around the project site closed during hunting season?**
- **How will the Town of Appleton benefit from the Project in the long-term?**
- **How will mining operations (ex: blasting) impact daily life?**
- **What will happen to our property value?**
- **Is any exploration or developments planned for south of Gander Lake?**
- **What is the plan for processing and transporting ore from the Queensway site?**
- **Are there any plans for further development at Queensway?**

Thank you for attending this public information session! We want to hear for you - anything you wish to share about NFG's exploration and development activities, the community or the region.

Please fill out the form or submit online using this to be entered in a prize draw. Winners of the prize draw will be contacted using the information provided.

Online forms must be filled out before 11:59 PM on Friday, January 23, 2026.


Gander River
Explosives Storage Area
K2
Jackpot
Monte Carlo
Lotto
Dome
Overburden Storage Facility
North Hermans Pond
Waste Rock Storage Facility
Appleton
Keats West
Iceberg
Ore Stockpile
South Hermans Pond
Keats
Industrial Terrace
Low-Grade Stockpile
Mid-Grade Stockpile
Mid-Grade Sorter Rejects
RoM Stockpile
High-Grade Sorter Rejects
Crusher
Fuel Island
Ore Sorter
Substation
Tech Services
Workshop
Warehouse
Admin Building
0
100
200
m

NEW FOUND GOLD

PRIZE BALLOT

Name: _____

Phone: _____

Email: _____

Thank you for coming to the New Found Gold Corp. public information session. We want to hear for you - anything you wish to share about NFG's exploration and development activities, the community or the region. Please fill out the form below to be entered in a prize draw. Winners of the prize draw will be contacted using the information provided in the form below.

Comments/Feedback:

Comments and prize entries can be submitted online using this QR code. Form must be filled out before 11:59 PM on Friday, January 23, 2026.

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NEW FOUND GOLD

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Appendix 5.B Letters of Support

TOWN OF
APPLETON

Site 4 Box 31, Appleton NL A0G 2K0
Tel: 709-679-2289 | Fax: 709-679-5552
townmanagerpat@townofappleton.com

To Whom It May Concern:

RE: Letter of Support – Newfound Gold Corp. Queensway Project

On behalf of the Town Council of Appleton, I am pleased to provide this letter of support for Newfound Gold Corp. and the continued development of the Queensway Project located inside and adjacent to the Town of Appleton Central Newfoundland and Labrador.

The Town of Appleton recognizes the importance of responsible resource development and the role it plays in supporting regional economic growth. Projects such as Queensway present meaningful opportunities through employment, procurement, and increased economic activity that benefit not only nearby municipalities but the broader region as a whole.

Appleton has had the opportunity to engage with Newfound Gold and values the company's commitment to community collaboration and responsible project advancement. We appreciate the importance placed on communication, local engagement, and consideration of community interests such as environmental impacts.

Like many small municipalities in our province, Appleton understands the significance of economic diversification and sustainable opportunity. Resource projects undertaken with proper planning and regulatory oversight contribute to strengthening rural communities, supporting local businesses, and creating long-term regional stability.

The Town Council of Appleton is supportive of the continued advancement of the Queensway Project through the appropriate regulatory and permitting processes. We look forward to maintaining a positive and cooperative relationship with Newfound Gold as the project evolves. Should you require any additional information, please do not hesitate to contact our office.

Respectfully,

[redacted]

TOWN OF GANDER

Town of Gander
100 Elizabeth Drive
Gander, NL A1V 1G7
Ph: (709) 651-5974
mayor@gander.ca

OFFICE OF THE MAYOR

February 16, 2026

Kendra Revoy
Corporate Social Responsibility Manager
krevoy@newfoundgold.ca

Subject: New Found Gold, Letter of Support – Gander, NL

On behalf of the Town Council of Gander, I am writing to offer this formal Letter of Support for New Found Gold Corp.'s Queensway Project as part of their Environmental Assessment submission to the Provincial Government of Newfoundland and Labrador.

New Found Gold has been an active and engaged presence in our region, demonstrating a strong commitment to responsible mineral exploration and to maintaining transparent, respectful relationships with local communities. The Company's approach to stakeholder engagement, environmental stewardship, and open communication has been consistently evident through project updates, community outreach, and its willingness to address questions and concerns as they arise.

The Queensway Project represents a significant economic opportunity for Central Newfoundland. The development of this project has the potential to bring meaningful benefits to nearby communities, including employment opportunities, increased local procurement, and support for regional businesses and services. Furthermore, the project's proximity to our community positions it to contribute positively to long-term economic stability and regional growth.

Our Council recognizes the importance of environmentally responsible development, and we appreciate New Found Gold's efforts to integrate baseline studies, monitoring programs, and best practices into the planning and assessment stages of the Queensway Project. The Company's commitment to operating in accordance with provincial regulations and environmental expectations aligns with the values of our municipality.

Given these considerations, the Town of Gander supports the continued advancement of the Queensway Project through the Environmental Assessment process. We are confident that New Found Gold will continue to work collaboratively with our community and regional stakeholders as the project progresses.

Should you require further information, clarification, or ongoing dialogue regarding this support, please feel free to contact our office at any time.

Appendix 7.A Air Quality Emissions Inventory

Construction Phase - AQ Emission Summary

Air Contaminant	CAS #	Emission Rate (tonnes/year)							
		Blasting	Stockpile Fugitives	Transfer Points at Stockpiles	Crushing and Screening	Unpaved Roads Fugitives	Mobile Combustion Sources - Heavy Equipment	Stationary Combustion	Total
NOX	10102-44-0	9.81	-	-	-	-	34.38	689.35	733.54
CO	630-08-0	41.69	-	-	-	-	299.04	182.90	523.63
SO2	7446-09-5	1.23	-	-	-	-	0.57	324.67	326.47
TSP	N/A-1	3.35	13.573	69.31	28.74	227.0	1.15	1.52E+01	358.39
PM10	N/A-2	1.74	6.787	32.78	11.39	64.6	1.15	1.26E+01	130.97
PM2.5	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
Antimony	7440-36-0	1.80E-04	5.44E-04	3.42E-03	1.54E-03	-	-	0.00E+00	0.01
Arsenic	7440-38-2	1.58E-03	4.66E-03	2.98E-02	1.35E-02	-	-	0.00E+00	0.05
Barium	7440-39-3	2.18E-03	8.15E-03	4.40E-02	1.87E-02	-	-	0.00E+00	0.07
Beryllium	7440-41-7	9.32E-06	3.46E-05	1.88E-04	7.99E-05	-	-	0.00E+00	0.00
Bismuth	7440-69-9	5.03E-06	1.84E-05	1.01E-04	4.31E-05	-	-	0.00E+00	0.00
Boron	7440-42-8	1.86E-04	6.94E-04	3.75E-03	1.60E-03	-	-	0.00E+00	0.01
Cadmium	7440-43-9	8.99E-07	3.25E-06	1.79E-05	7.70E-06	-	-	0.00E+00	0.00
Chromium	7440-47-3	6.84E-04	2.51E-03	1.37E-02	5.86E-03	-	-	0.00E+00	0.02
Cobalt	7440-48-4	9.69E-05	3.49E-04	1.93E-03	8.31E-04	-	-	0.00E+00	0.00
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
Lithium	7439-93-2	2.42E-04	8.73E-04	4.82E-03	2.07E-03	-	-	0.00E+00	0.01
Magnesium	7439-95-4	7.38E-02	2.66E-01	1.47E+00	6.32E-01	-	-	0.00E+00	2.44
Manganese	7439-96-5	7.82E-03	2.86E-02	1.57E-01	6.70E-02	-	-	0.00E+00	0.26
Mercury	7439-97-6	1.34E-07	5.82E-07	2.84E-06	1.15E-06	-	-	0.00E+00	0.00
Molybdenum	7439-98-7	3.02E-05	9.94E-05	5.87E-04	2.59E-04	-	-	0.00E+00	0.00
Nickel	7440-02-0	3.31E-04	1.19E-03	6.59E-03	2.83E-03	-	-	0.00E+00	0.01
Potassium	7440-09-7	9.49E-02	3.56E-01	1.92E+00	8.13E-01	-	-	0.00E+00	3.18
Rubidium	7440-17-7	4.49E-04	1.70E-03	9.09E-03	3.85E-03	-	-	0.00E+00	0.02
Selenium	7782-49-2	6.71E-06	2.71E-05	1.39E-04	5.75E-05	-	-	0.00E+00	0.00
Silver	7440-22-4	3.35E-07	1.50E-06	7.16E-06	2.87E-06	-	-	0.00E+00	0.00
Sodium	7440-23-5	-	-	-	-	-	-	0.00E+00	0.00
Strontium	7440-24-6	1.19E-03	4.00E-03	2.33E-02	1.02E-02	-	-	0.00E+00	0.04
Tellurium	13494-80-9	6.71E-07	2.32E-06	1.32E-05	5.75E-06	-	-	0.00E+00	0.00
Thallium	7440-28-0	2.68E-06	1.01E-05	5.42E-05	2.30E-05	-	-	0.00E+00	0.00
Tin	7440-31-5	1.01E-05	4.07E-05	2.08E-04	8.62E-05	-	-	0.00E+00	0.00
Uranium	7440-61-1	1.36E-05	5.15E-05	2.75E-04	1.17E-04	-	-	0.00E+00	0.00
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
Acetaldehyde	75-07-0	-	-	-	-	-	-	6.12E-03	0.01
Acrolein	107-08-8	-	-	-	-	-	-	1.77E-03	0.00
Anthracene	120-12-7	-	-	-	-	-	-	2.65E-04	0.00
Benzene	71-43-2	-	-	-	-	-	-	1.67E-01	0.17
1,3-butadiene	106-99-0	-	-	-	-	-	-	3.68E-05	0.00
Formaldehyde	50-00-0	-	-	-	-	-	-	1.80E-02	0.02
Naphthalene	91-20-3	-	-	-	-	-	-	2.79E-02	0.03
Propylene	115-07-1	-	-	-	-	-	-	6.00E-01	0.60
Toluene	108-88-3	-	-	-	-	-	-	6.06E-02	0.06
Isomers of xylene	1330-20-7	-	-	-	-	-	-	4.16E-02	0.04
Acenaphthene	83-32-9	-	-	-	-	-	-	1.00E-03	0.00
Acenaphthylene	208-96-8	-	-	-	-	-	-	1.98E-03	0.00
Benzo (a) anthracene	56-55-3	-	-	-	-	-	-	1.35E-04	0.00
Benzo (a) pyrene	50-32-8	-	-	-	-	-	-	5.52E-05	0.00
Benzo (b) fluoranthene	205-99-2	-	-	-	-	-	-	3.23E-04	0.00
Benzo (k) fluoranthene	207-08-9	-	-	-	-	-	-	4.68E-05	0.00
Dibenzo (a,h) anthracene	53-70-3	-	-	-	-	-	-	7.46E-05	0.00
Benzo (g,h,i) perylene	191-24-2	-	-	-	-	-	-	1.20E-04	0.00
Fluoranthene	206-44-0	-	-	-	-	-	-	8.70E-04	0.00
Fluorene	86-73-7	-	-	-	-	-	-	2.77E-03	0.00
Indeno(1,2,3-c,d) pyrene	193-39-5	-	-	-	-	-	-	8.90E-05	0.00
Phenanthrene	85-01-8	-	-	-	-	-	-	8.76E-03	0.01
Pyrene	129-00-0	-	-	-	-	-	-	7.99E-04	0.00
Total PAHS		-	-	-	-	-	-	0.00E+00	0.00
Volatile organic compounds	NA - M16	-	-	-	-	-	-	1.96E+01	19.61
Benzene	71-43-2	-	-	-	-	-	-	1.67E-01	0.17
1,3-butadiene	106-99-0	-	-	-	-	-	-	3.68E-05	0.00
Formaldehyde	50-00-0	-	-	-	-	-	-	1.80E-02	0.02
Propylene	115-07-1	-	-	-	-	-	-	6.00E-01	0.60
Toluene	108-88-3	-	-	-	-	-	-	6.06E-02	0.06
Isomers of xylene	1330-20-7	-	-	-	-	-	-	4.16E-02	0.04

Operation Phase - AQ Emission Summary (Peak Year - Year 4)

Air Contaminant	CAS #	Emission Rate (tonnes/year)							
		Blasting	Stockpile Fugitives	Transfer Points at Stockpiles	Crushing and Screening	Unpaved Roads Fugitives	Mobile Combustion Sources - Heavy Equipment	Stationary Combustion	Total
NOX	10102-44-0	25.334	-	-	-	-	64.07	693.50	782.909
CO	630-08-0	107.671	-	-	-	-	556.42	183.79	847.883
SO2	7446-09-5	3.167	-	-	-	-	-	324.95	328.113
TSP	N/A-1	9.836	29.85	197.33	28.74	451.65	2.14	15.51	735.055
PM10	N/A-2	5.115	14.93	93.33	11.39	128.43	2.14	12.85	268.182
PM2.5	N/A-3	0.295	2.24	14.13	1.72	12.84	2.14	10.84	44.211
Aluminum	7429-90-5	1.01E+00	2.78	2.02E+01	2.96E+00	-	-	-	26.949
Antimony	7440-36-0	5.27E-04	1.19E-03	1.04E-02	1.54E-03	-	-	-	0.014
Arsenic	7440-38-2	4.62E-03	1.01E-02	9.10E-02	1.35E-02	-	-	-	0.119
Barium	7440-39-3	6.39E-03	1.79E-02	1.28E-01	1.87E-02	-	-	-	0.171
Beryllium	7440-41-7	2.73E-05	7.60E-05	5.45E-04	7.99E-05	-	-	-	0.001
Bismuth	7440-69-9	1.48E-05	4.03E-05	2.94E-04	4.31E-05	-	-	-	0.000
Boron	7440-42-8	5.46E-04	1.52E-03	1.09E-02	1.60E-03	-	-	-	0.015
Cadmium	7440-43-9	2.64E-06	7.12E-06	5.25E-05	7.70E-06	-	-	-	0.000
Chromium	7440-47-3	2.01E-03	5.51E-03	4.00E-02	5.86E-03	-	-	-	0.053
Cobalt	7440-48-4	2.84E-04	7.64E-04	5.66E-03	8.31E-04	-	-	-	0.008
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	-	-	-	17.637
Lead	7439-92-1	1.17E-03	2.67E-03	2.31E-02	3.42E-03	-	-	-	0.030
Lithium	7439-93-2	7.09E-04	1.91E-03	1.41E-02	2.07E-03	-	-	-	0.019
Magnesium	7439-95-4	2.16E-01	5.83E-01	4.31E+00	6.32E-01	-	-	-	5.740
Manganese	7439-96-5	2.29E-02	6.28E-02	4.57E-01	6.70E-02	-	-	-	0.609
Mercury	7439-97-6	3.93E-07	1.28E-06	7.93E-06	1.15E-06	-	-	-	0.000
Molybdenum	7439-98-7	8.85E-05	2.17E-04	1.75E-03	2.59E-04	-	-	-	0.002
Nickel	7440-02-0	9.70E-04	2.61E-03	1.93E-02	2.83E-03	-	-	-	0.026
Potassium	7440-09-7	2.78E-01	7.82E-01	5.56E+00	8.13E-01	-	-	-	7.430
Rubidium	7440-17-7	1.32E-03	3.73E-03	2.63E-02	3.85E-03	-	-	-	0.035
Selenium	7782-49-2	1.97E-05	5.97E-05	3.95E-04	5.75E-05	-	-	-	0.001
Silver	7440-22-4	9.84E-07	3.30E-06	1.99E-05	2.87E-06	-	-	-	0.000
Sodium	7440-23-5	-	-	-	-	-	-	-	0.000
Strontium	7440-24-6	3.49E-03	8.76E-03	6.92E-02	1.02E-02	-	-	-	0.092
Tellurium	13494-80-9	1.97E-06	5.08E-06	3.91E-05	5.75E-06	-	-	-	0.000
Thallium	7440-28-0	7.87E-06	2.21E-05	1.57E-04	2.30E-05	-	-	-	0.000
Tin	7440-31-5	2.95E-05	8.96E-05	5.92E-04	8.62E-05	-	-	-	0.001
Uranium	7440-61-1	3.99E-05	1.13E-04	7.97E-04	1.17E-04	-	-	-	0.001
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
Acetaldehyde	75-07-0	-	-	-	-	-	-	0.01	0.007
Acrolein	107-08-8	-	-	-	-	-	-	0.00	0.002
Anthracene	120-12-7	-	-	-	-	-	-	0.00	0.000
Benzene	71-43-2	-	-	-	-	-	-	0.17	0.168
1,3-butadiene	106-99-0	-	-	-	-	-	-	0.00	0.000
Formaldehyde	50-00-0	-	-	-	-	-	-	0.02	0.019
Naphthalene	91-20-3	-	-	-	-	-	-	0.03	0.028
Propylene	115-07-1	-	-	-	-	-	-	0.60	0.602
Toluene	108-88-3	-	-	-	-	-	-	0.06	0.061
Isomers of xylene	1330-20-7	-	-	-	-	-	-	0.04	0.042
Acenaphthene	83-32-9	-	-	-	-	-	-	0.00	0.001
Acenaphthylene	208-96-8	-	-	-	-	-	-	0.00	0.002
Benzo (a) anthracene	56-55-3	-	-	-	-	-	-	0.00	0.000
Benzo (a) pyrene	50-32-8	-	-	-	-	-	-	0.00	0.000
Benzo (b) fluoranthene	205-99-2	-	-	-	-	-	-	0.00	0.000
Benzo (k) fluoranthene	207-08-9	-	-	-	-	-	-	0.00	0.000
Dibenzo (a,h) anthracene	53-70-3	-	-	-	-	-	-	0.00	0.000
Benzo (g,h,i) perylene	191-24-2	-	-	-	-	-	-	0.00	0.000
Fluoranthene	206-44-0	-	-	-	-	-	-	0.00	0.001
Fluorene	86-73-7	-	-	-	-	-	-	0.00	0.003
Indeno(1,2,3-c,d) pyrene	193-39-5	-	-	-	-	-	-	0.00	0.000
Phenanthrene	85-01-8	-	-	-	-	-	-	0.01	0.009
Pyrene	129-00-0	-	-	-	-	-	-	0.00	0.001
Total PAHS		-	-	-	-	-	-	-	0.000
Volatile organic compounds	NA - M16	-	-	-	-	-	-	19.95	19.949
Benzene	71-43-2	-	-	-	-	-	-	0.17	0.168
1,3-butadiene	106-99-0	-	-	-	-	-	-	0.00	0.000
Formaldehyde	50-00-0	-	-	-	-	-	-	0.02	0.019
Propylene	115-07-1	-	-	-	-	-	-	0.60	0.602
Toluene	108-88-3	-	-	-	-	-	-	0.06	0.061
Isomers of xylene	1330-20-7	-	-	-	-	-	-	0.04	0.042

Operation Phase - AQ Emission Summary (Year 5)

Air Contaminant	CAS #	Emission Rate (tonnes/year)							
		Blasting	Stockpile Fugitives	Transfer Points at Stockpiles	Crushing and Screening	Unpaved Roads Fugitives	Mobile Combustion Sources - Heavy Equipment	Stationary Combustion	Total
NOX	10102-44-0	26.042	-	-	-	-	68.16	693.50	787.698
CO	630-08-0	110.679	-	-	-	-	591.79	183.79	886.261
SO2	7446-09-5	3.255	-	-	-	-	-	324.95	328.202
TSP	N/A-1	10.251	29.85	198.11949	28.74	369.42	2.27	15.51	654.172
PM10	N/A-2	5.331	14.93	93.705166	11.39	105.05	2.27	12.85	245.526
PM2.5	N/A-3	0.308	2.24	14.189639	1.72	10.51	2.27	10.84	42.078
Aluminum	7429-90-5	1.056	2.78	20.406308	2.96E+00	-	-	-	27.205
Antimony	7440-36-0	0.001	1.19E-03	0.0106192	1.54E-03	-	-	-	0.014
Arsenic	7440-38-2	0.005	1.01E-02	0.0931162	1.35E-02	-	-	-	0.122
Barium	7440-39-3	0.007	1.79E-02	0.1287777	1.87E-02	-	-	-	0.172
Beryllium	7440-41-7	0.000	7.60E-05	0.0005508	7.99E-05	-	-	-	0.001
Bismuth	7440-69-9	0.000	4.03E-05	0.0002972	4.31E-05	-	-	-	0.000
Boron	7440-42-8	0.001	1.52E-03	0.0109956	1.60E-03	-	-	-	0.015
Cadmium	7440-43-9	0.000	7.12E-06	5.31E-05	7.70E-06	-	-	-	0.000
Chromium	7440-47-3	0.002	5.51E-03	0.0404164	5.86E-03	-	-	-	0.054
Cobalt	7440-48-4	0.000	7.64E-04	0.0057257	8.31E-04	-	-	-	0.008
Copper	7440-50-8	0.001	2.55E-03	0.0211988	3.08E-03	-	-	-	0.028
Iron	7439-89-6	0.688	1.87E+00	13.293818	1.93E+00	-	-	-	17.779
Lead	7439-92-1	0.001	2.67E-03	0.0235762	3.42E-03	-	-	-	0.031
Lithium	7439-93-2	0.001	1.91E-03	0.0142844	2.07E-03	-	-	-	0.019
Magnesium	7439-95-4	0.226	5.83E-01	4.3586289	6.32E-01	-	-	-	5.800
Manganese	7439-96-5	0.024	6.28E-02	0.4616184	6.70E-02	-	-	-	0.615
Mercury	7439-97-6	0.000	1.28E-06	7.925E-06	1.15E-06	-	-	-	0.000
Molybdenum	7439-98-7	0.000	2.17E-04	0.0017831	2.59E-04	-	-	-	0.002
Nickel	7440-02-0	0.001	2.61E-03	0.0195346	2.83E-03	-	-	-	0.026
Potassium	7440-09-7	0.290	7.82E-01	5.6067817	8.13E-01	-	-	-	7.493
Rubidium	7440-17-7	0.001	3.73E-03	0.026548	3.85E-03	-	-	-	0.036
Selenium	7782-49-2	0.000	5.97E-05	0.0003962	5.75E-05	-	-	-	0.001
Silver	7440-22-4	0.000	3.30E-06	1.981E-05	2.87E-06	-	-	-	0.000
Sodium	7440-23-5	-	-	-	-	-	-	-	0.000
Strontium	7440-24-6	0.004	8.76E-03	0.0703324	1.02E-02	-	-	-	0.093
Tellurium	13494-80-9	0.000	5.08E-06	3.962E-05	5.75E-06	-	-	-	0.000
Thallium	7440-28-0	0.000	2.21E-05	0.0001585	2.30E-05	-	-	-	0.000
Tin	7440-31-5	0.000	8.96E-05	0.0005944	8.62E-05	-	-	-	0.001
Uranium	7440-61-1	0.000	1.13E-04	0.0008044	1.17E-04	-	-	-	0.001
Vanadium	7440-62-2	0.002	5.99E-03	0.0461618	6.70E-03	-	-	-	0.061
Zinc	7440-66-6	0.001	3.19E-03	0.0235762	3.42E-03	-	-	-	0.031
Acetaldehyde	75-07-0	-	-	-	-	-	-	0.01	0.007
Acrolein	107-08-8	-	-	-	-	-	-	0.00	0.002
Anthracene	120-12-7	-	-	-	-	-	-	0.00	0.000
Benzene	71-43-2	-	-	-	-	-	-	0.17	0.168
1,3-butadiene	106-99-0	-	-	-	-	-	-	0.00	0.000
Formaldehyde	50-00-0	-	-	-	-	-	-	0.02	0.019
Naphthalene	91-20-3	-	-	-	-	-	-	0.03	0.028
Propylene	115-07-1	-	-	-	-	-	-	0.60	0.602
Toluene	108-88-3	-	-	-	-	-	-	0.06	0.061
Isomers of xylene	1330-20-7	-	-	-	-	-	-	0.04	0.042
Acenaphthene	83-32-9	-	-	-	-	-	-	0.00	0.001
Acenaphthylene	208-96-8	-	-	-	-	-	-	0.00	0.002
Benzo (a) anthracene	56-55-3	-	-	-	-	-	-	0.00	0.000
Benzo (a) pyrene	50-32-8	-	-	-	-	-	-	0.00	0.000
Benzo (b) fluoranthene	205-99-2	-	-	-	-	-	-	0.00	0.000
Benzo (k) fluoranthene	207-08-9	-	-	-	-	-	-	0.00	0.000
Dibenzo (a,h) anthracene	53-70-3	-	-	-	-	-	-	0.00	0.000
Benzo (g,h,i) perylene	191-24-2	-	-	-	-	-	-	0.00	0.000
Fluoranthene	206-44-0	-	-	-	-	-	-	0.00	0.001
Fluorene	86-73-7	-	-	-	-	-	-	0.00	0.003
Indeno(1,2,3-c,d) pyrene	193-39-5	-	-	-	-	-	-	0.00	0.000
Phenanthrene	85-01-8	-	-	-	-	-	-	0.01	0.009
Pyrene	129-00-0	-	-	-	-	-	-	0.00	0.001
Total PAHS		-	-	-	-	-	-	-	0.000
Volatile organic compounds	NA - M16	-	-	-	-	-	-	19.95	19.949
Benzene	71-43-2	-	-	-	-	-	-	0.17	0.168
1,3-butadiene	106-99-0	-	-	-	-	-	-	0.00	0.000
Formaldehyde	50-00-0	-	-	-	-	-	-	0.02	0.019
Propylene	115-07-1	-	-	-	-	-	-	0.60	0.602
Toluene	108-88-3	-	-	-	-	-	-	0.06	0.061
Isomers of xylene	1330-20-7	-	-	-	-	-	-	0.04	0.042

Species with NL specific AQ Standards

Blasting Emissions

Source Description Fugitive dust and metal emissions from the blasting of rock, and combustion releases from the detonation of explosives.

Methodology Air contaminant releases from blasting are estimated based on information provided by Newfound Gold and published emission factors (from the US EPA AP-42 Chapter 13.3 Explosives Detonation and ECCC NPRI guidance document Pits and Quarries Reporting Guide). Trace metal fugitives are estimated based on the TSP release estimates and the ore specifications. Ammonium Nitrate Fuel Oil (ANFO) explosive is used, therefore, AP-42 emission factors for ANFO

Since a portion of the PM (TSP, PM10, PM2.5 and trace metals within the PM) will not leave the pit (due to settling) retention factors are 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.

Metal emissions were speciated from TPM based on the composition of the ore. Ore composition was only available for waste rock and low grade ore. Conservatively applied the 95th percentile for each species, using the maximum between waste rock or low grade.

Operational Schedule for It is assumed that blasting is split between the active pits during the year of the peak
Blasting is only to occur during daytime hours and for the purpose of modelling the blasting is assumed to occur at 3 pm each day. For the purpose of estimating short-term emissions, it is assumed blasting occurs over a 1-min period.

Releases are modelled as volume sources, with variable releases considered using scaling emission factors in the model control file.

Emission Factors

Contaminant	*EF*	*Units*	*Source*
NOx	8	kg/Mg	US EPA AP-42 Ch 13.3
CO	34	kg/Mg	US EPA AP-42 Ch 13.3
SO2	1	kg/Mg	US EPA AP-42 Ch 13.3
PM	Estimated per year - see table to right and equation below in Sample Calculations		ECCC NPRI Pits and Quarries Guide
PM10			
PM2.5			

From PD Section 2.17

Parameters	**Unit**	**Year**							
		-0.5	**0.5**	**2**	**3**	**4**	**5**	**6**	**7**
Material Tonnage	t	4,709,413	4,709,413	11,095,975	10,388,513	12,161,715	12,501,614	8,226,816	1,849,757
In-Situ Volume	m3	1,744,227	1,744,227	4,109,621	3,847,597	4,504,339	4,630,227	3,046,969	685,095
Production Explosives Used	kg	1,226,287	1,226,287	2,889,256	2,705,057	3,166,781	3,255,277	2,142,182	481,675
Per Blast Explosives Used	**kg**	**6,715**	**6,715**	**7,910**	**7,406**	**8,670**	**8,912**	**5,865**	**1,319**
Per Blast Tonnage	t	25,787	25,787	30,379	28,442	33,297	34,228	22,524	5,064
Per Blast Volume	m3	9,551	9,551	11,252	10,534	12,332	12,677	8,342	1,876
Per Blast Area	**m2**	1910	**1910**	**2250**	**2107**	**2466**	**2535**	**1668**	**375**
Total Nb of Drills	#	2	2	3	3	3	3	3	1
EF TPM	kg/blast	18.37	18.37	23.48	21.27	26.95	28.09	14.993	1.598
EF PM10	kg/blast	9.55	9.55	12.21	11.06	14.01	14.60	7.796	0.831
EF PM2.5	kg/blast	0.55	0.55	0.70	0.64	0.81	0.84	0.450	0.048

Data source: "AQ-4-5-8-10 MRP equipment, fuel& blasting v2" sheet
The first year is split into two half years which represent construction (6 months) and operatings beginning (6 months)

	Construction	**Operations (peak blasting year, 5)**	**Operations (peak for paved roads, year 4)**	
Input	**Value**	**Value**	**Value**	**Units**
Total Explosives	1,226,287	3,255,277	3,166,781	kg/year
Blasts per year	183	365	365	blasts/year PD Section 2.17 or calculated
Blasts per day	1	1	1	1 blast per day, 365 blasts per year
Explosives per blast	6,715	8919	8,676	kg
Assumed Blast Duration	1	1	1	min

Particulate Matter Pit Retention Factors

TSP	0.5
PM10	0.05
PM2.5	0.005

Release Estimates

Air Contaminant	CAS#	% of TPM	Construction		Operations - Year 5 (Peak for Blasting)					Operations - Year 4 (Peak for General Operations)				
			Release per blast (kg)	Total Annual Emissions	Release per blast (kg)	Operations Emission Rate (g/s)			Total Annual Emissions	Release per blast (kg)	Operations Emission Rate (g/s)			Total Annual Emissions
				Tonnes/year		Hourly	Daily	Annual	Tonnes/year		Hourly	Daily	Annual	Tonnes/year
NOX	10102-44-0	-	53.72	9.810	71	19.8	0.83	0.83	26.04	69	19	0.80	0.80	25.33
CO	630-08-0	-	228.30	41.694	303	84	3.51	3.51	110.68	295	82	3.41	3.41	107.67
SO2	7446-09-5	-	6.71	1.226	9	2.5	0.10	0.10	3.26	9	2.4	0.10	0.10	3.17
TSP	N/A-1	-	18.37	3.354	28	7.8	0.33	0.33	10.25	27	7.5	0.31	0.31	9.84
PM10	N/A-2	-	9.55	1.744	14.6046	4.1	0.17	0.17	5.33	14	3.9	0.16	0.16	5.11
PM2.5	N/A-3	-	0.55	0.101	0.8426	0.2	0.01	0.01	3.08E-01	0.8	0.2	0.009	0.009	2.95E-01
Aluminum	7429-90-5	10%	1.892	3.45E-01	2.893	0.804	3.35E-02	3.35E-02	1.06E+00	2.776	0.771	3.21E-02	3.21E-02	1.01E+00
Antimony	7440-36-0	0.0054%	0.001	1.80E-04	0.002	4.18E-04	1.74E-05	1.74E-05	5.49E-04	0.001	4.01E-04	1.67E-05	1.67E-05	5.27E-04
Arsenic	7440-38-2	0.0470%	0.009	1.58E-03	0.013	3.67E-03	1.53E-04	1.53E-04	4.82E-03	0.013	3.52E-03	1.47E-04	1.47E-04	4.62E-03
Barium	7440-39-3	0.0650%	0.012	2.18E-03	0.018	5.07E-03	2.11E-04	2.11E-04	6.66E-03	0.018	4.87E-03	2.03E-04	2.03E-04	6.39E-03
Beryllium	7440-41-7	0.0003%	0.000	9.32E-06	0.000	2.17E-05	9.04E-07	9.04E-07	2.85E-05	0.000	2.08E-05	8.67E-07	8.67E-07	2.73E-05
Bismuth	7440-69-9	0.0002%	0.000	5.03E-06	0.000	1.17E-05	4.88E-07	4.88E-07	1.54E-05	0.000	1.12E-05	4.68E-07	4.68E-07	1.48E-05
Boron	7440-42-8	0.0056%	0.001	1.86E-04	0.002	4.33E-04	1.80E-05	1.80E-05	5.69E-04	0.001	4.15E-04	1.73E-05	1.73E-05	5.46E-04
Cadmium	7440-43-9	0.0000%	0.000	8.99E-07	0.000	2.09E-06	8.71E-08	8.71E-08	2.75E-06	0.000	2.01E-06	8.36E-08	8.36E-08	2.64E-06
Chromium	7440-47-3	0.0204%	0.004	6.84E-04	0.006	1.59E-03	6.63E-05	6.63E-05	2.09E-03	0.005	1.53E-03	6.36E-05	6.36E-05	2.01E-03
Cobalt	7440-48-4	0.0029%	0.001	9.69E-05	0.001	2.25E-04	9.39E-06	9.39E-06	2.96E-04	0.001	2.16E-04	9.01E-06	9.01E-06	2.84E-04
Copper	7440-50-8	0.0107%	0.002	3.59E-04	0.003	8.35E-04	3.48E-05	3.48E-05	1.10E-03	0.003	8.01E-04	3.34E-05	3.34E-05	1.05E-03
Iron	7439-89-6	6.7100%	1.232	2.25E-01	1.885	5.23E-01	2.18E-02	2.18E-02	6.88E-01	1.808	5.02E-01	2.09E-02	2.09E-02	6.60E-01
Lead	7439-92-1	0.0119%	0.002	3.99E-04	0.003	9.28E-04	3.87E-05	3.87E-05	1.22E-03	0.003	8.91E-04	3.71E-05	3.71E-05	1.17E-03
Lithium	7439-93-2	0.0072%	0.001	2.42E-04	0.002	5.62E-04	2.34E-05	2.34E-05	7.39E-04	0.002	5.40E-04	2.25E-05	2.25E-05	7.09E-04
Magnesium	7439-95-4	2.2000%	0.404	7.38E-02	0.618	1.72E-01	7.15E-03	7.15E-03	2.26E-01	0.593	1.65E-01	6.86E-03	6.86E-03	2.16E-01
Manganese	7439-96-5	0.2330%	0.043	7.82E-03	0.065	1.82E-02	7.57E-04	7.57E-04	2.39E-02	0.063	1.74E-02	7.27E-04	7.27E-04	2.29E-02
Mercury	7439-97-6	0.0000%	0.000	1.34E-07	0.000	3.12E-07	1.30E-08	1.30E-08	4.10E-07	0.000	2.99E-07	1.25E-08	1.25E-08	3.93E-07
Molybdenum	7439-98-7	0.0009%	0.000	3.02E-05	0.000	7.02E-05	2.93E-06	2.93E-06	9.23E-05	0.000	6.74E-05	2.81E-06	2.81E-06	8.85E-05
Nickel	7440-02-0	0.0099%	0.002	3.31E-04	0.003	7.69E-04	3.21E-05	3.21E-05	1.01E-03	0.003	7.38E-04	3.08E-05	3.08E-05	9.70E-04
Potassium	7440-09-7	2.8300%	0.520	9.49E-02	0.795	2.21E-01	9.20E-03	9.20E-03	2.90E-01	0.763	2.12E-01	8.83E-03	8.83E-03	2.78E-01
Rubidium	7440-17-7	0.0134%	0.002	4.49E-04	0.004	1.05E-03	4.36E-05	4.36E-05	1.37E-03	0.004	1.00E-03	4.18E-05	4.18E-05	1.32E-03
Selenium	7782-49-2	0.0002%	0.000	6.71E-06	0.000	1.56E-05	6.50E-07	6.50E-07	2.05E-05	0.000	1.50E-05	6.24E-07	6.24E-07	1.97E-05
Silver	7440-22-4	0.0000%	0.000	3.35E-07	0.000	7.80E-07	3.25E-08	3.25E-08	1.03E-06	0.000	7.49E-07	3.12E-08	3.12E-08	9.84E-07
Strontium	7440-24-6	0.0355%	0.007	1.19E-03	0.010	2.77E-03	1.15E-04	1.15E-04	3.64E-03	0.010	2.66E-03	1.11E-04	1.11E-04	3.49E-03
Tellurium	13494-80-9	0.0000%	0.000	6.71E-07	0.000	1.56E-06	6.50E-08	6.50E-08	2.05E-06	0.000	1.50E-06	6.24E-08	6.24E-08	1.97E-06
Thallium	7440-28-0	0.0001%	0.000	2.68E-06	0.000	6.24E-06	2.60E-07	2.60E-07	8.20E-06	0.000	5.99E-06	2.50E-07	2.50E-07	7.87E-06
Tin	7440-31-5	0.0003%	0.000	1.01E-05	0.000	2.34E-05	9.75E-07	9.75E-07	3.08E-05	0.000	2.25E-05	9.36E-07	9.36E-07	2.95E-05
Uranium	7440-61-1	0.0004%	0.000	1.36E-05	0.000	3.17E-05	1.32E-06	1.32E-06	4.16E-05	0.000	3.04E-05	1.27E-06	1.27E-06	3.99E-05
Vanadium	7440-62-2	0.0233%	0.004	7.82E-04	0.007	1.82E-03	7.57E-05	7.57E-05	2.39E-03	0.006	1.74E-03	7.27E-05	7.27E-05	2.29E-03
Zinc	7440-66-6	0.0119%	0.002	3.99E-04	0.003	9.28E-04	3.87E-05	3.87E-05	1.22E-03	0.003	8.91E-04	3.71E-05	3.71E-05	1.17E-03

Sample Calculations

$EF_{(TPM)} = 0.00022\ (A)^{1.5}$

$EF_{(PM10)} = (0.00022\ (A)^{1.5}) \times 0.52$

$EF_{(PM2.5)} = (0.00022\ (A)^{1.5}) \times 0.03$

Where

EF is the emission factor for the corresponding PM (kg/blast)

A is the horizontal area (m^2), with blasting ≤ depth 21

EF TPM (g/s) Year 4 = 0.00022 x (2466 m2) ^1.5

EF TPM (g/s) Year 4 = 26.9 kg / blast

TPM Emissions Year 4 EF x # Blasts

TPM Emissions Year 4 26.9 kg/blast x 1 blast/hour x 1 hour/3600 seconds x 1000 g/1 kg

TPM Emissions Year 4 7.5 g/s

Fugitive Emissions of Particulate Matter from Storage Piles

Source Description

There are numerous materials (different grade ores, till, waste rock) that are stockpiled outside at the facility. Emissions result from wind erosion of stockpile surfaces.

Methodology

-The equation for estimating storage pile particulate emissions is sourced from Mojave Desert Air Quality Management District (MDAQMD), Mineral Handling and Processing Industries, Table 2, 2000, as presented in the ECCC NPRI "Pits and quarries reporting guide." This method is for an annual estimate and was converted to an emission rate in g/s. CALMET predicted meteorological data for the Project site (wind speeds and precipitation) are used to estimate releases.

- Metal emissions were speciated from TPM based on the composition of the ore. Ore composition was only available for waste rock and low grade ore. Conservatively applied the 95th percentile for each species, using the maximum between waste rock or low grade.

Operational Schedule for Modelling

Worst-case storage pile used in the model (largest pile at a potential location) approximated in the model on an average basis, modelled continuously over the four-year period of the model.

Calculation Inputs

Operations

Storage Pile	Approximate Max Area (m2)	Source
Overburden	460991	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")
Waste Rock	884309	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")
Low grade stockpile	127053	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")
Mid-grade stockpile	26800	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")
mid-grade sorter rejects	19995	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")
high-grade sorter rejects	17499	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")
ROM material	2236	GIS Team Provided ("NFG_Stockpile_metrics_20260303.xlsx")

Construction

Storage Pile	Tonnage (tonnes)	Volume (m3)	Height (m)	Approx. Exposed Area (m2)	Source
Mineralized Waste (low grade)	1058564	548885	10.25	112503	Spreadsheet from NFG titled "AQ-6-7 Stockpiles.xlsx", using Year 1, for Tonnage. Volume/Area assumed to be footprint.
Mid-grade	126121	65396	5.93	23174	Spreadsheet from NFG titled "AQ-6-7 Stockpiles.xlsx", using Year 1, for Tonnage. Volume/Area assumed to be footprint.
High Grade Sorter Rejects	52137	27034	3.76	15081	Spreadsheet from NFG titled "AQ-6-7 Stockpiles.xlsx", using Year 1, for Tonnage. Volume/Area assumed to be footprint.
Non-Construction Waste	782635	405811	14	172539	Spreadsheet from NFG titled "AQ-6-7 Stockpiles.xlsx", using Year 1, for Tonnage. Volume/Area assumed to be footprint.
Construction Waste	782635	405811	14	172539	Spreadsheet from NFG titled "AQ-6-7 Stockpiles.xlsx", using Year 1, for Tonnage. Volume/Area assumed to be footprint.
Overburden	1084945	542473	18	203832	Spreadsheet from NFG titled "AQ-6-7 Stockpiles.xlsx", using Year 1, for Tonnage. Volume/Area assumed to be footprint.

Note: Assuming that the largest stockpile size may occur during construction in Year 1, to be conservative.

Silt Content % mass	0.50	Silt content from Mojave Desert Air Quality Management District, 2000 for "limestone"
Days with rain >0.252mm or with snow cover[1]	242	
% of Hours that unobstructed wind speed >19.3 km/h [%][1]	24	

[1] Based on CALMET predicted precipitation data and CALMET predicted winds for the modelled period of 2021-2024

Emission Calculations

$EF = 1.12 * 10^{-4} * J * 1.7 * (s/1.5) * 365 * ((365-P)/235) * (I/15)$

Where,

EF: Emission factor in (kg/m^2)

J: Particulate aerodynamic factor

s: Average silt loading of storage pile in percent (%)

P: Average number of days during the year with at least 0.254 mm of precipitation

I: Percentage of time in the year with unobstructed wind speed >19.3 km/h in percent (%)

The particle aerodynamic factor for TPM, PM_{10} and $PM_{2.5}$ are:

$J_{(TPM)}$ =	1
$J_{(PM10)}$ =	0.5
$J_{(PM2.5)}$ =	0.075

Contaminant	Emission Factor (kg/m2/yr)
TSP	1.94E-02
PM10	9.70E-03
PM2.5	1.45E-03

Operations

Air Contaminant	CAS#	% of TPM (Ore/Waste Rock)	% of TPM (Overburden)	Emission Rates (T/a)							
				Overburden	Waste Rock	Low grade stockpile	Mid-grade stockpile	Mid-grade sorter rejects	High-grade sorter rejects	ROM material	TOTAL
TSP	N/A-1	-	-	8.9	17.16	2.46	0.52	0.39	0.34	0.04	29.9
PM10	N/A-2	-	-	4.5	8.58	1.23	0.26	0.19	0.17	0.02	14.9
PM2.5	N/A-3	-	-	0.7	1.29	0.18	0.04	0.03	0.03	0.00	2.2
Aluminum	7429-90-5	10%	7.03%	6.29E-01	1.77E+00	2.54E-01	5.36E-02	4.00E-02	3.50E-02	4.47E-03	2.8
Antimony	7440-36-0	0%	0.00%	6.50E-05	9.20E-04	1.32E-04	2.79E-05	2.08E-05	1.82E-05	2.32E-06	0.0
Arsenic	7440-38-2	0%	0.00%	3.08E-04	8.06E-03	1.16E-03	2.44E-04	1.82E-04	1.60E-04	2.04E-05	0.0
Barium	7440-39-3	0%	0.05%	4.30E-03	1.12E-02	1.60E-03	3.38E-04	2.52E-04	2.21E-04	2.82E-05	0.0
Beryllium	7440-41-7	0%	0.00%	1.79E-05	4.77E-05	6.85E-06	1.45E-06	1.08E-06	9.44E-07	1.21E-07	0.0
Bismuth	7440-69-9	0%	0.00%	8.94E-06	2.57E-05	3.70E-06	7.80E-07	5.82E-07	5.09E-07	6.51E-08	0.0
Boron	7440-42-8	0%	0.00%	3.61E-04	9.52E-04	1.37E-04	2.89E-05	2.15E-05	1.88E-05	2.41E-06	0.0
Cadmium	7440-43-9	0%	0.00%	1.52E-06	4.60E-06	6.61E-07	1.39E-07	1.04E-07	9.10E-08	1.16E-08	0.0
Chromium	7440-47-3	0%	0.01%	1.24E-03	3.50E-03	5.03E-04	1.06E-04	7.91E-05	6.93E-05	8.85E-06	0.0
Cobalt	7440-48-4	0%	0.00%	1.60E-04	4.96E-04	7.12E-05	1.50E-05	1.12E-05	9.81E-06	1.25E-06	0.0
Copper	7440-50-8	0%	0.00%	3.10E-04	1.84E-03	2.64E-04	5.56E-05	4.15E-05	3.63E-05	4.64E-06	0.0
Iron	7439-89-6	7%	5.20%	4.65E-01	1.15E+00	1.65E-01	3.49E-02	2.60E-02	2.28E-02	2.91E-03	1.9
Lead	7439-92-1	0%	0.00%	1.79E-04	2.04E-03	2.93E-04	6.19E-05	4.62E-05	4.04E-05	5.16E-06	0.0
Lithium	7439-93-2	0%	0.00%	4.06E-04	1.24E-03	1.78E-04	3.75E-05	2.80E-05	2.45E-05	3.13E-06	0.0
Magnesium	7439-95-4	2%	1.38%	1.23E-01	3.77E-01	5.42E-02	1.14E-02	8.53E-03	7.47E-03	9.54E-04	0.6
Manganese	7439-96-5	0%	0.16%	1.40E-02	4.00E-02	5.74E-03	1.21E-03	9.04E-04	7.91E-04	1.01E-04	0.1
Mercury	7439-97-6	0%	0.00%	4.47E-07	6.86E-07	9.86E-08	2.08E-08	1.55E-08	1.36E-08	1.73E-09	0.0
Molybdenum	7439-98-7	0%	0.00%	2.90E-05	1.54E-04	2.22E-05	4.68E-06	3.49E-06	3.06E-06	3.90E-07	0.0
Nickel	7440-02-0	0%	0.01%	5.46E-04	1.69E-03	2.43E-04	5.13E-05	3.82E-05	3.35E-05	4.28E-06	0.0
Potassium	7440-09-7	3%	2.13%	1.90E-01	4.85E-01	6.98E-02	1.47E-02	1.10E-02	9.61E-03	1.23E-03	0.8
Rubidium	7440-17-7	0%	0.01%	9.30E-04	2.30E-03	3.30E-04	6.97E-05	5.20E-05	4.55E-05	5.81E-06	0.0
Selenium	7782-49-2	0%	0.00%	1.79E-05	3.43E-05	4.93E-06	1.04E-06	7.76E-07	6.79E-07	8.67E-08	0.0
Silver	7440-22-4	0%	0.00%	1.21E-06	1.72E-06	2.46E-07	5.20E-08	3.88E-08	3.39E-08	4.34E-09	0.0
Strontium	7440-24-6	0%	0.01%	1.33E-03	6.09E-03	8.75E-04	1.85E-04	1.38E-04	1.21E-04	1.54E-05	0.0
Tellurium	13494-80-9	0%	0.00%	8.94E-07	3.43E-06	4.93E-07	1.04E-07	7.76E-08	6.79E-08	8.67E-09	0.0
Thallium	7440-28-0	0%	0.00%	5.37E-06	1.37E-05	1.97E-06	4.16E-07	3.10E-07	2.72E-07	3.47E-08	0.0
Tin	7440-31-5	0%	0.00%	2.68E-05	5.15E-05	7.39E-06	1.56E-06	1.16E-06	1.02E-06	1.30E-07	0.0
Uranium	7440-61-1	0%	0.00%	2.81E-05	6.97E-05	1.00E-05	2.11E-06	1.57E-06	1.38E-06	1.76E-07	0.0
Vanadium	7440-62-2	0%	0.01%	1.12E-03	4.00E-03	5.74E-04	1.21E-04	9.04E-05	7.91E-05	1.01E-05	0.0
Zinc	7440-66-6	0%	0.01%	6.98E-04	2.04E-03	2.93E-04	6.19E-05	4.62E-05	4.04E-05	5.16E-06	0.0

Air Contaminant	CAS#	% of TPM (Ore/Waste Rock)	% of TPM (Overburden)	Emission Rates (g/m2/s)							
				Overburden	Waste Rock	Low grade stockpile	Mid-grade stockpile	Mid-grade sorter rejects	High-grade sorter rejects	ROM material	TOTAL
TSP	N/A-1	-	-	6.15E-07	6.15E-07	6.15E-07	6.15E-07	6.15E-07	6.15E-07	6.15E-07	4.31E-06
PM10	N/A-2	-	-	3.08E-07	3.08E-07	3.08E-07	3.08E-07	3.08E-07	3.08E-07	3.08E-07	2.15E-06
PM2.5	N/A-3	-	-	4.61E-08	4.61E-08	4.61E-08	4.61E-08	4.61E-08	4.61E-08	4.61E-08	3.23E-07
Aluminum	7429-90-5	10%	7.03%	4.32E-08	6.34E-08	6.34E-08	6.34E-08	6.34E-08	6.34E-08	6.34E-08	4.23E-07
Antimony	7440-36-0	0%	0.00%	4.47E-12	3.30E-11	3.30E-11	3.30E-11	3.30E-11	3.30E-11	3.30E-11	2.02E-10
Arsenic	7440-38-2	0%	0.00%	2.12E-11	2.89E-10	2.89E-10	2.89E-10	2.89E-10	2.89E-10	2.89E-10	1.76E-09
Barium	7440-39-3	0%	0.05%	2.96E-10	4.00E-10	4.00E-10	4.00E-10	4.00E-10	4.00E-10	4.00E-10	2.70E-09
Beryllium	7440-41-7	0%	0.00%	1.23E-12	1.71E-12	1.71E-12	1.71E-12	1.71E-12	1.71E-12	1.71E-12	1.15E-11
Bismuth	7440-69-9	0%	0.00%	6.15E-13	9.23E-13	9.23E-13	9.23E-13	9.23E-13	9.23E-13	9.23E-13	6.15E-12
Boron	7440-42-8	0%	0.00%	2.49E-11	3.41E-11	3.41E-11	3.41E-11	3.41E-11	3.41E-11	3.41E-11	2.30E-10
Cadmium	7440-43-9	0%	0.00%	1.05E-13	1.65E-13	1.65E-13	1.65E-13	1.65E-13	1.65E-13	1.65E-13	1.09E-12
Chromium	7440-47-3	0%	0.01%	8.55E-11	1.25E-10	1.25E-10	1.25E-10	1.25E-10	1.25E-10	1.25E-10	8.38E-10
Cobalt	7440-48-4	0%	0.00%	1.10E-11	1.78E-11	1.78E-11	1.78E-11	1.78E-11	1.78E-11	1.78E-11	1.18E-10
Copper	7440-50-8	0%	0.00%	2.13E-11	6.58E-11	6.58E-11	6.58E-11	6.58E-11	6.58E-11	6.58E-11	4.16E-10
Iron	7439-89-6	7%	5.20%	3.20E-08	4.13E-08	4.13E-08	4.13E-08	4.13E-08	4.13E-08	4.13E-08	2.80E-07
Lead	7439-92-1	0%	0.00%	1.23E-11	7.32E-11	7.32E-11	7.32E-11	7.32E-11	7.32E-11	7.32E-11	4.52E-10
Lithium	7439-93-2	0%	0.00%	2.79E-11	4.44E-11	4.44E-11	4.44E-11	4.44E-11	4.44E-11	4.44E-11	2.94E-10
Magnesium	7439-95-4	2%	1.38%	8.49E-09	1.35E-08	1.35E-08	1.35E-08	1.35E-08	1.35E-08	1.35E-08	8.97E-08
Manganese	7439-96-5	0%	0.16%	9.66E-10	1.43E-09	1.43E-09	1.43E-09	1.43E-09	1.43E-09	1.43E-09	9.57E-09
Mercury	7439-97-6	0%	0.00%	3.08E-14	2.46E-14	2.46E-14	2.46E-14	2.46E-14	2.46E-14	2.46E-14	1.78E-13
Molybdenum	7439-98-7	0%	0.00%	1.99E-12	5.54E-12	5.54E-12	5.54E-12	5.54E-12	5.54E-12	5.54E-12	3.52E-11
Nickel	7440-02-0	0%	0.01%	3.76E-11	6.07E-11	6.07E-11	6.07E-11	6.07E-11	6.07E-11	6.07E-11	4.02E-10
Potassium	7440-09-7	3%	2.13%	1.31E-08	1.74E-08	1.74E-08	1.74E-08	1.74E-08	1.74E-08	1.74E-08	1.18E-07
Rubidium	7440-17-7	0%	0.01%	6.40E-11	8.24E-11	8.24E-11	8.24E-11	8.24E-11	8.24E-11	8.24E-11	5.59E-10
Selenium	7782-49-2	0%	0.00%	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12	8.61E-12
Silver	7440-22-4	0%	0.00%	8.30E-14	6.15E-14	6.15E-14	6.15E-14	6.15E-14	6.15E-14	6.15E-14	4.52E-13
Strontium	7440-24-6	0%	0.01%	9.17E-11	2.18E-10	2.18E-10	2.18E-10	2.18E-10	2.18E-10	2.18E-10	1.40E-09
Tellurium	13494-80-9	0%	0.00%	6.15E-14	1.23E-13	1.23E-13	1.23E-13	1.23E-13	1.23E-13	1.23E-13	8.00E-13
Thallium	7440-28-0	0%	0.00%	3.69E-13	4.92E-13	4.92E-13	4.92E-13	4.92E-13	4.92E-13	4.92E-13	3.32E-12
Tin	7440-31-5	0%	0.00%	1.85E-12	1.85E-12	1.85E-12	1.85E-12	1.85E-12	1.85E-12	1.85E-12	1.29E-11
Uranium	7440-61-1	0%	0.00%	1.93E-12	2.50E-12	2.50E-12	2.50E-12	2.50E-12	2.50E-12	2.50E-12	1.69E-11
Vanadium	7440-62-2	0%	0.01%	7.69E-11	1.43E-10	1.43E-10	1.43E-10	1.43E-10	1.43E-10	1.43E-10	9.37E-10
Zinc	7440-66-6	0%	0.01%	4.80E-11	7.32E-11	7.32E-11	7.32E-11	7.32E-11	7.32E-11	7.32E-11	4.87E-10

				Emission Rates (g/a)							
				Overburden	Waste Rock	Low grade stockpile	Mid-grade stockpile	Mid-grade sorter rejects	High-grade sorter rejects	ROM material	TOTAL
TSP	N/A-1	-	-	2.84E-01	5.44E-01	7.82E-02	1.65E-02	1.23E-02	1.08E-02	1.36E-03	9.47E-01
PM10	N/A-2	-	-	1.42E-01	2.72E-01	3.91E-02	8.24E-03	6.15E-03	5.38E-03	6.85E-04	4.73E-01
PM2.5	N/A-3	-	-	2.13E-02	4.08E-02	5.86E-03	1.24E-03	9.23E-04	8.07E-04	1.03E-04	7.10E-02
Aluminum	7429-90-5	10%	7.03%	1.99E-02	5.60E-02	8.06E-03	1.70E-03	1.27E-03	1.11E-03	1.42E-04	9.82E-02
Antimony	7440-36-0	0%	0.00%	2.06E-06	2.92E-05	4.19E-06	8.84E-07	6.59E-07	5.77E-07	7.37E-08	4.76E-05
Arsenic	7440-38-2	0%	0.00%	9.76E-06	2.56E-04	3.67E-05	7.75E-06	5.78E-06	5.06E-06	6.46E-07	3.21E-04
Barium	7440-39-3	0%	0.05%	1.36E-04	3.54E-04	5.08E-05	1.07E-05	8.00E-06	7.00E-06	8.94E-07	5.67E-04
Beryllium	7440-41-7	0%	0.00%	5.67E-07	1.51E-06	2.17E-07	4.58E-08	3.42E-08	2.99E-08	3.82E-09	2.41E-06
Bismuth	7440-69-9	0%	0.00%	2.84E-07	8.16E-07	1.17E-07	2.47E-08	1.85E-08	1.61E-08	2.06E-09	1.28E-06
Boron	7440-42-8	0%	0.00%	1.15E-05	3.02E-05	4.34E-06	9.15E-07	6.83E-07	5.97E-07	7.63E-08	4.83E-05
Cadmium	7440-43-9	0%	0.00%	4.82E-08	1.46E-07	2.09E-08	4.42E-09	3.30E-09	2.88E-09	3.69E-10	2.29E-07
Chromium	7440-47-3	0%	0.01%	3.94E-05	1.11E-04	1.59E-05	3.36E-06	2.51E-06	2.20E-06	2.81E-07	1.77E-04
Cobalt	7440-48-4	0%	0.00%	5.08E-06	1.57E-05	2.26E-06	4.78E-07	3.56E-07	3.11E-07	3.97E-08	2.42E-05
Copper	7440-50-8	0%	0.00%	9.84E-06	5.82E-05	8.36E-06	1.76E-06	1.32E-06	1.15E-06	1.47E-07	8.08E-05
Iron	7439-89-6	7%	5.20%	1.47E-02	3.65E-02	5.24E-03	1.11E-03	8.25E-04	7.22E-04	9.22E-05	5.62E-02
Lead	7439-92-1	0%	0.00%	5.67E-06	6.47E-05	9.30E-06	1.96E-06	1.46E-06	1.28E-06	1.64E-07	8.46E-05
Lithium	7439-93-2	0%	0.00%	1.29E-05	3.92E-05	5.64E-06	1.19E-06	8.87E-07	7.76E-07	9.92E-08	6.07E-05
Magnesium	7439-95-4	2%	1.38%	3.91E-03	1.20E-02	1.72E-03	3.63E-04	2.71E-04	2.37E-04	3.03E-05	1.85E-02
Manganese	7439-96-5	0%	0.16%	4.45E-04	1.27E-03	1.82E-04	3.84E-05	2.87E-05	2.51E-05	3.20E-06	1.98E-03
Mercury	7439-97-6	0%	0.00%	1.42E-08	2.18E-08	3.13E-09	6.59E-10	4.92E-10	4.31E-10	5.50E-11	4.07E-08
Molybdenum	7439-98-7	0%	0.00%	9.19E-07	4.90E-06	7.03E-07	1.48E-07	1.11E-07	9.69E-08	1.24E-08	8.88E-06
Nickel	7440-02-0	0%	0.01%	1.73E-05	5.36E-05	7.71E-06	1.63E-06	1.21E-06	1.06E-06	1.36E-07	8.27E-05
Potassium	7440-09-7	3%	2.13%	6.04E-03	1.54E-02	2.21E-03	4.67E-04	3.48E-04	3.05E-04	3.89E-05	2.48E-02
Rubidium	7440-17-7	0%	0.01%	2.95E-05	7.29E-05	1.05E-05	2.21E-06	1.65E-06	1.44E-06	1.84E-07	1.18E-04
Selenium	7782-49-2	0%	0.00%	5.67E-07	1.09E-06	1.56E-07	3.30E-08	2.46E-08	2.15E-08	2.75E-09	1.69E-06
Silver	7440-22-4	0%	0.00%	3.83E-08	5.44E-08	7.84E-09	1.65E-09	1.23E-09	1.08E-09	1.38E-10	1.05E-07
Strontium	7440-24-6	0%	0.01%	4.23E-05	1.93E-04	2.77E-05	5.85E-06	4.37E-06	3.82E-06	4.88E-07	2.76E-04
Tellurium	13494-80-9	0%	0.00%	2.84E-08	1.09E-07	1.56E-08	3.30E-09	2.46E-09	2.15E-09	2.75E-10	1.61E-07
Thallium	7440-28-0	0%	0.00%	1.70E-07	4.35E-07	6.25E-08	1.32E-08	9.84E-09	8.61E-09	1.10E-09	7.01E-07
Tin	7440-31-5	0%	0.00%	8.51E-07	1.63E-06	2.34E-07	4.95E-08	3.69E-08	3.23E-08	4.13E-09	2.84E-06
Uranium	7440-61-1	0%	0.00%	8.90E-07	2.21E-06	3.17E-07	6.69E-08	4.99E-08	4.37E-08	5.58E-09	3.58E-06
Vanadium	7440-62-2	0%	0.01%	3.54E-05	1.27E-04	1.82E-05	3.84E-06	2.87E-06	2.51E-06	3.20E-07	1.90E-04
Zinc	7440-66-6	0%	0.01%	2.21E-05	6.47E-05	9.30E-06	1.96E-06	1.46E-06	1.28E-06	1.64E-07	1.01E-04

Construction

Air Contaminant	CAS#	% of TPM (Ore/Waste Rock)	% of TPM (Overburden)	Emission Rates (T/a)						
				Mineralized Waste (low grade)	Mid-grade	High Grade Sorter Rejects	Non-Construction Waste	Construction Waste	Overburden	TOTAL
TSP	N/A-1	-	-	2.2	0.45	0.29	3.35	3.35	3.95	13.6
PM10	N/A-2	-	-	1.1	0.22	0.15	1.67	1.67	1.98	6.8
PM2.5	N/A-3	-	-	0.2	0.03	0.02	0.25	0.25	0.30	1.0
Aluminum	7429-90-5	10%	7.03%	2.25E-01	4.63E-02	3.01E-02	3.45E-01	3.45E-01	2.78E-01	1.27E+00
Antimony	7440-36-0	0%	0.00%	1.17E-04	2.41E-05	1.57E-05	1.79E-04	1.79E-04	2.87E-05	5.44E-04
Arsenic	7440-38-2	0%	0.00%	1.03E-03	2.11E-04	1.38E-04	1.57E-03	1.57E-03	1.36E-04	4.66E-03
Barium	7440-39-3	0%	0.05%	1.42E-03	2.92E-04	1.90E-04	2.18E-03	2.18E-03	1.90E-03	8.15E-03
Beryllium	7440-41-7	0%	0.00%	6.07E-06	1.25E-06	8.13E-07	9.31E-06	9.31E-06	7.91E-06	3.46E-05
Bismuth	7440-69-9	0%	0.00%	3.27E-06	6.74E-07	4.39E-07	5.02E-06	5.02E-06	3.95E-06	1.84E-05
Boron	7440-42-8	0%	0.00%	1.21E-04	2.50E-05	1.62E-05	1.86E-04	1.86E-04	1.60E-04	6.94E-04
Cadmium	7440-43-9	0%	0.00%	5.85E-07	1.20E-07	7.84E-08	8.97E-07	8.97E-07	6.72E-07	3.25E-06
Chromium	7440-47-3	0%	0.01%	4.45E-04	9.17E-05	5.97E-05	6.83E-04	6.83E-04	5.50E-04	2.51E-03
Cobalt	7440-48-4	0%	0.00%	6.31E-05	1.30E-05	8.46E-06	9.67E-05	9.67E-05	7.08E-05	3.49E-04
Copper	7440-50-8	0%	0.00%	2.34E-04	4.81E-05	3.13E-05	3.58E-04	3.58E-04	1.37E-04	1.17E-03
Iron	7439-89-6	7%	5.20%	1.46E-01	3.02E-02	1.96E-02	2.25E-01	2.25E-01	2.06E-01	8.51E-01
Lead	7439-92-1	0%	0.00%	2.60E-04	5.35E-05	3.48E-05	3.98E-04	3.98E-04	7.91E-05	1.22E-03
Lithium	7439-93-2	0%	0.00%	1.57E-04	3.24E-05	2.11E-05	2.41E-04	2.41E-04	1.80E-04	8.73E-04
Magnesium	7439-95-4	2%	1.38%	4.80E-02	9.89E-03	6.44E-03	7.36E-02	7.36E-02	5.46E-02	2.66E-01
Manganese	7439-96-5	0%	0.16%	5.09E-03	1.05E-03	6.82E-04	7.80E-03	7.80E-03	6.21E-03	2.86E-02
Mercury	7439-97-6	0%	0.00%	8.73E-08	1.80E-08	1.17E-08	1.34E-07	1.34E-07	1.98E-07	5.82E-07
Molybdenum	7439-98-7	0%	0.00%	1.96E-05	4.05E-06	2.63E-06	3.01E-05	3.01E-05	1.28E-05	9.94E-05
Nickel	7440-02-0	0%	0.01%	2.15E-04	4.43E-05	2.88E-05	3.30E-04	3.30E-04	2.42E-04	1.19E-03
Potassium	7440-09-7	3%	2.13%	6.18E-02	1.27E-02	8.28E-03	9.47E-02	9.47E-02	8.42E-02	3.56E-01
Rubidium	7440-17-7	0%	0.01%	2.92E-04	6.02E-05	3.92E-05	4.49E-04	4.49E-04	4.11E-04	1.70E-03
Selenium	7782-49-2	0%	0.00%	4.37E-06	8.99E-07	5.85E-07	6.69E-06	6.69E-06	7.91E-06	2.71E-05
Silver	7440-22-4	0%	0.00%	2.18E-07	4.50E-08	2.93E-08	3.35E-07	3.35E-07	5.34E-07	1.50E-06
Strontium	7440-24-6	0%	0.01%	7.75E-04	1.60E-04	1.04E-04	1.19E-03	1.19E-03	5.89E-04	4.00E-03
Tellurium	13494-80-9	0%	0.00%	4.37E-07	8.99E-08	5.85E-08	6.69E-07	6.69E-07	3.95E-07	2.32E-06
Thallium	7440-28-0	0%	0.00%	1.75E-06	3.60E-07	2.34E-07	2.68E-06	2.68E-06	2.37E-06	1.01E-05
Tin	7440-31-5	0%	0.00%	6.55E-06	1.35E-06	8.78E-07	1.00E-05	1.00E-05	1.19E-05	4.07E-05
Uranium	7440-61-1	0%	0.00%	8.86E-06	1.83E-06	1.19E-06	1.36E-05	1.36E-05	1.24E-05	5.15E-05
Vanadium	7440-62-2	0%	0.01%	5.09E-04	1.05E-04	6.82E-05	7.80E-04	7.80E-04	4.94E-04	2.74E-03
Zinc	7440-66-6	0%	0.01%	2.60E-04	5.35E-05	3.48E-05	3.98E-04	3.98E-04	3.09E-04	1.45E-03

Sample Calculations

TPM Emissions = Emission Factor × Surface Area of Stockpiles × Conversion

Emission Factor TPM = 1.12 * 10-4 * J * 1.7 * (s/1.5) * 365 * ((365-P)/235) * (I/15)

**Parameters defined above*

$$\text{Emission Factor TPM} = \frac{1.12 \times 0.0001 \times 1 \times 1.7 \times \frac{0.5}{1.5} \times 365 \times \left(\frac{365 - 242}{235}\right) \times \frac{24.00}{15}}{}$$

$$\text{Emission Factor TPM} = 0.019 \ \frac{\text{kg}}{\text{m}^2 \text{ year}}$$

$$\text{TPM Emissions (Waste Rock)} = \frac{0.019 \ \text{kg}}{\text{m}^2 \text{ year}} \times 884309 \ \text{m}^2 \times \frac{1000 \ \text{g}}{1 \ \text{kg}} \times \frac{1 \ \text{year}}{365.00 \ \text{days}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3600 \text{ seconds}}$$

$$\text{TPM Emissions (Waste Rock)} = 5.44\text{E-}01 \ \frac{\text{g}}{\text{s}}$$

Transfer Points - Fugitive Dust Emissions Estimates

Source Descriptio Fugitive dust releases generated from material transfer (at drop points from conveyors or loading/unloading at stockpiles).

Methodology Estimated based on information provided by Newfound Gold and published emission factors from the US EPA AP-42 Chapter 13.2.4 Aggregate Handling and Storage Piles.
Trace metal fugitives are estimated based on the TSP 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) are used to estimate the releases.

Metal emissions were speciated from TPM based on the composition of the ore. Ore composition was only available for waste rock and low grade ore. Conservatively applied the 95th percentile for each species, using the maximum between waste rock or low grade.

Operational Schedule for Releases are assumed to occur continuously for the dispersion modelling. Modelled worst-case potential from each individual pile (conservative).

Calculation Inputs

		Year												
		-0.5	0.5	2	3	4	5	6	7				Maximum Amount	Year of Max
Mid grade mineralized material stockpile	Addition (t)	63,060	63,060	148,808	188,361	51,597							188,361	3
	Withdraw (t)		-				123,182	229,128	162,578				229,128	6
	Total Moved (t)	63,060	63,060	148,808	188,361	51,597	123,182	229,128	162,578				229,128	6
Low grade mineralized material stockpile	Total Moved (t) (additions only)	529,282	529,282	660,528	680,301	664,110	912,663	598,662	314,505				912,663	5
Waste	Total Moved (t) (additions only)	782,635	782,635	9,940,789	9,070,232	11,404,344	11,487,322	7,443,458	1,447,377				11,487,322	5
Overburden	Total Moved (t) (additions only)	542,473	542,473	911,869	2,112,239	337,939							2,112,239	3
MG Sorter Rejects	Total Moved (t) (additions only)		-				92,080	158,323	99,135				158,323	6
HG Sorter Rejects	Additions	26,068	26,068	90,351	194,119								194,119	3
	Withdraws		-			213,837	122,770						213,837	4
	Total Moved (t)	26,068	26,068	90,351	194,119	213,837	122,770	-	-				213,837	4
	Total add/remove	*1,943,519*	*1,943,519*	*11,752,344*	*12,245,252*	*12,671,827*	*12,738,017*	*8,429,571*	*2,023,594*					

Source: "AQ-6-7 Stockpiles" spreadsheet
Note: The HG Mineralized Material Stockpile is removed, citing that all this material will be sent immediately to the crusher. Only the rejects will get stockpiled.
The first year is split into two half years which represent construction (6 months) and operatings beginning (6 months)

Drop Sources - Storage Piles

	Construction	Operations (Peak Paved Roads Year 4)	Operations (Peak MT Year 5)
Drop Sources	**Total Material Moved [tonnes/year]**	**Total Material Moved [tonnes/year]**	**Total Material Moved [tonnes/year]**
MG Stockpile	**63,060**	**51,597**	**123,182**
Waste Rock	**782,635**	**11,404,344**	**11,487,322**
LG Stockpile	**529,282**	**664,110**	**912,663**
HG Sorter Rejects	**26,068**	**213,837**	**122,770**
MG Sorter Rejects	**-**	**-**	**92,080**
Overburden	**542,473**	**337,939**	**-**
Total	**1,943,519**	**12,671,827**	**12,738,017**

Crushing Circuit Equipment	Transfer/Drop Rate (t/d)
Inlet Primary Crusher	1,500
Discharge Primary Crusher (inlet secondary)	1,500
Discharge Secondary Crusher (inlet screen)	1,500
Discharge Screen	1,500
Surge Bin	1,500
Sorter Conveyor	1500
Accepts Conveyor	960
Rejects Conveyor	630

Source: PD Section 4.4.5 Crushing and Sorting Plant

Calculations

Particulate Matter Emission Calculations

Substance	NPRI CAS	Particle Size	k	Drop Emission Factor [kg/ Mg]
Total Particulate Matter	NA - M08	< 30 um	0.74	1.19E-02
Particulate matter less than or equal to 10 micrometers (μm) (PM10)	NA - M09	< 10 um	0.35	5.64E-03
Particulate matter less than or equal to 2.5 μm (PM2.5)	NA - M10	< 2.5 um	0.053	8.55E-04

[1]Assuming PM2.5 is 50% of PM10
[2]Handling is applied for each operational activity

Sample Calculations

US EPA AP-42, Chapter 13, Equation 13.2.4.(1):

E = k x 0.0016 x (U/2.2)^1.3 / (M/2)^1.4

Where:

E =		Emission Factor (kg/Mg)
U =	*4.200*	Mean Wind Speed (m/s)
M =	*0.7*	Material Moisture Content (%)
k =	*See below*	Particle Size Multiplier (dimensionless)

Notes:
1) Material Moisture content obtained from AP-42 Chapter 13.2.4 for Crushed Limestone
2) Mean wind speed from CALMET processed data for the site, data for 2021-2024

Drop E TPM = $0.74 \times 0.0016 \times \left(\frac{4.200\ \text{m/s}}{2.2}\right)^{1.3} \left(\frac{0.70\ \%}{2}\right)^{1.4}$

Drop E TPM = 1.19E-02 kg/Mg

Drop Emission Rate TPM Year 4 = E [kg/Mg] x Material Transferred [Mg/Year] x Conversion

Drop Emission Rate TPM Year 4 (Stockpiles)= $1.19\text{E-}02\ \frac{\text{kg}}{\text{Mg}} \times 12671827\ \frac{\text{Mg}}{\text{year}} \times \frac{1\ \text{tonne}}{1000\ \text{kg}}$

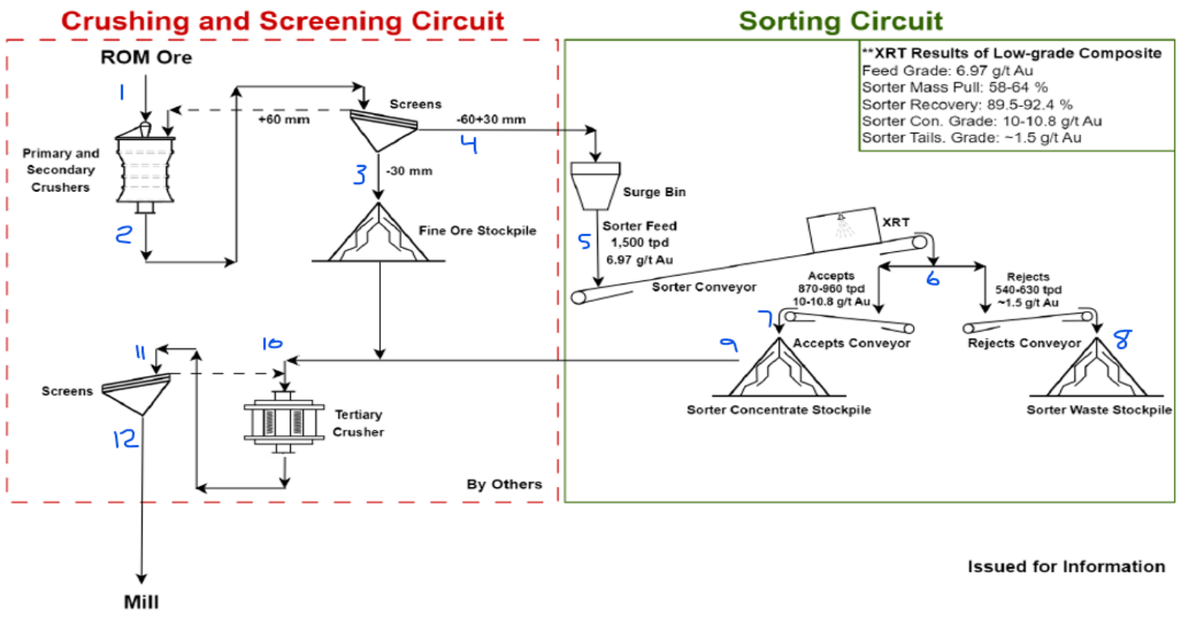
Drop Emission Rate Year 4 TPM = 151.21 tonne/year

Operations - Year 4

Air Contaminant	CAS#	% of TPM (Ore/Waste Rock)	% of TPM (Overburden)	Emission Rate (g/s) - Year 4																
				Crushing Circuit Drop Points								Stockpile Loading and Unloading Drop Points								
				Inlet Primary Crusher	Discharge Primary Crusher (inlet secondary)	Discharge Secondary Crusher (inlet screen)	Discharge Screen	Surge Bin	Sorter Conveyor	Accepts Conveyor	Rejects Conveyor	MG Stockpile	Waste Rock	LG Stockpile	HG Sorter Rejects	MG Sorter Rejects	Overburden	Total Releases (g/s)	Total Annual Releases (T/a)
TSP	N/A-1	-	-	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.09	0.020	4.315	0.251	0.081	0.000	0.128	6.26	197.3
PM10	N/A-2	-	-	9.80E-02	0.10	0.10	0.10	0.10	0.10	0.06	0.04	0.009	2.041	0.119	0.038	0.000	0.060	2.96	93.3
PM2.5	N/A-3	-	-	1.48E-02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.309	0.018	0.006	0.000	0.009	0.45	14.1
Aluminum	7429-90-5	10%	7.03%	2.13E-02	2.13E-02	2.13E-02	2.13E-02	2.13E-02	2.13E-02	1.37E-02	8.96E-03	2.01E-03	4.44E-01	2.59E-02	8.33E-03	0.00E+00	8.99E-03	0.64	20.2
Antimony	7440-36-0	0%	0.00%	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	7.11E-06	4.66E-06	1.05E-06	2.31E-04	1.35E-05	4.34E-06	0.00E+00	9.30E-07	0.00	1.04E-02
Arsenic	7440-38-2	0%	0.00%	9.74E-05	9.74E-05	9.74E-05	9.74E-05	9.74E-05	9.74E-05	6.23E-05	4.09E-05	9.18E-06	2.03E-03	1.18E-04	3.80E-05	0.00E+00	4.40E-06	0.00	9.10E-02
Barium	7440-39-3	0%	0.05%	1.35E-04	1.35E-04	1.35E-04	1.35E-04	1.35E-04	1.35E-04	8.62E-05	5.66E-05	1.27E-05	2.80E-03	1.63E-04	5.26E-05	0.00E+00	6.15E-05	0.00	1.28E-01
Beryllium	7440-41-7	0%	0.00%	5.76E-07	5.76E-07	5.76E-07	5.76E-07	5.76E-07	5.76E-07	3.69E-07	2.42E-07	5.43E-08	1.20E-05	6.99E-07	2.25E-07	0.00E+00	2.56E-07	0.00	5.45E-04
Bismuth	7440-69-9	0%	0.00%	3.11E-07	3.11E-07	3.11E-07	3.11E-07	3.11E-07	3.11E-07	1.99E-07	1.31E-07	2.93E-08	6.47E-06	3.77E-07	1.21E-07	0.00E+00	1.28E-07	0.00	2.94E-04
Boron	7440-42-8	0%	0.00%	1.15E-05	1.15E-05	1.15E-05	1.15E-05	1.15E-05	1.15E-05	7.36E-06	4.83E-06	1.08E-06	2.39E-04	1.39E-05	4.49E-06	0.00E+00	5.17E-06	0.00	1.09E-02
Cadmium	7440-43-9	0%	0.00%	5.55E-08	5.55E-08	5.55E-08	5.55E-08	5.55E-08	5.55E-08	3.55E-08	2.33E-08	5.23E-09	1.16E-06	6.73E-08	2.17E-08	0.00E+00	2.17E-08	0.00	5.25E-05
Chromium	7440-47-3	0%	0.01%	4.23E-05	4.23E-05	4.23E-05	4.23E-05	4.23E-05	4.23E-05	2.70E-05	1.77E-05	3.98E-06	8.80E-04	5.13E-05	1.65E-05	0.00E+00	1.78E-05	0.00	4.00E-02
Cobalt	7440-48-4	0%	0.00%	5.99E-06	5.99E-06	5.99E-06	5.99E-06	5.99E-06	5.99E-06	3.83E-06	2.51E-06	5.64E-07	1.25E-04	7.26E-06	2.34E-06	0.00E+00	2.29E-06	0.00	5.66E-03
Copper	7440-50-8	0%	0.00%	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	1.42E-05	9.31E-06	2.09E-06	4.62E-04	2.69E-05	8.66E-06	0.00E+00	4.44E-06	0.00	2.08E-02
Iron	7439-89-6	7%	5.20%	1.39E-02	1.39E-02	1.39E-02	1.39E-02	1.39E-02	1.39E-02	8.90E-03	5.84E-03	1.31E-03	2.90E-01	1.69E-02	5.43E-03	0.00E+00	6.65E-03	0.42	1.32E+01
Lead	7439-92-1	0%	0.00%	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	1.58E-05	1.04E-05	2.32E-06	5.14E-04	2.99E-05	9.63E-06	0.00E+00	2.56E-06	0.00	2.31E-02
Lithium	7439-93-2	0%	0.00%	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	9.56E-06	6.27E-06	1.41E-06	3.11E-04	1.81E-05	5.83E-06	0.00E+00	5.81E-06	0.00	1.41E-02
Magnesium	7439-95-4	2%	1.38%	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	2.92E-03	1.91E-03	4.30E-04	9.49E-02	5.53E-03	1.78E-03	0.00E+00	1.76E-03	0.14	4.31E+00
Manganese	7439-96-5	0%	0.16%	4.83E-04	4.83E-04	4.83E-04	4.83E-04	4.83E-04	4.83E-04	3.09E-04	2.03E-04	4.55E-05	1.01E-02	5.85E-04	1.89E-04	0.00E+00	2.01E-04	0.01	4.57E-01
Mercury	7439-97-6	0%	0.00%	8.29E-09	8.29E-09	8.29E-09	8.29E-09	8.29E-09	8.29E-09	5.30E-09	3.48E-09	7.81E-10	1.73E-07	1.01E-08	3.24E-09	0.00E+00	6.39E-09	0.00	7.93E-06
Molybdenum	7439-98-7	0%	0.00%	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.19E-06	7.83E-07	1.76E-07	3.88E-05	2.26E-06	7.28E-07	0.00E+00	4.14E-07	0.00	1.75E-03
Nickel	7440-02-0	0%	0.01%	2.04E-05	2.04E-05	2.04E-05	2.04E-05	2.04E-05	2.04E-05	1.31E-05	8.58E-06	1.92E-06	4.25E-04	2.48E-05	7.98E-06	0.00E+00	7.81E-06	0.00	1.93E-02
Potassium	7440-09-7	3%	2.13%	5.86E-03	5.86E-03	5.86E-03	5.86E-03	5.86E-03	5.86E-03	3.75E-03	2.46E-03	5.53E-04	1.22E-01	7.11E-03	2.29E-03	0.00E+00	2.72E-03	0.18	5.56E+00
Rubidium	7440-17-7	0%	0.01%	2.78E-05	2.78E-05	2.78E-05	2.78E-05	2.78E-05	2.78E-05	1.78E-05	1.17E-05	2.62E-06	5.78E-04	3.37E-05	1.08E-05	0.00E+00	1.33E-05	0.00	2.63E-02
Selenium	7782-49-2	0%	0.00%	4.14E-07	4.14E-07	4.14E-07	4.14E-07	4.14E-07	4.14E-07	2.65E-07	1.74E-07	3.90E-08	8.63E-06	5.03E-07	1.62E-07	0.00E+00	2.56E-07	0.00	3.95E-04
Silver	7440-22-4	0%	0.00%	2.07E-08	2.07E-08	2.07E-08	2.07E-08	2.07E-08	2.07E-08	1.33E-08	8.70E-09	1.95E-09	4.32E-07	2.51E-08	8.09E-09	0.00E+00	1.73E-08	0.00	1.99E-05
Strontium	7440-24-6	0%	0.01%	7.35E-05	7.35E-05	7.35E-05	7.35E-05	7.35E-05	7.35E-05	4.71E-05	3.09E-05	6.93E-06	1.53E-03	8.92E-05	2.87E-05	0.00E+00	1.91E-05	0.00	6.92E-02
Tellurium	13494-80-9	0%	0.00%	4.14E-08	4.14E-08	4.14E-08	4.14E-08	4.14E-08	4.14E-08	2.65E-08	1.74E-08	3.90E-09	8.63E-07	5.03E-08	1.62E-08	0.00E+00	1.28E-08	0.00	3.91E-05
Thallium	7440-28-0	0%	0.00%	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.06E-07	6.96E-08	1.56E-08	3.45E-06	2.01E-07	6.47E-08	0.00E+00	7.67E-08	0.00	1.57E-04
Tin	7440-31-5	0%	0.00%	6.21E-07	6.21E-07	6.21E-07	6.21E-07	6.21E-07	6.21E-07	3.98E-07	2.61E-07	5.86E-08	1.29E-05	7.54E-07	2.43E-07	0.00E+00	3.84E-07	0.00	5.92E-04
Uranium	7440-61-1	0%	0.00%	8.41E-07	8.41E-07	8.41E-07	8.41E-07	8.41E-07	8.41E-07	5.38E-07	3.53E-07	7.93E-08	1.75E-05	1.02E-06	3.28E-07	0.00E+00	4.02E-07	0.00	7.97E-04
Vanadium	7440-62-2	0%	0.01%	4.83E-05	4.83E-05	4.83E-05	4.83E-05	4.83E-05	4.83E-05	3.09E-05	2.03E-05	4.55E-06	1.01E-03	5.85E-05	1.89E-05	0.00E+00	1.60E-05	0.00	4.55E-02
Zinc	7440-66-6	0%	0.01%	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	1.58E-05	1.04E-05	2.32E-06	5.14E-04	2.99E-05	9.63E-06	0.00E+00	9.99E-06	0.00	2.33E-02

Construction

Air Contaminant	CAS#	% of TPM (Ore/Waste Rock)	% of TPM (Overburden)	Emission Rate (g/s)														
				Crushing Circuit Drop Points								Stockpile Loading and Unloading Drop Points						
				Inlet Primary Crusher	Discharge Primary Crusher (inlet secondary)	Discharge Secondary Crusher (inlet screen)	Discharge Screen	Surge Bin	Sorter Conveyor	Accepts Conveyor	Rejects Conveyor	MG Stockpile	Waste Rock	LG Stockpile	HG Sorter Rejects	MG Sorter Rejects	Overburden	Total Annual Releases (T/a)
TSP	N/A-1	-	-	2.07E-01	2.07E-01	2.07E-01	2.07E-01	2.07E-01	2.07E-01	1.33E-01	8.70E-02	2.39E-02	2.96E-01	2.00E-01	9.86E-03	0.00E+00	2.05E-01	69.3
PM10	N/A-2	-	-	9.80E-02	9.80E-02	9.80E-02	9.80E-02	9.80E-02	9.80E-02	6.27E-02	4.12E-02	1.13E-02	1.40E-01	9.47E-02	4.67E-03	0.00E+00	9.71E-02	32.8
PM2.5	N/A-3	-	-	1.48E-02	1.48E-02	1.48E-02	1.48E-02	1.48E-02	1.48E-02	9.50E-03	6.23E-03	1.71E-03	2.12E-02	1.43E-02	7.06E-04	0.00E+00	1.47E-02	5.0
Aluminum	7429-90-5	10%	7.03%	2.13E-02	2.13E-02	2.13E-02	2.13E-02	2.13E-02	2.13E-02	1.37E-02	8.96E-03	2.46E-03	3.05E-02	2.06E-02	1.02E-03	0.00E+00	1.44E-02	6.9
Antimony	7440-36-0	0%	0.00%	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	7.11E-06	4.66E-06	1.28E-06	1.59E-05	1.07E-05	5.29E-07	0.00E+00	1.49E-06	3.42E-03
Arsenic	7440-38-2	0%	0.00%	9.74E-05	9.74E-05	9.74E-05	9.74E-05	9.74E-05	9.74E-05	6.23E-05	4.09E-05	1.12E-05	1.39E-04	9.41E-05	4.64E-06	0.00E+00	7.06E-06	2.98E-02
Barium	7440-39-3	0%	0.05%	1.35E-04	1.35E-04	1.35E-04	1.35E-04	1.35E-04	1.35E-04	8.62E-05	5.66E-05	1.55E-05	1.92E-04	1.30E-04	6.41E-06	0.00E+00	9.87E-05	4.40E-02
Beryllium	7440-41-7	0%	0.00%	5.76E-07	5.76E-07	5.76E-07	5.76E-07	5.76E-07	5.76E-07	3.69E-07	2.42E-07	6.63E-08	8.23E-07	5.57E-07	2.74E-08	0.00E+00	4.11E-07	1.88E-04
Bismuth	7440-69-9	0%	0.00%	3.11E-07	3.11E-07	3.11E-07	3.11E-07	3.11E-07	3.11E-07	1.99E-07	1.31E-07	3.58E-08	4.44E-07	3.00E-07	1.48E-08	0.00E+00	2.05E-07	1.01E-04
Boron	7440-42-8	0%	0.00%	1.15E-05	1.15E-05	1.15E-05	1.15E-05	1.15E-05	1.15E-05	7.36E-06	4.83E-06	1.32E-06	1.64E-05	1.11E-05	5.47E-07	0.00E+00	8.29E-06	3.75E-03
Cadmium	7440-43-9	0%	0.00%	5.55E-08	5.55E-08	5.55E-08	5.55E-08	5.55E-08	5.55E-08	3.55E-08	2.33E-08	6.39E-09	7.94E-08	5.37E-08	2.64E-09	0.00E+00	3.49E-08	1.79E-05
Chromium	7440-47-3	0%	0.01%	4.23E-05	4.23E-05	4.23E-05	4.23E-05	4.23E-05	4.23E-05	2.70E-05	1.77E-05	4.87E-06	6.04E-05	4.09E-05	2.01E-06	0.00E+00	2.85E-05	1.37E-02
Cobalt	7440-48-4	0%	0.00%	5.99E-06	5.99E-06	5.99E-06	5.99E-06	5.99E-06	5.99E-06	3.83E-06	2.51E-06	6.90E-07	8.56E-06	5.79E-06	2.85E-07	0.00E+00	3.67E-06	1.93E-03
Copper	7440-50-8	0%	0.00%	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	1.42E-05	9.31E-06	2.55E-06	3.17E-05	2.14E-05	1.06E-06	0.00E+00	7.12E-06	6.95E-03
Iron	7439-89-6	7%	5.20%	1.39E-02	1.39E-02	1.39E-02	1.39E-02	1.39E-02	1.39E-02	8.90E-03	5.84E-03	1.60E-03	1.99E-02	1.34E-02	6.62E-04	0.00E+00	1.07E-02	4.55E+00
Lead	7439-92-1	0%	0.00%	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	1.58E-05	1.04E-05	2.84E-06	3.52E-05	2.38E-05	1.17E-06	0.00E+00	4.11E-06	7.61E-03
Lithium	7439-93-2	0%	0.00%	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	9.56E-06	6.27E-06	1.72E-06	2.14E-05	1.44E-05	7.11E-07	0.00E+00	9.32E-06	4.82E-03
Magnesium	7439-95-4	2%	1.38%	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	2.92E-03	1.91E-03	5.25E-04	6.51E-03	4.41E-03	2.17E-04	0.00E+00	2.83E-03	1.47E+00
Manganese	7439-96-5	0%	0.16%	4.83E-04	4.83E-04	4.83E-04	4.83E-04	4.83E-04	4.83E-04	3.09E-04	2.03E-04	5.56E-05	6.90E-04	4.67E-04	2.30E-05	0.00E+00	3.22E-04	1.57E-01
Mercury	7439-97-6	0%	0.00%	8.29E-09	8.29E-09	8.29E-09	8.29E-09	8.29E-09	8.29E-09	5.30E-09	3.48E-09	9.54E-10	1.18E-08	8.01E-09	3.95E-10	0.00E+00	1.03E-08	2.84E-06
Molybdenum	7439-98-7	0%	0.00%	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.19E-06	7.83E-07	2.15E-07	2.67E-06	1.80E-06	8.88E-08	0.00E+00	6.65E-07	5.87E-04
Nickel	7440-02-0	0%	0.01%	2.04E-05	2.04E-05	2.04E-05	2.04E-05	2.04E-05	2.04E-05	1.31E-05	8.58E-06	2.35E-06	2.92E-05	1.97E-05	9.73E-07	0.00E+00	1.25E-05	6.59E-03
Potassium	7440-09-7	3%	2.13%	5.86E-03	5.86E-03	5.86E-03	5.86E-03	5.86E-03	5.86E-03	3.75E-03	2.46E-03	6.75E-04	8.38E-03	5.67E-03	2.79E-04	0.00E+00	4.37E-03	1.92E+00
Rubidium	7440-17-7	0%	0.01%	2.78E-05	2.78E-05	2.78E-05	2.78E-05	2.78E-05	2.78E-05	1.78E-05	1.17E-05	3.20E-06	3.97E-05	2.68E-05	1.32E-06	0.00E+00	2.13E-05	9.09E-03
Selenium	7782-49-2	0%	0.00%	4.14E-07	4.14E-07	4.14E-07	4.14E-07	4.14E-07	4.14E-07	2.65E-07	1.74E-07	4.77E-08	5.92E-07	4.01E-07	1.97E-08	0.00E+00	4.11E-07	1.39E-04
Silver	7440-22-4	0%	0.00%	2.07E-08	2.07E-08	2.07E-08	2.07E-08	2.07E-08	2.07E-08	1.33E-08	8.70E-09	2.39E-09	2.96E-08	2.00E-08	9.86E-10	0.00E+00	2.77E-08	7.16E-06
Strontium	7440-24-6	0%	0.01%	7.35E-05	7.35E-05	7.35E-05	7.35E-05	7.35E-05	7.35E-05	4.71E-05	3.09E-05	8.47E-06	1.05E-04	7.11E-05	3.50E-06	0.00E+00	3.06E-05	2.33E-02
Tellurium	13494-80-9	0%	0.00%	4.14E-08	4.14E-08	4.14E-08	4.14E-08	4.14E-08	4.14E-08	2.65E-08	1.74E-08	4.77E-09	5.92E-08	4.01E-08	1.97E-09	0.00E+00	2.05E-08	1.32E-05
Thallium	7440-28-0	0%	0.00%	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.06E-07	6.96E-08	1.91E-08	2.37E-07	1.60E-07	7.89E-09	0.00E+00	1.23E-07	5.42E-05
Tin	7440-31-5	0%	0.00%	6.21E-07	6.21E-07	6.21E-07	6.21E-07	6.21E-07	6.21E-07	3.98E-07	2.61E-07	7.16E-08	8.88E-07	6.01E-07	2.96E-08	0.00E+00	6.16E-07	2.08E-04
Uranium	7440-61-1	0%	0.00%	8.41E-07	8.41E-07	8.41E-07	8.41E-07	8.41E-07	8.41E-07	5.38E-07	3.53E-07	9.69E-08	1.20E-06	8.13E-07	4.00E-08	0.00E+00	6.45E-07	2.75E-04
Vanadium	7440-62-2	0%	0.01%	4.83E-05	4.83E-05	4.83E-05	4.83E-05	4.83E-05	4.83E-05	3.09E-05	2.03E-05	5.56E-06	6.90E-05	4.67E-05	2.30E-06	0.00E+00	2.57E-05	1.55E-02
Zinc	7440-66-6	0%	0.01%	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	1.58E-05	1.04E-05	2.84E-06	3.52E-05	2.38E-05	1.17E-06	0.00E+00	1.60E-05	7.98E-03


Crushing and Screening Circuit
Sorting Circuit
**XRT Results of Low-grade Composite
Feed Grade: 6.97 g/t Au
Sorter Mass Pull: 58-64 %
Sorter Recovery: 89.5-92.4 %
Sorter Con. Grade: 10-10.8 g/t Au
Sorter Tails. Grade: ~1.5 g/t Au
ROM Ore
1
Primary and Secondary Crushers
2
+60 mm
Screens
-60+30 mm
4
3
-30 mm
Fine Ore Stockpile
Surge Bin
5
Sorter Feed
1,500 tpd
6.97 g/t Au
Sorter Conveyor
XRT
6
Accepts
870-960 tpd
10-10.8 g/t Au
Rejects
540-630 tpd
~1.5 g/t Au
7
Accepts Conveyor
9
Sorter Concentrate Stockpile
Rejects Conveyor
8
Sorter Waste Stockpile
11
10
Screens
12
Tertiary Crusher
By Others
Mill
Issued for Information

Operations - Year 5

Air Contaminant	CAS#	% of TPM (Ore/Waste Rock)	% of TPM (Overburden)	Emission Rate (g/s) - Year 5														Total Releases (g/s)	Total Annual Releases (T/a)
				Crushing Circuit Drop Points								Stockpile Loading and Unloading Drop Points							
				Inlet Primary Crusher	Discharge Primary Crusher (inlet secondary)	Discharge Secondary Crusher (inlet screen)	Discharge Screen	Surge Bin	Sorter Conveyor	Accepts Conveyor	Rejects Conveyor	MG Stockpile	Waste Rock	LG Stockpile	HG Sorter Rejects	MG Sorter Rejects	Overburden		
TSP	N/A-1	-	-	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.09	0.047	4.347	0.345	0.046	0.035	0.000	6.28	198.1
PM10	N/A-2	-	-	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.04	0.022	2.056	0.163	0.022	0.016	0.000	2.97	93.7
PM2.5	N/A-3	-	-	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.311	0.025	0.003	0.002	0.000	0.45	14.2
Aluminum	7429-90-5	10%	7.03%	2.13E-02	2.13E-02	2.13E-02	2.13E-02	2.13E-02	2.13E-02	1.37E-02	8.96E-03	4.80E-03	4.49E-01	3.56E-02	4.78E-03	3.59E-03	0.00E+00	0.65	20.4
Antimony	7440-36-0	0%	0.00%	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	7.11E-06	4.66E-06	2.50E-06	2.33E-04	1.85E-05	2.49E-06	1.87E-06	0.00E+00	0.00	1.06E-02
Arsenic	7440-38-2	0%	0.00%	9.74E-05	9.74E-05	9.74E-05	9.74E-05	9.74E-05	9.74E-05	6.23E-05	4.09E-05	2.19E-05	2.04E-03	1.62E-04	2.18E-05	1.64E-05	0.00E+00	0.00	9.31E-02
Barium	7440-39-3	0%	0.05%	1.35E-04	1.35E-04	1.35E-04	1.35E-04	1.35E-04	1.35E-04	8.62E-05	5.66E-05	3.03E-05	2.83E-03	2.24E-04	3.02E-05	2.26E-05	0.00E+00	0.00	1.29E-01
Beryllium	7440-41-7	0%	0.00%	5.76E-07	5.76E-07	5.76E-07	5.76E-07	5.76E-07	5.76E-07	3.69E-07	2.42E-07	1.30E-07	1.21E-05	9.60E-07	1.29E-07	9.69E-08	0.00E+00	0.00	5.51E-04
Bismuth	7440-69-9	0%	0.00%	3.11E-07	3.11E-07	3.11E-07	3.11E-07	3.11E-07	3.11E-07	1.99E-07	1.31E-07	6.99E-08	6.52E-06	5.18E-07	6.97E-08	5.23E-08	0.00E+00	0.00	2.97E-04
Boron	7440-42-8	0%	0.00%	1.15E-05	1.15E-05	1.15E-05	1.15E-05	1.15E-05	1.15E-05	7.36E-06	4.83E-06	2.59E-06	2.41E-04	1.92E-05	2.58E-06	1.93E-06	0.00E+00	0.00	1.10E-02
Cadmium	7440-43-9	0%	0.00%	5.55E-08	5.55E-08	5.55E-08	5.55E-08	5.55E-08	5.55E-08	3.55E-08	2.33E-08	1.25E-08	1.16E-06	9.25E-08	1.24E-08	9.34E-09	0.00E+00	0.00	5.31E-05
Chromium	7440-47-3	0%	0.01%	4.23E-05	4.23E-05	4.23E-05	4.23E-05	4.23E-05	4.23E-05	2.70E-05	1.77E-05	9.51E-06	8.87E-04	7.04E-05	9.48E-06	7.11E-06	0.00E+00	0.00	4.04E-02
Cobalt	7440-48-4	0%	0.00%	5.99E-06	5.99E-06	5.99E-06	5.99E-06	5.99E-06	5.99E-06	3.83E-06	2.51E-06	1.35E-06	1.26E-04	9.98E-06	1.34E-06	1.01E-06	0.00E+00	0.00	5.73E-03
Copper	7440-50-8	0%	0.00%	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	1.42E-05	9.31E-06	4.99E-06	4.65E-04	3.70E-05	4.97E-06	3.73E-06	0.00E+00	0.00	2.12E-02
Iron	7439-89-6	7%	5.20%	1.39E-02	1.39E-02	1.39E-02	1.39E-02	1.39E-02	1.39E-02	8.90E-03	5.84E-03	3.13E-03	2.92E-01	2.32E-02	3.12E-03	2.34E-03	0.00E+00	0.42	1.33E+01
Lead	7439-92-1	0%	0.00%	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	1.58E-05	1.04E-05	5.55E-06	5.17E-04	4.11E-05	5.53E-06	4.15E-06	0.00E+00	0.00	2.36E-02
Lithium	7439-93-2	0%	0.00%	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	9.56E-06	6.27E-06	3.36E-06	3.13E-04	2.49E-05	3.35E-06	2.51E-06	0.00E+00	0.00	1.43E-02
Magnesium	7439-95-4	2%	1.38%	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	2.92E-03	1.91E-03	1.03E-03	9.56E-02	7.60E-03	1.02E-03	7.67E-04	0.00E+00	0.14	4.36E+00
Manganese	7439-96-5	0%	0.16%	4.83E-04	4.83E-04	4.83E-04	4.83E-04	4.83E-04	4.83E-04	3.09E-04	2.03E-04	1.09E-04	1.01E-02	8.05E-04	1.08E-04	8.12E-05	0.00E+00	0.01	4.62E-01
Mercury	7439-97-6	0%	0.00%	8.29E-09	8.29E-09	8.29E-09	8.29E-09	8.29E-09	8.29E-09	5.30E-09	3.48E-09	1.86E-09	1.74E-07	1.38E-08	1.86E-09	1.39E-09	0.00E+00	0.00	7.92E-06
Molybdenum	7439-98-7	0%	0.00%	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.86E-06	1.19E-06	7.83E-07	4.19E-07	3.91E-05	3.11E-06	4.18E-07	3.14E-07	0.00E+00	0.00	1.78E-03
Nickel	7440-02-0	0%	0.01%	2.04E-05	2.04E-05	2.04E-05	2.04E-05	2.04E-05	2.04E-05	1.31E-05	8.58E-06	4.60E-06	4.29E-04	3.40E-05	4.58E-06	3.44E-06	0.00E+00	0.00	1.95E-02
Potassium	7440-09-7	3%	2.13%	5.86E-03	5.86E-03	5.86E-03	5.86E-03	5.86E-03	5.86E-03	3.75E-03	2.46E-03	1.32E-03	1.23E-01	9.77E-03	1.31E-03	9.86E-04	0.00E+00	0.18	5.61E+00
Rubidium	7440-17-7	0%	0.01%	2.78E-05	2.78E-05	2.78E-05	2.78E-05	2.78E-05	2.78E-05	1.78E-05	1.17E-05	6.25E-06	5.82E-04	4.63E-05	6.22E-06	4.67E-06	0.00E+00	0.00	2.65E-02
Selenium	7782-49-2	0%	0.00%	4.14E-07	4.14E-07	4.14E-07	4.14E-07	4.14E-07	4.14E-07	2.65E-07	1.74E-07	9.32E-08	8.69E-06	6.91E-07	9.29E-08	6.97E-08	0.00E+00	0.00	3.96E-04
Silver	7440-22-4	0%	0.00%	2.07E-08	2.07E-08	2.07E-08	2.07E-08	2.07E-08	2.07E-08	1.33E-08	8.70E-09	4.66E-09	4.35E-07	3.45E-08	4.65E-09	3.48E-09	0.00E+00	0.00	1.98E-05
Strontium	7440-24-6	0%	0.01%	7.35E-05	7.35E-05	7.35E-05	7.35E-05	7.35E-05	7.35E-05	4.71E-05	3.09E-05	1.65E-05	1.54E-03	1.23E-04	1.65E-05	1.24E-05	0.00E+00	0.00	7.03E-02
Tellurium	13494-80-9	0%	0.00%	4.14E-08	4.14E-08	4.14E-08	4.14E-08	4.14E-08	4.14E-08	2.65E-08	1.74E-08	9.32E-09	8.69E-07	6.91E-08	9.29E-09	6.97E-09	0.00E+00	0.00	3.96E-05
Thallium	7440-28-0	0%	0.00%	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.06E-07	6.96E-08	3.73E-08	3.48E-06	2.76E-07	3.72E-08	2.79E-08	0.00E+00	0.00	1.58E-04
Tin	7440-31-5	0%	0.00%	6.21E-07	6.21E-07	6.21E-07	6.21E-07	6.21E-07	6.21E-07	3.98E-07	2.61E-07	1.40E-07	1.30E-05	1.04E-06	1.39E-07	1.05E-07	0.00E+00	0.00	5.94E-04
Uranium	7440-61-1	0%	0.00%	8.41E-07	8.41E-07	8.41E-07	8.41E-07	8.41E-07	8.41E-07	5.38E-07	3.53E-07	1.89E-07	1.76E-05	1.40E-06	1.89E-07	1.41E-07	0.00E+00	0.00	8.04E-04
Vanadium	7440-62-2	0%	0.01%	4.83E-05	4.83E-05	4.83E-05	4.83E-05	4.83E-05	4.83E-05	3.09E-05	2.03E-05	1.09E-05	1.01E-03	8.05E-05	1.08E-05	8.12E-06	0.00E+00	0.00	4.62E-02
Zinc	7440-66-6	0%	0.01%	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	1.58E-05	1.04E-05	5.55E-06	5.17E-04	4.11E-05	5.53E-06	4.15E-06	0.00E+00	0.00	2.36E-02

Crushing and Screening Emissions

Source Description

Releases of particulates and trace metals (contained in the dust) are expected from crushing and screening activities. The facility will have a primary jaw crusher fed by a vibrating grizzly feeder, followed by a secondary cone crusher. There will be both primary and secondary screens. Construction crushing/screening were assumed to be consistent as operations, as per discussions with NFG on December 10, 2025.

Methodology

Releases are estimated based on operating information provided by New Found Gold and published emission factors from the US EPA (AP-42 Chapter 11.19.2 - Crushed Stone Processing and Pulverized Mineral Processing - US EPA 2004) as well as from the Australian National Pollutant Inventory document "Emission estimation technique manual for Gold Ore Processing", Version 2.0. PM2.5 emissions are estimated based on emission factors for high moisture ore (>= 4%) in Table 2.3 of the Nevada DEP Guidance on Emission Factors for the Mining Industry.

Metal emissions were speciated from TPM based on the composition of the ore. Ore composition was only available for waste rock and low grade ore. Conservatively applied the 95th percentile for each species, using the maximum between waste rock or low grade.

Operational Schedule for Modelling Assumed continuous operations

Assumed and provided crushing Information

Item	Quantity	Unit	Source/Assumption
Crushing/Screening rate	83	t/h	Confirmed by EvoMines that this is the maximum rate
Crushing/Screening rate	1,500	t/d	EvoMines indicated that even during Year 4 this amount for 700 t/d throughput to be sent
Crushing/Screening rate	547,500	t/y	Multiplied by 365 days per year (note, the peak throughput is 449,619 tonnes in Year 3, but this is close to the Year 5 value)
Construction Rates	Consistent with Operations		As per meeting November 20, 2025 with Stantec, NFG and EvoMine and documented in email sent November 20 summarizing discussion.

Emission Factors

Source	Air Contaminant	EF (kg/Mg)	Source
Primary Crusher	TSP	0.01	AUS NPI 2006
	PM10	0.004	AUS NPI 2006
	PM2.5	0.00061	Nevada DEP 2017
Secondary Crusher	TSP	0.03	AUS NPI 2006
	PM10	0.0125	AUS NPI 2006
	PM2.5	0.0019	Nevada DEP 2017
Screening	TSP	0.0125	US EPA AP-42 Ch 11.19.2
	PM10	0.0043	US EPA AP-42 Ch 11.19.2
	PM2.5	0.00065	Nevada DEP 2017

Emissions factors for high moisture content ore (>4%)

Release Estimates

Air Contaminant	CAS#	% of TPM	Max Hourly Emission Rate (g/s)				Max Daily Emission Rate (g/s)				Annual Emission Rate (g/s)				Total Annual Emissions (tonnes/year)			
			Primary Crushing	Secondary Crushing	Screening	Total	Primary Crushing	Secondary Crushing	Screening	Total	Primary Crushing	Secondary Crushing	Screening	Total	Primary Crushing	Secondary Crushing	Screening	Total
TSP	N/A-1	-	0.2306	0.6917	0.2882	1.2104	0.174	0.521	0.217	0.911	0.174	0.521	0.217	0.911	5.475	16.425	6.844	28.744
PM10	N/A-2	-	0.0922	0.2882	0.0991	0.4796	0.069	0.217	0.075	0.361	0.069	0.217	0.075	0.361	2.190	6.844	2.354	11.388
PM2.5	N/A-3	-	0.0140	0.0436	0.0150	0.0726	0.011	0.033	0.011	0.055	0.011	0.033	0.011	0.055	0.332	1.036	0.357	1.724
Aluminum	7429-90-5	10%	0.0237	0.0712	0.0297	0.1247	0.0179	0.0536	0.0224	0.0939	0.0179	0.0536	0.0224	0.0939	0.5639	1.6918	0.7049	2.9606
Antimony	7440-36-0	0.0054%	1.24E-05	3.71E-05	1.54E-05	6.49E-05	9.31E-06	2.79E-05	1.16E-05	4.89E-05	9.31E-06	2.79E-05	1.16E-05	4.89E-05	2.93E-04	8.80E-04	3.67E-04	0.0015
Arsenic	7440-38-2	0.0470%	1.08E-04	3.25E-04	1.35E-04	5.69E-04	8.16E-05	2.45E-04	1.02E-04	4.28E-04	8.16E-05	2.45E-04	1.02E-04	4.28E-04	2.57E-03	7.72E-03	3.22E-03	0.0135
Barium	7440-39-3	0.0650%	1.50E-04	4.50E-04	1.87E-04	7.87E-04	1.13E-04	3.39E-04	1.41E-04	5.92E-04	1.13E-04	3.39E-04	1.41E-04	5.92E-04	3.56E-03	1.07E-02	4.45E-03	0.0187
Beryllium	7440-41-7	0.0003%	6.41E-07	1.92E-06	8.01E-07	3.36E-06	4.83E-07	1.45E-06	6.03E-07	2.53E-06	4.83E-07	1.45E-06	6.03E-07	2.53E-06	1.52E-05	4.57E-05	1.90E-05	0.0001
Bismuth	7440-69-9	0.0002%	3.46E-07	1.04E-06	4.32E-07	1.82E-06	2.60E-07	7.81E-07	3.26E-07	1.37E-06	2.60E-07	7.81E-07	3.26E-07	1.37E-06	8.21E-06	2.46E-05	1.03E-05	0.0000
Boron	7440-42-8	0.0056%	1.28E-05	3.84E-05	1.60E-05	6.72E-05	9.64E-06	2.89E-05	1.20E-05	5.06E-05	9.64E-06	2.89E-05	1.20E-05	5.06E-05	3.04E-04	9.12E-04	3.80E-04	0.0016
Cadmium	7440-43-9	0.0000%	6.18E-08	1.85E-07	7.72E-08	3.24E-07	4.65E-08	1.40E-07	5.82E-08	2.44E-07	4.65E-08	1.40E-07	5.82E-08	2.44E-07	1.47E-06	4.40E-06	1.83E-06	0.0000
Chromium	7440-47-3	0.0204%	4.70E-05	1.41E-04	5.88E-05	2.47E-04	3.54E-05	1.06E-04	4.43E-05	1.86E-04	3.54E-05	1.06E-04	4.43E-05	1.86E-04	1.12E-03	3.35E-03	1.40E-03	0.0059
Cobalt	7440-48-4	0.0029%	6.66E-06	2.00E-05	8.33E-06	3.50E-05	5.02E-06	1.51E-05	6.27E-06	2.63E-05	5.02E-06	1.51E-05	6.27E-06	2.63E-05	1.58E-04	4.75E-04	1.98E-04	0.0008
Copper	7440-50-8	0.0107%	2.47E-05	7.40E-05	3.08E-05	1.30E-04	1.86E-05	5.57E-05	2.32E-05	9.75E-05	1.86E-05	5.57E-05	2.32E-05	9.75E-05	5.86E-04	1.76E-03	7.32E-04	0.0031
Iron	7439-89-6	6.7100%	1.55E-02	4.64E-02	1.93E-02	8.12E-02	1.16E-02	3.49E-02	1.46E-02	6.12E-02	1.16E-02	3.49E-02	1.46E-02	6.12E-02	3.67E-01	1.10E+00	4.59E-01	1.9287
Lead	7439-92-1	0.0119%	2.74E-05	8.23E-05	3.43E-05	1.44E-04	2.07E-05	6.20E-05	2.58E-05	1.08E-04	2.07E-05	6.20E-05	2.58E-05	1.08E-04	6.52E-04	1.95E-03	8.14E-04	0.0034
Lithium	7439-93-2	0.0072%	1.66E-05	4.99E-05	2.08E-05	8.73E-05	1.25E-05	3.76E-05	1.56E-05	6.57E-05	1.25E-05	3.76E-05	1.56E-05	6.57E-05	3.95E-04	1.18E-03	4.93E-04	0.0021
Magnesium	7439-95-4	2.2000%	5.07E-03	1.52E-02	6.34E-03	2.66E-02	3.82E-03	1.15E-02	4.77E-03	2.01E-02	3.82E-03	1.15E-02	4.77E-03	2.01E-02	1.20E-01	3.61E-01	1.51E-01	0.6324
Manganese	7439-96-5	0.2330%	5.37E-04	1.61E-03	6.71E-04	2.82E-03	4.05E-04	1.21E-03	5.06E-04	2.12E-03	4.05E-04	1.21E-03	5.06E-04	2.12E-03	1.28E-02	3.83E-02	1.59E-02	0.0670
Mercury	7439-97-6	0.0000%	9.22E-09	2.77E-08	1.15E-08	4.84E-08	6.94E-09	2.08E-08	8.68E-09	3.65E-08	6.94E-09	2.08E-08	8.68E-09	3.65E-08	2.19E-07	6.57E-07	2.74E-07	0.0000
Molybdenum	7439-98-7	0.0009%	2.08E-06	6.23E-06	2.59E-06	1.09E-05	1.56E-06	4.69E-06	1.95E-06	8.20E-06	1.56E-06	4.69E-06	1.95E-06	8.20E-06	4.93E-05	1.48E-04	6.16E-05	0.0003
Nickel	7440-02-0	0.0099%	2.27E-05	6.82E-05	2.84E-05	1.19E-04	1.71E-05	5.14E-05	2.14E-05	8.99E-05	1.71E-05	5.14E-05	2.14E-05	8.99E-05	5.40E-04	1.62E-03	6.75E-04	0.0028
Potassium	7440-09-7	2.8300%	6.52E-03	1.96E-02	8.16E-03	3.43E-02	4.91E-03	1.47E-02	6.14E-03	2.58E-02	4.91E-03	1.47E-02	6.14E-03	2.58E-02	1.55E-01	4.65E-01	1.94E-01	0.8134
Rubidium	7440-17-7	0.0134%	3.09E-05	9.27E-05	3.86E-05	1.62E-04	2.33E-05	6.98E-05	2.91E-05	1.22E-04	2.33E-05	6.98E-05	2.91E-05	1.22E-04	7.34E-04	2.20E-03	9.17E-04	0.0039
Selenium	7782-49-2	0.0002%	4.61E-07	1.38E-06	5.76E-07	2.42E-06	3.47E-07	1.04E-06	4.34E-07	1.82E-06	3.47E-07	1.04E-06	4.34E-07	1.82E-06	1.10E-05	3.29E-05	1.37E-05	0.0001
Silver	7440-22-4	0.0000%	2.31E-08	6.92E-08	2.88E-08	1.21E-07	1.74E-08	5.21E-08	2.17E-08	9.11E-08	1.74E-08	5.21E-08	2.17E-08	9.11E-08	5.48E-07	1.64E-06	6.84E-07	0.0000
Strontium	7440-24-6	0.0355%	8.18E-05	2.46E-04	1.02E-04	4.30E-04	6.16E-05	1.85E-04	7.70E-05	3.24E-04	6.16E-05	1.85E-04	7.70E-05	3.24E-04	1.94E-03	5.83E-03	2.43E-03	0.0102
Tellurium	13494-80-9	0.0000%	4.61E-08	1.38E-07	5.76E-08	2.42E-07	3.47E-08	1.04E-07	4.34E-08	1.82E-07	3.47E-08	1.04E-07	4.34E-08	1.82E-07	1.10E-06	3.29E-06	1.37E-06	0.0000
Thallium	7440-28-0	0.0001%	1.84E-07	5.53E-07	2.31E-07	9.68E-07	1.39E-07	4.17E-07	1.74E-07	7.29E-07	1.39E-07	4.17E-07	1.74E-07	7.29E-07	4.38E-06	1.31E-05	5.48E-06	0.0000
Tin	7440-31-5	0.0003%	6.92E-07	2.08E-06	8.65E-07	3.63E-06	5.21E-07	1.56E-06	6.51E-07	2.73E-06	5.21E-07	1.56E-06	6.51E-07	2.73E-06	1.64E-05	4.93E-05	2.05E-05	0.0001
Uranium	7440-61-1	0.0004%	9.36E-07	2.81E-06	1.17E-06	4.91E-06	7.05E-07	2.11E-06	8.81E-07	3.70E-06	7.05E-07	2.11E-06	8.81E-07	3.70E-06	2.22E-05	6.67E-05	2.78E-05	0.0001
Vanadium	7440-62-2	0.0233%	5.37E-05	1.61E-04	6.71E-05	2.82E-04	4.05E-05	1.21E-04	5.06E-05	2.12E-04	4.05E-05	1.21E-04	5.06E-05	2.12E-04	1.28E-03	3.83E-03	1.59E-03	0.0067
Zinc	7440-66-6	0.0119%	2.74E-05	8.23E-05	3.43E-05	1.44E-04	2.07E-05	6.20E-05	2.58E-05	1.08E-04	2.07E-05	6.20E-05	2.58E-05	1.08E-04	6.52E-04	1.95E-03	8.14E-04	0.0034

Sample Calculations

Hourly Primary Crushing TPM Emissions (g/s = Hourly Throughput × Emission Factor × Conversion

Hourly Primary Crushing TPM Emissions (g/s = 83 tonnes/hour × 0.01 kg/tonne × 1000 g/kg × 1 hour/3600 sec

Hourly Primary Crushing TPM Emissions (g/s = 0.231 tonne/s

Daily Primary Crushing TPM Emissions (g/s) = 1,500 tonnes/day × 0.01 kg/tonne × 1000 g/kg × 1 day/24 hours × 1 hour/3600 s

Daily Primary Crushing TPM Emissions (g/s) = 0.174 g/s

Particulate Emissions from Unpaved Roads

Source Description Fugitive dust (particulate) is generated from the movement of haul trucks and equipment along unpaved haul routes and site roads. The roads will be controlled with watering, as needed, and potentially the application of dust suppressants.

Methodology Emissions calculated using method from US EPA, AP-42, Chapter 13.2.2, Equation 13.2.2(1a)

Operational Schedule for Modelling Peak year of road usage (year 4), assume 24/7 road usage.

Emissions Summary

	Construction	Year 4 - Highest VKT				Year 5 - Highest for other Operations			
Compound	**Total Annual Emissions [tonne/year]**	**Total Annual Emissions [tonne/year]**	**Hourly Emission Rate [g/s]**	**Daily Emission Rate [g/s]**	**Annual Emission Rate [g/s]**	**Total Annual Emissions [tonne/year]**	**Hourly Emission Rate [g/s]**	**Daily Emission Rate [g/s]**	**Annual Emission Rate [g/s]**
Total Particulate Matter[1]	227.039	451.648	42.499	42.499	14.322	369.424	34.762	34.762	11.714
Particulate matter less than or equal to 10 micrometers (μm) (PM10)	64.562	128.432	12.085	12.085	4.073	105.051	9.885	9.885	3.331
Particulate matter less than or equal to 2.5 μm (PM2.5)	6.456	12.843	1.209	1.209	0.407	10.505	0.989	0.989	0.333

[1]PM-30 assumed to be equal to TPM as stated in US EPA CHIEF, AP-42, Chapter 13, Table 13.2.2-2

Calculation Inputs

Input	Value	Units	Source
Number of days with >0.2 mm rain plus number of days with snow cover	0	days	Assumed to be 0 for worst-case days in which there is no precipitation (for 1-hour and 24-hour modelling rates)
Number of days with >0.2 mm rain plus number of days with snow cover	242	days	CALMET data (for annual modelling rates)
Silt Content (%)	8.30	%	Obtained from US EPA AP-42 Chapter 13 Table 13.2.2-1, for "Stone Quarrying and Processing"
Gross Weight	77.42	tonne	Provided by evomine
Empty Weight	38.71	tonne	Assumed to be half of full load weight
Average Weight	58	tonne	Calculated, assuming half of time full, other half empty
Control Efficiency	80%	%	ECCC NPRI Pits and Quarries Guide for Chemical Suppressant

Compound	k [kg/VKT]	a	b
Total Particulate Matter[1]	1.381	0.7	0.45
Particulate matter less than or equal to 10 micrometers (μm) (PM10)	0.423	0.9	0.45
Particulate matter less than or equal to 2.5 μm (PM2.5)	0.042	0.9	0.45

lb to kg conversion	0.453592
miles to km	1.609

[1]Parameters for PM-30 assumed to be equal to TPM as stated in US EPA, AP-42, Chapter 13, Table 13.2.2-2

Sample Calculation

EF = k x (s/12)^a x (W/2.72)^b]

Where
EF = Emission Factor (kg/VKT)
VKT/yr = km/yr (total unpaved road travelled)
s = % (surface material silt content)
W = metric tonnes (mean vehicle weight)
k, a and b = constants in table above

$$\textbf{EF TPM} = \left[\frac{1.381\ \text{lb}}{\text{VMT}} \times \left(\frac{8.30}{12}\right)^{0.7} \times \left(\frac{58.06\ \text{tonnes}}{3}\right)^{0.45}\right]$$

$$\textbf{EF TPM} = 4.0483\ \frac{\text{kg}}{\text{VKT}}$$

Annual TPM Emissions = EF x VKT x (1- Control Efficiency) x (Natural Adjustment) x Conversion

$$\text{Natural Adjustment} = \frac{(\text{Operational Days} - \text{Days with snow cover or rain >0.2 mm of rain})}{\text{Operational Days}} \times 100$$

$$\text{Natural Adjustment} = \frac{(365 - 242)}{365} \times 100$$

$$\text{Natural Adjustment} = 34\%$$

$$\textbf{Annual TPM Emissions (Y4 Keats to Stockpile)} = 4.0483\ \frac{\text{kg}}{\text{VKT}} \times 21{,}741\ \frac{\text{VKT}}{\text{year}} \times (1\text{-}0.8) \times 34\% \times \frac{1\ \text{tonne}}{1000\ \text{kg}}$$

$$\textbf{Annual TPM Emissions (Y4 Keats to Stockpile)} = 5.932\ \frac{\text{tonnes}}{\text{year}}$$

$$\textbf{Hourly TPM Emissions (Y4 Keats to Stockpile)} = 4.0483\ \frac{\text{kg}}{\text{VKT}} \times 21{,}741\ \frac{\text{VKT}}{\text{year}} \times (1\text{-}0.8) \times \frac{1000\ \text{g}}{1\ \text{kg}} \times \frac{1\ \text{year}}{365\ \text{days}} \times \frac{1\ \text{day}}{24\ \text{hours}} \times \frac{1\ \text{hour}}{3600\ \text{s}}$$

$$\textbf{Hourly TPM Emissions (Y4 Keats to Stockpile)} = 0.56\ \frac{\text{g}}{\text{s}}$$

Yearly Trips per Segment - 6m3 Shovel x 40t Haul Truck			Trips per Year									One-Way Haul Distance (km)	Two-Way Haul Distance (km)	Construction Annual VKT	Max Year (Y4) Annual VKT	Year 5 (Y5)	EF TPM Uncontrolled (kg/VKT)	EF PM10 Uncontrolled (kg/VKT)	EF TPM2.5 Uncontrolled (kg/VKT)
Source	**Destination**	**Segment Length (m)**	**-0.5**	**0.5**	**2**	**3**	**4**	**5**	**6**	**7**									
Keats	Waste Dump	2190	75,413	75,413	70,896	99,604	282,826	287,134	186,054	36,178		2.19	4.38	330,310	1,238,779	1,257,645	4.048	1.15	0.115
Iceberg	Waste Dump	2420	0	0	177,492	120,289	2,233	0	0	0		2.42	4.84	-	10,808	-	4.048	1.15	0.115
Jackpot	Waste Dump	1730	24,159	24,159	2	470	0	0	0	0		1.73	3.46	83,589	-	-	4.048	1.15	0.115
Dome	Waste Dump	1380	1,089	1,089	87	6,354	0	0	0	0		1.38	2.76	3,006	-	-	4.048	1.15	0.115
Keats	Overburden Dump	3600	38,832	38,832	16,639	0	52,579	8,447	0	0		3.6	7.2	279,593	378,569	60,819	4.048	1.15	0.115
Iceberg	Overburden Dump	3600	11,396	11,396	0	22,793	0	0	0	0		3.6	7.2	82,054	-	-	4.048	1.15	0.115
Jackpot	Overburden Dump	2045	4,199	4,199	8,399	0	0	0	0	0		2.045	4.09	17,176	-	-	4.048	1.15	0.115
Dome	Overburden Dump	2750	1,150	1,150	2,081	0	218	0	0	0		2.75	5.5	6,323	1,198	-	4.048	1.15	0.115
Keats	Stockpile Area	700	15,113	15,113	16,986	4,163	15,529	25,353	19,581	10,058		0.7	1.4	21,158	21,741	35,494	4.048	1.15	0.115
Iceberg	Stockpile Area	620	0	0	11,889	27,713	3,402	0	0	0		0.62	1.24	-	4,218	-	4.048	1.15	0.115
Jackpot	Stockpile Area	2300	1,926	1,926	0	291	0	0	0	0		2.3	4.6	8,860	-	-	4.048	1.15	0.115
Dome	Stockpile Area	1400	15	15	0	785	0	0	0	0		1.4	2.8	43	-	-	4.048	1.15	0.115
Distance travelled (km)			832,111	832,111	1,373,952	1,245,462	**1,655,314**	1,353,958	842,331	172,541	-								***Total***
Gross Operating weight (kg)			77,415																

Source Years 1 to 7 from spreadsheet "AQ-4-5-8-10 MRP equipment, fuel & blasting v2"

Note: The first year is split into two half years which represent construction (6 months) and operatings beginning (6 months)

Construction - Annual			Max Year (Y4) - Hourly			Max Year (Y4) - Daily			Max Year (Y4) - Annual			Max Year (Y4) - Annual			Max Year (Y5) - Hourly			Max Year (Y5) - Daily			Max Year (Y5) - Annual			Max Year (Y5) - Annual		
TPM Emission Controlled [tonnes/year]	Emissions PM10 controlled [tonnes/year]	Emissions PM2.5 controlled [tonnes/year]	TPM Controlled Emission [g/s]	Emissions PM10 controlled [g/s]	Emissions PM2.5 controlled [g/s]	TPM Emission Controlled [g/s]	Emissions PM10 controlled [g/s]	Emissions PM2.5 controlled [g/s]	TPM Emission Controlled [g/s]	Emissions PM10 controlled [g/s]	Emissions PM2.5 controlled [g/s]	TPM Emission Controlled [tonnes/year]	Emissions PM10 controlled [tonnes/year]	Emissions PM2.5 controlled [tonnes/year]	TPM Controlled Emission [g/s]	Emissions PM10 controlled [g/s]	Emissions PM2.5 controlled [g/s]	TPM Emission Controlled [g/s]	Emissions PM10 controlled [g/s]	Emissions PM2.5 controlled [g/s]	TPM Emission Controlled [g/s]	Emissions PM10 controlled [g/s]	Emissions PM2.5 controlled [g/s]	TPM Emission Controlled [tonnes/year]	Emissions PM10 controlled [tonnes/year]	Emissions PM2.5 controlled [tonnes/year]
90.12	25.6	2.56	31.80	9.04	0.90	31.80	9.04	0.90	10.72	3.05	0.30	338.00	96.11	9.61	32.29	9.18	0.92	32.29	9.18	0.92	10.88	3.09	0.31	343.15	97.58	9.76
0.00	0.0	0.00	0.28	0.08	0.01	0.28	0.08	0.01	0.09	0.03	0.00	2.95	0.84	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.81	6.5	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.82	0.2	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76.29	21.7	2.17	9.72	2.76	0.28	9.72	2.76	0.28	3.28	0.93	0.09	103.29	29.37	2.94	1.56	0.44	0.04	1.56	0.44	0.04	0.53	0.15	0.01	16.59	4.72	0.47
22.39	6.4	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.69	1.3	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.73	0.5	0.05	0.03	0.01	0.00	0.03	0.01	0.00	0.01	0.00	0.00	0.33	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.77	1.6	0.16	0.56	0.16	0.02	0.56	0.16	0.02	0.19	0.05	0.01	5.93	1.69	0.17	0.91	0.26	0.03	0.91	0.26	0.03	0.31	0.09	0.01	9.68	2.75	0.28
0.00	0.0	0.00	0.11	0.03	0.00	0.11	0.03	0.00	0.04	0.01	0.00	1.15	0.33	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.42	0.7	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
227.04	64.6	6.46	42.50	12.09	1.21	42.50	12.09	1.21	14.32	4.07	0.41	451.65	128.43	12.84	34.76	9.89	0.99	34.76	9.89	0.99	11.71	3.33	0.33	369.42	105.05	10.51

Mobile Equipment Releases

Source Description Emissions from the combustion of diesel fuel used in heavy equipment during the construction phase.

Methodology Air contaminant releases from combustion of fuel in large mobile equipment are estimated based on models and operational information provided by NFG and published emission factors (from the US EPA/Canada CEPA Tiered Emission Standards for Off-Road Heavy Duty Diesel Engines).

Operational Schedule for Mode Max hourly rate, operating 24/7/365, all equipment simultaneously. Equipment will be located at the respective pits and storage piles operated during peak year (year 4)

Emissions Summary

		Construction Total [1]	Operations Total (Operations Peak Year - Year 4) [1]		Operations Total (Year 5) [1,2]	
Species	**CAS-No**	**Annual (tonnes.year)**	**Hourly Emission Rate (g/s)**	**Annual (tonnes.year)**	**Hourly Emission Rate (g/s)**	**Annual (tonnes.year)**
NOX	10102-44-0	3.44E+01	2.03E+00	6.41E+01	2.16E+00	6.82E+01
SO2	7446-09-5	5.72E-01	3.38E-02	1.07E+00	3.60E-02	1.13E+00
CO	630-08-0	2.99E+02	1.76E+01	5.56E+02	1.88E+01	5.92E+02
TSP	N/A-1	1.15E+00	6.77E-02	2.14E+00	7.20E-02	2.27E+00
PM10	N/A-2	1.15E+00	6.77E-02	2.14E+00	7.20E-02	2.27E+00
PM2.5	N/A-3	1.15E+00	6.77E-02	2.14E+00	7.20E-02	2.27E+00

[1] sum of mobile equipment operating simultaneously

[2] Year 5 has 3 additional haul trucks

Emission Inputs

Assumed Diesel Efficiency 40%

Equipment	Model	Count (Operations Peak Year - Year 4)	Engine Power Output (kW)	Engine Power Output (hp)	Daily Hours of Operation (Conservative)	Source	Spec Sheets
Drill	**Sandvik di650i**	3	403	540.43	24	Model provided by EvoMine in "AQ-4-5-8-10 MRP equipment, fuel & blasting v2" spreadsheet	https://www.mining.sandvik/en/products/equipment/surface-drill-rigs/leopard-di650i-down-the-hole-drill-
Loader (Excavator)	**Komatsu PC900LC-11**	3	405	543.11	24		https://www.komatsu.com/en-us/products/equipment/excavators/large-excavators/pc900lc-
Haul Trucks	**Komatsu HD405-8**	17	386	517.63	24		https://www.komatsu.com/en-us/products/equipment/trucks/mechanical-trucks/hd405-8
Support Loader	**CAT 980**	2	313.2	420.00	24		https://www.cat.com/en_US/products/new/equipment/wheel-loaders/medium-wheel-loaders/130318.html
Excavator	**CAT 352**	1	330.3	443.00	24		https://www.cat.com/en_US/products/new/equipment/excavators/large-excavators/127121.html
Track Dozer	**CAT D8**	2	270.7	363.00	24		https://www.cat.com/en_US/products/new/equipment/dozers/medium-dozers/120120.html
Grader	**CAT 14**	2	177.5	238.00	24		https://www.cat.com/en_US/products/new/equipment/motor-graders/motor-graders/1000023263.html
28t Sand/Water truck	**CAT 745**	1	381.1	511.00	24		https://www.cat.com/en_US/products/new/equipment/articulated-trucks/three-axle-articulated-
HM 300 Fuel/Lube Truck	**CAT 745**	1	381.1	511.00	24		https://www.cat.com/en_US/products/new/equipment/articulated-trucks/three-axle-articulated-
Surface Boom Truck	**Terex TRT 60**	1	149	199.81	24	Assumed, don't know size	https://www.terex.com/docs/librariesprovider10/product-literature/rough-terrain/datasheet/trt60_datasheet_metric_en-fr-de-it-es-pt-ru.pdf?sfvrsn=69fa4231_11
Surface Telehandlers	**CAT TH1255**	1	85.8	115.00	24	Assumed, don't know size	https://www.cat.com/en_US/products/new/equipment/telehandlers/telehandlers/128840.html
Surface Forklift	**Bobcat DV250S-7**	1	213.3	286.00	24	Assumed, don't know size	https://www.bobcat.com/na/en/equipment/forklifts/internal-combustion-pneumatic-tire-forklifts/heavy-duty-capacity-diesel
60t Lowboy		1	370	496.18	24	Assumed	
Mobile Welding Machine	**F750**	1	261	350.01	24	Assumed heavy duty - F750 service truck	https://www.truckpages.co.uk/news/manufacturers/daf/new-daf-cf530-8x4-recovery-just-350k/
Mechanic Service Truck	**F750**	1	261	350.01	24	Assumed heavy duty - F750 service truck	https://www.ford.ca/commercial-trucks/f650-f750/
Emulsion Truck	**Charmec 605DV**	1	120	160.92	24	Assuming this is for explosive emulsion transport and handling	https://www.normet.com/en/products-and-services/equipment/explosives-charging/emulsion-charging/charmec-mc-605-d-v
1 t Pick Up Trucks		16	320	429.13	24	Assumed F350	https://www.ford.ca/trucks/super-duty/models/f350-limited/

Operations

			Hourly Emission Rates (g/s) - per unit						Hourly Emission Rates (g/s) - all units - Year 4						Annual (tonnes/year) - all units [1]					
			TSP	PM10	PM2.5	NOX	SO2	CO	TSP	PM10	PM2.5	NOX	SO2	CO	TSP	PM10	PM2.5	NOX	SO2	CO
Equipment	Engine Power Output (hp)	No. Units	N/A-1	N/A-2	N/A-3	10102-44-0	7446-09-5	630-08-0	N/A-1	N/A-2	N/A-3	10102-44-0	7446-09-5	630-08-0	N/A-1	N/A-2	N/A-3	10102-44-0	7446-09-5	630-08-0
Drill	540.43	3	1.50E-03	1.50E-03	1.50E-03	4.50E-02	7.50E-04	3.90E-01	4.50E-03	4.50E-03	4.50E-03	1.35E-01	2.25E-03	1.17E+00	1.42E-01	1.42E-01	1.42E-01	4.26E+00	7.09E-02	3.69E+01
Loader (Excavator)	543.11	3	1.51E-03	1.51E-03	1.51E-03	4.53E-02	7.53E-04	3.92E-01	4.53E-03	4.53E-03	4.53E-03	1.36E-01	2.26E-03	1.18E+00	1.43E-01	1.43E-01	1.43E-01	4.28E+00	7.13E-02	3.71E+01
Haul Trucks	517.63	17	1.44E-03	1.44E-03	1.44E-03	4.31E-02	7.18E-04	3.74E-01	2.44E-02	2.44E-02	2.44E-02	7.33E-01	1.22E-02	6.36E+00	7.71E-01	7.71E-01	7.71E-01	2.31E+01	3.85E-01	2.00E+02
Support Loader	420.00	2	1.17E-03	1.17E-03	1.17E-03	3.50E-02	5.83E-04	3.03E-01	2.33E-03	2.33E-03	2.33E-03	7.00E-02	1.17E-03	6.07E-01	7.36E-02	7.36E-02	7.36E-02	2.21E+00	3.67E-02	1.91E+01
Excavator	443.00	1	1.23E-03	1.23E-03	1.23E-03	3.69E-02	6.15E-04	3.20E-01	1.23E-03	1.23E-03	1.23E-03	3.69E-02	6.15E-04	3.20E-01	3.88E-02	3.88E-02	3.88E-02	1.16E+00	1.94E-02	1.01E+01
Track Dozer	363.00	2	1.01E-03	1.01E-03	1.01E-03	3.03E-02	5.04E-04	2.62E-01	2.02E-03	2.02E-03	2.02E-03	6.05E-02	1.01E-03	5.24E-01	6.36E-02	6.36E-02	6.36E-02	1.91E+00	3.18E-02	1.65E+01
Grader	238.00	2	6.61E-04	6.61E-04	6.61E-04	1.98E-02	3.30E-04	1.72E-01	1.32E-03	1.32E-03	1.32E-03	3.97E-02	6.60E-04	3.44E-01	4.17E-02	4.17E-02	4.17E-02	1.25E+00	2.08E-02	1.08E+01
28t Sand/Water truck	511.00	1	1.42E-03	1.42E-03	1.42E-03	4.26E-02	7.09E-04	3.69E-01	1.42E-03	1.42E-03	1.42E-03	4.26E-02	7.09E-04	3.69E-01	4.48E-02	4.48E-02	4.48E-02	1.34E+00	2.24E-02	1.16E+01
HM 300 Fuel/Lube Truck	511.00	1	1.42E-03	1.42E-03	1.42E-03	4.26E-02	7.09E-04	3.69E-01	1.42E-03	1.42E-03	1.42E-03	4.26E-02	7.09E-04	3.69E-01	4.48E-02	4.48E-02	4.48E-02	1.34E+00	2.24E-02	1.16E+01
Surface Boom Truck	199.81	1	5.55E-04	5.55E-04	5.55E-04	1.67E-02	2.77E-04	1.44E-01	5.55E-04	5.55E-04	5.55E-04	1.67E-02	2.77E-04	1.44E-01	1.75E-02	1.75E-02	1.75E-02	5.25E-01	8.74E-03	4.55E+00
Surface Telehandlers	115.00	1	3.19E-04	3.19E-04	3.19E-04	9.58E-03	1.60E-04	1.18E-01	3.19E-04	3.19E-04	3.19E-04	9.58E-03	1.60E-04	1.18E-01	1.01E-02	1.01E-02	1.01E-02	3.02E-01	5.03E-03	3.73E+00
Surface Forklift	286.00	1	7.94E-04	7.94E-04	7.94E-04	2.38E-02	3.97E-04	2.07E-01	7.94E-04	7.94E-04	7.94E-04	2.38E-02	3.97E-04	2.07E-01	2.51E-02	2.51E-02	2.51E-02	7.52E-01	1.25E-02	6.51E+00
60t Lowboy	496.18	1	1.38E-03	1.38E-03	1.38E-03	4.13E-02	6.88E-04	3.58E-01	1.38E-03	1.38E-03	1.38E-03	4.13E-02	6.88E-04	3.58E-01	4.35E-02	4.35E-02	4.35E-02	1.30E+00	2.17E-02	1.13E+01
Mobile Welding Machine	350.01	1	9.72E-04	9.72E-04	9.72E-04	2.92E-02	4.86E-04	2.53E-01	9.72E-04	9.72E-04	9.72E-04	2.92E-02	4.86E-04	2.53E-01	3.07E-02	3.07E-02	3.07E-02	9.20E-01	1.53E-02	7.97E+00
Mechanic Service Truck	350.01	1	9.72E-04	9.72E-04	9.72E-04	2.92E-02	4.86E-04	2.53E-01	9.72E-04	9.72E-04	9.72E-04	2.92E-02	4.86E-04	2.53E-01	3.07E-02	3.07E-02	3.07E-02	9.20E-01	1.53E-02	7.97E+00
Emulsion Truck	160.92	1	4.47E-04	4.47E-04	4.47E-04	1.34E-02	2.23E-04	1.16E-01	4.47E-04	4.47E-04	4.47E-04	1.34E-02	2.23E-04	1.16E-01	1.41E-02	1.41E-02	1.41E-02	4.23E-01	7.04E-03	3.67E+00
1 t Pick Up Trucks	429.13	16	1.19E-03	1.19E-03	1.19E-03	3.58E-02	5.95E-04	3.10E-01	1.91E-02	1.91E-02	1.91E-02	5.72E-01	9.52E-03	4.96E+00	6.01E-01	6.01E-01	6.01E-01	1.80E+01	3.00E-01	1.56E+02

1 Assumes units are operating 24/7/365

Construction

			Hourly Emission Rates (g/s) - all units						Annual (tonnes/year) - all units [1]					
			TSP	PM10	PM2.5	NOX	SO2	CO	TSP	PM10	PM2.5	NOX	SO2	CO
Equipment	Engine Power Output (hp)	No. Units	N/A-1	N/A-2	N/A-3	10102-44-0	7446-09-5	630-08-0	N/A-1	N/A-2	N/A-3	10102-44-0	7446-09-5	630-08-0
Drill	540.43	2	3.00E-03	3.00E-03	3.00E-03	9.01E-02	1.50E-03	7.81E-01	9.47E-02	9.47E-02	9.47E-02	2.84E+00	4.73E-02	2.46E+01
Loader (Excavator)	543.11	2	3.02E-03	3.02E-03	3.02E-03	9.05E-02	1.51E-03	7.84E-01	9.52E-02	9.52E-02	9.52E-02	2.85E+00	4.75E-02	2.47E+01
Haul Trucks	517.63	1	1.44E-03	1.44E-03	1.44E-03	4.31E-02	7.18E-04	3.74E-01	4.53E-02	4.53E-02	4.53E-02	1.36E+00	2.26E-02	1.18E+01
Support Loader	420.00	2	2.33E-03	2.33E-03	2.33E-03	7.00E-02	1.17E-03	6.07E-01	7.36E-02	7.36E-02	7.36E-02	2.21E+00	3.67E-02	1.91E+01
Excavator	443.00	2	2.46E-03	2.46E-03	2.46E-03	7.38E-02	1.23E-03	6.40E-01	7.76E-02	7.76E-02	7.76E-02	2.33E+00	3.88E-02	2.02E+01
Track Dozer	363.00	1	1.01E-03	1.01E-03	1.01E-03	3.03E-02	5.04E-04	2.62E-01	3.18E-02	3.18E-02	3.18E-02	9.54E-01	1.59E-02	8.27E+00
Grader	238.00	1	6.61E-04	6.61E-04	6.61E-04	1.98E-02	3.30E-04	1.72E-01	2.08E-02	2.08E-02	2.08E-02	6.25E-01	1.04E-02	5.42E+00
28t Sand/Water truck	511.00	1	1.42E-03	1.42E-03	1.42E-03	4.26E-02	7.09E-04	3.69E-01	4.48E-02	4.48E-02	4.48E-02	1.34E+00	2.24E-02	1.16E+01
HM 300 Fuel/Lube Truck	511.00	1	1.42E-03	1.42E-03	1.42E-03	4.26E-02	7.09E-04	3.69E-01	4.48E-02	4.48E-02	4.48E-02	1.34E+00	2.24E-02	1.16E+01
Surface Boom Truck	199.81	1	5.55E-04	5.55E-04	5.55E-04	1.67E-02	2.77E-04	1.44E-01	1.75E-02	1.75E-02	1.75E-02	5.25E-01	8.74E-03	4.55E+00
Surface Telehandlers	115.00	1	3.19E-04	3.19E-04	3.19E-04	9.58E-03	1.60E-04	1.18E-01	1.01E-02	1.01E-02	1.01E-02	3.02E-01	5.03E-03	3.73E+00
Surface Forklift	286.00	1	7.94E-04	7.94E-04	7.94E-04	2.38E-02	3.97E-04	2.07E-01	2.51E-02	2.51E-02	2.51E-02	7.52E-01	1.25E-02	6.51E+00
60t Lowboy	496.18	1	1.38E-03	1.38E-03	1.38E-03	4.13E-02	6.88E-04	3.58E-01	4.35E-02	4.35E-02	4.35E-02	1.30E+00	2.17E-02	1.13E+01
Mobile Welding Machine	350.01	1	9.72E-04	9.72E-04	9.72E-04	2.92E-02	4.86E-04	2.53E-01	3.07E-02	3.07E-02	3.07E-02	9.20E-01	1.53E-02	7.97E+00
Mechanic Service Truck	350.01	16	1.56E-02	1.56E-02	1.56E-02	4.67E-01	7.77E-03	4.04E+00	4.91E-01	4.91E-01	4.91E-01	1.47E+01	2.45E-01	1.28E+02
Emulsion Truck	160.92	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1 t Pick Up Trucks	429.13	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1 Assumes units are operating 24/7/365

Emission Factors - Diesel Fuel

US EPA/Canada CEPA Tier 1, 2, 3 and 4 NOx, CO and PM Emission Standards for Off-Road Heavy-Duty Diesel Engines

	Engine Power (hp)	Tier	Model Year	Emission Factors (g/hp-hr)			BSFC (lb/hp-hr)	Emission Factors (g/hp-hr)
				NO_x [a]	CO	TSP		SO_2
				10102-44-0	630-08-0	N/A-1		7446-09-5
	≥100 to <175	Tier 1	1997–2000	6.9	-	-	0.367	0.00499
		Tier 2	2003–2006	4.5	3.7	0.22		0.00499
		Tier 3	2007–2011	2.8	3.7	0.22		0.00499
		Tier 4 transitional	2012–2013	0.3	-	0.01		0.00499
100		Tier 4 final	2014+	0.3	3.7	0.01		0.00499
	≥175 to <300	Tier 1	1996–2002	6.9	8.5	0.4	0.367	0.00499
		Tier 2	2003–2005	4.5	2.6	0.15		0.00499
		Tier 3	2006–2010	2.8	2.6	0.15		0.00499
		Tier 4 transitional	2011–2013	-	-	0.01		0.00499
175		Tier 4 final	2014+	0.3	2.6	0.01		0.00499
	≥300 to <600	Tier 1	1996–2000	6.9	8.5	0.4		0.00499
		Tier 2	2001–2005	4.5	2.6	0.15		0.00499
		Tier 3	2006-2010	2.8	2.6	0.15	0.367	0.00499
		Tier 4 transitional	2011–2013	0.3	2.6	0.01		0.00499
300		Tier 4 final	2014+	0.3	2.6	0.01		0.00499
	≥600 to <750	Tier 1	1996–2001	6.9	8.5	0.4	0.367	0.00499
		Tier 2	2002–2005	4.5	2.6	0.15		0.00499
		Tier 3	2006-2010	2.8	2.6	0.15		0.00499
		Tier 4 transitional	2011–2013	0.3	2.6	0.01		0.00499
600		Tier 4 final	2014+	0.3	2.6	0.01		0.00499
	≥750	Tier 1	2000–2005	6.9	8.5	0.4	0.367	0.00499
		Tier 2	2006–2010	4.5	2.6	0.15		0.00499
		Tier 4 transitional	2011–2014	2.6	2.6	0.07		0.00499
750		Tier 4 final	2015+	2.6	2.6	0.03		0.00499

NOTES:

"-"= not available

SOURCES:

Canadian Off-Road Compression-Ignition Engine Emission Regulations (ECCC, 2005)

Nonroad Compression-Ignition Engines - Exhaust Emission Standards (US EPA, 2016a)

* Particulate from diesel combustion assumed to be <1 um

Diesel HHV	0.137	MMBTU/gal	from US EPA AP-42 Appendix A Misc. Data and Conversion Factors
Diesel S Content	0.0015	%	
Assumed Diesel Engine ther	0.4		

Equipment	Type	Fleet Size per Year						
		1	2	3	4	5	6	7
40t Haul Truck	Articulated Hauler	13	17	17	17	20	16	5
3m3 Shovel	Backhoe Shovel	3	3	3	3	3	2	1
89 -165 mm Production/Trim/Presplit Drill	DTH	2	3	2	3	3	2	1
Support Loader	Wheeled Loader	2	2	2	2	2	2	1
Excavator	Large Excavator	1	1	1	1	1	1	1
Track Dozer	Medium Dozer	2	2	2	2	2	2	1
Grader	Motor Grader	2	2	2	2	2	2	1
Water Truck	Articulated	1	1	1	1	1	1	1
Fuel/Lube Truck	Articulated	1	1	1	1	1	1	1
Surface Boom Truck	Wheeled Crane	1	1	1	1	1	1	1
Surface Telehandler	Telescopic Handler	1	1	1	1	1	1	1
Surface Forklift	Forklift	1	1	1	1	1	1	1
60t Lowboy	Trailer	1	1	1	1	1	1	1
Mobile Welding Machine	Welding Machine	1	1	1	1	1	1	1
Mechanic Service Truck	Rigid	1	1	1	1	1	1	1
Emuslion Truck	Tanker	1	1	1	1	1	1	1
1 t Pick Up Trucks	Rigid	16	16	16	16	16	16	8

Source: "AQ-4-5-8-10 MRP equipment, fuel & blasting v2" spreadsheet

Stationary Diesel Consumption

Source Description

Stationary Diesel Combustion includes generators, heaters, and generators for tower lights. There will be one 6MW genset prior to power drop.

Methodology

Emissions were estimated using emission factors sourced from US EPA, AP 42 Chapter 3.3 - Stationary Internal Combustion Sources, Gasoline and Diesel Industrial Engines for the units that were <600 hp (450 kW) and US EPA AP-42 Chapter 3.4 - Large Stationary Diesel and All Stationary Dual-Fuel Engines for the units >600 hp (450 kW).

Operational Schedule for Modelling

6 MW diesel generator to be modelled 24/7/365 (despite knowing it will be offline once power is dropped, including in model for flexibility of its usage) located at industrial terrace. Smaller sources include lights, pumps, small equipment - assumed 24/7 in pits.

Calculation Inputs

Capacity (MW)	6	
Annual Hours Operation	8760	
Assumed Diesel Generator Efficiency	38%	
1 MWh	3.412	MMBtu

Operations

Annual Diesel Combustion (Stationary) >600 hp [MMBtu/year]	471933.5
Hourly Diesel Combustion (Stationary) >600 hp [MMBtu/hour]	53.9
Annual Diesel Combustion (Stationary) <600hp units [L/year]	112436.5
Annual Diesel Combustion (Stationary) <600 hp units [MMBtu/year]	4146.9
Annual Diesel Combustion (Stationary) <600 hp units [MMBtu/hour]	0.5

Construction

Annual Diesel Combustion (Stationary) >600 hp [MMBtu/year]	471933.5
Hourly Diesel Combustion (Stationary) >600 hp [MMBtu/hour]	53.9
Annual Diesel Combustion (Stationary) <600hp units [L/year]	56218.2
Annual Diesel Combustion (Stationary) <600 hp units [MMBtu/year]	2073.5
[MMBtu/hour]	0.2

Diesel consumption converted from L/year to MMBTu/year using Heating value of 139,600 Btu/gal (Perry's Chem. Eng. Handbook), and conversion of 1 gallon = 3.785 L

Annual Emissions Summary/Emission Calculations

Substance	CAS Number	Diesel Emission Factor (lb/MMBtu)		Construction	Operations				
				Total Annual Emissions [tonne/year]	Total Annual Emissions [tonne/year]	Hourly Emissions [g/s]		Annual Emissions [tonne/year]	
		Below 600 hp	Above 600 hp			Below 600 hp	Above 600 hp	Below 600 hp	Above 600 hp
Acetaldehyde	75-07-0	7.67E-04	2.52E-05	6.12E-03	6.84E-03	4.58E-05	1.71E-04	1.44E-03	5.40E-03
Acrolein	107-08-8	9.25E-05	7.88E-06	1.77E-03	1.86E-03	5.52E-06	5.35E-05	1.74E-04	1.69E-03
Anthracene	120-12-7	1.87E-06	1.23E-06	2.65E-04	2.67E-04	1.12E-07	8.35E-06	3.52E-06	2.63E-04
Benzene	71-43-2	9.33E-04	7.76E-04	1.67E-01	1.68E-01	5.57E-05	5.27E-03	1.76E-03	1.66E-01
1,3-butadiene	106-99-0	3.91E-05		3.68E-05	7.36E-05	2.33E-06	0.00E+00	7.36E-05	0.00E+00
Formaldehyde	50-00-0	1.18E-03	7.89E-05	1.80E-02	1.91E-02	7.04E-05	5.36E-04	2.22E-03	1.69E-02
Naphthalene	91-20-3	8.48E-05	1.30E-04	2.79E-02	2.80E-02	5.06E-06	8.83E-04	1.60E-04	2.78E-02
Propylene	115-07-1	2.58E-03	2.79E-03	6.00E-01	6.02E-01	1.54E-04	1.89E-02	4.85E-03	5.97E-01
Toluene	108-88-3	4.09E-04	2.81E-04	6.06E-02	6.09E-02	2.44E-05	1.91E-03	7.70E-04	6.02E-02
Isomers of xylene	1330-20-7	2.85E-04	1.93E-04	4.16E-02	4.19E-02	1.70E-05	1.31E-03	5.36E-04	4.13E-02
Acenaphthene	83-32-9	1.42E-06	4.68E-06	1.00E-03	1.00E-03	8.47E-08	3.18E-05	2.67E-06	1.00E-03
Acenaphthylene	208-96-8	5.06E-06	9.23E-06	1.98E-03	1.99E-03	3.02E-07	6.27E-05	9.52E-06	1.98E-03
Benzo (a) anthracene	56-55-3	1.68E-06	6.22E-07	1.35E-04	1.36E-04	1.00E-07	4.22E-06	3.16E-06	1.33E-04
Benzo (a) pyrene	50-32-8	1.88E-07	2.57E-07	5.52E-05	5.54E-05	1.12E-08	1.75E-06	3.54E-07	5.50E-05
Benzo (b) fluoranthene	205-99-2	9.09E-05	1.11E-06	3.23E-04	4.09E-04	5.42E-06	7.54E-06	1.71E-04	2.38E-04
Benzo (k) fluoranthene	207-08-9	1.55E-07	2.18E-07	4.68E-05	4.70E-05	9.25E-09	1.48E-06	2.92E-07	4.67E-05
Dibenzo (a,h) anthracene	53-70-3	5.83E-07	3.46E-07	7.46E-05	7.52E-05	3.48E-08	2.35E-06	1.10E-06	7.41E-05
Benzo (g,h,i) perylene	191-24-2	4.89E-07	5.56E-07	1.20E-04	1.20E-04	2.92E-08	3.78E-06	9.20E-07	1.19E-04
Fluoranthene	206-44-0	7.61E-06	4.03E-06	8.70E-04	8.77E-04	4.54E-07	2.74E-05	1.43E-05	8.63E-04
Fluorene	86-73-7	2.92E-05	1.28E-05	2.77E-03	2.80E-03	1.74E-06	8.69E-05	5.49E-05	2.74E-03
Indeno(1,2,3-c,d) pyrene	193-39-5	3.75E-07	4.14E-07	8.90E-05	8.94E-05	2.24E-08	2.81E-06	7.06E-07	8.86E-05
Phenanthrene	85-01-8	2.94E-05	4.08E-05	8.76E-03	8.79E-03	1.75E-06	2.77E-04	5.53E-05	8.74E-03
Pyrene	129-00-0	4.78E-06	3.71E-06	7.99E-04	8.03E-04	2.85E-07	2.52E-05	8.99E-06	7.94E-04
Total PAHS	N/A-4	1.68E-04	2.12E-04	4.56E-02	4.57E-02	1.00E-05	1.44E-03	3.16E-04	4.54E-02
Carbon monoxide (CO)	630-08-0	9.50E-01	8.50E-01	1.83E+02	1.84E+02	5.67E-02	5.77E+00	1.79E+00	1.82E+02
Oxides of nitrogen (NOx), expressed as nitrogen dioxide (NO2)	10102-44-0	4.41E+00	3.20E+00	6.89E+02	6.94E+02	2.63E-01	2.17E+01	8.30E+00	6.85E+02
Total Particulate Matter	N/A-1	3.10E-01	6.97E-02	1.52E+01	1.55E+01	1.85E-02	4.73E-01	5.83E-01	1.49E+01
Particulate matter less than or equal to 10 micrometers (µm) (PM10)	N/A-2	3.10E-01	5.73E-02	1.26E+01	1.29E+01	1.85E-02	3.89E-01	5.83E-01	1.23E+01
Particulate matter less than or equal to 2.5 µm (PM2.5)	N/A-3	3.10E-01	4.79E-02	1.05E+01	1.08E+01	1.85E-02	3.25E-01	5.83E-01	1.03E+01
Sulphur dioxide (SO2)	7446-09-5	2.90E-01	1.52E+00	3.25E+02	3.25E+02	1.73E-02	1.03E+01	5.46E-01	3.24E+02
Volatile organic compounds	NA - M16	3.60E-01	9.00E-02	1.96E+01	1.99E+01	2.15E-02	6.11E-01	6.77E-01	1.93E+01
Benzene	71-43-2	9.33E-04	7.76E-04	1.67E-01	1.68E-01	5.57E-05	5.27E-03	1.76E-03	1.66E-01
1,3-butadiene	106-99-0	3.91E-05		3.68E-05	7.36E-05	2.33E-06	0.00E+00	7.36E-05	0.00E+00
Formaldehyde	50-00-0	1.18E-03	7.89E-05	1.80E-02	1.91E-02	7.04E-05	5.36E-04	2.22E-03	1.69E-02
Propylene	115-07-1	2.58E-03	2.79E-03	6.00E-01	6.02E-01	1.54E-04	1.89E-02	4.85E-03	5.97E-01
Toluene	108-88-3	4.09E-04	2.81E-04	6.06E-02	6.09E-02	2.44E-05	1.91E-03	7.70E-04	6.02E-02
Isomers of xylene	1330-20-7	2.85E-04	1.93E-04	4.16E-02	4.19E-02	1.70E-05	1.31E-03	5.36E-04	4.13E-02

Sample Calculations

Annual Acetaldehyde Emissions (>600 hp) = Diesel Energy Consumed [MMBTu/year]x EF [lb/MMBtu] x Conversion

Acetaldehyde Emissions (>600 hp) = 471933.47 MMBtu/year × 2.52E-05 lb/MMBtu × 1 kg/2.204 lb x 1 tonne/1000 kg

Acetaldehyde Emissions (>600 hp) = 5.40E-03 tonnes/year

Hourly Acetaldehyde Emissions (>600 hp) = Diesel Energy Consumed [MMBTu/hour]x EF [lb/MMBtu] x Conversion

Hourly Acetaldehyde Emissions (>600 hp) = 53.9 MMBtu/hour × 2.52E-05 lb/MMBtu × 1 kg/2.204 lb x 1000 g/1 kg x 1 hour/3600 s

Hourly Acetaldehyde Emissions (>600 hp) = 1.71E-04 g/s

			Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Production equipment fuel usage	Fuel									
Loaders	Diesel	L	3677703.9	551143	630063.7	655927.074	655869.452	655972.3015	431669	97058.6
Haulers	Diesel	L	21516169	2697900	3458747.79	3547439.75	3501025.54	4192997.906	3255302	862756
Drills	Diesel	L	2745465.1	393931	464078.1	434490.931	508648.643	522863.6456	344083	77369.6
Total	Diesel	L	27939338	3642975	4552889.59	4637857.76	4665543.63	5371833.853	4031054	1037184
Support equipment fuel usage	Fuel									
Support loader	Diesel	L	1468667.7	225949	225948.87	225948.87	225948.87	225948.87	225949	112974
Excavator	Diesel	L	1393351.4	199050	199050.195	199050.195	199050.195	199050.195	199050	199050
Track dozer	Diesel	L	2727525.6	419619	419619.33	419619.33	419619.33	419619.33	419619	209810
Grader	Diesel	L	1328794.5	204430	204429.93	204429.93	204429.93	204429.93	204430	102215
Water truck	Diesel	L	1092086.2	156012	156012.315	156012.315	156012.315	156012.315	156012	156012
Fuel/lube truct	Diesel	L	1092086.2	156012	156012.315	156012.315	156012.315	156012.315	156012	156012
Surface boom truck	Diesel	L	1092086.2	156012	156012.315	156012.315	156012.315	156012.315	156012	156012
Surface telehandler	Diesel	L	451897.74	64556.8	64556.82	64556.82	64556.82	64556.82	64556.8	64556.8
Surface forklift	Diesel	L	282436.09	40348	40348.0125	40348.0125	40348.0125	40348.0125	40348	40348
Surface mechanical service truck	Diesel	L	564872.18	80696	80696.025	80696.025	80696.025	80696.025	80696	80696
Surface lowboy and tractor	Diesel	L	753162.9	107595	107594.7	107594.7	107594.7	107594.7	107595	107595
Mobile welding machine	Diesel	L	376581.45	53797.4	53797.35	53797.35	53797.35	53797.35	53797.4	53797.4
Lighting towers	Diesel	L	37658.145	5379.74	5379.735	5379.735	5379.735	5379.735	5379.74	5379.74
Genset - 6kW	Diesel	L	112974.44	16139.2	16139.205	16139.205	16139.205	16139.205	16139.2	16139.2
Genset - 60kW	Diesel	L	564872.18	80696	80696.025	80696.025	80696.025	80696.025	80696	80696
Emulsion truck	Diesel	L	1092086.2	156012	156012.315	156012.315	156012.315	156012.315	156012	156012
Pick up trucks	Diesel	L	949650	146100	146100	146100	146100	146100	146100	73050
Total	Diesel	L	15380789	2268405	2268405.46	2268405.46	2268405.46	2268405.458	2268405	1770356
Other	Fuel									
Crusher fuel usage	Diesel	L	53966.045	53966	0	0	0	0	0	0
Road truck fuel usage	Diesel	L	15932571	1307611	2615221.74	2615221.74	2615221.74	2615221.738	2615222	1548852
Total	Diesel	L	15986537	1361577	2615221.74	2615221.74	2615221.74	2615221.738	2615222	1548852
Fuel usage	Fuel									
Production equipment fuel usage	Diesel	L	27939338	3642975	4552889.59	4637857.76	4665543.63	5371833.853	4031054	1037184
Support equipment fuel usage	Diesel	L	15380789	2268405	2268405.46	2268405.46	2268405.46	2268405.458	2268405	1770356
Other	Diesel	L	15986537	1361577	2615221.74	2615221.74	2615221.74	2615221.738	2615222	1548852
Total	Diesel	L	59306665	7272957	9436516.79	9521484.95	9549170.83	10255461.05	8914682	4356392
Total (10% contingency)	Diesel	L	65237331	8000253	10380168.5	10473633.4	10504087.9	11281007.15	9806150	4792032
	For Station Combus		787055.23	112436	112436.462	112436.462	112436.462	112436.4615	112436	112436

	Unit	Total	Year 1 2028	Year 2 2029	Year 3 2030	Year 4 2031	Year 5 2032	Year 6 2033	Year 7 2034
Traffic									
Trips to mineralized material stockpiles	#/year	169,857	34,108	28,875	32,951	18,931	25,353	19,581	10,058
From keats	#/year	121,895	30,226	16,986	4,163	15,529	25,353	19,581	10,058
From Iceberg	#/year	43,004	-	11,889	27,713	3,402	-	-	-
From Jackpot	#/year	4,143	3,852	-	291	-	-	-	-
From Dome	#/year	815	31	-	785	-	-	-	-
Trips to waste rock stockpile	#/year	1,470,941	201,322	248,477	226,717	285,059	287,134	186,054	36,178
From keats	#/year	1,113,518	150,826	70,896	99,604	282,826	287,134	186,054	36,178
From Iceberg	#/year	300,014	-	177,492	120,289	2,233	-	-	-
From Jackpot	#/year	48,790	48,317	2	470	-	-	-	-
From Dome	#/year	8,619	2,178	87	6,354	-	-	-	-
Trips to overburden stockpile	#/year	111,156	27,119	22,793	52,797	8,447	-	-	-
From keats	#/year	77,665	16,639	-	52,579	8,447	-	-	-
From Iceberg	#/year	22,793	-	22,793	-	-	-	-	-
From Jackpot	#/year	8,399	8,399	-	-	-	-	-	-
From Dome	#/year	2,299	2,081	-	218	-	-	-	-
Trips to mineralized material stockpiles	#/day	66	93	79	90	52	69	54	28
From keats	#/day	48	83	47	11	43	69	54	28
From Iceberg	#/day	17	-	33	76	9	-	-	-
From Jackpot	#/day	2	11	-	1	-	-	-	-
From Dome	#/day	0	0	-	2	-	-	-	-
Trips to waste rock stockpile	#/day	575	551	680	621	780	786	509	99
From keats	#/day	436	413	194	273	774	786	509	99
From Iceberg	#/day	117	-	486	329	6	-	-	-
From Jackpot	#/day	19	132	0	1	-	-	-	-
From Dome	#/day	3	6	0	17	-	-	-	-
Trips to overburden stockpile	#/day	43	74	62	145	23	-	-	-
From keats	#/day	30	46	-	144	23	-	-	-
From Iceberg	#/day	9	-	62	-	-	-	-	-
From Jackpot	#/day	3	23	-	-	-	-	-	-
From Dome	#/day	1	6	-	1	-	-	-	-
Trips to mineralized material stockpiles	#/hr	3	4	3	4	2	3	2	1
From keats	#/hr	2	3	2	0	2	3	2	1
From Iceberg	#/hr	1	-	1	3	0	-	-	-
From Jackpot	#/hr	0	0	-	0	-	-	-	-
From Dome	#/hr	0	0	-	0	-	-	-	-
Trips to waste rock stockpile	#/hr	24	23	28	26	33	33	21	4
From keats	#/hr	18	17	8	11	32	33	21	4
From Iceberg	#/hr	5	-	20	14	0	-	-	-
From Jackpot	#/hr	1	6	0	0	-	-	-	-
From Dome	#/hr	0	0	0	1	-	-	-	-
Trips to overburden stockpile	#/hr	2	3	3	6	1	-	-	-
From keats	#/hr	1	2	-	6	1	-	-	-
From Iceberg	#/hr	0	-	3	-	-	-	-	-
From Jackpot	#/hr	0	1	-	-	-	-	-	-
From Dome	#/hr	0	0	-	0	-	-	-	-

Material Type	Statistic[1]	Total Sulphur (%)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Bismuth (mg/kg)	Boron (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)
			7429-90-5	7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-69-9	7440-42-8	7440-43-9		7440-47-3
Detection Limit		*0.005*	*1*	*0.1*	*1*	*1*	*0.1*	*1*	*1*	*0.01*	*50*	*1*
Waste rock[2]	Count	265	265	265	265	265	265	265	265	265	265	265
	Minimum	0.005	3000	0.3	1	18	0.1	1	2	0.01	420	4
	5th Percentile	0.0352	24400	1.3	2	74.8	0.42	1	3.2	0.01	3670	50.6
	25th Percentile	0.089	58000	2.7	4	302	1.4	1	20	0.03	7820	86
	Median	0.178	69600	4.6	7	357	1.6	1	33	0.04	10700	96
	Average	0.39	67800	8.01	18.8	366	1.65	1.01	30.7	0.157	13800	110
	75th Percentile	0.423	81700	7.7	17	412	1.9	1	41	0.06	16200	124
	95th Percentile	1.54	93200	20	52	650	2.78	1	52	0.268	37700	204
	Maximum	3.76	122000	245	490	1360	3.7	4	107	14	55800	682
Mineralized material below cut-off grade[2]	Count	11	11	11	11	11	11	11	11	11	11	11
	Minimum	0.115	16400	4.5	20	59	0.4	1	5	0.01	3540	80
	5th Percentile	0.257	36400	4.9	23	139	0.75	1	11	0.02	5020	83.5
	25th Percentile	0.73	66200	6.5	27	280	1.5	1	25.5	0.03	8690	94.5
	Median	0.815	82600	8.6	104	328	1.6	1	31	0.05	11400	97
	Average	1.15	75500	16.1	143	344	1.73	1.09	33.2	0.0536	13900	111
	75th Percentile	1.62	88000	11.1	136	428	2.1	1	42	0.055	18700	127
	95th Percentile	2.32	103000	53.6	470	543	2.55	1.5	55.5	0.125	25100	158
	Maximum	2.38	112000	94.1	564	649	2.8	2	60	0.18	29900	177
WR or LG Highest	95th Percentile	2.32	103000	53.6	470	650	2.78	1.5	55.5	0.268	37700	204
Overburden	Count	34	34	34	34	34	34	34	34	34	34	34
	Minimum	0.031	39800	2.5	8	242	1.3	1	18	0.02	3730	56
	5th Percentile	0.0497	44700	3.13	10	308	1.4	1	19.7	0.0365	4830	57.7
	25th Percentile	0.159	52400	4.13	13	360	1.6	1	29	0.08	7200	71.5
	Median	0.233	54800	5.05	14	411	1.7	1	34	0.11	8630	75
	Average	0.249	57300	5.08	19.6	399	1.7	1	32.6	0.106	9440	81.7
	75th Percentile	0.312	62400	5.98	20.8	444	1.8	1	38	0.138	10300	85
	95th Percentile	0.521	70300	7.27	34.4	481	2	1	40.4	0.17	16000	139
	Maximum	0.644	93600	7.8	107	494	2	1	42	0.2	23600	156

Notes:

[1] Non-detect values were replaced with the detection limit for statistical calculations. Calculated values are rounded to three significant digits.

[2] Samples with gold grades between 0.3 and 1.6 g/t were classified as mineralized material below cut-off grade. All other non-overburden samples in the Project static geochemical testing database, including those with no gold assay results, were classified as waste rock.

% = percent; mg/kg = milligrams per kilogram

Material Type	Statistic[1]	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Lithium (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Potassium (mg/kg)	Rubidium (mg/kg)
		7440-48-4	7440-50-8	7439-89-6	7439-92-1	7439-93-2	7439-95-4	7439-96-5	7439-97-6	7439-98-7	7440-02-0	7440-09-7	7440-17-7
Detection Limit		*0.1*	*1*	*20*	*0.1*	*0.1*	*10*	*1*	*0.01*	*0.1*	*1*	*20*	*0.1*
Waste rock[2]	Count	265	265	265	265	265	265	265	265	265	265	265	265
	Minimum	0.9	2	2330	0.6	2.9	560	116	0.01	0.2	3	490	0.9
	5th Percentile	6.36	7.2	16700	6	15.3	4270	590	0.01	0.3	10	2080	7.78
	25th Percentile	18.8	26	44500	14.6	34	10100	997	0.01	0.5	47	11700	32.8
	Median	20.9	39	53000	16.9	46.4	12800	1180	0.01	0.8	52	17200	56.6
	Average	20.4	41.5	49700	20.1	46	14000	1330	0.0151	2.16	58.1	16100	61.6
	75th Percentile	22.7	44	57600	19.9	57.9	17600	1370	0.01	1.7	71	19700	89.3
	95th Percentile	28.9	75	67100	31.3	72.1	22000	2330	0.04	6.9	98.6	28300	134
	Maximum	43.8	564	94100	498	145	49400	6050	0.19	40.2	279	37500	190
Mineralized material below cut-off grade[2]	Count	11	11	11	11	11	11	11	11	11	11	11	11
	Minimum	3.9	18	11400	4.9	18.2	3990	360	0.01	0.4	17	2530	14.3
	5th Percentile	9.2	20	25300	6.2	19	6760	649	0.01	0.4	26.5	6720	27.5
	25th Percentile	17.9	30.5	46400	9.35	25.6	10800	1080	0.01	0.45	49	13900	48.6
	Median	21.6	40	56600	15.6	31.6	14600	1150	0.01	0.7	56	16600	67.6
	Average	19.8	47.5	51100	31.7	34.6	13500	1240	0.01	2.17	56.1	16700	74.8
	75th Percentile	24.1	46	58700	18.3	45.7	15900	1350	0.01	0.95	60	20900	105
	95th Percentile	25.1	107	65800	119	54	20300	1980	0.01	9	91	25100	131
	Maximum	25.2	147	70500	218	58	20600	2240	0.01	10.5	91	28000	154
WR or LG Highest	95th Percentile	28.9	107	67100	119	72.1	22000	2330	0.04	9	98.6	28300	134
Overburden	Count	34	34	34	34	34	34	34	34	34	34	34	34
	Minimum	10.2	17	28000	12.6	26.9	6270	880	0.01	0.5	30	11200	61.2
	5th Percentile	10.3	19.7	31500	13.7	30.3	6430	1030	0.01	1.17	32.7	13600	67.1
	25th Percentile	13.8	24	37400	16.6	34.8	8810	1190	0.01	1.43	43.5	16500	75.9
	Median	15	27	40800	17.3	36.6	9940	1300	0.03	2	52.5	17700	90
	Average	14.8	27.1	41000	17.4	38.1	10300	1310	0.025	1.98	49.2	17500	87
	75th Percentile	16.4	30.8	43600	18.5	41.8	11900	1450	0.03	2.28	56	19300	97.4
	95th Percentile	17.9	34.7	52000	20	45.4	13800	1570	0.05	3.24	61.1	21300	104
	Maximum	19.9	42	62400	21.6	63.4	16600	2110	0.05	3.3	68	21900	118

Notes:

[1] Non-detect values were replaced with the detection limit for statistical calculations. Calculated values are rounded to three significant digits.

[2] Samples with gold grades between 0.3 and 1.6 g/t were classified as mineralized material below cut-off grade.. All other non-overburden samples in the Project static geochemical testing database, including those with no gold assay results, were classified as waste rock.

% = percent; mg/kg = milligrams per kilogram

Material Type	Statistic[1]	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Tellurium (mg/kg)	Thallium (mg/kg)	Tin (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
		7782-49-2	7440-22-4	7440-23-5	7440-24-6	13494-80-9	7440-28-0	7440-31-5	7440-61-1	7440-62-2	7440-66-6
Detection Limit		*1*	*0.1*	*50*	*1*	*0.1*	*0.1*	*1*	*0.1*	*1*	*1*
Waste rock[2]	Count	265	265	265	265	265	265	265	265	265	265
	Minimum	1	0.1	80	16	0.1	0.1	1	0.1	6	3
	5th Percentile	1	0.1	2080	64.2	0.1	0.1	1	0.3	33.2	33
	25th Percentile	1	0.1	6170	115	0.1	0.3	1	2	118	61
	Median	1	0.1	10900	157	0.1	0.4	2	2.4	149	80
	Average	1.25	0.109	11900	182	0.112	0.437	1.77	2.68	147	81.5
	75th Percentile	1	0.1	16300	216	0.1	0.5	2	2.8	167	89
	95th Percentile	2	0.1	24700	355	0.2	0.8	3	4.06	233	119
	Maximum	7	0.5	53400	1250	0.4	1.9	5	24.8	672	953
Mineralized material below cut-off grade[2]	Count	11	11	11	11	11	11	11	11	11	11
	Minimum	1	0.1	840	43	0.1	0.1	1	0.3	22	35
	5th Percentile	1	0.1	1640	53	0.1	0.2	1	0.9	63	45
	25th Percentile	1	0.1	9500	129	0.1	0.3	1	1.9	116	74.5
	Median	1	0.1	12900	162	0.1	0.4	1	2.4	132	86
	Average	1	0.1	12900	167	0.109	0.427	1.45	2.31	133	82.5
	75th Percentile	1	0.1	15600	217	0.1	0.55	2	2.85	157	91
	95th Percentile	1	0.1	25200	278	0.15	0.7	2.5	3.5	194	116
	Maximum	1	0.1	31600	301	0.2	0.8	3	3.9	200	122
WR or LG Highest	95th Percentile	2	0.1	25200	355	0.2	0.8	3	4.06	233	119
Overburden	Count	34	34	34	34	34	34	34	34	34	34
	Minimum	1	0.1	6610	66	0.1	0.3	2	1.9	57	49
	5th Percentile	1	0.1	7190	75.6	0.1	0.4	2	2	58.3	54.7
	25th Percentile	1	0.1	8310	88	0.1	0.5	2	2.6	79.3	61
	Median	1	0.1	9570	97	0.1	0.55	2	2.75	88.5	64
	Average	1.21	0.115	10200	102	0.1	0.526	2.21	2.71	88.9	65.6
	75th Percentile	1	0.1	12300	109	0.1	0.6	2	2.98	94.8	70.8
	95th Percentile	2	0.135	14700	149	0.1	0.6	3	3.14	125	78.1
	Maximum	2	0.5	17000	168	0.1	0.7	3	3.3	154	85

Notes:

[1] Non-detect values were replaced with the detection limit for statistical calculations. Calculated values are rounded to three significant digits.

[2] Samples with gold grades between 0.3 and 1.6 g/t were classified as mineralized material below cut-off grade. All other non-overburden samples in the Project static geochemical testing database, including those with no gold assay results, were classified as waste rock.

% = percent; mg/kg = milligrams per kilogram

Appendix 7.B Air Dispersion Modelling Report

Appendix 7B Dispersion Modelling Strategy

This appendix provides a description the air dispersion modelling procedures employed in the assessment of the Queensway Gold Project (the Project) for New Found Gold Corp. The information provided here summarizes the information provided and details the emissions rates and model setup used in the modelling assessment.

7B.1 Dispersion Modelling Strategy

The California Puff (CALPUFF) dispersion modelling system was used to predict the maximum ground level concentrations of the substances of interest in the Local Assessment Area (LAA) / Regional Assessment Area (RAA) during the normal operation of the Project.

The CALPUFF model is a non-steady-state Gaussian puff dispersion model that incorporates simple chemical transformation mechanisms, complex terrain algorithms and building downwash. It is suitable for estimating ground-level concentrations on local and regional scales, from tens of metres (m) to hundreds of kilometres (km). The core of this modelling system consists of a meteorological model, CALMET, a transport and dispersion model, CALPUFF, and a post-processor model, CALPOST, which is designed to report the concentrations of the air contaminants of interest.

The CALPUFF model was chosen over AERMOD as it has better algorithms to handle complex terrain and it is the preferred model for studies by the Newfoundland and Labrador (NL) Department of Environment, Conservation and Climate Change (NLDECCC).

7B.2 CALMET Meteorological Modelling

Meteorology influences the way air contaminant emissions from industrial and natural sources disperse into the atmosphere thus affecting air quality. Atmospheric dispersion of emissions is governed by the amount of turbulence that exists in the mixed layer of air in contact with the ground. Turbulence levels depend on thermal effects (e.g., vertical temperature stratification) and mechanical effects caused by topography, surface roughness, and wind speed. The height of the mixing layer determines the vertical extent to which emissions can diffuse. Meteorology varies with time of day and year and can vary from location to location because of terrain and land cover influences on turbulence and wind field.

The CALMET model was initialized using Weather Research and Forecasting (WRF) modelled data. CALMET uses the 3-D WRF data as an initial guess of the meteorological conditions within the domain before applying the influence of terrain and geophysical surface characteristics (albedo, bowen ratio, surface roughness). CALMET can then combine the WRF model data with surface observational data or upper air data used to “fine tune” the site-specific meteorology for use in CALPUFF.

The WRF data (ready for input to CALMET) was purchased from Lakes Environmental (Lakes Environmental Software 2025). The WRF data, covers the four-year 2021-2024 period, with a 4 km resolution over a 100 km by 100 km grid, centered near the Project Area.

7B.3 Meteorological Data

The meteorological data required by the CALPUFF model to predict plume dispersion and transport includes surface weather data (i.e., wind velocities and direction, temperature, atmospheric stability, and mixing layer depth), and upper air data (i.e., pressure, altitude, temperature, relative humidity, wind speed, and direction). CALMET can be executed using both meteorological modelled data (i.e., WRF model data) and observation data (site-specific data) from nearby surface weather stations. Surface wind and temperature data are readily available from meteorological stations, whereas atmospheric stability and mixing layer depth are calculated from additional raw meteorological data including cloud cover, snow cover, and solar radiation. NLDECCC recommends the use of Weather Research & Forecasting (WRF), Rapid Refresh (RAP), or Mesoscale Model Interface (MMIF) models as input to CALMET, with a minimum resolution of 12 km. In this assessment 4 km WRF data was used to initialize CALMET.

7B.4 CALMET Meteorological Modelling

The latest version of CALMET (version 6.5.0) was used for this study. The CALMET model was run for the four-year period, 2021 to 2024. A horizontal grid spacing of 500 m was selected for the CALMET modelling and the study area was set at 50 km by 50 km. The size of the grid was chosen to cover the potential worst-case extent of influence of operation of the Project on air quality.

The CALMET model was initialized using the 4 km grid WRF data at various levels of the atmosphere within the model domain.

Ten vertical levels were used to model the atmosphere up to a maximum cell face height of 3,000 m above ground level. The cell mid-points were chosen at heights of 20, 40, 80, 160, 300, 600, 1,000, 1,500, 2,200, and 3,000 m above ground level to allow for higher resolution in the layers nearest to the earth's surface than in the levels further aloft.

To initialize the CALMET model, terrain elevation, and land use data depicting the geophysical conditions in the selected modelling domain are required. For the CALMET model grid considered in this study, terrain elevations were based on data from the Canadian Digital Elevation Model (Government of Canada 2017). The terrain data was compared with local topography maps and satellite imagery to review for consistency. Land use data were processed for three seasonal categories in accordance with the Modelling Guideline: non-winter, winter without snow cover and winter with snow cover (NLDEC 2012a). Land use information for the region was taken from the Commission for Environmental Cooperation 2015 database using 30 m resolution, as the domain of interest was outside of the region with available land use data from the province (NLDEC 2012a).

The CALMET predicted winds at the Project site for the 2021 to 2024 model period are shown in Figure 7B-1. The winds are predicted to occur most frequently from the west and southwest directions. The highest wind speeds are predicted most frequently from the west and west-southwest directions. The lowest wind speeds are predicted most frequently from the southwest direction.

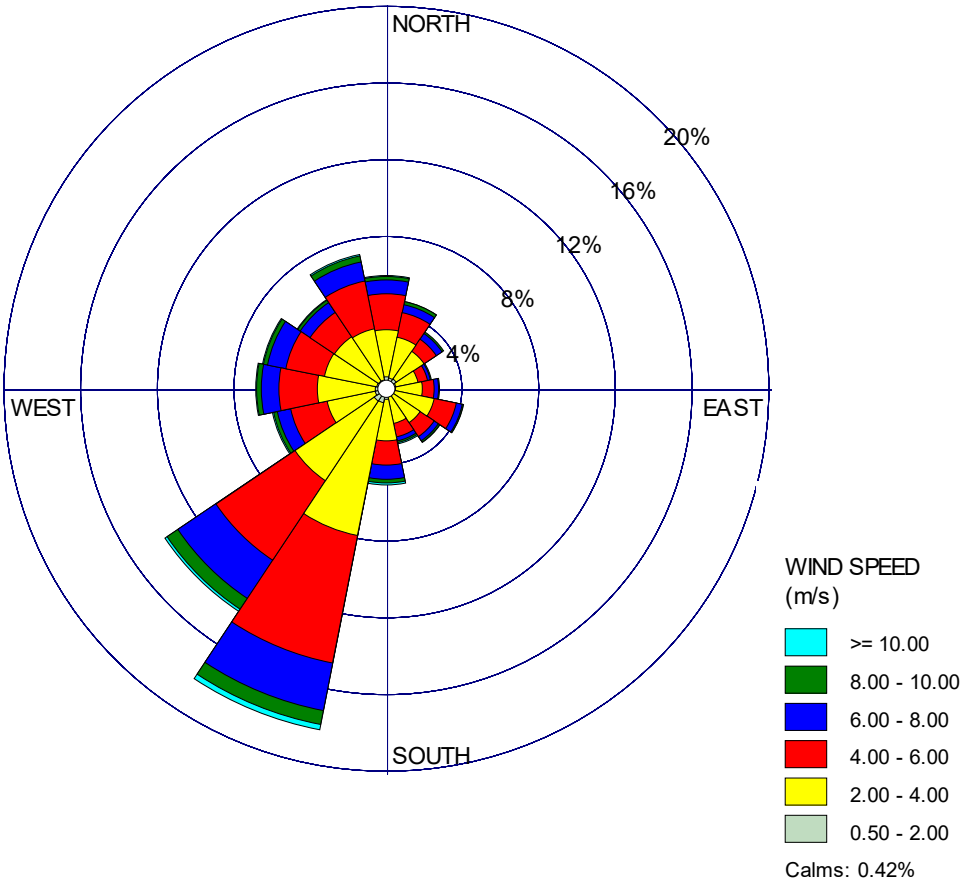


Figure 7B-1 CALMET Predicted Winds at the Project Site – 2021 – 2024

7B.5 CALPUFF Modelling

The latest stable (non-beta) version of the CALPUFF dispersion model (version 7.2.1) was used to predict ground-level concentrations of the contaminants of concern expected to be released from the Project in substantive quantities. The modelling was conducted in support of the air quality assessment. The modelling domain encompasses the Project both during construction and operation, but only operations emissions are considered as they are estimated to be more substantive than emissions during construction. Operations emissions are estimated to be confined to the Project site, located directly east of Appleton, NL. The primary modelling area consisted of a 50 km by 50 km area centered on the Project site based on the predicted downwind extent of expected emission sources.

7B.5.1 Model Inputs

Project-related air contaminant releases from substantive sources associated with the mine operation were modelled.

The source data required to run the CALPUFF model includes the following:

- the physical location(s) of the source(s) of air contaminants
- the emission rate(s) of the selected contaminant(s)
- the physical dimensions of the emission source (stack height or release height) and exit diameter (for point sources)
- exhaust gas properties (exit velocity and temperature for point sources)

The model input parameters are provided in Tables 7B-1 through 7B-12, for point sources, volume sources, area sources, and road sources respectively.

The air contaminant releases were modelled as maximum hourly and maximum daily emissions to estimate the resulting maximum ground-level concentrations for the same averaging period, for comparison with relevant ambient air quality standards. The maximum hourly rates are estimated as the maximum emission rate that could occur in a given hour (based on operational activity data) and maximum daily emissions are the maximum rate that could occur over a 24-hour period. The maximum daily rates are generally estimated based on the hourly rate, prorated based on the hours of operation per day or hours per day where releases might occur, for sources operating (or with releases occurring) less than 24 hours per day. Due to the operational information provided, the daily operation emission rates also represent the maximum annual emission rates. The annual average rates are estimated based on average activity and operating data for the peak operating year in the lifespan of the Project. A summary of the modelled emission rates is provided in Tables 7B-1 through 7B-9. Additional data used to develop the emission parameters are summarized in Table 7B-10.

Data for estimated operations during each year of the planned mine life were reviewed to determine the peak operating parameters for modelling. The peak operational year for emissions was Year 4 for most sources. For blasting emissions, the peak operational year was Year 5. The types of sources considered were:

- blasting
- stationary combustion sources (e.g., the site generator, as well as miscellaneous diesel combustion for pumps, lights and other portable equipment)
- mobile combustion sources
- material stockpiles
- material transfers (unloading)
- crushing and screening
- unpaved roads

Blasting emissions were considered as volume sources. To be consistent with emissions from unpaved roads, blasts were assumed to take place in either the Keats or Iceberg pits (which are operational in Year 4). It was assumed that there would be one blast per day, with emissions rates calculated over an hour (as it is the smallest temporal resolution within CALPUFF). Blasts were assumed to be at 3 pm (local time) each day, and only one pit could be subject to blasting on a given day.

Stationary combustion is primarily from the 6 megawatts diesel generator used on site. It is understood that the generator may not be in use as it is anticipated that power can be connected to the site when required for Project operation. The air contaminant emissions have been estimated and included in the model to conservatively estimate the potential total emissions on site. Parameters for the release were assumed based on similar equipment. It is noted that a stack had not been designed for the emissions at the time of modelling. Therefore, the release was considered at the height of the generator, using the generator's exhaust port for the stack size. For the other miscellaneous diesel emissions including pumps and portable lighting, they were incorporated into area sources at the Keats and Iceberg pits (consistent with activity in Year 4), since the location of the lights and pumps are not currently known. As per the modelling guidance, an in-stack ratio of 0.2 nitrogen dioxide (NO_2) was used to calculate the ratio of nitric oxide (NO) to NO_2 released by the equipment, as they burn diesel (NLDEC 2012a).

Mobile equipment (excluding haul trucks) were modelled as point sources. Since the location of vehicles would be transient and subject to change over the course of the Project lifespan, the drills and loaders were placed in pits consistent with Year 4 operations (for which the haul routes are defined). The support loaders were placed at the location of the ore stockpiles. The excavator was placed in the Keats pit, as it is closer to Appleton. For the remaining vehicles, they were clustered near the road between the Keats and Iceberg pits to conservatively place them closer to Appleton for the purposes of the air quality study. Emissions from haul trucks were modelled along road sources defined by the haul routes in Year 4. Although NL has no specific guidance for the in-stack ratios for diesel vehicles, guidance from British Columbia indicated an in-stack ratio of 0.4 NO_2 (British Columbia Ministry of Environment & Climate Change Strategy 2022).

Material stockpiles were modelled as elevated area sources with the same total footprint as the stockpiles during their peak size (regardless of year). Elevations were chosen to be half of the stockpile height, with initial vertical dispersion equal to the height of the stockpile.

Material transfers were modelled as volume sources near the stockpiles and the crusher, along with the crushing and screening sources.

Unpaved road emissions were modelled as road sources along the active routes in Year 4. Year 4 activity involved transport between the Keats and Iceberg pits to the stockpile and waste rock primarily, with some transport of materials to the overburden. The roads were assumed to be 30 m wide, as per the project description.

A summary of source locations is presented in Figure 7B-2.

Table 7B-1 Model Input Source Characteristics – Point Sources

Source	Process Area	Location (km, UTM Zone 20N)		Release Height (m)	Base Elevation (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temperature (K)
		X	Y					
Generator	Industrial Zone	658.815	5427.246	4	100.0	0.4572	107	693
Drill 1	Keats Pit	657.8821	5427.437	3.5	95.0	0.3556	20	723
Drill 2	Keats Pit	657.9835	5427.506	3.5	95.0	0.3556	20	723
Drill 3	Iceberg Pit	658.3549	5427.798	3.5	96.0	0.3556	20	723
Loader 1 (Excavator)	Keats Pit	658.0093	5427.523	4	95.0	0.254	20	723
Loader 2 (Excavator)	Keats Pit	658.0403	5427.546	4	95.0	0.254	20	723
Loader 3 (Excavator)	Iceberg Pit	658.3325	5427.774	4	96.0	0.254	20	723
Support Loader 1	Stockpiles	658.7947	5427.735	3.1	100.0	0.254	20	723
Support Loader 2	Stockpiles	659.1032	5427.381	3.1	96.9	0.254	20	723
Excavator	Keats Pit	658.0926	5427.572	3.3	95.3	0.254	20	723
Track Dozer 1	Keats Pit	658.234	5427.615	4	97.0	0.254	20	723
Track Dozer 2	Iceberg Pit	658.3967	5427.745	4	97.0	0.254	20	723
Grader	Keats Pit	658.2213	5427.616	3.6	96.8	0.254	20	723
Grader	Iceberg Pit	658.4476	5427.742	3.6	97.0	0.254	20	723
28t Sand/Water truck	Keats Road	658.3019	5427.678	3.8	97.0	0.254	20	723
HM 300 Fuel/Lube Truck	Keats Road	658.3628	5427.67	3.8	97.0	0.254	20	723
Surface Boom Truck	Keats Road	658.2943	5427.626	3.8	97.0	0.254	20	723
Surface Telehandlers	Keats Road	658.3462	5427.642	3.8	97.0	0.254	20	723
Surface Forklift	Industrial Zone	658.3906	5427.439	3.9	99.1	0.254	20	723
60t Lowboy	Keats Road	658.4113	5427.657	3.8	97.8	0.254	20	723
Mobile Welding Machine	Keats Road	658.4513	5427.651	3.8	98.0	0.254	20	723
Mechanic Service Truck	Keats Road	658.4898	5427.642	3.8	98.0	0.254	20	723
Emulsion Truck	Keats Road	658.4528	5427.629	2.7	98.0	0.254	20	723

Notes:
K = Kelvin; m/s = metre(s) per second; t = tonne(s)

Table 7B-2 Model Input Emission Rates – Point Sources

Source	Total Emissions (g/s)																	
	Total Suspended Particulate (TSP)	Particulate Matter less than 10 microns (PM_{10})	Particulate Matter less than 2.5 microns ($PM_{2.5}$)	Nitrogen Oxide (NO)	Nitrogen Dioxide (NO_2)	Sulphur Dioxide (SO_2)	Carbon Monoxide (CO)	Aluminum	Arsenic	Cadmium	Copper	Iron	Lead	Mercury	Nickel	Vanadium	Zinc	Benzo (a) pyrene
	N/A-1	N/A-2	N/A-3	-	10102-44-0	7446-09-5	630-08-0	7429-90-5	7440-38-2	7440-43-9	7440-50-8	7439-89-6	7439-92-1	7439-97-6	7440-02-0	7440-62-2	7440-66-6	50-32-8
Max Hourly																		
Generator	4.73E-01	3.89E-01	3.25E-01	1.13E+01	4.35E+00	1.03E+01	5.77E+00	-	-	-	-	-	-	-	-	-	-	1.75E-06
Drill 1	1.50E-03	1.50E-03	1.50E-03	1.76E-02	1.80E-02	7.50E-04	3.90E-01	-	-	-	-	-	-	-	-	-	-	-
Drill 2	1.50E-03	1.50E-03	1.50E-03	1.76E-02	1.80E-02	7.50E-04	3.90E-01	-	-	-	-	-	-	-	-	-	-	-
Drill 3	1.50E-03	1.50E-03	1.50E-03	1.76E-02	1.80E-02	7.50E-04	3.90E-01	-	-	-	-	-	-	-	-	-	-	-
Loader 1 (Excavator)	1.51E-03	1.51E-03	1.51E-03	1.77E-02	1.81E-02	7.53E-04	3.92E-01	-	-	-	-	-	-	-	-	-	-	-
Loader 2 (Excavator)	1.51E-03	1.51E-03	1.51E-03	1.77E-02	1.81E-02	7.53E-04	3.92E-01	-	-	-	-	-	-	-	-	-	-	-
Loader 3 (Excavator)	1.51E-03	1.51E-03	1.51E-03	1.77E-02	1.81E-02	7.53E-04	3.92E-01	-	-	-	-	-	-	-	-	-	-	-
Support Loader 1	1.17E-03	1.17E-03	1.17E-03	1.37E-02	1.40E-02	5.83E-04	3.03E-01	-	-	-	-	-	-	-	-	-	-	-
Support Loader 2	1.17E-03	1.17E-03	1.17E-03	1.37E-02	1.40E-02	5.83E-04	3.03E-01	-	-	-	-	-	-	-	-	-	-	-
Excavator	1.23E-03	1.23E-03	1.23E-03	1.44E-02	1.48E-02	6.15E-04	3.20E-01	-	-	-	-	-	-	-	-	-	-	-
Track Dozer 1	1.01E-03	1.01E-03	1.01E-03	1.18E-02	1.21E-02	5.04E-04	2.62E-01	-	-	-	-	-	-	-	-	-	-	-
Track Dozer 2	1.01E-03	1.01E-03	1.01E-03	1.18E-02	1.21E-02	5.04E-04	2.62E-01	-	-	-	-	-	-	-	-	-	-	-
Grader	6.61E-04	6.61E-04	6.61E-04	7.76E-03	7.93E-03	3.30E-04	1.72E-01	-	-	-	-	-	-	-	-	-	-	-
Grader	6.61E-04	6.61E-04	6.61E-04	7.76E-03	7.93E-03	3.30E-04	1.72E-01	-	-	-	-	-	-	-	-	-	-	-
28t Sand/Water truck	1.42E-03	1.42E-03	1.42E-03	1.67E-02	1.70E-02	7.09E-04	3.69E-01	-	-	-	-	-	-	-	-	-	-	-
HM 300 Fuel/Lube Truck	1.42E-03	1.42E-03	1.42E-03	1.67E-02	1.70E-02	7.09E-04	3.69E-01	-	-	-	-	-	-	-	-	-	-	-
Surface Boom Truck	5.55E-04	5.55E-04	5.55E-04	6.52E-03	6.66E-03	2.77E-04	1.44E-01	-	-	-	-	-	-	-	-	-	-	-
Surface Telehandlers	3.19E-04	3.19E-04	3.19E-04	3.75E-03	3.83E-03	1.60E-04	1.18E-01	-	-	-	-	-	-	-	-	-	-	-
Surface Forklift	7.94E-04	7.94E-04	7.94E-04	9.33E-03	9.53E-03	3.97E-04	2.07E-01	-	-	-	-	-	-	-	-	-	-	-
60t Lowboy	1.38E-03	1.38E-03	1.38E-03	1.62E-02	1.65E-02	6.88E-04	3.58E-01	-	-	-	-	-	-	-	-	-	-	-
Mobile Welding Machine	9.72E-04	9.72E-04	9.72E-04	1.14E-02	1.17E-02	4.86E-04	2.53E-01	-	-	-	-	-	-	-	-	-	-	-
Mechanic Service Truck	9.72E-04	9.72E-04	9.72E-04	1.14E-02	1.17E-02	4.86E-04	2.53E-01	-	-	-	-	-	-	-	-	-	-	-
Emulsion Truck	4.47E-04	4.47E-04	4.47E-04	5.25E-03	5.36E-03	2.23E-04	1.16E-01	-	-	-	-	-	-	-	-	-	-	-

Notes:
'-' is used to represent to a species that was not estimated for the indicated source (due to a lack of emission factors or not being appropriate for the type of emission)
g/s = gram(s) per second

Table 7B-3 Model Input Source Characteristics – Volume Sources

Source	Process Area	Location (km, UTM Zone 20N)		Effective Height (m)	Base Elevation (m)	Initial Vertical Dispersion	Initial Horizontal Dispersion
		X	Y				
Primary Crusher Inlet	Industrial Zone	658.723	5427.306	5	101.0	2.33	4.65
Secondary Crusher Inlet	Industrial Zone	658.713	5427.283	5	101.0	2.33	4.65
Screen Inlet	Industrial Zone	658.708	5427.269	5	101.0	2.33	4.65
Screen	Industrial Zone	658.704	5427.255	3	101.0	1.40	2.79
Surge Bin	Industrial Zone	658.722	5427.246	3	101.0	1.40	2.79
Sorter Conveyor	Industrial Zone	658.698	5427.231	3	101.0	1.40	2.79
Accepts Conveyor	Industrial Zone	658.691	5427.213	3	101.0	1.40	2.79
Rejects Conveyor	Industrial Zone	658.684	5427.193	3	101.0	1.40	2.79
Mid Grade Ore Stockpile	Stockpiles	658.758	5427.692	10	100.0	2.33	2.33
Waste Rock	Wasterock	659.723	5428.679	10	85.0	2.33	2.33
Mineralized Material Below Cut-Off Grade Stockpile	Stockpiles	658.838	5427.780	10	100.0	2.33	2.33
High Grade Ore Sorter Rejects	Stockpiles	659.013	5427.470	10	98.0	2.33	2.33
Mid Grade Ore Sorter Rejects	Stockpiles	658.912	5427.555	10	100.0	2.33	2.33
Overburden	Overburden	660.481	5429.230	10	82.0	2.33	2.33
Keats Blasting	Keats Pit	657.911	5427.484	5	95.0	11.55	4.65
Iceberg Blasting	Iceberg Pit	658.373	5427.853	5	96.0	11.55	4.65

Table 7B-4 Model Input Emission Rates – Volume Sources

Source	Total Emissions (g/s)																	
	Total Suspended Particulate (TSP)	Particulate Matter less than 10 microns (PM_{10})	Particulate Matter less than 2.5 microns ($PM_{2.5}$)	Nitrogen Oxide (NO)	Nitrogen Dioxide (NO_2)	Sulphur Dioxide (SO_2)	Carbon Monoxide (CO)	Aluminum	Arsenic	Cadmium	Copper	Iron	Lead	Mercury	Nickel	Vanadium	Zinc	Benzo (a) pyrene
	N/A-1	N/A-2	N/A-3	-	10102-44-0	7446-09-5	630-08-0	7429-90-5	7440-38-2	7440-43-9	7440-50-8	7439-89-6	7439-92-1	7439-97-6	7440-02-0	7440-62-2	7440-66-6	50-32-8
Max Hourly																		
Primary Crusher Inlet	4.38E-01	1.90E-01	2.88E-02	-	-	-	-	4.51E-02	2.06E-04	1.17E-07	4.68E-05	2.94E-02	5.21E-05	1.75E-08	4.32E-05	1.02E-04	5.21E-05	-
Secondary Crusher Inlet	8.99E-01	3.86E-01	5.85E-02	-	-	-	-	9.26E-02	4.22E-04	2.41E-07	9.62E-05	6.03E-02	1.07E-04	3.60E-08	8.86E-05	2.09E-04	1.07E-04	-
Screen Inlet	4.95E-01	1.97E-01	2.98E-02	-	-	-	-	5.10E-02	2.33E-04	1.33E-07	5.30E-05	3.32E-02	5.89E-05	1.98E-08	4.88E-05	1.15E-04	5.89E-05	-
Screen	2.07E-01	9.80E-02	1.48E-02	-	-	-	-	2.13E-02	9.74E-05	5.55E-08	2.22E-05	1.39E-02	2.47E-05	8.29E-09	2.04E-05	4.83E-05	2.47E-05	-
Surge Bin	2.07E-01	9.80E-02	1.48E-02	-	-	-	-	2.13E-02	9.74E-05	5.55E-08	2.22E-05	1.39E-02	2.47E-05	8.29E-09	2.04E-05	4.83E-05	2.47E-05	-
Sorter Conveyor	2.07E-01	9.80E-02	1.48E-02	-	-	-	-	2.13E-02	9.74E-05	5.55E-08	2.22E-05	1.39E-02	2.47E-05	8.29E-09	2.04E-05	4.83E-05	2.47E-05	-
Accepts Conveyor	1.33E-01	6.27E-02	9.50E-03	-	-	-	-	1.37E-02	6.23E-05	3.55E-08	1.42E-05	8.90E-03	1.58E-05	5.30E-09	1.31E-05	3.09E-05	1.58E-05	-
Rejects Conveyor	8.70E-02	4.12E-02	6.23E-03	-	-	-	-	8.96E-03	4.09E-05	2.33E-08	9.31E-06	5.84E-03	1.04E-05	3.48E-09	8.58E-06	2.03E-05	1.04E-05	-
Mid Grade Ore Stockpile	1.95E-02	9.23E-03	1.40E-03	-	-	-	-	2.01E-03	9.18E-06	5.23E-09	2.09E-06	1.31E-03	2.32E-06	7.81E-10	1.92E-06	4.55E-06	2.32E-06	-
Waste Rock	4.32E+00	2.04E+00	3.09E-01	-	-	-	-	4.44E-01	2.03E-03	1.16E-06	4.62E-04	2.90E-01	5.14E-04	1.73E-07	4.25E-04	1.01E-03	5.14E-04	-
Mineralized Material Below Cut off Grade Stockpile	2.51E-01	1.19E-01	1.80E-02	-	-	-	-	2.59E-02	1.18E-04	6.73E-08	2.69E-05	1.69E-02	2.99E-05	1.01E-08	2.48E-05	5.85E-05	2.99E-05	-
High Grade Ore Sorter Rejects	8.09E-02	3.83E-02	5.79E-03	-	-	-	-	8.33E-03	3.80E-05	2.17E-08	8.66E-06	5.43E-03	9.63E-06	3.24E-09	7.98E-06	1.89E-05	9.63E-06	-
Mid Grade Ore Sorter Rejects [1]	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
Overburden	1.28E-01	6.05E-02	9.16E-03	-	-	-	-	8.99E-03	4.40E-06	2.17E-08	4.44E-06	6.65E-03	2.56E-06	6.39E-09	7.81E-06	1.60E-05	9.99E-06	-
Keats Blasting	7.49E+00	3.89E+00	2.25E-01	1.01E+01	3.86E+00	2.41E+00	8.19E+01	7.71E-01	1.19E-03	6.80E-07	2.71E-04	1.70E-01	3.02E-04	1.01E-07	2.50E-04	5.91E-04	3.02E-04	-
Iceberg Blasting	7.49E+00	3.89E+00	2.25E-01	1.01E+01	3.86E+00	2.41E+00	8.19E+01	7.71E-01	1.19E-03	6.80E-07	2.71E-04	1.70E-01	3.02E-04	1.01E-07	2.50E-04	5.91E-04	3.02E-04	-
Max Daily																		
Primary Crusher Inlet	3.81E-01	1.67E-01	2.54E-02	-	-	-	-	3.92E-02	1.79E-04	1.02E-07	4.07E-05	2.55E-02	4.53E-05	8.88E-09	3.75E-05	8.87E-05	4.53E-05	-
Secondary Crusher Inlet	7.28E-01	3.15E-01	4.77E-02	-	-	-	-	7.50E-02	3.42E-04	1.95E-07	7.79E-05	4.88E-02	8.66E-05	1.70E-08	7.18E-05	1.70E-04	8.66E-05	-
Screen Inlet	4.24E-01	1.73E-01	2.61E-02	-	-	-	-	4.37E-02	1.99E-04	1.14E-07	4.54E-05	2.85E-02	5.05E-05	1.52E-08	4.18E-05	9.88E-05	5.05E-05	-
Screen	2.07E-01	9.80E-02	1.48E-02	-	-	-	-	2.13E-02	9.74E-05	5.55E-08	2.22E-05	1.39E-02	2.47E-05	2.91E-08	2.04E-05	4.83E-05	2.47E-05	-
Surge Bin	2.07E-01	9.80E-02	1.48E-02	-	-	-	-	2.13E-02	9.74E-05	5.55E-08	2.22E-05	1.39E-02	2.47E-05	1.70E-08	2.04E-05	4.83E-05	2.47E-05	-
Sorter Conveyor	2.07E-01	9.80E-02	1.48E-02	-	-	-	-	2.13E-02	9.74E-05	5.55E-08	2.22E-05	1.39E-02	2.47E-05	8.29E-09	2.04E-05	4.83E-05	2.47E-05	-
Accepts Conveyor	1.33E-01	6.27E-02	9.50E-03	-	-	-	-	1.37E-02	6.23E-05	3.55E-08	1.42E-05	8.90E-03	1.58E-05	8.29E-09	1.31E-05	3.09E-05	1.58E-05	-
Rejects Conveyor	8.70E-02	4.12E-02	6.23E-03	-	-	-	-	8.96E-03	4.09E-05	2.33E-08	9.31E-06	5.84E-03	1.04E-05	8.29E-09	8.58E-06	2.03E-05	1.04E-05	-
Mid Grade Ore Stockpile	1.95E-02	9.23E-03	1.40E-03	-	-	-	-	2.01E-03	9.18E-06	5.23E-09	2.09E-06	1.31E-03	2.32E-06	5.30E-09	1.92E-06	4.55E-06	2.32E-06	-

Table 7B-4 Model Input Emission Rates – Volume Sources

Source	Total Emissions (g/s)																	
	Total Suspended Particulate (TSP)	Particulate Matter less than 10 microns (PM_{10})	Particulate Matter less than 2.5 microns ($PM_{2.5}$)	Nitrogen Oxide (NO)	Nitrogen Dioxide (NO_2)	Sulphur Dioxide (SO_2)	Carbon Monoxide (CO)	Aluminum	Arsenic	Cadmium	Copper	Iron	Lead	Mercury	Nickel	Vanadium	Zinc	Benzo (a) pyrene
	N/A-1	N/A-2	N/A-3	-	10102-44-0	7446-09-5	630-08-0	7429-90-5	7440-38-2	7440-43-9	7440-50-8	7439-89-6	7439-92-1	7439-97-6	7440-02-0	7440-62-2	7440-66-6	50-32-8
Waste Rock	4.32E+00	2.04E+00	3.09E-01	-	-	-	-	4.44E-01	2.03E-03	1.16E-06	4.62E-04	2.90E-01	5.14E-04	3.48E-09	4.25E-04	1.01E-03	5.14E-04	-
Mineralized Material Below Cut Off Grade Stockpile	2.51E-01	1.19E-01	1.80E-02	-	-	-	-	2.59E-02	1.18E-04	6.73E-08	2.69E-05	1.69E-02	2.99E-05	7.81E-10	2.48E-05	5.85E-05	2.99E-05	-
High Grade Ore Sorter Rejects	8.09E-02	3.83E-02	5.79E-03	-	-	-	-	8.33E-03	3.80E-05	2.17E-08	8.66E-06	5.43E-03	9.63E-06	1.73E-07	7.98E-06	1.89E-05	9.63E-06	-
Mid Grade Ore Sorter Rejects	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-08	0.00E+00	0.00E+00	0.00E+00	-
Overburden	1.28E-01	6.05E-02	9.16E-03	-	-	-	-	8.99E-03	4.40E-06	2.17E-08	4.44E-06	6.65E-03	2.56E-06	3.24E-09	7.81E-06	1.60E-05	9.99E-06	-
Keats Blasting	7.49E+00	3.89E+00	2.25E-01	1.01E+01	3.86E+00	2.41E+00	8.19E+01	7.71E-01	3.52E-03	2.01E-06	8.01E-04	5.02E-01	8.91E-04	2.99E-07	7.38E-04	1.74E-03	8.91E-04	-
Iceberg Blasting	7.49E+00	3.89E+00	2.25E-01	1.01E+01	3.86E+00	2.41E+00	8.19E+01	7.71E-01	3.52E-03	2.01E-06	8.01E-04	5.02E-01	8.91E-04	2.99E-07	7.38E-04	1.74E-03	8.91E-04	-

Notes:
'-' is used to represent to a species that was not estimated for the indicated source (due to a lack of emission factors or not being appropriate for the type of source)
[1] The MG Sorter Rejects Stockpile had no material added or removed in Operations Year 4

Table 7B-5 Model Input Source Characteristics – Area Sources

Source	Process Area	Location (km, UTM Zone 20N)		Modelled Area (m²)	Effective Height (m)	Base Elevation (m)	Initial Horizontal Dispersion
		X	Y				
Overburden	Overburden	660.510 660.958 660.958 660.510	5428.834 5428.834 5429.841 5429.841	450,372	8	101	16
Waste Rock	Waste Rock	659.821 660.420 660.420 659.821	5427.632 5427.632 5428.981 5428.981	808,927	26	98	52
Mineralized Material Below Cut off Grade Storage	Stockpiles	659.090 659.280 658.986 658.795	5427.419 5427.624 5427.898 5427.694	112,503	28	100	56
Mid Grade Ore Storage	Stockpiles	658.634 658.719 658.854 658.769	5427.541 5427.461 5427.606 5427.686	23,174	18	100	36
Mid Grade Ore Sorter Rejects	Stockpiles	658.753 658.834 658.944 658.863	5427.468 5427.391 5427.509 5427.585	18,069	11.5	100	23
High Grade Ore Sorter Rejects	Stockpiles	658.881 658.962 659.055 658.973	5427.396 5427.320 5427.419 5427.495	15,081	19	100	38
Run of Mine Ore	Stockpiles	659.032 659.063 659.097 659.067	5427.349 5427.321 5427.357 5427.385	2,070	8	99	16

Table 7B-5 Model Input Source Characteristics – Area Sources

Source	Process Area	Location (km, UTM Zone 20N)		Modelled Area (m²)	Effective Height (m)	Base Elevation (m)	Initial Horizontal Dispersion
		X	Y				
Keats Pit	Keats Pit	657.775 658.250 658.250 657.775	5427.116 5427.116 5427.590 5427.590	224,876	5	101	0
Iceberg Pit	Iceberg Pit	658.510 658.877 658.714 658.347	5427.714 5428.081 5428.244 5427.877	119,604	5	99	0

Note:
m^2 = square metre(s)

Table 7B-6 Model Input Emission Rates – Area Sources

Source	Total Emissions (g/m²/s)																	
	Total Suspended Particulate (TSP)	Particulate Matter less than 10 microns (PM_{10})	Particulate Matter less than 2.5 microns ($PM_{2.5}$)	Nitrogen Oxide (NO)	Nitrogen Dioxide (NO_2)	Sulphur Dioxide (SO_2)	Carbon Monoxide (CO)	Aluminum	Arsenic	Cadmium	Copper	Iron	Lead	Mercury	Nickel	Vanadium	Zinc	Benzo (a) pyrene
	N/A-1	N/A-2	N/A-3	-	10102-44-0	7446-09-5	630-08-0	7429-90-5	7440-38-2	7440-43-9	7440-50-8	7439-89-6	7439-92-1	7439-97-6	7440-02-0	7440-62-2	7440-66-6	50-32-8
Max Hourly																		
Overburden	6.30E-07	3.15E-07	4.72E-08	-	-	-	-	4.43E-08	2.17E-11	1.07E-13	2.18E-11	3.27E-08	1.26E-11	3.15E-14	3.85E-11	7.87E-11	4.92E-11	-
Waste Rock	6.72E-07	3.36E-07	5.04E-08	-	-	-	-	6.93E-08	3.16E-10	1.80E-13	7.20E-11	4.51E-08	8.00E-11	2.69E-14	6.63E-11	1.57E-10	8.00E-11	-
Mineralized Material Below Cut off Grade Storage	6.95E-07	3.47E-07	5.21E-08	-	-	-	-	7.16E-08	3.27E-10	1.86E-13	7.43E-11	4.66E-08	8.27E-11	2.78E-14	6.85E-11	1.62E-10	8.27E-11	-
Mid Grade Ore Storage	7.11E-07	3.56E-07	5.34E-08	-	-	-	-	7.33E-08	3.34E-10	1.91E-13	7.61E-11	4.77E-08	8.47E-11	2.85E-14	7.01E-11	1.66E-10	8.47E-11	-
Mid Grade Ore Sorter Rejects	6.81E-07	3.40E-07	5.11E-08	-	-	-	-	7.01E-08	3.20E-10	1.82E-13	7.28E-11	4.57E-08	8.10E-11	2.72E-14	6.71E-11	1.59E-10	8.10E-11	-
High Grade Ore Sorter Rejects	7.14E-07	3.57E-07	5.35E-08	-	-	-	-	7.35E-08	3.35E-10	1.91E-13	7.64E-11	4.79E-08	8.49E-11	2.86E-14	7.04E-11	1.66E-10	8.49E-11	-
Run of Mine Ore	6.64E-07	3.32E-07	4.98E-08	-	-	-	-	6.84E-08	3.12E-10	1.78E-13	7.11E-11	4.46E-08	7.90E-11	2.66E-14	6.55E-11	1.55E-10	7.90E-11	-
Keats Pit	4.11E-08	4.11E-08	4.11E-08	3.05E-07	1.17E-07	3.85E-08	1.26E-07	-	-	-	-	-	-	-	-	-	-	2.49E-14
Iceberg Pit	7.73E-08	7.73E-08	7.73E-08	5.74E-07	2.20E-07	7.23E-08	2.37E-07	-	-	-	-	-	-	-	-	-	-	4.69E-14

Notes:
'-' is used to represent to a species that was not estimated for the indicated source (due to a lack of emission factors or not being appropriate for the type of emission)
$g/m^2/s$ = gram(s) per square metre per second

Table 7B-7 Model Input Source Characteristics – Road Sources

ID	From	To	Location (km, UTM Zone 20N)		Base Elevation (m)	Segment Length (m)	Haul Trucks			1t Trucks		
			X	Y			Effective Height (m)	Initial Horizontal Dispersion	Initial Vertical Dispersion	Effective Height (m)	Initial Horizontal Dispersion	Initial Vertical Dispersion
1	Jackpot Pit	Overburden Road Beginning	659.288 659.191 659.166 659.160 659.160 659.160 659.169	5429.822 5429.786 5429.711 5429.622 5429.508 5429.324 5429.177	64.4 62.3 63.9 69.1 76.9 83.8 87.2	718.76	3.77	16.74	3.50	1.70	16.74	1.58
2	Overburden Road Beginning	Overburden	659.169 659.213 659.291 659.400 659.478 659.550 659.626 659.709 659.790 659.929 660.070 660.185 660.257 660.349 660.432 660.501	5429.177 5429.183 5429.190 5429.195 5429.204 5429.198 5429.221 5429.259 5429.297 5429.325 5429.347 5429.366 5429.361 5429.328 5429.297 5429.269	87.2 88.0 87.8 87.7 87.0 86.1 84.1 82.6 80.8 74.8 76.2 76.8 76.6 78.0 80.8 83.3	1377.02	3.77	16.74	3.50	1.70	16.74	1.58
3	Overburden Road Beginning	Waste rock Road Beginning	659.169 659.168 659.205 659.219 659.223 659.225	5429.177 5429.136 5428.839 5428.721 5428.645 5428.594	87.2 88.9 99.0 100.1 100.0 99.0	585.64	3.77	16.74	3.50	1.70	16.74	1.58

Table 7B-7 Model Input Source Characteristics – Road Sources

ID	From	To	Location (km, UTM Zone 20N)		Base Elevation (m)	Segment Length (m)	Haul Trucks			1t Trucks		
			X	Y			Effective Height (m)	Initial Horizontal Dispersion	Initial Vertical Dispersion	Effective Height (m)	Initial Horizontal Dispersion	Initial Vertical Dispersion
4	Waste rock Road Beginning	Waste rock	659.225 659.259 659.364 659.512 659.704 659.759	5428.594 5428.604 5428.638 5428.653 5428.666 5428.663	99.0 99.0 95.6 89.0 85.0 86.0	541.91	3.77	16.74	3.50	1.70	16.74	1.58
5	Waste rock Road Beginning	Dome Road Beginning	659.225 659.214 659.165 659.126	5428.594 5428.583 5428.522 5428.470	99.0 99.0 99.4 99.6	159.33	3.77	16.74	3.50	1.70	16.74	1.58
6	Dome Road Beginning	Dome Pit	659.126 659.066 658.935 658.892 658.859 658.829	5428.470 5428.492 5428.538 5428.558 5428.607 5428.723	99.6 101.0 100.7 101.0 100.0 95.4	428.88	3.77	16.74	3.50	1.70	16.74	1.58
7	Dome Road Beginning	Stockpile Road Beginning	659.126 659.091 659.029 658.961 658.938 658.745	5428.470 5428.409 5428.261 5428.098 5428.036 5427.825	99.6 100.0 100.0 100.0 100.0 99.0	759.3	3.77	16.74	3.50	1.70	16.74	1.58
8	Stockpile Road Beginning	Stockpiles	658.745 658.813	5427.825 5427.753	99.0 100.0	99.76	3.77	16.74	3.50	1.70	16.74	1.58
9	Stockpile Road Beginning	Keats and Iceberg Road Beginning	658.745 658.686 658.618 658.533	5427.825 5427.768 5427.693 5427.601	99.0 99.0 99.0 99.0	308.44	3.77	16.74	3.50	1.70	16.74	1.58

Table 7B-7 Model Input Source Characteristics – Road Sources

ID	From	To	Location (km, UTM Zone 20N)		Base Elevation (m)	Segment Length (m)	Haul Trucks			1t Trucks		
			X	Y			Effective Height (m)	Initial Horizontal Dispersion	Initial Vertical Dispersion	Effective Height (m)	Initial Horizontal Dispersion	Initial Vertical Dispersion
10	Keats and Iceberg Road Beginning	Iceberg Road Beginning	658.533 658.505 658.467	5427.601 5427.620 5427.637	99.0 98.2 98.0	74.82	3.77	16.74	3.50	1.70	16.74	1.58
11	Iceberg Road Beginning	Iceberg Pit	658.467 658.477 658.500 658.517	5427.637 5427.676 5427.727 5427.766	98.0 98.0 97.9 97.1	138.17	3.77	16.74	3.50	1.70	16.74	1.58
12	Iceberg Road Beginning	Keats Pit	658.467 658.404 658.301 658.268	5427.637 5427.650 5427.663 5427.619	98.0 98.0 97.0 97.0	223.78	3.77	16.74	3.50	1.70	16.74	1.58

Table 7B-8 Model Input Emission Rates – Road Sources – Haul Trucks

Source Segment	Total Emissions (g/m/s)																	
	Total Suspended Particulate (TSP)	Particulate Matter less than 10 microns (PM_{10})	Particulate Matter less than 2.5 microns ($PM_{2.5}$)	Nitrogen Oxide (NO)	Nitrogen Dioxide (NO_2)	Sulphur Dioxide (SO_2)	Carbon Monoxide (CO)	Aluminum	Arsenic	Cadmium	Copper	Iron	Lead	Mercury	Nickel	Vanadium	Zinc	Benzo (a) pyrene
	N/A-1	N/A-2	N/A-3	-	10102-44-0	7446-09-5	630-08-0	7429-90-5	7440-38-2	7440-43-9	7440-50-8	7439-89-6	7439-92-1	7439-97-6	7440-02-0	7440-62-2	7440-66-6	50-32-8
Max Hourly																		
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-
2	2.80E-03	7.99E-04	8.23E-05	3.25E-05	3.32E-05	1.38E-06	7.19E-04	-	-	-	-	-	-	-	-	-	-	-
3	2.80E-03	7.99E-04	8.23E-05	3.25E-05	3.32E-05	1.38E-06	7.19E-04	-	-	-	-	-	-	-	-	-	-	-
4	1.55E-02	4.42E-03	4.45E-04	4.73E-05	4.83E-05	2.01E-06	1.05E-03	-	-	-	-	-	-	-	-	-	-	-
5	1.83E-02	5.22E-03	5.28E-04	7.97E-05	8.15E-05	3.39E-06	1.77E-03	-	-	-	-	-	-	-	-	-	-	-
6	1.37E-05	5.03E-06	1.94E-06	1.87E-05	1.92E-05	7.98E-07	4.15E-04	-	-	-	-	-	-	-	-	-	-	-
7	1.83E-02	5.21E-03	5.26E-04	6.10E-05	6.23E-05	2.59E-06	1.35E-03	-	-	-	-	-	-	-	-	-	-	-
8	9.76E-04	2.86E-04	3.97E-05	1.45E-04	1.48E-04	6.15E-06	3.20E-03	-	-	-	-	-	-	-	-	-	-	-
9	1.93E-02	5.50E-03	5.66E-04	2.06E-04	2.10E-04	8.75E-06	4.55E-03	-	-	-	-	-	-	-	-	-	-	-
10	1.93E-02	5.50E-03	5.66E-04	2.06E-04	2.10E-04	8.75E-06	4.55E-03	-	-	-	-	-	-	-	-	-	-	-
11	3.23E-04	9.80E-05	1.76E-05	1.01E-04	1.03E-04	4.30E-06	2.24E-03	-	-	-	-	-	-	-	-	-	-	-
12	1.90E-02	5.40E-03	5.48E-04	1.05E-04	1.07E-04	4.45E-06	2.31E-03	-	-	-	-	-	-	-	-	-	-	-

Notes:
'-' is used to represent to a species that was not estimated for the indicated source (due to a lack of emission factors or not being appropriate for the type of emission)
Additionally, there was no activity on road segment 1 due to Jackpot having no activity in Operations Year 4.
g/m/s = gram(s) per metre per second

Table 7B-9 Model Input Emission Rates – Road Sources – 1t Trucks

Source Segment	Total Emissions (g/m/s)																	
	Total Suspended Particulate (TSP)	Particulate Matter less than 10 microns (PM_{10})	Particulate Matter less than 2.5 microns ($PM_{2.5}$)	Nitrogen Oxide (NO)	Nitrogen Dioxide (NO_2)	Sulphur Dioxide (SO_2)	Carbon Monoxide (CO)	Aluminum	Arsenic	Cadmium	Copper	Iron	Lead	Mercury	Nickel	Vanadium	Zinc	Benzo (a) pyrene
	N/A-1	N/A-2	N/A-3	-	10102-44-0	7446-09-5	630-08-0	7429-90-5	7440-38-2	7440-43-9	7440-50-8	7439-89-6	7439-92-1	7439-97-6	7440-02-0	7440-62-2	7440-66-6	50-32-8
Max Hourly																		
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-
2	2.16E-06	2.16E-06	2.16E-06	2.53E-05	2.59E-05	1.08E-06	5.61E-04	-	-	-	-	-	-	-	-	-	-	-
3	2.16E-06	2.16E-06	2.16E-06	2.53E-05	2.59E-05	1.08E-06	5.61E-04	-	-	-	-	-	-	-	-	-	-	-
4	3.14E-06	3.14E-06	3.14E-06	3.69E-05	3.77E-05	1.57E-06	8.17E-04	-	-	-	-	-	-	-	-	-	-	-
5	5.30E-06	5.30E-06	5.30E-06	6.22E-05	6.36E-05	2.65E-06	1.38E-03	-	-	-	-	-	-	-	-	-	-	-
6	1.25E-06	1.25E-06	1.25E-06	1.46E-05	1.50E-05	6.22E-07	3.24E-04	-	-	-	-	-	-	-	-	-	-	-
7	4.05E-06	4.05E-06	4.05E-06	4.76E-05	4.86E-05	2.02E-06	1.05E-03	-	-	-	-	-	-	-	-	-	-	-
8	9.61E-06	9.61E-06	9.61E-06	1.13E-04	1.15E-04	4.80E-06	2.50E-03	-	-	-	-	-	-	-	-	-	-	-
9	1.37E-05	1.37E-05	1.37E-05	1.60E-04	1.64E-04	6.83E-06	3.55E-03	-	-	-	-	-	-	-	-	-	-	-
10	1.37E-05	1.37E-05	1.37E-05	1.60E-04	1.64E-04	6.83E-06	3.55E-03	-	-	-	-	-	-	-	-	-	-	-
11	6.72E-06	6.72E-06	6.72E-06	7.89E-05	8.07E-05	3.36E-06	1.75E-03	-	-	-	-	-	-	-	-	-	-	-
12	6.95E-06	6.95E-06	6.95E-06	8.15E-05	8.34E-05	3.47E-06	1.81E-03	-	-	-	-	-	-	-	-	-	-	-

Notes:
'-' is used to represent to a species that was not estimated for the indicated source (due to a lack of emission factors or not being appropriate for the type of emission)
Additionally, there was no activity on road segment 1 due to Jackpot having no activity in Operations Year 4.

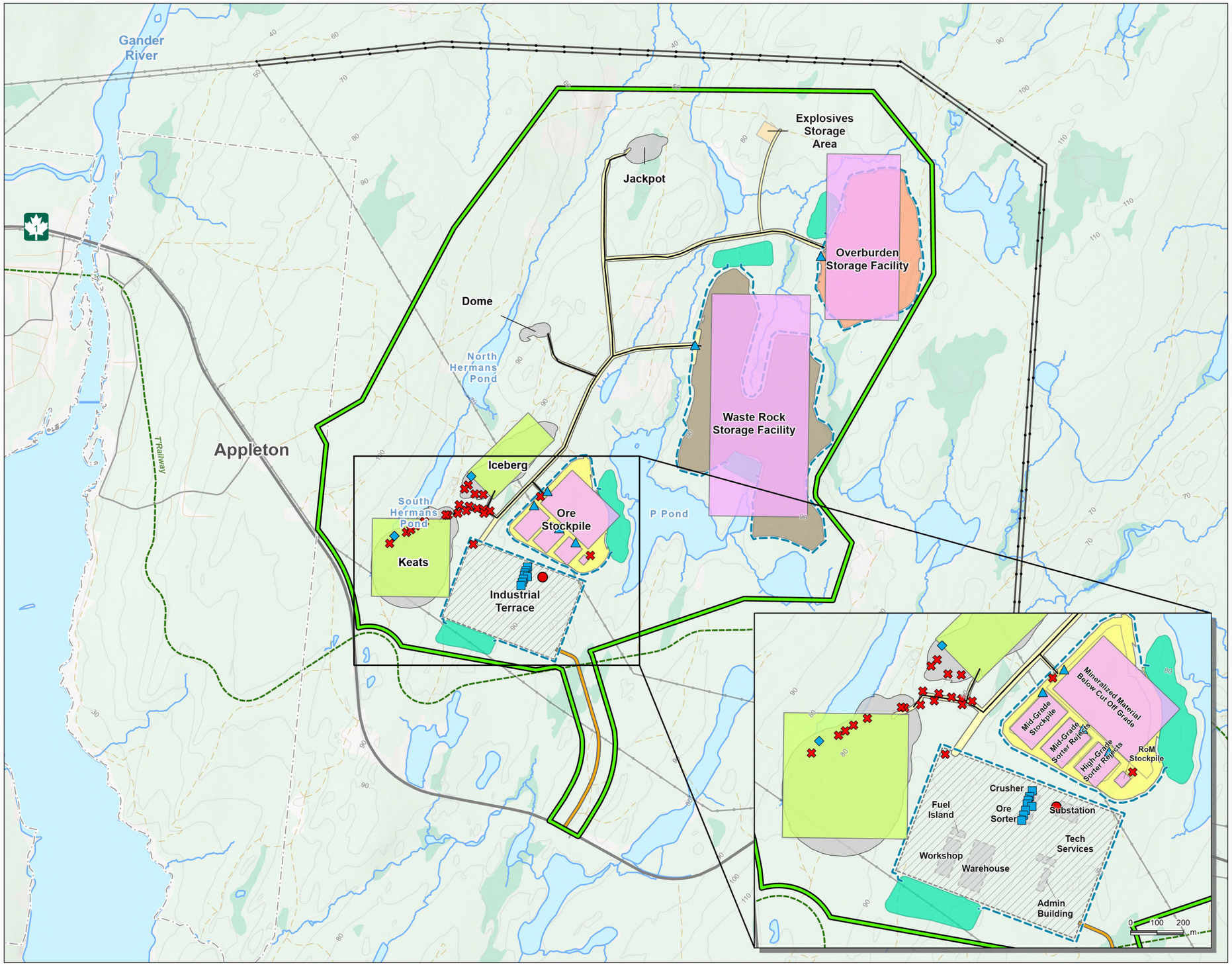


Figure No.

7B-2

Title

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 2026-04-27

N

0 250 500 1,000 m

(At original document size of 11x17)
1:24,000

- Project Area

Volume Sources
- Blasting
- Crushing and Screening
- Material Transfer

Point Sources
- Generator
- Mobile Equipment
- Road Source - Hauling

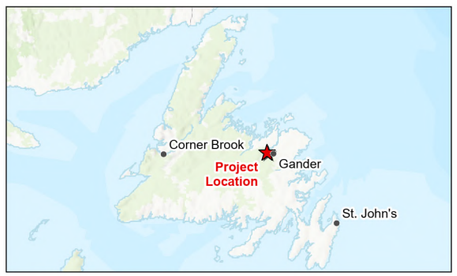
Area Sources
- Pit
- Stockpile

Proposed Project Layout
- Access Road
- Haul Road
- Ditch
- Open Pit
- Ore Stockpile
- Overburden Storage Facility
- Waste Rock Storage Facility
- Sedimentation Pond
- Other Mine Features
- Industrial Terrace
- Building

Existing Infrastructure
- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways
- Watercourse
- Waterbody
- Wetland
- Wooded Area

Other Features
- Contour (10 m)
- 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

Stantec

Table 7B-10 Activity Data – Operation

Activity	Value
Blasting	
Blasts per year (#)	365
Explosives used (kg/blast)	8,676
Storage Piles	
Overburden max area (m^2)	460,991
Waste rock max area (m^2)	884,309
Mineralized material below cut off grade stockpile max area (m^2)	127,053
Mid-grade ore stockpile area (m^2)	26,800
Mid-grade ore sorter rejects max area (m^2)	19,995
High-grade ore sorter rejects max area (m^2)	17,499
Run of Mine material max area (m^2)	2,236
Material Handling	
Material moved from Mid-grade are stockpile (tonnes/year, Year 4)	51,597
Material moved from Waste rock (tonnes/year, Year 4)	11,404,344
Material moved from Mineralized material below cut off grade stockpile (tonnes/year, Year 4)	664,110
Material moved from High-grade ore sorter rejects (tonnes/year, Year 4)	213,837
Material moved from Mid-grade ore sorter rejects (tonnes/year, Year 4)	0
Material moved from Overburden (tonnes/year, Year 4)	337,939
Transfers to Primary Crusher Inlet (tonnes/day, Year 4)	1,500
Transfers to Secondary Crusher Inlet (tonnes/day, Year 4)	1,500
Transfers to Inlet Screen (tonnes/day, Year 4)	1,500
Transfers to Discharge Screen (tonnes/day, Year 4)	1,500
Transfers to Surge Bin (tonnes/day, Year 4)	1,500
Transfers to Sorter Conveyor (tonnes/day, Year 4)	1,500
Transfers to Accepts Conveyor (tonnes/day, Year 4)	960
Transfers to Rejects Conveyor (tonnes/day, Year 4)	630
Crushing and Screening	
Crushing/Screening Rate (tonnes/h)	83
Life of Mine crushed/screened (Mt)	3
Unpaved Roads	
Total vehicle km travelled	1,655,314
Total number of trips	356,787
Stationary Combustion	
Diesel Consumption, Generator (MMBtu/year)	471,994
Diesel Consumption, Other (L/year)	112,437

Notes:
kg/blast = kilogram(s) per blast
L/year = litre(s) per year;
tonnes/h = tonne(s) per hour
MMBtuyear = million British thermal unit(s) per year
Mt = megatonne

7B.6 Building Profile Input Program

The presence of buildings and structures can affect the way air contaminants released from nearby emission sources are dispersed in the atmosphere. Building downwash can occur when wind flows over and around buildings. On the lee side of certain buildings, turbulent wake zones can be created, reducing plume rise and drawing exhaust gases towards the ground.

Building downwash effects (due to potential interactions of structures at the site with exhaust plumes from point sources) were considered in the model using the Building Profile Input Program (BPIP). The Plume Rise Model Enhancement (PRIME) module of CALPUFF was used to model downwash. CALPUFF accepts input for point sources. Of the point sources included in the modelling, only the generator was within the zone of influences of the buildings at the industrial portion of the site.

The building layout is illustrated in Figure 7B-3. buildings were assumed to be 5 m in height for the purposes of the modelling effort. This should overstate their zone of influence.

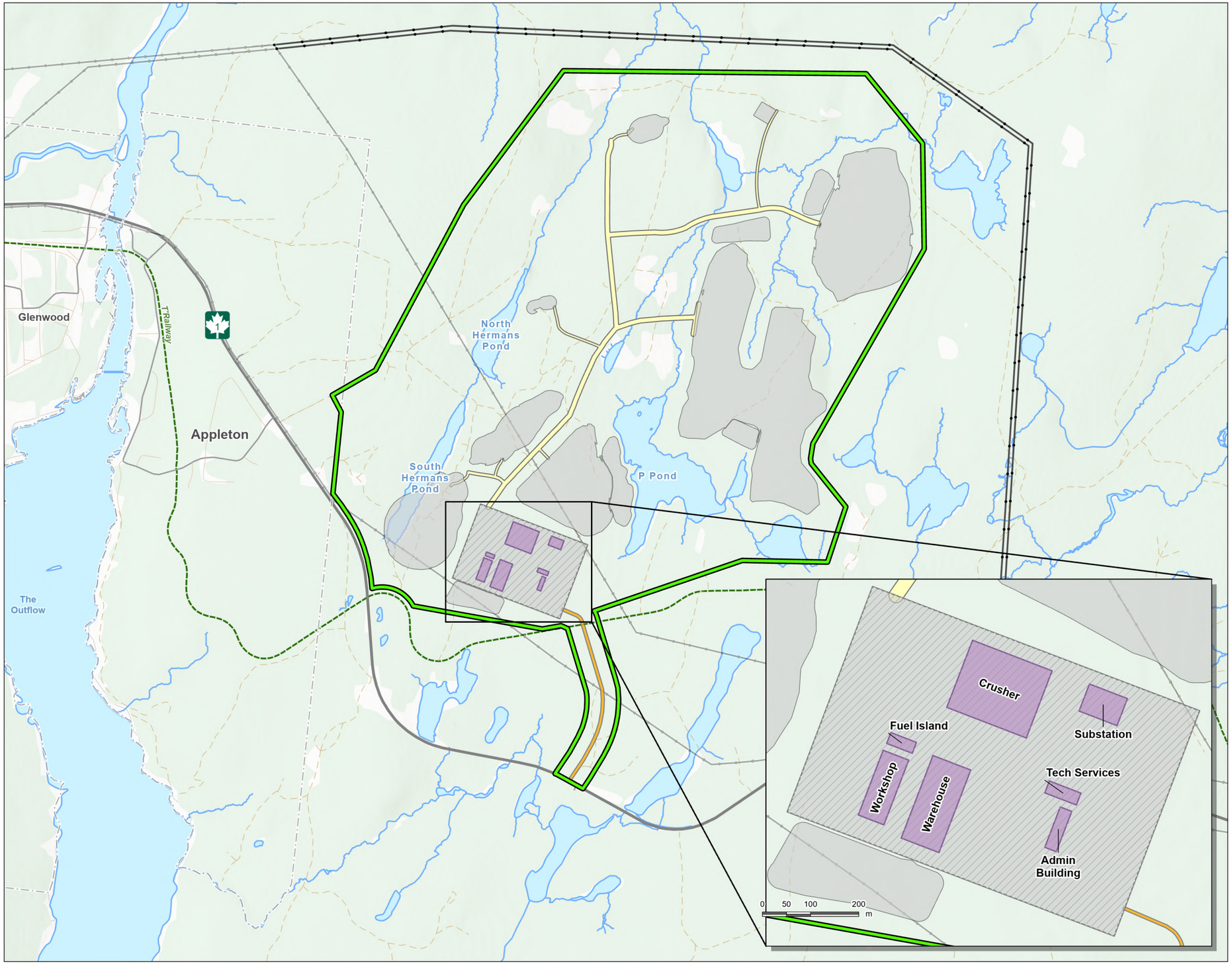


Figure No.
7B-3

Title
Project Building Layout

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418510_750

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-04-27
TR by DOM on 2026-04-28

N

0 250 500 1,000 m

(At original document size of 11x17)
1:25,000

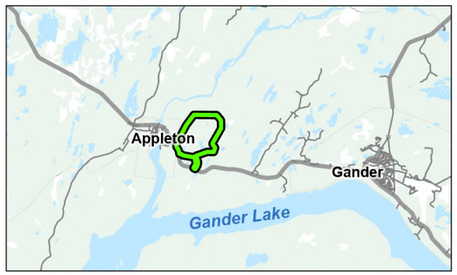
- Project Area

Proposed Project Layout
- Access Road
- Haul Road
- Industrial Terrace
- Proposed Site Feature
- Building

Existing Infrastructure
- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Topographic Features
- Watercourse
- Waterbody

Other Features
- Municipal Boundary



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, Esri, CGIAR, USGS

Stantec

\\cdt0151-PPFSS01\work_group\1214\active\121417608103_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Atmosphere.aprx Revised: 2026-04-28 By: nwhite

7B.7 Receptor Grid

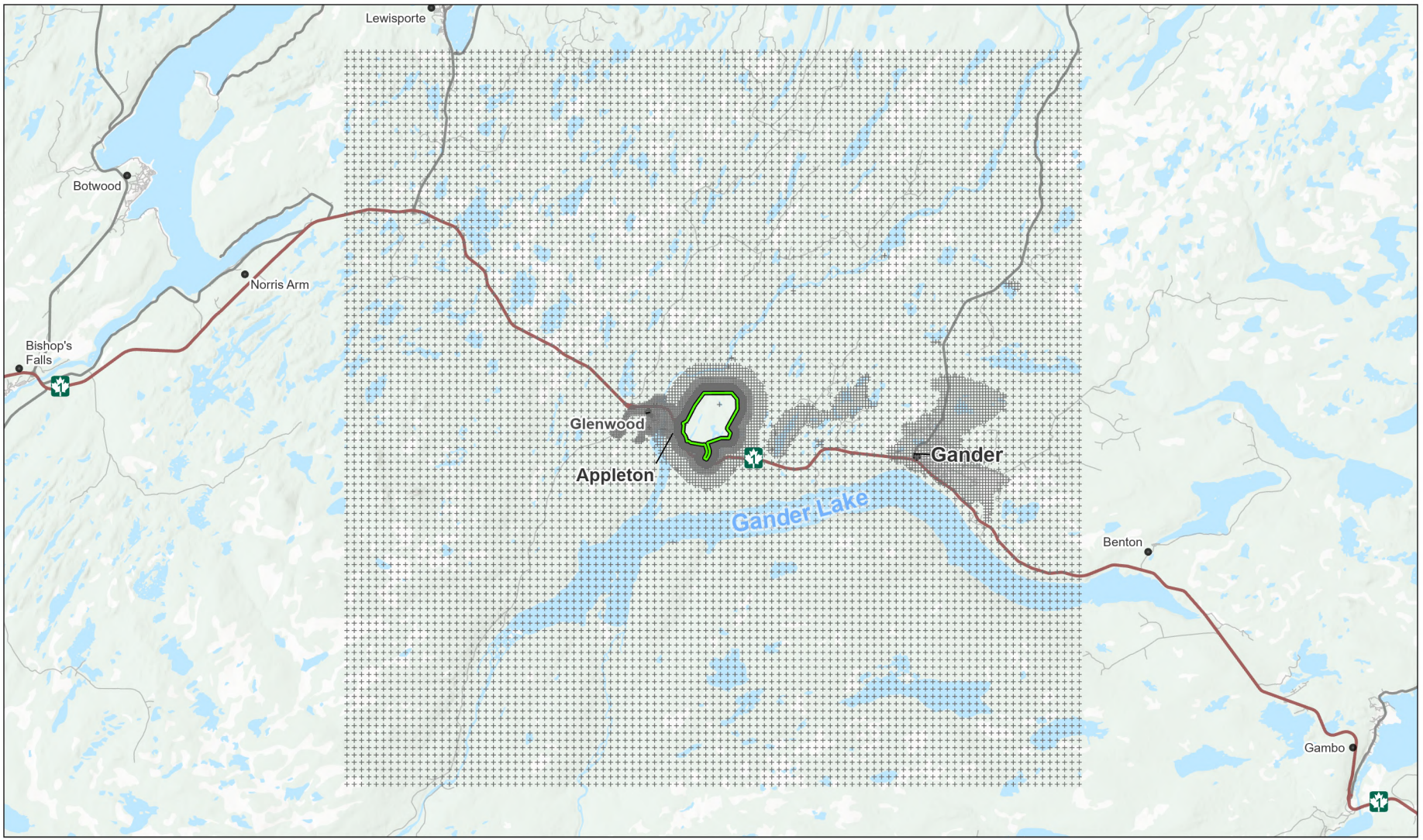
The receptor grid used in the model was developed based on the NL Guideline for Plume Dispersion Modelling (NLDEC 2012a). The nested grids were expanded beyond the minimum limits in the model guideline because of the large area of the site.

The receptor grid spacing used in the model is as follows:

- 20 metre spacing along the Project Area boundary
- 50 metre spacing from the center of operation (center of the Project Area) out to 500 metres
- 100 metre spacing from 500 metres out to 1,000 metres
- 200 metre spacing from 1,000 metres out to 2,000 metres
- 500 metre spacing from 2,000 metres out to the 25,000 metres (to define the 50 km x 50 km grid)
- 100 metre spacing within residential areas located beyond 1,000 metres of the Project Area boundary, but located within 2,000 metres of the Project Area boundary
- 200 metre spacing within residential areas located beyond 2,000 metres of the Project Area boundary

Gridded receptors that fall within the Project Area boundary were removed from the model. The maximum predicted concentrations outside the Project Area are used in the assessment for comparison with the ambient air quality standards.

The gridded and discrete receptor (sensitive receptor) locations are shown in Figure 7B-4. A full list of sensitive receptors is summarized in Table 7B-11 and shown graphically in Figure 7B-5. Note, receptors 9 and 10 are office buildings (for the mine and subcontractor), and may not be occupied upon completion of the mine site. Receptors 3, 7, 8, and 11 nearby cabins. 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. Therefore, they may not be sensitive receptors upon Project start.



Legend

- Receptor Grid
- Project Area
- Community
- Trans-Canada Highway
- Highway
- Arterial / Collector
- Local Road
- Waterbody
- Forested Area

N

0 5 10 15 km

(At original document size of 8.5x11)
1:400,000

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;

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-04-27
TR by DOM on 2026-04-27

Client/Project
Newfound Gold Corporation
Queensway Gold Project

121418510_751

Figure No.
7B-4

Title
Receptor Grid

Table 7B-11 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 Proposed Site	Potential Receptor (pending agreement)
4	663774.5	5427483	Nearby Joe Batts Pond Residence	Sensitive Receptor
5	663548.9	5426383	Nearest Joe Batts 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 Road 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
20	660756	5432617	P13 Structure #2	Sensitive Receptor
21	655265.6	5428627	Fred L. Pritchett Memorial Park	Sensitive Receptor
22	656747.3	5420035	P8 Structure #1 (Gander Lake cabin)	Sensitive Receptor
23	664977	5437194	P8 Structure #2	Sensitive Receptor
24	660558.5	5432003	Simms Road Building #1	Sensitive Receptor
25	671219	5439598	Simms Road Building #2	Sensitive Receptor

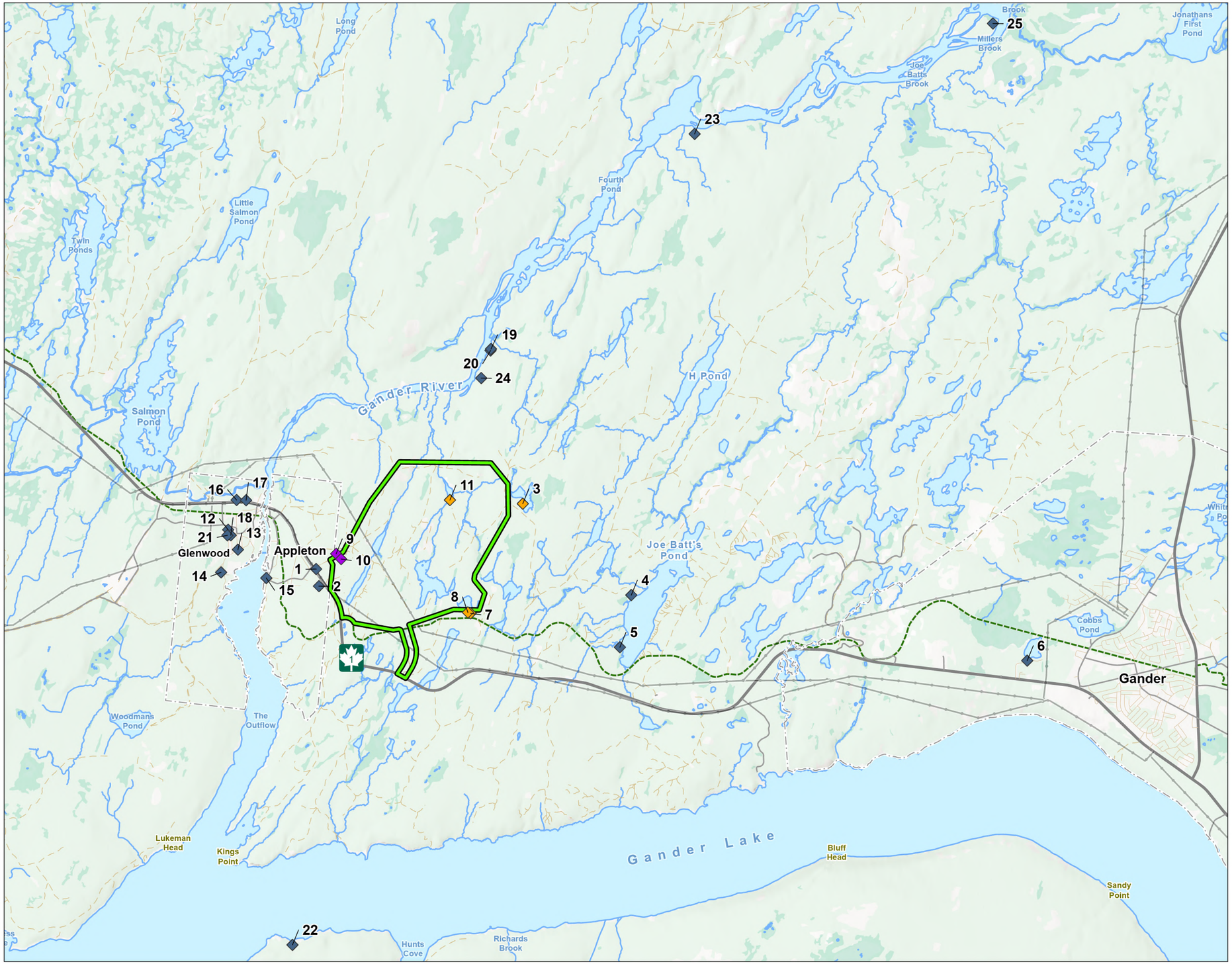


Figure No.
7B-5

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 2026-04-27

N

0 1 2 4 km

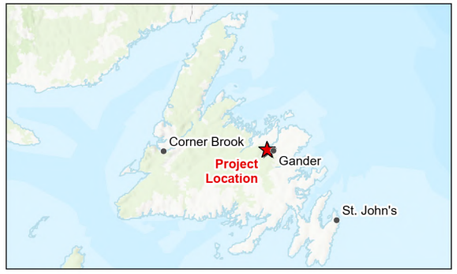
(At original document size of 11x17)
1:83,000

- Project Area
- Municipal Boundaries

Receptors
- Sensitive Receptor
- Offices/Industrial
- Other Potential Receptor

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

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

Stantec

7B.8 Conversion of Nitrogen Oxides to Nitrogen Dioxide

The Modelling Guideline (NLDEC 2012a) recommends the use of dry deposition and wet removal, and therefore they are turned on in the model input.

Material released to the atmosphere may be removed in two ways: i) rain events referred to as wet removal and ii) due to settling of the particles referred to as dry deposition. CALPUFF can estimate these removal rates using built-in modules.

Wet removal is handled by estimating scavenging coefficients for soluble materials being dissolved into liquid raindrops. The CALPUFF model implements a simple approach by assigning a scavenging coefficient, which is empirically defined (Scire et al. 2000). The coefficient depends on characteristics of the pollutant (solubility and reactivity), and the CALPUFF recommended values have been applied for the following air contaminants: sulphur dioxide (SO_2), sulphate (SO_4), nitrogen oxides (NO_x; expressed as NO and NO_2), nitric acid (HNO_3), and nitrate (NO_3).

Dry deposition is estimated through the prediction of the deposition velocity as the inverse sum of resistances (Scire et al. 2000). For the purposes of dispersion modelling, the atmosphere is divided into four to five layers (aloft, mixed layer, surface layer, deposition layer, and a vegetation layer). The model tracks the position of each puff, and pollutants below the mixing height are allowed to deposit. The Stokes equation is used to handle the gravitational settling velocity and requires specification of the particle size (or particle size distribution). For particulate matter, this information is assigned according to the provincial Modelling Guideline (NLDEC 2012a).

7B.9 NO_X to NO_2 Conversion

Nitrogen oxides are comprised of NO and NO_2. Only NO_2 concentrations are regulated with ambient air quality criteria. The NLDECCC recommends methods for estimating the fraction of NO_2 concentrations in the plume for the purpose of comparison to the ambient air quality criteria. A first-tier screening approach may be to conservatively assume that 100% of the NO in the NO_X is converted to NO_2 (i.e., Total Conversion Method). If the results do not meet the regulatory criteria, another more realistic method, such as the RIVAD/ISORROPIA gas phase chemistry scheme within CALPUFF or the Ozone Limiting Method which can be applied as a post-processing step to the CALPUFF modelling can be used. In order to follow the Modelling Guideline, the chemical mechanism flag MCHEM was set to 6, which will apply the RIVAD/ISORROPIA gas phase chemistry scheme (NLDEC 2012b).

7B.10 References

British Columbia Ministry of Environment & Climate Change Strategy. 2022. Guidance for NO_2 Dispersion Modelling in British Columbia. Available at: https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/modelling_guidance_nitrogen_dioxide.pdf

Government of Canada. 2017. Canadian Digital Elevation Model, 1945 – 2011. Available at: https://open.canada.ca/data/en/dataset/7f245e4d-76c2-4caa-951a-45d1d2051333

Lakes Environmental Software. 2025. Order Met Data. Available at: https://www.weblakes.com/met-data/order-met-data/

NLDEC (Newfoundland and Labrador Department of Environment and Conservation). 2012a. Guideline for Plume Dispersion Modeling, GD-PPD-019.2.

NLDEC. 2012b. Determination of Compliance with the Ambient Air Quality Standards, GD-PPD-009.4.

Scire, J. S., D.G. Strimaitis and R.J. Yamartino. 2000. A User's Guide for the CALPUFF Dispersion Model.