

## APPROVAL

### Province of Nova Scotia Environment Act, S.N.S. 1994-95, c.1 s.1

**APPROVAL HOLDER:** ATLANTIC MINING NS INC.

**SITE PID:** 00437368, 00437699, 00437707, 00485193, 00485219,  
00486134, 00514695, 00568006, 00642777, 00642793,  
00642819, 00642892, 00642926, 00642934, 00642942,  
00642959, 00642967, 00642975, 00642983, 00642991,  
00643007, 00643015, 00643023, 00643031, 00643049,  
00643056, 00643064, 00643080, 00643098, 00643106,  
00643114, 00643122, 00643130, 00643148, 00643155,  
00643163, 00643171, 00643189, 00643197, 00643205,  
00643213, 00643221, 00643239, 00643247, 00643254,  
40307092, 40319543, 40338972, 40350050, 40350076,  
40449589, 40449597, 40500647, 40503468, 40524217,  
40524225, 40524233, 40524241, 40535254, 40627218,  
40627226, 40657363, 40747818, 41274606, 41280892,  
41317108, 41334640, 41340621, 41346073, 41455510

**APPROVAL NO:** 2024-3509936-00

**EXPIRY DATE:** March 28, 2034

**Pursuant to Part V of the Environment Act, S.N.S. 1994-95, c.1 s.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:**

Industrial - Minerals - Mineral Processing Plant  
and Surface Mine Reclamation



**Administrator:** Kevin G Garroway

**Effective Date:** March 28, 2024

The Minister's powers and responsibilities under the Act with respect to this Approval have been delegated to the Administrator named above. Therefore, any information or notifications required to be provided to the Minister under this Approval can be provided to the Administrator unless otherwise advised in writing.

# TERMS AND CONDITIONS OF APPROVAL

## Nova Scotia Department of Environment and Climate Change

**Approval Holder:** ATLANTIC MINING NS INC.

**Project:** Touquoy Gold Mine

**Site:**

<b>PID</b>	<b>Civic #</b>	<b>Street Name</b>	<b>Street Type</b>	<b>Community</b>	<b>County</b>
00437368					
00437699					
00437707					
00485193					
00485219					
00486134					
00514695					
00568006					
00642777					
00642793					
00642819					
00642892					
00642926	6752	MOOSELAND	RD.	MOOSE RIVER GOLD MINES	HALIFAX COUNTY
00642934					
00642942	6740	MOOSELAND	RD.	MOOSE RIVER GOLD MINES	HALIFAX COUNTY
00642959					
00642967					
00642975					
00642983					
00642991	6686	MOOSE RIVER	RD.	MOOSE RIVER GOLD MINES	HALIFAX COUNTY
00643007					
00643015	6749	MOOSELAND	RD.	MOOSE RIVER GOLD MINES	HALIFAX COUNTY
00643023	6743	MOOSELAND	RD.	MOOSE RIVER GOLD MINES	HALIFAX COUNTY
00643031					
00643049					
00643056					
00643064					
00643080					
00643098					
00643106					

00643114  
00643122  
00643130  
00643148  
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00643163  
00643171  
00643189  
00643197  
00643205  
00643213  
00643221  
00643239  
00643247  
00643254  
40307092  
40319543  
40338972

40350050	6719	MOOSELAND	RD.	MOOSE RIVER GOLD MINES	HALIFAX COUNTY
40350076				MOOSE RIVER GOLD MINES	HALIFAX COUNTY
40449589					
40449597					
40500647					
40503468					
40524217				MOOSE RIVER GOLD MINES	HALIFAX COUNTY
40524225					
40524233					
40524241					
40535254					
40627218					
40627226				MOOSE RIVER GOLD MINES	HALIFAX COUNTY
40657363				MOOSE RIVER GOLD MINES	HALIFAX COUNTY
40747818	288	BILLYBELL	WAY	MOOSELAND	HALIFAX COUNTY
41274606				MOOSE RIVER GOLD MINES	HALIFAX COUNTY
41280892					
41317108				MOOSE RIVER GOLD MINES	HALIFAX COUNTY

41334640  
41340621  
41346073  
41455510

**Approval No:** 2024-3509936-00  
**File No:** 92100-30-BED-2024-3509936

## Reference Documents

- Application submitted February 7, 2024 and attachments.
- Application and attachments, supporting documents, additional information requested by the Department and all email correspondence listed in Appendix A.

## 1. Definitions

- a. Act means Environment Act, 1994-95, c.1, s.1, and includes, unless the context otherwise requires, the regulations made pursuant to the Act, as amended from time to time.
- b. Associated works means any building, structure, processing facility, stockpiles, or other related infrastructure.
- c. Department means the Nova Scotia Department of Environment and Climate Change, and the contact for the Department for this approval is:  
Nova Scotia Department of Environment and Climate Change  
Central Region, Bedford Office  
30 Damascus Road, Suite 115  
Bedford, Nova Scotia B4A 0C1  
  
Phone: (902) 424-7773  
Fax: (902) 424-0597
- d. Disturbed Area means any area of the Site that has been stripped of vegetation and is susceptible to erosion.
- e. Facility means the open pit mine, mineral processing plant, tailings management facility, stockpiles, and associated works on Site.
- f. Grab sample means an individual sample collected in less than thirty (30) minutes and which is representative of the substance sampled.
- g. Historic Tailings means mine tailings deposited by operations that predate the Facility and are identified and documented, as such, by a third-party qualified professional.

- h. Minister means the Minister of Environment and Climate Change and includes any person delegated the authority of the Minister.
- i. Province means the responsible regulatory Department(s) within the government of Nova Scotia.
- j. Qualified Person as it relates to noise, means one who has certified post-secondary education and/or professional training in acoustics, and a minimum of 5 years of experience in the field of environmental noise, or as otherwise authorized by the Department.
- k. Qualified Person as it relates to air quality, means one who has certified post-secondary education and/or professional training related to ambient (outdoor) air quality, and a minimum of 5 years of experience in the field of ambient (outdoor) air quality, or as otherwise authorized by the Department.
- l. Qualified Professional as it relates to surface water, groundwater, construction and/or geotechnical, means who is registered with Engineers Nova Scotia or Association of Professional Geoscientist of Nova Scotia.
- m. Rehabilitation as defined in the Environment Act. In this Approval, definition of reclamation is synonymous with rehabilitation.
- n. Site means a place where a designated activity and/or undertaking is occurring or may occur.
- o. Structure includes but not limited to a private home, a cottage, an apartment building, a school, a church, a commercial building or a treatment facility associated with the treatment of municipal sewage, industrial or landfill effluent, an industrial building, infrastructure or construction, a hospital, and a nursing home, etc.

## **2. Scope**

- a. This Approval (the "Approval") relates to the Approval Holder(s) and their application and supporting reference documents listed in Appendix A of this Approval, and all documentation submitted to the Department prior to the issuance of this approval for the Mineral Processing Plant and Surface Mine situated at or near Touquoy Gold Mine.
- b. The Approval Holder(s) shall ensure the designated activity is carried out in accordance with this Approval and reference documents, including the application and supporting documentation.
- c. The Approval Holder(s) shall not process historic tailings for the purpose of gold recovery without the approval of the Department.
- d. The Approval Holder(s) shall not remove tailings, waste rock, slag, or historic tailings from the Site without written authorization from the Department.

- e. The Approval Holder(s) shall not exceed the disturbed areas outlined as 'Disturbed Areas (2020)' and 'PERMITTED CLAY BORROW LIMITS' shown in Figure 1, unless written authorization is granted by the Department.
- f. The Approval Holder(s) shall maintain a minimum separation distance of thirty (30) metres between the Facility and outer property boundaries of the Site unless otherwise varied by the Department.

### 3. General

- a. Unless otherwise specified in this approval, the Approval Holder(s) shall conduct the Designated Activity in accordance with the following provisions:
  - i. The Act, as amended from time to time;
  - ii. Any standard or guideline adopted by the Department, as amended from time to time, which includes but is not limited to the following:

Contaminated Sites Regulations, March 3, 2020, as amended from time to time.

The Canadian Environmental Quality Guidelines, Canadian Council of Ministers of the Environment, 1999, updated 2002 - Canadian Water Quality Guidelines, as amended from time to time.

Nova Scotia Environment and Climate Change Guidelines for Environmental Noise Measurement and Assessment, October 2023, as amended from time to time.
- b. Nothing in this Approval relieves the Approval Holder(s) of the responsibility for obtaining and paying for all licenses, permits, approvals or authorizations necessary for carrying out the work authorized to be performed by this Approval which may be required by municipal by-laws, provincial or federal legislation, or other organizations. The Minister does not warrant that such licenses, permits, approvals or other authorizations will be issued.
- c. No authority is granted by this Approval to enable the Approval Holder(s) to commence or continue the designated activity on lands which are not in the control or ownership of the Approval Holder(s). It is the responsibility of the Approval Holder(s) to ensure that such a contravention does not occur. The Approval Holder(s) shall provide, to the Department, proof of such control or ownership upon expiry of any relevant lease or agreement. Failure to retain said authorization may result in this Approval being cancelled or suspended.
- d. If there is a discrepancy between the reference documents and the terms and conditions of this Approval, the terms and conditions of this Approval shall apply.
- e. Any request for renewal or amendment of this Approval is to be made in writing, to the Department, at least ninety (90) days prior to the Approval expiry.

- f. The Approval Holder(s) shall not transfer, sell, lease, assign or otherwise dispose of this Approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of the approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- g. If the Minister cancels or suspends this Approval, the Approval Holder(s) remains subject to the penalty provisions of the Act.
- h. The Approval Holder(s) shall advise the Department in writing prior to any proposed extensions or modifications to the Activity and/or the Site. An amendment to this Approval may be required before implementing any extension or modification.
- i. The Approval Holder(s) shall immediately notify the Department of any incidents of non-compliance with this Approval.
- j. The Approval Holder(s) shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.
- k. All sampling and analysis shall be performed in accordance with the following as amended from time to time: Standard Methods for the Examination of Water and Wastewater, or the analytical methods section of Health Canada's guideline technical document for the parameter of concern. All samples shall be collected by persons trained in appropriate sample collection procedures.
- l. Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analysed, by qualified personnel, in accordance with recognized industry standards and procedures that are all deemed acceptable to the Department.
- m. Unless written authorization is received otherwise from the Minister, all samples required by this Approval shall be analyzed by a laboratory that meets the requirements of the Department's "Policy on Acceptable Certification of Laboratories" as amended from time to time.
- n. The Approval Holder(s) shall ensure that this Approval, or a copy, is present on Site while personnel are on Site.
- o. The Approval Holder(s) shall ensure that personnel directly involved in the designated activity are made fully aware of the terms and conditions of this Approval.
- p. Upon any changes to the Registry of Joint Stock Companies information, the Approval Holder(s) shall provide a copy to the Department within five (5) business days.

#### **4. Air Quality**



- a. The Approval Holder(s) shall ensure that air emissions from the designated activity do not contribute to an exceedance of the maximum permissible ground level concentrations of contaminants specified in the Air Quality Regulations.
- b. The use of oil as a dust suppressant is prohibited.
- c. The Approval Holder(s) shall:
  - i. monitoring the six (6) ambient air monitoring stations for total suspended particulate identified in drawing Dwg. 1, titled "Particulate Emission Monitoring Locations" dated February 15, 2017, prepared by Stantec, and located in Appendix B.
  - ii. not exceed the ground level concentrations list in Table 1 of Appendix C at each monitoring station.
  - iii. monitor these stations annually July – August even in periods of dormancy, until otherwise directed by the Department.
  - iv. measure suspended particulate matter shall using the EPA standard; EPA/625/R-96/010a; Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler.
  - v. revise and/or additional dust monitoring and reporting shall be conducted at the request of the Department.
  - vi. submit to the Department the results of ambient air monitoring with the Annual Report.
- d. At the request of the Department, the Approval Holder(s) shall retain a third-party qualified person to develop a plan for conducting an air assessment in accordance with the Department's "Air Assessment Guidance Document, 2023", as amended from time to time. The assessment shall include, but is not limited to, ambient monitoring, dispersion modelling and source testing. The plan shall be submitted to the Department for review and acceptance and implemented upon request.
- e. The Approval Holder(s) will provide any additional information and/or make changes to the plan for conducting an air assessment that is required by the Department.

## **5. Noise**

- a. The Approval Holder(s) shall ensure that noise generated from the designated activity complies with the criteria identified in the Department's "Guidelines for Environmental Noise Measurement and Assessment, October 1, 2023", as amended from time to time.
- b. At the request of the Department, the Approval Holder(s) shall retain a third-party qualified person to develop a plan to monitor noise in accordance with the Department's "Guidelines for Environmental Noise Measurement and Assessment, 2023", as amended from time to time. The plan shall be submitted

to the Department, for review and acceptance, and shall be implemented upon request.

- c. The Approval Holder(s) shall provide any additional information and/or make any changes to the plan to monitor noise that is required by the Department.

## **6. Air Emissions**

- a. If the Department determines that the designated activity is generating excessive odours, the Approval Holder(s) shall be required to take any measures required by the Department to address those odours.

## **7. Surface Water**

- a. The Approval Holder(s) shall ensure the Site is developed and maintained to prevent contaminants from being discharged into a water resource or beyond the property boundary.
- b. The Approval Holder(s) shall ensure that the following water quality limits are met in the water resource downstream of Site activities:
  - i. Total Suspended Solids, Clear Flows (Normal Background Conditions):
    - (a) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hour or less);
    - (b) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 hours and 30 days);
  - ii. Total Suspended Solids, High Flow (Spring Freshets and Storm Events):
    - (a) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l;
    - (b) Maximum increase of 10% over background levels when background is >250 mg/l;
  - iii. The Approval Holder(s) shall use SW-11 and SW-12 to determine background concentrations.
- c. Additional surface water monitoring may be required at the request of the Department.
- d. No authority is granted by this Approval to enable the Approval Holder(s) to discharge surface water onto adjoining lands without the authorization of the affected landowner(s).
- e. The Approval Holder(s) shall install and maintain erosion and sedimentation controls in line with industry best practices (e.g., Nova Scotia Environment Erosion and Sediment Control Handbook for Construction Sites) as work progresses. The controls shall remain in place until areas disturbed by construction activities are stabilized so that the risk of release of sediment to a water resource has been mitigated.

- f. The Approval Holder(s) shall conduct all work in a manner that protects watercourses/wetlands and groundwater from siltation and disturbance to the adjacent and downstream areas. Silted water shall not be released into a watercourse/wetland.
- g. By June 1, 2024, the Approval Holder(s) shall submit to the Department an updated Erosion and Sediment Control Plan for review and acceptance.
  - i. The Erosion and Sediment Control Plan shall be implemented upon acceptance.
- h. The Approval Holder(s) shall retain the services of a third-party qualified professional to inspect, design, report and advise on the status of soil erosion and sedimentation controls if so directed by the Department.
- i. The Approval Holder(s) shall ensure that surface water runoff that may be impacted by petroleum hydrocarbons from the Site is collected and directed for necessary treatment prior to discharge from Site.
- j. The Approval Holder(s) shall ensure that erosion control materials are clean, non-erodible, non-ore-bearing, non-watercourse derived and non-toxic.
- k. The Approval Holder(s) shall limit the size of the disturbed area and the removal of riparian vegetation to the area of construction activities as outlined in the supporting documentation.
- l. The Approval Holder(s) shall ensure that the following activities take place at a distance of a minimum of thirty (30) metres from a surface watercourse or wetland in an area such that a release will not enter a surface watercourse or wetland:
  - i. Fuel storage, refueling, and/or lubrication of equipment
  - ii. Washing of machinery or equipment
  - iii. Storage of equipment, excavated/stockpiled materials, and potential contaminants

## **8. Surface Water Monitoring**

- a. The Approval Holder(s) shall establish and maintain the surface water monitoring stations identified in the drawing titled "Surface Water Monitoring Locations (2022)" dated May 17, 2023, in Appendix D, and the stations described as follows:

SW-1 Moose River - Upstream of Open Pit Mine and Downstream of Processing Facility.

SW-2 Moose River - Downstream of Facility and Upstream of Bridge.

SW-3 Unnamed Tributary (Watercourse #4) to Moose River Downstream of

Facility.

SW-11 Moose River - Upstream at Facility Boundary.

SW-12 Outlet from Square Lake.

SW-13 Outlet from Scraggy Lake at Dam.

SW-14 Final (MDMER) Facility Liquid Effluent #1 - Outlet from the Polishing Pond.

SW-15 End of unnamed Tributary to Scraggy Lake south of the Polishing Pond.

SW-16 Seepage Collection Pond Southeast of Tailings Pond.

SW-17 Seepage Collection Pond West of Tailings Pond.

SW-18 Fish River North of Pughole and Upstream of Bridge.

SW-19 Unnamed Tributary to Moose River Upstream of Tailings Management Facility, Downstream of Processing Facility and Waste Rock Storage Area.

SW-20 East of the TMF on Watercourse #14 Tributary to Scraggy Lake.

SW-21 Scraggy Lake near the final effluent outfall into the lake.

SW-22 Seepage Collection Point North of Tailings.

SW-23 Upstream of the Mineral Processing plant on Watercourse #4, an unnamed Tributary to Moose River.

SW-24 Unnamed Tributary (Watercourse #4) to Moose River Downstream of Facility and SW-3.

SW-25 Unnamed Tributary (Watercourse #4) to Moose River Downstream of Facility and SW-3.

SW-26 Northeast of Clay Borrow Waste Rock Storage Stockpile.

SW-27 Southeast of Clay Borrow Waste Rock Storage Stockpile.

SW-28 Southwest of Clay Borrow Waste Rock Storage Stockpile.

SW-29 Surface water flow down the ATV trail to Scraggy Lake.

SW-30 Unnamed Tributary to Scraggy Lake southwest of the TMF Organics Stockpile.

SW-31 East of the TMF on Watercourse #14.

SW-DW Tailings Pond water.

Tailings Pond Seepage Collection Ponds:

SW-SCP1 East of Tailings Pond.

SW-SCP2 Southeast of Tailings Pond.

SW-SCP3 Southwest of Tailings Pond.

Waste Rock Storage Area Collection Ponds”

SW-WSRP1 East Collection Pond.

SW-WRSP2 West Collection Pond.

WR-Pit 2 (Pit Lake): waste rock stored in the Open Pit phase 1 (South-West area of the Open Pit).

Stations along Watercourse #4:

WC4+400W

WC4+800W

WC4+1200W

WC4+1600W

Stations along Watercourse #14:

SW-20A

SW-20B

SW-20C

SW-20D

Stations along Watercourse #5:

SW-15P Polishing Pond Seepage Collection Pond.

SW-15A-1 Below Polishing Pond Collection System.

SW-15B Seepage along the tributary flowing from the Polishing Pond dam toe seepage #1.

SW-15C Seepage along the tributary flowing from the Polishing Pond dam toe seepage #2.

Please note, SW-SCP4 is shown on the map in Appendix D but is not a required sampling station.

- b. The Approval Holder(s) shall conduct surface water quality monitoring in accordance with Table 2 of Appendix E, for the parameters specified in Appendix F.
  - i. Requests for modifying the surface monitoring program shall be submitted to the Department in writing, including justification to the satisfaction of the Department, prepared by a third-party qualified professional.
- c. Upon written acceptance from the Department, the Approval Holder(s) shall use the accepted surface water baseline data on an individual station basis. The

- accepted baseline for one station cannot be applied to other stations across the Site.
- d. For surface water stations denoted as compliance stations in Appendix E, the Approval Holder(s) shall not exceed the surface water criteria listed in Table 3 of Appendix G.
    - i. For parameters that are shown to have natural background exceedances in surface water stations, the Approval Holder(s) shall retain third-party qualified professional to conduct a statistical trend and comparative analysis, using all monitoring data for the surface water monitoring station. The compliance limit in this case is 'no increasing trend'.
      - (a) Natural background conditions are defined based on the water quality from the approved background stations listed in Section 7.b.iii. of this Approval, or accepted baseline data.
    - ii. If Free Cyanide analysis has not been completed, WAD Cyanide shall be a compliance parameter and compared with the compliance criteria for Free Cyanide in Table 3 of Appendix G.
    - iii. The Approval Holder(s) shall not exceed the listed parameter criteria identified in Table 4 of Appendix H for hardness from 0-250 mg/L as CaCO<sub>3</sub> for compliance stations denoted in Appendix E and for watercourses surrounding, and downstream/downgradient from the Waste Rock Storage Area, including around the Tailings Management Facility, other than at Seepage Collection Pond sampling stations.
      - (a) For hardness greater than 250 mg/L as CaCO<sub>3</sub>, the Approval Holder(s) shall use the Major Ion Toxicity Calculator Tool Version 2.0 – November 29, 2023 (the Tool) submitted to the Department on December 5, 2023. The compliance limit is within the green zone of the Tool for General Ion Toxicity and Magnesium/Calcium Toxicity.
  - e. The Approval Holder(s) shall not exceed a total residual chlorine limit on a quarterly average of 0.02 mg/L at SW-14 when ammonia treatment is active.
  - f. The water discharge into Moose River from the Open Pit Mine shall comply with the criteria limits of this Approval.
  - g. If surface water quality exceeds the criteria listed in Section 8 of this Approval, within three (3) months of the exceedance, the Approval Holder(s) shall submit to the Department a Corrective Action Plan, for review and acceptance, prepared by a qualified professional.
    - i. The Corrective Action Plan shall include, but not limited to, the following:
      - (a) Identify the source of the non-compliance.
      - (b) Identify additional data collection required to design and implement mitigation measure(s).

- (c) Proposed mitigation measure(s) required to maintain compliance criterion listed in this Approval.
  - (d) A timeline for when mitigative measures are expected to be implemented and how long it will take to do so.
  - (e) A proposed plan and timeline for monitoring to evaluate the effectiveness of the implemented mitigation measure(s).
- ii. The Approval Holder(s) shall implement the Corrective Action Plan upon acceptance by the Department.
- h. Notwithstanding the requirements of this Approval, the Approval Holder(s) shall upgrade environmental control measures if surface water monitoring indicates adverse environmental effects are attributable to activities at the Facility. Environmental control measures shall be upgraded in a manner and time frame acceptable to the Department.
- i. The Approval Holder(s) shall take all mitigative and remedial measures required to restore surface water quality to the criteria limits listed in this Approval.
- i. The Department reserves the right to require modifications to the surface water monitoring program including, but not limited to, monitoring locations, monitoring frequency, contaminants of concern, and surface water criteria.
- j. The Approval Holder(s) shall retain a thirty (30) metre undeveloped buffer on all adjacent watercourses and wetlands unless specific approval has been given to alter the watercourse/wetland. The Approval Holder(s) shall obtain written authorization from the Department to encroach within these limits, unless for the purpose of installing surface and/or groundwater monitoring station(s).

## **9. Effluent Monitoring**

- a. The Approval Holder(s) shall direct all wastewater and surface water runoff, associated with the Facility, to the Tailings Management Facility for treatment. The exception to the above shall include the overburden stockpile situated west of the polishing pond.
- b. The Approval Holder(s) shall ensure the Tailings Management Facility wastewater shall be treated in the Effluent Treatment Plant and geotube filter system for arsenic removal prior to discharge. The exception being Tailings Management Facility wastewater required to be transferred while activating the Operational Preparedness and Response Plan for Upset Water Levels in the Tailings Pond.
- c. The geotube filter system shall be operated and maintained in accordance with the manufacturer's specifications.
- d. The Approval Holder(s) shall submit to the Department a copy of all reports required in accordance with the Metal and Diamond Mining Effluent Regulations

(MDMER) pursuant to Fisheries Act at the same frequency as required by the Federal Government.

**10. Groundwater**

- a. The Approval Holder(s) shall replace, at their expense, any water supply which has been lost or damaged as a result of the designated activity, as authorized and required by the Department.

**11. Groundwater Monitoring**

- a. The Approval Holder(s) shall maintain the groundwater monitoring stations identified in the drawing titled "Groundwater Monitoring Locations (2022)" dated May 17, 2023, in Appendix I, additional stations required to be installed within this Approval and other stations referenced in Table 5 of Appendix J.
  - i. By September 30, 2025, the Approval Holder(s) shall decommission the two (2) domestic wells labeled 6719HILC and 6749-OFFI in the drawing titled "Monitoring Well Locations" dated Feb 28, 2023, in Appendix I.
- b. All monitoring wells shall be properly maintained for the duration of this Approval. All monitoring wells shall be fitted with a protective well casing and secured.
- c. The Approval Holder(s) shall inspect and document the physical condition of each monitoring well during each groundwater sampling event and maintenance performed as required. Any required maintenance shall be completed within sixty (60) days. The results of the monitoring well assessment and any associated repair work shall be documented in the Annual Surface and Groundwater Monitoring Report.
- d. Monitoring wells that cannot be repaired shall be decommissioned and replaced to the satisfaction of the Department, in a timeframe acceptable to the Department. The decommissioning and replacement of monitoring wells shall be documented in the Annual Surface and Groundwater Monitoring Report.
  - i. The Approval Holder(s) shall report immediately to the Department any plans to decommission monitoring well(s).
- e. The Approval Holder(s) shall use the groundwater water baseline data on an individual well basis. Data from one well cannot be applied to other wells across the Site.
- f. For newly installed monitoring wells, the Approval Holder(s) shall:
  - i. ensure the drilling and installation is overseen by a qualified professional.
  - ii. ensure the monitoring well pairs consist of at least one monitoring well installed to intercept the water table and one monitoring well installed in shallow fractured bedrock.



- iii. ensure that the elevation of the top of well casing is surveyed relative to an appropriate fixed reference point at the Site which is also referenced to mine water levels.
- iv. within 30 days of completion of monitoring well installation, submit to the Department the borehole log(s) showing well construction and UTM NAD83 or WGS84 Coordinates.
- g. Monitoring well maintenance, and decommissioning shall be completed under the supervision of a qualified professional.
- h. The Approval Holder(s) shall conduct groundwater quality in accordance with Table 5, Appendix J, for the parameters specified in Appendix F.
  - i. All groundwater monitoring stations shall be monitored for static water level quarterly.
  - ii. Requests for modifying the groundwater monitoring program shall be submitted to the Department in writing, including justification to the satisfaction of the Department, prepared by a third-party qualified professional.
- i. The Department reserves the right to modify groundwater monitoring well locations, parameters, and frequency, and to require remedial measures based on the results of monitoring data and/or site inspections.
- j. Water level measurements and water quality samples shall be collected by a qualified professional, or under the direction of a qualified professional, in a consistent manner in accordance with recognized industry standards and procedures.
- k. For the monitoring wells denoted as compliance wells in Table 5 of Appendix J, the Approval Holder(s) shall maintain compliance with the following:
  - i. if a monitoring well does not have a baseline monitoring period, or does not have validated baseline data for that parameter as accepted by the Department, and the monitoring results exceed the criteria listed in Table 6, Column A of Appendix K, for groundwater monitoring wells less than ten (10) metres from a watercourse, including wetland and water body which may flow to a watercourse, the following compliance shall apply:
    - (a) A statistical trend analysis (e.g., Mann-Kendall) shall be used to assess whether there is an increasing trend due to Site activities. The compliance limit is 'no increasing trend'.
  - ii. if a monitoring well does not have a baseline monitoring period, or does not have validated baseline data for that parameter as accepted by the Department, and the monitoring results exceed the criteria listed in Table 6, Column B of Appendix K, for groundwater monitoring wells ten (10) metres or greater from a watercourse, including wetland and water body which may flow to a watercourse, the following compliance shall apply:

- (a) A statistical trend analysis (e.g., Mann-Kendall) shall be used to assess whether there is an increasing trend due to Site activities. The compliance limit in this case is 'no increasing trend'.
  - iii. if a monitoring well has a baseline monitoring period and exceeds the site specific criteria listed in Table 7, Column A of Appendix L for groundwater monitoring wells less than ten (10) metres from a watercourse, including wetland and water body which may flow to a watercourse, the following compliance shall apply:
    - (a) A statistical trend analysis (e.g., Mann-Kendall) shall be used to assess whether there is an increasing trend due to Site activities. The compliance limit in this case is 'no increasing trend'.
  - iv. if a monitoring well has a baseline monitoring period and exceeds the site specific criteria listed in Table 7, Column B of Appendix L for groundwater monitoring wells ten (10) metres or greater from a watercourse, including wetland and water body which may flow to a watercourse, the following compliance shall apply:
    - (a) A statistical trend analysis (e.g., Mann-Kendall) shall be used to assess whether there is an increasing trend due to Site activities. The compliance limit in this case is 'no increasing trend'.
- I. If groundwater quality exceeds the criteria listed in Section 11 of this Approval, the Approval Holder(s) shall:
  - i. Report the non-compliance and the result to the Department in writing within 28 days of receipt of lab results; and
  - ii. Within six (6) months of a non-compliant results, submit a report to the Department, for review and acceptance, prepared by a third-party qualified professional, that includes, not limited to, the following:
    - (a) delineate the lateral and vertical extent of impacted groundwater plume to the criteria limits listed in this Approval, or accepted baseline data, to the satisfaction of the Department.
    - (b) develop a program for monitoring the groundwater plume and potential impacts to surface water associated with the discharge of impacted groundwater.
  - iii. Within nine (9) months of a non-compliant result submit to the Department, for review and acceptance, a Corrective Action Plan prepared by a third-party qualified professional, that includes, but not limited to, the following:
    - (a) Identify the source of the non-compliance.
    - (b) Identify additional data collection required to design and implement mitigation measure(s).

- (c) Proposed mitigation measure(s) required to prevent the on-going release of impacted water and remediate any impacted groundwater, surface water or sediment that has the potential to continue to migrate.
  - (d) A timeline for when mitigative measures shall be implemented.
  - (e) A proposed monitoring plan to evaluate the effectiveness of the implemented mitigation measure(s).
- iv. The Approval Holder(s) shall implement the Corrective Action Plan upon acceptance by the Department.
- m. Notwithstanding the requirements of this Approval, the Approval Holder(s) shall upgrade environmental control measures if groundwater monitoring indicates adverse environmental effects are attributable to activities at the Facility. Environmental control measures shall be upgraded in a manner and time frame acceptable to the Department.
  - n. The Approval Holder(s) shall use the methodology to prepare groundwater equipotential contours used in the Klohn Crippen Berger Report titled “Groundwater and Surface Water Consultation Services Response to Industrial Approval Condition 8.” dated November 28, 2022, for the interpretation of groundwater level monitoring results and determination of groundwater flow directions for all areas of the site.
  - o. By September 15, 2024, the Approval Holder(s) shall submit to the Department a report prepared by a qualified professional for a Corrective Action Plan, as outlined in Section 11.k.ii, 11.k.iii, and 11.k.iv of this Approval for PLM-2B.
  - p. By September 15, 2024, the Approval Holder(s) shall submit to the Department a report prepared by a qualified professional for a Corrective Action Plan, as outlined in Section 11.k.ii, 11.k.iii, and 11.k.iv of this Approval for OPM-7B.
  - q. By September 15, 2024, the Approval Holder(s) shall submit to the Department a report prepared by a qualified professional for a Corrective Action Plan, as outlined in Section 11.k.ii, 11.k.iii, and 11.k.iv of this Approval for TMW-7A/B.

## 12. Releases

- a. Releases shall be reported in accordance with the Act.
- b. Spills or releases shall be cleaned up in accordance with the Act.

## 13. Mitigation Measures

### **Mitigation Measures for Area of Potential Environmental Concern (APEC) 1 – West of the tailings management facility (TMF) near TMW-9A/B**

- a. By April 1, 2024, the Approval Holder(s) shall submit a letter to the Department prepared by a third-party qualified professional confirming that additional borehole investigations as outlined in Section 3.1.3 of the report titled “Condition

- 8.m Response Report, Final Report” dated April 17, 2023, prepared by Stantec Consulting Ltd, are complete for APEC 1.
- b. By September 30, 2024, the Approval Holder(s) shall submit to the Department in writing, the following for APEC 1 as described in the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, prepared by Stantec Consulting Ltd;
    - i. Summary and justification for final selection of the mitigation measure(s);
    - ii. In the event any of the proposed mitigation measures outlined in Section 3.1.2 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, are not implemented, provide justification, and explain how the alternative measure(s) will achieve mitigation of release of substance to the environment;
    - iii. Predicted timeline of when the mitigation measure(s) will begin to have positive effects on the groundwater quality referenced in Section 3.1.3 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023; and
    - iv. The issued-for-construction drawings, stamped by a Professional Engineer licensed to practice in Nova Scotia, for the mitigation measure(s).
  - c. By December 31, 2024, construction of the mitigation measure(s) for APEC 1 shall be completed as per the drawings referenced in Section 13.b.iv. of this Approval.
    - i. By February 14, 2025, the Approval Holder(s) shall submit to the Department written certification by a professional engineer licensed to practice in Nova Scotia that the construction of the mitigation measures has met the minimum requirements of all drawings and specifications.

**Mitigation Measures for APEC 2 – Southwest of the TMF, near TMW-12A/B and TMW-15A/B**

- d. By July 2, 2024, the Approval Holder(s) shall submit a letter to the Department from a third-party qualified professional confirming that additional borehole investigations as outlined in Section 3.2.3 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, prepared by Stantec Consulting Ltd, are complete for APEC 2.
- e. By September 30, 2024, the Approval Holder(s) shall submit to the Department in writing the following for APEC 2 as described in the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, prepared by Stantec Consulting Ltd;
  - i. Summary and justification for final selection of the mitigation measure(s);
  - ii. In the event any of the proposed mitigation measures outlined in Section 3.2.2 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, are not implemented, provide justification, and

- explain how the alternative measure(s) will achieve mitigation of release of substance to the environment;
- iii. Predicted timeline of when the mitigation measure(s) will begin to have positive effects on the groundwater quality referenced in Section 3.2.3 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023; and
  - iv. The issued-for-construction drawings, stamped by a Professional Engineer licensed to practice in Nova Scotia for the mitigation measure(s).
- f. By December 31, 2024, construction of the mitigation measure(s) for APEC 2 shall be completed as per the drawings referenced in Section 13.e.iv. of this Approval.
- i. By February 14, 2025, the Approval Holder(s) shall submit to the Department written certification by a professional engineer licensed to practice in Nova Scotia that the construction of the mitigation measures has met the minimum requirements of all drawings and specifications.

**Mitigation Measures for APEC 3 – Southeast of the TMF near TMW-3A/B and TMW-4A/B**

- g. By May 1, 2024, the Approval Holder(s) shall submit to the Department a letter from a third-party qualified professional confirming that additional borehole investigations as outlined in Section 3.3.3 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, prepared by Stantec Consulting Ltd, are complete for APEC 3.
- h. By September 30, 2024, the Approval Holder(s) shall submit to the Department the results of the following for APEC 3 as described the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, prepared by Stantec Consulting Ltd;
  - i. Summary and justification for final selection of the mitigation measure(s);
  - ii. In the event any of the proposed mitigation measures outlined in Section 3.3.2 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023, are not implemented, provide justification, and explain how the alternative measure(s) will achieve mitigation of release of substance to the environment;
  - iii. Predicted timeline of when the mitigation measure(s) will begin to have positive effects on the groundwater quality referenced in Section 3.3.3 of the report titled “Condition 8.m Response Report, Final Report” dated April 17, 2023; and
  - iv. The issued-for-construction drawings, stamped by a Professional Engineer licensed to practice in Nova Scotia for the mitigation measure(s).

- i. By December 31, 2024, construction of the mitigation measure(s) for APEC 3 shall be completed as per the drawings referenced in Section 13.h.iv. of this Approval.
- i. By February 14, 2025, the Approval Holder(s) shall submit to the Department written certification by a professional engineer licensed to practice in Nova Scotia that the construction of the mitigation measures has met the minimum requirements of all drawings and specifications.

#### **14. Use of On-Site Waste Rock**

- a. The Approval Holder(s) shall receive written authorization from the Department prior to placing any rock material in areas where surface water drainage cannot be captured and sent to the TMF for treatment.
  - i. Prior to receiving written authorization, the Approval Holder(s) shall submit to the Department the source of the rock material (i.e. quarry name/location).
  - ii. If waste rock sourced from the Touquoy Open Pit Mine, Waste Rock Storage Area stockpiles, and Clay Borrow Area stockpile are proposed for use, the Approval Holder(s) shall submit to the Department mitigation measures for review and acceptance, required to maintain compliance criteria for surface water and groundwater listed in this Approval.
  - iii. At the request of the Department, the Approval Holder(s) shall submit metal leaching results of the proposed source rock material.
- b. The Approval Holder(s) shall use the waste rock stored in the Clay Borrow Area for reclamation activities or relocate the material to the Waste Rock Storage Area.

#### **15. Waste Rock Storage**

- a. The Waste Rock Storage Area stockpiles shall not exceed 190 masl.
- b. By June 30, 2024, the Approval Holder(s) commence removal of the in-pit temporary waste rock storage stockpile and placed in the Waste Rock Storage Area.
  - i. By June 30, 2025, all in-pit temporary waste rock storage stockpile shall be removed and placed in the Waste Rock Storage Area.

#### **16. Blasting**

- a. Blasting is prohibited at the Site, beyond establishing the shoreline of the Open Pit Mine.
- b. The Approval Holder(s) shall have a technical blast design prepared by a qualified person which ensures the ground vibration and air concussion limits in this Approval can be achieved.

- i. At the request of the Department, the Approval Holder(s) shall submit a copy of the blast design.
- c. At the direction of the Department, the Approval Holder(s) shall modify or cease Blasting.
- d. No blasting shall occur on Sunday, on a statutory holiday prescribed by the Province, or on any day between 1800 and 0800 hours.
- e. The Approval Holder(s) shall not exceed the blasting limits listed in Table 8 of Appendix M.
- f. Additional monitoring stations for blasting may be specified as required by the Department.
- g. Records of individual blast results shall be maintained by the Approval Holder(s) and made available to the Department upon request.

## **17. Reporting**

- a. The Approval Holder(s) shall submit to the Department by April 30 of each year for the previous calendar year, an Annual Report that includes, but not limited to, the following:
  - i. Blast Monitoring data;
  - ii. The quantity of wastewater collected and/or stored during the reporting period;
  - iii. A summary and interpretation of any instances of non-compliance with this approval and corrective action taken; and
  - iv. Summary of Community Liaison Committee meetings.
- b. The Approval Holder(s) shall submit to the Department two (2) copies and an electronic version, including unlocked excel sheets, of the Annual Surface and Groundwater Monitoring Report to the Department by April 30 of each year for the previous calendar year. The Annual Report shall be prepared by a qualified professional and qualified person and includes, but not be limited to, the following:
  - i. Surface Water:
    - a review of field methodologies, including sampling techniques;
    - a description of the surface water monitoring network and updated mapping showing all existing monitoring stations including those added within the year being reported on;
    - a review of the current surface water monitoring program and recommendations for modifications, as applicable;
    - current and historical surface water quality data, in chronological tabular format, in comparison to criteria listed in this Approval with exceedances highlighted;
    - a graph of all in-pit pH monitoring data and discussion of results

- a detailed interpretation of the surface water quality data including an analysis of spatial and temporal trends, graphical representation of relevant parameters;
  - the identification of any adverse impacts to surface water quality and quantity resources, including watercourses, wetlands, and aquatic life, as a result of site activities and associated recommendations, as applicable;
  - a figure showing the wetlands and surface water monitoring stations; and
  - laboratory certificates of analysis.
- ii. Groundwater:
- a review of field methodologies, including sampling techniques;
  - a description of the groundwater monitoring network and updated mapping showing all existing monitoring stations including those added within the year being reported on;
  - a review of the current groundwater monitoring program and recommendations for modifications, as applicable;
  - current and historic static water level data, in chronological tabular format;
  - current and historical groundwater quality data, in tabular format, in comparison to criteria listed in this Approval with exceedances highlighted;
  - a detailed interpretation of the groundwater quality data including an analysis of spatial and temporal trends, including graphical representation of relevant parameters, in relation to background and baseline data and relevant criteria;
  - current and historical groundwater elevation data in chronological tabular format;
  - a detailed interpretation of the groundwater elevation data including graphical representation and an analysis of trends including trends in vertical hydraulic gradients;
  - the identification of any adverse impacts to groundwater quality and quantity, or human health, as a result of site activities and associated recommendations, as applicable;
  - a figure showing the wetlands and groundwater monitoring wells monitoring stations;
  - a summary of monitoring well assessment, any associated repair work, decommissioning and replacement wells; and
  - laboratory certificates of analysis.
- iii. Ambient Air Monitoring Program
- a review of field methodologies, including sampling techniques;
  - a description of field observations;
  - a description of meteorological information;
  - current and historical ambient air monitoring data, in chronological tabular format, in comparison to criteria listed in this Approval with exceedances highlighted;
  - a detailed interpretation of the ambient air monitoring data;
  - recommendations, as applicable; and
  - laboratory certificates of analysis.



## **18. Tailings Management Facility**

- a. The Approval Holder(s) shall be responsible for the on-going maintenance and management of the structure to appropriate standards (e.g., Canadian Dam Association Dam Safety Guidelines), as identified by a professional engineer. As part of compliance with this condition, the Approval Holder(s) shall:
  - i. retain the services of a professional engineer licensed to practice in the Province of Nova Scotia to oversee the design, construction, management and maintenance of all structures;
  - ii. provide a signed and stamped letter from the engineer confirming compliance with this condition at the request of the Department.
- b. The Approval Holder(s) shall forever indemnify and hold harmless His Majesty the King in right of the Province of Nova Scotia, including the Minister of Environment, from any and all manner of actions, damages, claims or demands of any nature or kind that pertain to or is any way attributable to the use, construction, erection, and maintenance of the tailings dam.
- c. By June 1, 2024, the Approval Holder(s) shall submit to the Department, for review and acceptance, an update Operation, Maintenance and Surveillance (OMS) Manual that adheres to the most recent Canadian Dam Association and the Mining Association of Canada guidelines/documents.
  - i. The OMS Manual shall be implemented upon acceptance.

## **19. Contingency/Emergency Response Plan**

- a. The Approval Holder(s) shall initiate the “Operational Preparedness and Response Plan for Upset Water Levels in Tailings Pond” as described in Doc No. “MEM-058-900.5300-N-12DEC23” dated December 12, 2023.
- b. By June 1, 2024, the Approval Holder(s) shall submit to the Department, for review and acceptance, an updated Contingency/Emergency Response Plan in accordance with the Department's Contingency Planning Guidelines, as amended from time to time.
  - i. The Contingency/Emergency Response Plan shall be implemented upon acceptance.

## **20. Historical Tailings and/or Arsenic Contaminated Soils Management**

- a. The Approval Holder(s) shall fully delineate area(s) known and/or suspected to have historic tailings and/or arsenic contaminated soils prior to any disturbance.
- b. The Approval Holder(s) shall retain a Site Professional, as defined by the Contaminated Sites Regulations, to delineate all soil and groundwater impacts associated with the tailings using current CAN/CSA Phase 1/2 Environmental Site Assessment Standards.

- i. Upon completion of delineation activities, the “Historic Mine Tailings Management Plan” shall also be revised to reflect the 2017 delineation activities and any changes shall include proposed plans for the management of historical tailings and arsenic contaminated soils.
- c. Sixty (60) days prior to relocating any historic tailings and/or arsenic contaminated soils, the Approval Holder(s) shall submit a plan to the Department for the management of historical tailings and arsenic contaminated soils, for review and acceptance by the Department.
  - i. The plan shall include issued-for-construction drawings, stamped by a Professional Engineer licensed to practice in Nova Scotia, if required.

## **21. Reclamation of Waste Rock Storage Area**

- a. The Approval Holder(s) shall complete all required studies to reclaim the Waste Rock Storage Area by October 30, 2027.
- b. The Approval Holder(s) shall submit to the Department, for review and acceptance, issued-for-construction drawings to reclaim all infrastructure related to the Waste Rock Storage Area by October 30, 2028.
  - i. The issued-for-construction drawings shall include the permanent channels and drainage details to minimize longterm erosion.
  - ii. The submission shall include an implementation schedule that includes dates in the month-day-year format.
- c. The Approval Holder(s) shall implement the Waste Rock Storage Area schedule upon acceptance by the Department.
- d. By May 30, 2024, the Approval Holder(s) shall submit, for review and acceptance, the plan for the Waste Rock Storage Area bottom tier resloping.
  - i. By September 30, 2025, the Waste Rock Storage Area bottom tier sloping shall be completed.
  - ii. By November 15, 2025, the Approval Holder(s) shall submit to the Department a Certification Letter that the Waste Rock Storage Area bottom tier has been sloped according to the acceptance design.

## **22. Reclamation of Open Pit Mine and Clay Borrow Area**

- a. The Approval Holder(s) shall submit to the Department, for review and acceptance, issued-for-construction drawings to reclaim the Open Pit Mine by October 30, 2025.
  - i. The issued-for-construction drawings shall include the permanent channels and drainage details to minimize longterm erosion.
  - ii. The submission shall include an implementation schedule that includes dates in the month-day-year format.

- b. The Approval Holder(s) shall submit to the Department, for review and acceptance, issued-for-construction drawings to reclaim the Clay Borrow Area by October 30, 2027.
  - i. The issued-for-construction drawings shall include the permanent channels and drainage details to minimize longterm erosion.
  - ii. The submission shall include an implementation schedule that includes dates in the month-day-year format.
- c. The Approval Holder(s) shall implement the Open Pit Mine and Clay Borrow Area schedules upon acceptance by the Department.
- d. By November 30, 2024, the Approval Holder(s) shall submit to the Department, for review and acceptance, a plan for the disposal of soils as a result of constructing the spillway from the Open Pit Mine to Moose River.
- e. The Approval Holder(s) shall always maintain access to the Open Pit ramp, or entry/exit points.

**23. Reclamation of Mill Site and Administration Areas**

- a. The Approval Holder(s) shall complete all required studies to reclaim the Mill Site and Administration Areas by October 30, 2026.
- b. The Approval Holder(s) shall submit to the Department, for review and acceptance, issued-for-construction drawings to reclaim all infrastructure related to Mill Site and Administration Areas by October 30, 2026.
  - i. The issued-for-construction drawings shall include the permanent channels and drainage details to minimize longterm erosion.
  - ii. The submission shall include an implementation schedule that includes dates in the month-day-year format.
- c. The Approval Holder(s) shall implement the Mill Site and Administration Areas schedule upon acceptance by the Department.
- d. By December 31, 2024, the Approval Holder(s) shall remove any unused chemicals from Site.
- e. By December 31, 2024, the Approval Holder(s) shall reclaim the areas identified in Figure 2-1 titled "Parking Lot and Laydown Areas" of the IA Application submitted February 12, 2024.
- f. By June 30, 2025, the Approval Holder(s) shall remove the Lab Building from Site.
- g. By September 30, 2025, the Approval Holder(s) shall remove Carbon-in-Leach Tanks from Site.

**24. Reclamation of Tailings Management Facility**

- a. The Approval Holder(s) shall complete all required studies and trials to reclaim the Tailings Management Facility by October 30, 2026.
- b. The Approval Holder(s) shall submit to the Department, for review and acceptance, issued-for-construction drawings to reclaim all infrastructure related to the Tailings Management Facility by October 30, 2027.
  - i. The issued-for-construction drawings shall include the permanent channels and drainage details to minimize longterm erosion.
  - ii. The submission shall include an implementation schedule that includes dates in the month-day-year format.
- c. The Approval Holder(s) shall implement the Tailings Management Facility schedule upon acceptance by the Department.
- d. By April 30, 2024, the Approval Holder(s) shall submit to the Department a stability assessment, prepared by a qualified professional, of the Tailings Management Facility at the embankment slopes of 1.8H:1V.
- e. By December 31, 2024, the Approval Holder(s) shall complete construction of the final Tailings Management Spillway.
  - i. February 15, 2025, the Approval Holder(s) submit to the Department a Certification Letter that the final Tailings Management Facility Spillway is completed as per the design.
- f. By November 30, 2024, the Approval Holder(s) shall submit to the Department for review and acceptance, the trafficability trial plan for working on top of the tailings surface.
- g. The Approval Holder(s) shall complete trafficability trials, as per the accepted plan, on top of the tailings surface annually from June 1 to September 30, until otherwise directed by the Department. Results shall be included in the Reclamation Annual Report discussed in Section 25 of this Approval.

## **25. Reclamation Site Specific Conditions**

- a. The Approval Holder(s) shall submit to the Department by January 30 of each year for the previous calendar year, a Reclamation Annual Report that includes, but not limited to, results of the tailings trafficability trials, the reclamation work completed and update of reclamation studies.
- b. The Approval Holder(s) shall remove the following infrastructure from Site by December 31, 2027, or otherwise authorized in writing by the Department:
  - Crushing plant
  - Crushed ore storage tent
  - Mill building – including all milling components
  - Reagent infrastructure
  - Fixed maintenance shop
  - Mobile maintenance shop
  - Warehouse

- Spare parts storage containers
  - Tool crib
  - Site fencing
- c. The Approval Holder(s) shall submit to the Department, for review and acceptance, issued-for-construction drawings to reclaim all the topsoil/organic stockpiles on the Site by October 30, 2027.
    - i. The issued-for-construction drawings shall include the permanent channels and drainage details to minimize longterm erosion.
    - ii. The submission shall include an implementation schedule that includes dates in the month-day-year format.
  - d. The Approval Holder(s) shall implement the topsoil/organic stockpiles schedule upon acceptance by the Department.
  - e. The Approval Holder(s) shall submit to the Department, for review and acceptance, a plan to reclaim areas that contain geomembranes/liners, by June 30, 2025.
  - f. The Approval Holder(s) shall submit to the Department, for review and acceptance, a post reclamation monitoring and maintenance plan by June 30, 2028.
    - i. The Approval Holder(s) shall implement the post reclamation monitoring and maintenance upon acceptance by the Department.
  - g. By October 30, 2026, the Approval Holder(s) shall submit to the Department a Phase 1 Environmental Site Assessment in accordance with Phase 1 ESA Protocol (PRO-300) and Phase 2 Environmental Site Assessment in accordance with Phase 2 ESA Protocol (PRO-400), as defined in the Contaminated Site Regulations.
  - h. Upon removal of infrastructure, no concrete foundations or structures shall be left intact and buried.
  - i. Upon removal of infrastructure, clean concrete shall be broken down to a maximum of 0.50 m in size with any protruding reinforcing steel cut off.
    - i. The disposal location shall not impact groundwater, surface water, settlement, or subsidence.

## **26. Reclamation Plan and Financial Security**

- a. The Approval Holder(s) shall submit and maintain a financial reclamation security in an amount, form, and timeframe acceptable to the Province.
- b. The Approval Holder(s) shall maintain reclamation security in the value of no less than \$79.9 million (M) with the Province.
  - i. The balance of \$38.70 M reclamation security shall be posted on or before June 1, 2024.

- c. By June 30, 2024, the Approval Holder(s) shall submit to the Department an updated financial reclamation security estimate that includes the treatment costs for pit discharge to Moose River that complies with the criteria limits of this Approval.
- d. At the request of the Department, the Approval Holder(s) shall submit an updated financial security cost estimate.
- e. The Financial Security shall only be released by the Province to the Approval Holder(s) after final reclamation of areas has been completed to the satisfaction of the Minister.
  - i. The Approval Holder(s) shall notify the Department when reclamation of the area(s) has been completed.

**27. Dangerous Goods/Waste Dangerous Goods/Reagent Handling**

- a. The Approval Holder(s) shall ensure that all used oil is handled in accordance with the Act.
- b. The Approval Holder(s) shall ensure that all containers are labelled to indicate their contents.

**28. Inventory**

- a. The Approval Holder(s) shall maintain an up-to-date inventory of dangerous goods and waste dangerous goods which are stored at the Facility. The inventory shall include the informational requirements of Section 11(2) of the Dangerous Goods Management Regulations.
- b. The inventory shall be made available to the Department for inspection upon request.

**29. Insurance**

- a. By June 30 of each year, the Approval Holder(s) submit to the Department proof of environmental impairment liability insurance in the minimum amount of ten million dollars (\$10,000,000). The insurance shall name the Department as insured.
- b. The Approval Holder(s) shall be required to review and/or amend the value of insurance coverage at the direction of the Department.

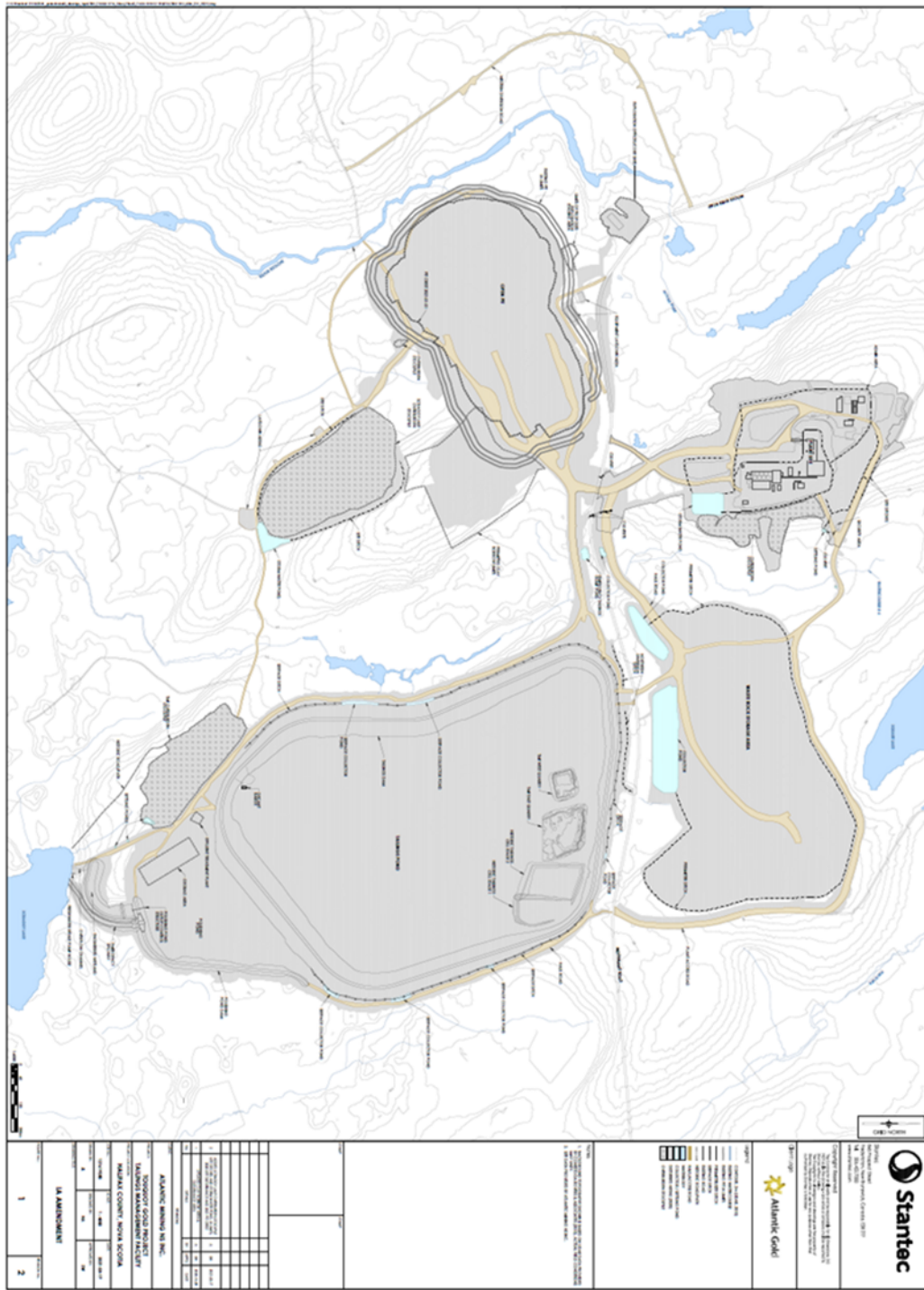
**30. Records**

- a. The Approval Holder(s) shall ensure that all records required by this Approval are maintained for a period of five (5) years and are to be made available to the Department upon request.
- b. A copy of project reports, reclamation documents and drawings, inspection reports, shall be kept for the life of the designated activity and are to be made available to the Department upon request.

**31. Community Liaison Committee**

- a. The Approval Holder(s) shall be required to establish and maintain a Community Liaison Committee (CLC) to facilitate communication between the Approval Holder(s) and the local community. Terms of reference shall include, but not be limited to, environmental monitoring, dispute/complaint resolution, wetlands compensation plans, and reclamation work completed to date.

**FIGURE 1**





## APPENDIX A

### Industrial Approval Application:

Application and attachments, supporting documents, additional information requested by the Department and all email correspondence regarding the Application for the following:

- Industrial Approval Application 2012-084244-00 dated November 26, 2012.

### Amendment Applications listed below:

Application and attachments, supporting documents, additional information requested by the Department and all email correspondence regarding the Application for the following:

- Amendment Application 2012-084244-02 issued on November 25, 2017.
- Amendment Application 2012-084244-04 received February 2, 2018.
- Amendment Application 2012-084244-05 received March 2, 2018.
- Amendment Application 2012-084244-08 received October 30, 2020.
- Amendment Application 2012-084244-11 received November 12, 2021.
- Amendment Application 2012-084244-13 received May 11, 2022, and June 17, 2022.
- Amendment Application 2012-084244-14 received June 6, 2022.
- Amendment Application 2012-084244-15 received September 13, 2022.
- Amendment Application 2012-084244-16 received December 9, 2022, and February 3, 2023.

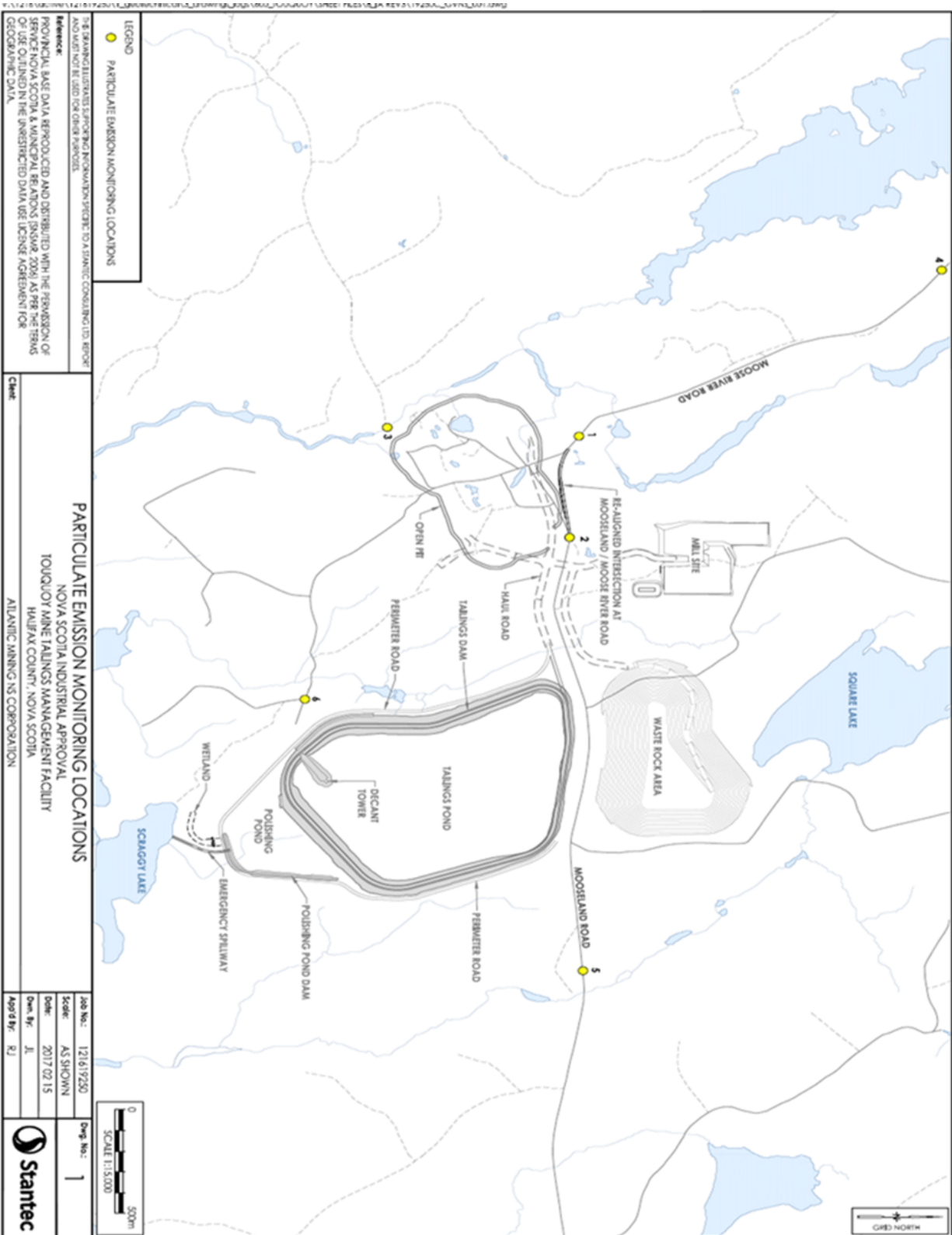
30-day notice letters issued by ECC for the following:

- Amendment Application 2012-084244-03 issued on July 5, 2017.
- Amendment Application 2012-084244-06 issued on December 5, 2019.
- Amendment Application 2012-084244-12 issued on March 7, 2022.
- Amendment Application 2012-084244-17 issued on July 6, 2023.

All documents submitted and email correspondence required under the above Industrial Approvals.

Please note, the following versions were withdrawn by the Applicant: 2012-084244-01, 2012-084244-07, 2012-084244-09, and 2012-084244-10.

# APPENDIX B



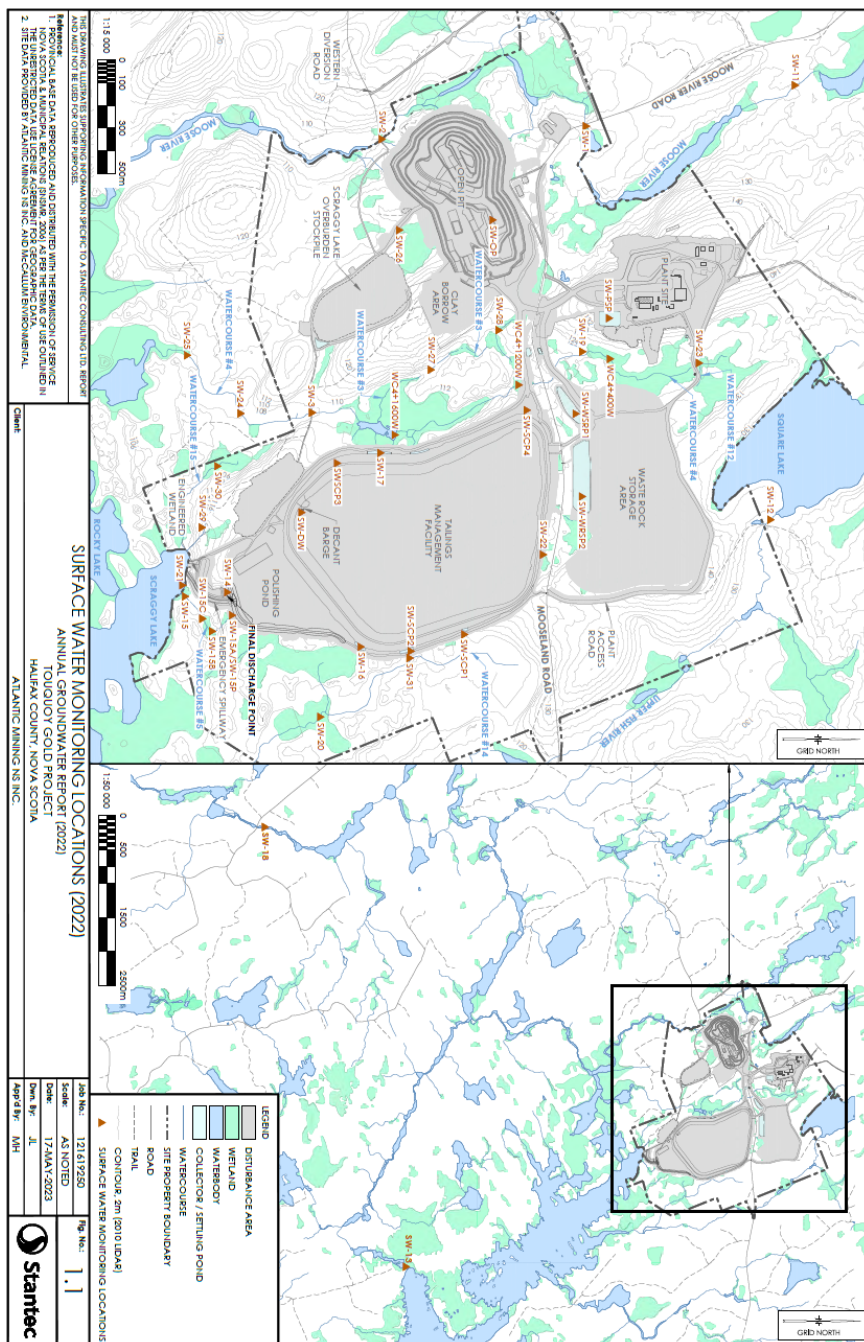
## APPENDIX C

**Table 1:** Air Quality Concentration Limits at Ground Level or Site Boundary.

Air Contaminant	CAS Number	Maximum Ground Level Concentration - [Half Hour Standard Concentration ( $\mu\text{g}/\text{m}^3$ )*]	Maximum Ground Level Concentration - [24 Hour Standard Concentration ( $\mu\text{g}/\text{m}^3$ )*]
Arsenic and Compounds	7440-38-2	1	0.3
Mercury-alkyl compounds	7439-97-6	1.5	0.5
Mercury	7439-97-6	5	2

\* Summary of Standards and Guidelines to support Ontario Regulation Reg. 419/05, Air Pollution-Local Air Quality, Standards Development Branch, Ontario Ministry of the Environment, April 2012.

# APPENDIX D



## APPENDIX E

**Table 2:** Surface Water Monitoring Parameters and Frequency.  
+Compliance stations

Monitoring Point	Parameter	Frequency
SW-1 SW-2 +SW-3 SW-11 SW-12 +SW-13 +SW-14 +SW-15 SW-15P +SW-15A-1 +SW-15B +SW-15C SW-16 SW-17 +SW-18 +SW-19 +SW-20 +SW-20A +SW-20B +SW-20C +SW-20D +SW-21 SW-22 SW-23 SW-24 SW-25 +SW-26 +SW-27 +SW-28 SW-29 +SW-30 +SW-31 SW-DW SW-SCP1 SW-SCP2 SW-SCP3 SW-SCP4 SW-WSRP1 SW-WSRP2 +WC4+400W +WC4+800W +WC4+1200W +WC4+1600W WR-Pit 2 (Pit Lake)	i) Water Quality Appendix F Parameters	i) Monthly

## APPENDIX F

### GROUNDWATER and SURFACE WATER QUALITY PARAMETERS

Note: \*\* Groundwater only                      \* Surface water only

Total Alkalinity	Copper
Chloride	Iron
Colour	Lead
Hardness	Manganese
Nitrate+Nitrite (N)	Molybdenum
Nitrite (N)	Nickel
Ammonia (Ammonia Nitrogen)	Selenium
Total Organic Carbon	Silver
Total Phosphorus	Strontium
pH	Thallium
Reactive silica	Tin
Dissolved Sulphate	Titanium
Turbidity	Uranium
Conductivity	Vanadium
Aluminum	Dissolved Zinc
Antimony	Total Suspended Solids
Arsenic	Sodium
Barium	Potassium
Beryllium	Magnesium
Bismuth	Fluoride
Boron	Ion Balance
Cadmium	Mercury
Calcium	Total Dissolved Solids
Chromium (Total)**	
Chromium (III)	
Chromium (VI)	
Cobalt	
Cyanate	
Chemical Oxygen Demand	
Total Cyanide	
Weak Acid Dissociable Cyanide	
Free Cyanide (CNF)	
Thiocyanates (SCN)	
Radium 226* (monitored and reported only at MDMER stations)	
Salinity*	
Total Petroleum Hydrocarbons (TPH) & BTEX **	
Field Parameters: Temperature, pH, Electrical Conductivity, Dissolved Oxygen*	
Static Water Level **	
Additional Parameters as specified or requested by the Department.	

#### Notes:

1. Groundwater samples collected for metals analysis must be field filtered using a 0.45 µm membrane filter as soon as possible after sampling, and immediately preserved. 0.45 µm pore size is the default filter pore size, unless otherwise specified in the method for a given parameter. For remaining groundwater parameters, the analysis shall be for total concentration unless otherwise specified, e.g., dissolved sulphate.
2. Surface water analysis shall be for total concentration, unless otherwise specified, e.g., dissolved zinc and dissolved sulphate.

## APPENDIX G

**Table 3: Surface Water Monitoring Criteria.**

Parameter	Units	Surface Water Monitoring Criteria
Total Chloride (Cl-)	mg/L	120
Total Fluoride (F-)	mg/L	0.12
Nitrate (N)	mg/L	3
Nitrite (N)	mg/L	0.06
Unionized Ammonia (as N)	mg/L	0.019
Dissolved Sulphate	mg/L	Refer to Appendix H of this Approval
Total Suspended Solids (TSS)	mg/L	Refer to Section 7.b. of this Approval
Total Aluminum (Al)	µg/L	5 (if pH is < 6.5); 100 (if pH is ≥6.5)
Total Antimony (Sb)	µg/L	20
Total Arsenic (As)	µg/L	6.6
Total Barium (Ba)	µg/L	1000
Total Beryllium (Be)	µg/L	0.15
Total Boron (B)	µg/L	1500
Total Cadmium (Cd)	µg/L	0.04 (if Hardness is < 17 mg/L); $10^{\{0.83(\log[\text{hardness}]) - 2.46\}}$ (if Hardness is ≥17 mg/L to ≤280 mg/L); 0.37 (if Hardness is > 280 mg/L)
Chromium (Cr Total)	µg/L	-
Chromium (Cr III)	µg/L	8.9
Chromium (CR VI)		1
Total Cobalt (Co)	µg/L	1.0 for waters that have hardness of 100 mg/L. For other hardness values between 52-396 mg/L, the FWQG can be calculated with the following equation: $\text{FWQG} = \exp\{(0.414[\ln(\text{hardness})] - 1.887)\}$
Total Copper (Cu)	µg/L	2 (if Hardness is <82 mg/L); $0.2 * e^{\{0.8545[\ln(\text{hardness})]-1.465\}}$ (if Hardness is ≥82 mg/L to ≤180 mg/L); 4 (if Hardness is >180 mg/L)
Cyanide (Cn Free)	µg/L	5
Total Iron (Fe)	µg/L	300
Total Lead (Pb)	µg/L	1 (if Hardness is ≤60 mg/L); $e^{\{1.273[\ln(\text{hardness})]-4.705\}}$ (if Hardness is >60 mg/L to ≤180 mg/L); 7 (if Hardness is >180 mg/L)
Dissolved Manganese (Mn)	µg/L	430 for 50 mg/L hardness and pH of 7.5. For other pH and hardness values, refer to Table 5 or the benchmark calculator in Appendix B of the CWQG Manganese fact sheet (2019). Table 5 is valid between hardness 25 and 670 mg/L and pH 5.8 and 8.4.
Mercury (Hg Total)	µg/L	0.026
Total Molybdenum (Mo)	µg/L	73
Total Nickel (Ni)	µg/L	25 (if Hardness is ≤60 mg/L); $e^{\{0.76[\ln(\text{hardness})]+1.06\}}$ (if Hardness is >60 mg/L to ≤180 mg/L); 150 (if Hardness is >180 mg/L)
Total Selenium (Se)	µg/L	1
Total Silver (Ag)	µg/L	0.25

Total Strontium (Sr)	µg/L	21000
Total Thallium (Tl)	µg/L	0.8
Total Uranium (U)	µg/L	15
Total Vanadium (V)	µg/L	120
Dissolved Zinc (Zn)	µg/L	$\exp^{(0.947[\ln(\text{hardness mg}\cdot\text{L}^{-1})] - 0.815[\text{pH}] + 0.398[\ln(\text{DOC mg}\cdot\text{L}^{-1})] + 4.625)}$ (if Hardness is 23.4 to 399 mg/L, pH is 6.5 to 8.13 & DOC is 0.3 to 22.9 mg/L)
Benzene	mg/L	2.1
Toluene	mg/L	0.77
Ethylbenzene	mg/L	0.32
Total Xylenes	mg/L	0.33
Modified TPH - Gasoline	mg/L	1.5
Modified TPH - Fuel Oil	mg/L	0.1
Modified TPH - Lube Oil	mg/L	0.1

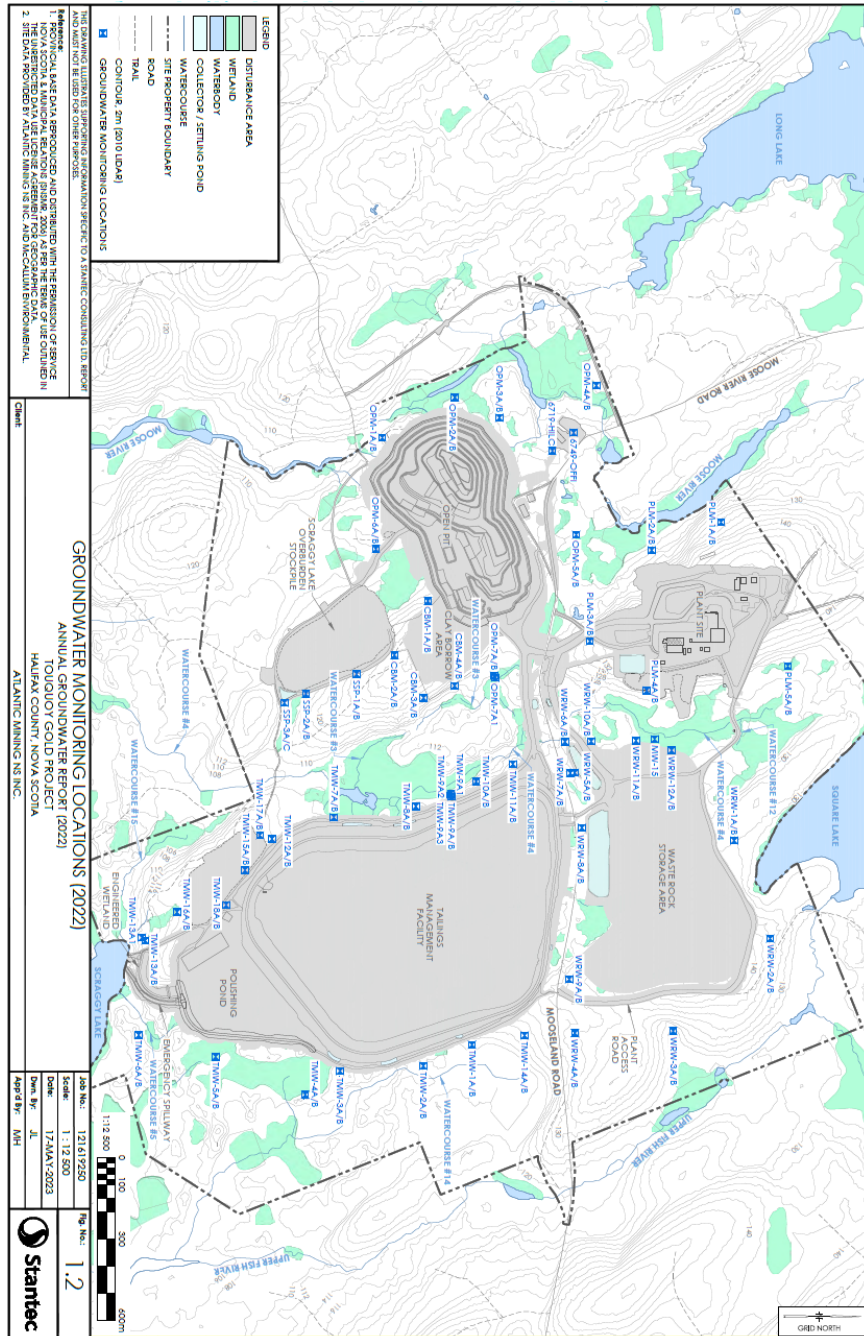


## APPENDIX H

**Table 4:** Sulphate Water Monitoring Criteria.

<b>For Water Hardness</b>	<b>Listed Parameter(s)</b>
0 – 30 mg/L	128 mg/L dissolved Sulphate.
31 – 75 mg/L	218 mg/L dissolved Sulphate.
76 – 180 mg/L	309 mg/L dissolved Sulphate.
181 – 250 mg/L	429 mg/L dissolved Sulphate.
>250 mg/L	The Approval Holder shall use the Major Ion Toxicity Calculator Tool Version 2.0 – November 29, 2023 (the Tool) submitted to the Department on December 5, 2023. The compliance limit is within the green zone of the Tool for General Ion Toxicity and Magnesium/Calcium Toxicity.

# APPENDIX I



## APPENDIX J

**Table 5:** Groundwater Monitoring Parameters and Frequency.

+Compliance wells

Monitoring Point	Parameter	Frequency
<b>Plant</b> +PLM-1A/B +PLM-2A/B +PLM-3A/B +PLM-4A/B +PLM-5A/B  <b>Open Pit</b> OPM-1A/B OPM-2A/B OPM-3A/B OPM-4A/B OPM-5A/B +OPM-6A/B +OPM-7A/B  <b>Waste Rock Storage Area</b> +WRW-1A/B +WRW-2A/B +WRW3-A/B +WRW-4A/B +WRW-5A/B +WRW-6A/B +WRW-7A/B +WRW-8A/B +WRW-9A/B +WRW-10A/B +WRW-11A/B +WRW-12A/B +WRW-13A/B +WRW-14A/B WRW-15A/B  <b>TMF</b> +TMW-1A/B +TMW-2A/B +TMW-3A/B +TMW-4A/B +TMW-5A/B +TMW-6A/B +TMW-7A/B +TMW-8A/B +TMW-9A/B +TMW-10A/B +TMW-11A/B +TMW-12A1/B +TMW-13A/B +TMW-14A/B +TMW-15A/B +TMW-16A/B TMW-17A/B TMW-18A/B +TMW-19A/B	i) Water Quality parameters in Appendix F.  ii) Static Water Level.  iii) When dewatering the Open Pit Mine, Data logging of Groundwater Levels in wells associated with the Open Pit Mine.	i) Quarterly.  ii) Static Water Levels Monthly, unless otherwise required by conditions of the Approval.  iii) When dewatering the Open Pit, data logging of wells, associated with the Open Pit Mine, on an hourly basis as a minimum.

Monitoring Point	Parameter	Frequency
+TMW-20A/B +TMW-21A/B +TMW-22A/B +TMW-23A/B  <b>Scraggy Lake Stockpile</b> +SSP-1A/B +SSP-2A/B +SSP-3A/C  <b>Clay Borrow</b> CBM-1A/B +CBM-2A/B +CBM-3A/B +CBM-4A/B  <b>Other</b> MW-15 (Wetland Monitoring)		

## APPENDIX K

**Table 6:** Groundwater Monitoring Criteria.

Parameter <sup>1</sup>	Units	Groundwater Monitoring Criteria	
		Column A: Monitoring Wells <10 m of a Watercourse/Wetland	Column B: All Other Monitoring Wells 10 m or greater of a Watercourse/Wetland
Chloride (Cl <sup>-</sup> )	mg/L	120	250
Fluoride (F <sup>-</sup> )	mg/L	0.12	1.5
Nitrate (N)	mg/L	3	10
Nitrite (N)	mg/L	0.06	1
Unionized Ammonia (as N)	mg/L	0.019	-
Dissolved Sulphate	mg/L	Refer to Appendix H of this Approval	500
Total Suspended Solids (TSS)	mg/L	-	-
Dissolved Aluminum (Al)	µg/L	5 (if pH is < 6.5); 100 (if pH is ≥6.5)	2900
Dissolved Antimony (Sb)	µg/L	6	6
Dissolved Arsenic (As)	µg/L	5	10
Dissolved Barium (Ba)	µg/L	1000	2000
Dissolved Beryllium (Be)	µg/L	0.15	4
Dissolved Boron (B)	µg/L	1500	5000
Dissolved Cadmium (Cd)	µg/L	0.04 (if Hardness is < 17 mg/L); $10^{\{0.83(\log[\text{hardness}] - 2.46)\}}$ (if Hardness is ≥17 mg/L to ≤280 mg/L); 0.37 (if Hardness is > 280 mg/L)	5
Dissolved Chromium (Cr Total)	µg/L	-	50
Dissolved Chromium (CR III)		8.9	-
Dissolved Chromium (CR VI)		1	-
Dissolved Cobalt (Co)	µg/L	1.0 (if hardness = 100 mg/L). For other hardness values between 52-396 mg/L = $\exp\{(0.414[\ln(\text{hardness})] - 1.887)\}$	3.8
Dissolved Copper (Cu)	µg/L	2 (if Hardness is <82 mg/L); $0.2 * e^{\{0.8545[\ln(\text{hardness})] - 1.465\}}$ (if Hardness is ≥82 mg/L to ≤180 mg/L); 4 (if Hardness is >180 mg/L)	2000
Cyanide (Cn Free)	µg/L	5	200
Dissolved Iron (Fe)	µg/L	300	-

Dissolved Lead (Pb)	µg/L	1 (if Hardness is ≤60 mg/L); $e^{\{1.273[\ln(\text{hardness})]-4.705\}}$ (if Hardness is >60 mg/L to ≤180 mg/L); 7 (if Hardness is >180 mg/L)	5
Dissolved Manganese (Mn)	µg/L	120	120
Dissolved Mercury	µg/L	0.026	1
Dissolved Molybdenum (Mo)	µg/L	70	70
Dissolved Nickel (Ni)	µg/L	25 (if Hardness is ≤60 mg/L); $e^{\{0.76[\ln(\text{hardness})]+1.06\}}$ (if Hardness is >60 mg/L to ≤180 mg/L); 150 (if Hardness is >180 mg/L)	100
Dissolved Selenium (Se)	µg/L	1	50
Dissolved Silver (Ag)	µg/L	0.25	-
Dissolved Sodium (Na)	µg/L	200000	200000
Dissolved Strontium (Sr)	µg/L	7000	7000
Dissolved Thallium (Tl)	µg/L	0.8	2
Dissolved Tin (Sn)	µg/L	2400	2400
Dissolved Uranium (U)	µg/L	15	20
Dissolved Vanadium (V)	µg/L	6.2	6.2
Dissolved Zinc (Zn)	µg/L	$\exp^{(0.947[\ln(\text{hardness mg}\cdot\text{L}^{-1})] - 0.815[\text{pH}] + 0.398[\ln(\text{DOC mg}\cdot\text{L}^{-1})] + 4.625)}$ (if Hardness is 23.4 to 399 mg/L, pH is 6.5 to 8.13 & DOC is 0.3 to 22.9 mg/L)	5000
Benzene	mg/L	0.005	0.005
Toluene	mg/L	0.024	0.024
Ethylbenzene	mg/L	0.0016	0.0016
Total Xylenes	mg/L	0.02	0.02
Modified TPH - Gasoline	mg/L	1.5	4.4
Modified TPH - Fuel Oil	mg/L	0.1	3.2
Modified TPH - Lube Oil	mg/L	0.1	7.8

Notes:

1. Groundwater samples collected for dissolved metals analysis must be field filtered using a 0.45 µm membrane filter as soon as possible after sampling, and immediately preserved. 0.45 µm pore size is the default filter pore size, unless otherwise specified in the method for a given parameter.

## APPENDIX L

**Table 7: Site Specific Groundwater Criteria**

Well	Parameter	Units	Groundwater Monitoring Criteria	
			Column A: Monitoring Wells <10 m of a Watercourse/Wetland	Column B: All Other Monitoring Wells 10 m or greater of a Watercourse/Wetland
OPM-6A	Arsenic (As)	µg/L		53.3
	Manganese (Mn)	µg/L		1,300
OPM-6B	Arsenic (As)	µg/L		43
	Manganese (Mn)	µg/L		1,330
OPM-7A	Manganese (Mn)	µg/L		284
OPM-7B	Manganese (Mn)	µg/L		246
PLM-1A	Manganese (Mn)	µg/L		460
PLM-2A	Arsenic (As)	µg/L		155
	Manganese (Mn)	µg/L		879
PLM-2B	Arsenic (As)	µg/L		227
	Manganese (Mn)	µg/L		1,110
PLM-3A	Manganese (Mn)	µg/L		513
PLM-3B	Manganese (Mn)	µg/L		675
PLM-4A	Manganese (Mn)	µg/L		1,480
PLM-4B	Arsenic (As)	µg/L		18.5
	Manganese (Mn)	µg/L		240
PLM-5A	Fluoride (F-)	mg/L	0.263	
	Aluminum (Al)	µg/L	9.88	
	Arsenic (As)	µg/L	9.73	
	Copper (Cu)	µg/L	6.32	
	Manganese (Mn)	µg/L	463	
	Zinc (Zn)	µg/L	6.7	
	Mercury (Hg Total)	(Hg) µg/L	0.093	
	Modified TPH (Tier 1)	mg/L	0.433	
PLM-5B	Fluoride (F-)	mg/L	0.337	
	Aluminum (Al)	µg/L	23.7	
	Arsenic (As)	µg/L	34	
	Copper (Cu)	µg/L	4.71	
	Manganese (Mn)	µg/L	350	
	Zinc (Zn)	µg/L	5.02	
	Mercury (Hg Total)	(Hg) µg/L	0.0271	
	Modified TPH (Tier 1)	mg/L	0.134	
TMW-1A	Manganese (Mn)	µg/L		225
TMW-3A	Manganese (Mn)	µg/L		490
TMW-3B	Arsenic (As)	µg/L		21.8
	Manganese (Mn)	µg/L		435

TMW-4A	Aluminum (Al)	µg/L	29	
	Cadmium (Cd)	µg/L	0.079	
	Copper (Cu)	µg/L	38	
	Manganese (Mn)	µg/L	580	
	Nickel (Ni)	µg/L	46.8	
	Zinc (Zn)	mg/L	69	
TMW-4B	Aluminum (Al)	µg/L	133	
	Cadmium (Cd)	µg/L	0.083	
	Copper (Cu)	µg/L	2.05	
	Iron (Fe)	µg/L	495	
	Manganese (Mn)	µg/L	310	
	Zinc (Zn)	mg/L	15.5	
TMW-5A	Aluminum (Al)	µg/L	62	
	Copper (Cu)	µg/L	7.05	
	Lead (Pb)	µg/L	2.39	
	Manganese (Mn)	µg/L	175	
	Zinc (Zn)	µg/L	15.8	
	Mercury (Hg Total)	(Hg) µg/L	0.0653	
TMW-5B	Fluoride (F-)	mg/L	0.19	
	Aluminum (Al)	µg/L	46.3	
	Arsenic (As)	µg/L	13	
	Copper (Cu)	µg/L	4.9	
	Lead (Pb)	µg/L	2.53	
	Mercury (Hg Total)	(Hg) µg/L	0.028	
TMW-6A	Cobalt (Co)	µg/L		12.5
	Lead (Pb)	µg/L		6.28
	Manganese (Mn)	µg/L		258
TMW-6B	Manganese (Mn)	µg/L		142
TMW-7A	Aluminum (Al)	µg/L	140	
	Arsenic (As)	µg/L	26.7	
	Copper (Cu)	µg/L	2.35	
	Iron (Fe)	µg/L	2,100	
	Manganese (Mn)	µg/L	230	
	Zinc (Zn)	µg/L	10.3	
	Mercury (Hg Total)	(Hg) µg/L	0.0338	
TMW-7B	Aluminum (Al)	µg/L	54.8	
	Arsenic (As)	µg/L	8.99	
	Iron (Fe)	µg/L	5,400	
	Manganese (Mn)	µg/L	686	
	Modified TPH (Tier 1)	mg/L	0.183	
TMW-8A	Manganese (Mn)	µg/L		255
TMW-8B	Manganese (Mn)	µg/L		593
TMW-10B	Manganese (Mn)	µg/L		28.4



TMW-11B	Arsenic (As)	µg/L		34.3
	Manganese (Mn)	µg/L		135
TMW-12A1	Manganese (Mn)	µg/L		868
TMW-12B	Manganese (Mn)	µg/L		373
TMW-13A	Manganese (Mn)	µg/L		458
TMW-13B	Manganese (Mn)	µg/L		325
TMW-14A	Manganese (Mn)	µg/L		1,650
TMW-14B	Manganese (Mn)	µg/L		138
TMW-15A	Manganese (Mn)	µg/L		464
TMW-15B	Manganese (Mn)	µg/L		536
TMW-16A	Fluoride (F-)	mg/L	0.163	
	Aluminum (Al)	µg/L	12.7	
	Iron (Fe)	µg/L	320	
	Manganese (Mn)	µg/L	743	
	Zinc (Zn)	µg/L	5.95	
	Mercury (Hg Total)	(Hg) µg/L	0.133	
TMW-16B	Fluoride (F-)	mg/L	0.228	
	Aluminum (Al)	µg/L	7.1	
	Arsenic (As)	µg/L	7.55	
	Manganese (Mn)	µg/L	300	
WRW-1A	Manganese (Mn)	µg/L		1,350
WRW-1B	Manganese (Mn)	µg/L		928
WRW-2A	Manganese (Mn)	µg/L		383
WRW-2B	Manganese (Mn)	µg/L		445
WRW-3A	Manganese (Mn)	µg/L		605
WRW-3B	Manganese (Mn)	µg/L		200
WRW-4A	Manganese (Mn)	µg/L		1,400
WRW-4B	Manganese (Mn)	µg/L		705
WRW-5B	Arsenic (As)	µg/L		37.8

Notes:

As per the report titled "Groundwater and Surface Water Consultation Services, Response to Industrial Approval Condition 8.i, Revision 1" dated February 6, 2024, prepared by Klohn Crippen Berger, monitoring wells located less than 10 metre of a Watercourse/Wetland are OPM-2A/B, PLM-5A/B, TMW-4A/B, TMW-5A/B, TMW-7A/B, and TMW-16A/B.

## APPENDIX M

**Table 8: Blasting Limits.**

<b>Parameters</b>	<b>Maximum</b>	<b>Monitoring Frequency</b>	<b>Monitoring Station</b>
Concussion (Air Blast)	128 dBL	Every Blast	Within 7 m of the nearest structure not located on the Site.
Ground Vibration	0.5 in/sec (12.5 mm/s)	Every Blast	Below grade or less than 1 m above grade in any part of the structure not located on Site.
Ground Vibration	1.97 in/sec (50 mm/s)	Every Quarry Blast within the TMF	At the nearest location to the Tailings Dam or clay blanket and the nearest location to the Historic Tailings Management Cell.