



**NUNAVUT WATER BOARD**  
**WATER LICENCE NO: 2AM-MEL1631**



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**Licence No. 2AM-MEL1631**

Pursuant to the Nunavut Waters and Nunavut Surface Rights Tribunal Act and the Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

**AGNICO-EAGLE MINES LIMITED**

(Licensee)

**145, KING STREET EAST, SUITE 400, TORONTO, ONTARIO M5C 2Y7**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use Water or deposit Waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number/Type:	<b>2AM-MEL1631 / Type "A"</b>
Water Management Area:	<b>WILSON WATERSHED (13)</b>
Location:	<b>MELIADINE GOLD PROJECT KIVALLIQ REGION, NUNAVUT</b>
Purpose:	<b>WATER USE AND DEPOSIT OF WASTE</b>
Description:	<b>MINING UNDERTAKING</b>
Quantity of Water not to be Exceeded:	<b>62,000 CUBIC METRES ANNUALLY FOR CONSTRUCTION, 318,000 CUBIC METRES ANNUALLY FOR OPERATION, AND 4,000,000 CUBIC METRES ANNUALLY FOR CLOSURE (AS PER PART E)</b>
Date Licence Issuance:	<b>APRIL 1, 2016</b>
Expiry of Licence:	<b>MARCH 31, 2031</b>

This Licence issued (**Motion Number 2016-15-P15-06**) and recorded at Gjoa Haven, Nunavut includes and is subject to the annexed conditions.

Lootie Toomasie  
Nunavut Water Board  
Hearing Chair

**APPROVED**  
**BY:** Minister of Indigenous and Northern  
Affairs Canada

**DATE**  
**LICENCE**  
**APPROVED:**



**PART A: SCOPE, DEFINITIONS AND ENFORCEMENT**

**1. SCOPE**

- a. This Licence authorizes Agnico-Eagle Mines Limited (“AEM” or “Licensee”) to use Waters and deposit of Waste in support of a Mining Undertaking classified as per Schedule 1 of the Regulations, at the Meliadine Gold Project (Project) as outlined in the Type “A” Water Licence Application (Application) submitted to the Nunavut Water Board (NWB or Board) on May 15, 2015 and as reviewed throughout the regulatory process.

The Licensee may conduct mining, milling and associated activities at the Meliadine Gold Project in the Kivalliq Region of Nunavut, located at the following general geographic coordinates:

Project Extents	Latitude	Longitude
Mine Site	63° 2' 53.091" N	92° 16' 16.651" W
	63° 2' 50.722" N	92° 9' 10.809" W
	63° 1' 1.463" N	92° 9' 13.978" W
	63° 1' 3.829" N	92° 16' 19.377" W
All-weather Access Road	63° 1' 19.309" N	92° 11' 26.684" W
	63° 1' 16.230" N	92° 3' 10.432" W
	62° 47' 58.542" N	92° 3' 36.080" W
	62° 48' 1.592" N	92° 11' 48.601" W
Itivia, Rankin Inlet Area	62° 48' 9.519" N	92° 6' 4.112" W
	62° 48' 9.283" N	92° 5' 27.421" W
	62° 47' 52.933" N	92° 5' 27.925" W
	62° 47' 53.169" N	92° 6' 4.610" W
Camp	63° 2' 24.180" N	92° 13' 44.288" W

and including, in general, as follows:

- Use of Water from Meliadine Lake for mining and milling, associated activities and domestic purposes;
- Withdrawal and use of Water from Meliadine Lake for re-flooding of Tiriganiaq 1 and Tiriganiaq 2 open pits following pit development;
- Dewatering of Lakes A54, H17, H19 and H20, and draining of ponds;
- Quarrying of materials from specified locations;
- Development and Operation of the site facilities;
- Construction of access and site roads, Water crossings, industrial pad, and laydown areas;



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- Construction and Operation of a potable water treatment plant and associated causeway and intake;
- Construction and Operation of a Sewage Treatment Plant (STP);
- Construction and Operation of a Landfill, Landfarm, and Incinerator;
- Construction and Operation of a water collection ponds, retention dikes, retention berms, jetties, dams, pump systems, pipeline, and channels;
- Construction and Operation of a contact Water Treatment Plant (WTP);
- Development and Operation of an underground Total Suspended Solids (TSS) removal plant;
- Construction and Operation of fuel tanks, dispensing storage facilities and associated secondary containment areas for the bulk storage of fuel at the Mine Site and at the Itivia Site Fuel Storage and Containment Facilities;
- Construction and Operation of the Rankin Inlet By-pass Road;
- Operation of the All-weather Access Road, Rankin Inlet By-pass Road and associated infrastructure;
- Extraction of overburden, waste rock and ore from the Tiriganiaq gold deposit via two open pits and one underground mine;
- Construction and Operation of a temporary overburden stockpile;
- Construction and Operation of ore stockpiles;
- Construction and Operation of Waste Rock Storage Facilities;
- Construction and Operation of a Tailings Storage Facility (TSF);
- Processing of ore using a conventional gold-milling circuit;
- Development and Operation of an Emulsion Plant;
- Construction of berms required for the Operation of the Tailings Storage Facility (TSF);
- Deposition of dry stack tailings into the Tailings Storage Facility (TSF);
- Disposal of cyanide leach residue within the TSF;
- Disposal of Waste Rock and Overburden within three Waste Rock Storage Facilities (WRSF);
- Use of Waste Rock for Construction as approved by the Board in accordance with conditions of Part F;
- Management and disposal of wastes associated with the Sewage Treatment Plant, water collection ponds, Landfill, Landfarm, Incinerator and other wastes as described in the application;



- Handling and storage of petroleum products and hazardous materials including explosives, cyanide and other reagents;
  - Diversion of site runoff Water to Water management facilities;
  - Controlled and regulated discharge of Effluent from the Water Treatment Plant, Control Pond No. 1 (CP1) to Meliadine Lake through an effluent diffuser; and
  - Progressive Reclamation and Abandonment planning of on-site facilities and infrastructure.
- b. This Licence is issued subject to conditions contained herein with respect to the use of Waters and the deposit of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Act, or other statutes imposing more stringent conditions relating to the quantity, type or manner under which any such Waste may be so deposited, this Licence shall be deemed to be subject to such requirements.
- c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with all applicable legislation, guidelines and directives.

## **2. DEFINITIONS**

- a. The Licensee shall refer to Schedule A for definitions of terms used in this Licence.

## **3. ENFORCEMENT**

- a. Failure to comply with this Licence may be a violation of the Act, subjecting the Licensee to the enforcement measures and the penalties provided for in the Act.
- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the Act.
- c. For the purpose of enforcing this Licence and with respect to the use of Waters and deposit of Waste by the Licensee, Inspectors appointed under the Act, hold all powers, privileges and protections that are conferred upon them by the Act or by other applicable laws.

## **PART B: GENERAL CONDITIONS**

1. The amount of Water use fees shall be determined and payment of those fees shall be made by Licensee in accordance with section 12 of the *Regulations*.
2. The Licensee shall file an Annual Report with the Board no later than March 31<sup>th</sup> in the



year following the calendar year being reported. The Annual Report shall be developed in accordance with [Schedule B](#).

3. The Licensee shall retain and have a copy of this Licence available at the site of operations at all times.
4. Any communication with respect to this Licence shall be made in writing to the attention of:

Manager of Licensing, Nunavut Water Board  
P. O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

5. Any notice made to an Inspector shall be made in writing to the attention of:

Water Resources Officer  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445

6. The Licensee shall submit one (1) paper copy and one (1) electronic copy of all reports, studies, and plans to the Board unless otherwise requested by the Board. Reports or studies submitted to the Board by the Licensee shall include an executive summary in English, Inuktitut, and French.
7. This Licence is assignable as provided in Section 44 of the *Act*.
8. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing or delegate.
9. The Licensee shall notify the Board of any changes in operating plans or conditions associated with this Project at least thirty (30) days prior to any such change.
10. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
11. In the event that a Plan is not found acceptable to the Board, the Licensee shall provide a revised version to the Board for review within thirty (30) days of notification by the Board.



12. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing. Any changes to the plans deemed significant shall be considered as an amendment to the plan(s) or as a modification and must be submitted to the Board for approval in writing. The Board has approved the following Plans for implementation under the relevant sections in the Licence:
  - a. Aquatic Effects Monitoring Program (AEMP) Design Plan, April 2015;
  - b. Borrow Pits and Quarries Management Plan, Version 4, April 2015;
  - c. Environmental Management and Protection Plan (EMPP), Version 4, April 2015;
  - d. Explosives Management Plan, Version 4, April 2015;
  - e. Hazardous Materials Management Plan, Version 4, April 2015;
  - f. Incineration Management Plan, Version 4, April 2015;
  - g. Landfarm Management Plan, Version 1, April 2015;
  - h. Landfill and Waste Management Plan, Version 4, April 2015;
  - i. Mine Plan, Version 1, April 2015;
  - j. Mine Waste Management Plan, Version 1, April 2015;
  - k. Ore Storage Management Plan, April 2015;
  - l. Preliminary Mine Closure and Reclamation Plan, Version 1, April 2015;
  - m. Quality Assurance and Quality Control, Version 1, April 2015 and updated Version 2, December 2015;
  - n. Risk Management and Emergency Response Plan, Version 4, April 2015;
  - o. Roads Management Plan, Version 4, April 2015;
  - p. Spill Contingency Plan, Version 4, April 2015; and
  - q. Water Management Plan; Version 1, April.
13. The Licensee shall update for submission to the Board for review, within sixty (60) days of issuance of this Licence, the following management plans. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing process, where applicable.
  - a. Aquatic Effects Monitoring Program (AEMP) Design Plan;
  - b. Environmental Management and Monitoring Plan;
  - c. Mine Waste Management Plan; and
  - d. Water Management Plan.
14. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
15. The Licensee shall review the Plans or Manuals referred to in this Licence as required by changes in operation and/or technology and modify the Plans or Manuals accordingly. Revisions to the Plans or Manuals should incorporate design changes and adaptive engineering required and implemented during Construction and on the basis of actual site





conditions and monitoring results over the life of the Project, and are to be submitted in the form of an Addendum to be included with the Annual Report required by Part B, Item 2, complete with a revisions list detailing where significant content changes are made.

16. The Licensee shall post signs in the appropriate areas to inform the public of the location of the Water Supply Facilities and the Waste Disposal Facilities. All signs must be in English, Inuktitut and French and shall be located and maintained to the satisfaction of an Inspector.
17. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.
18. The Schedules attached to this Licence provide details regarding the requirements associated with specific items in the main body of the Licence and are included in the Schedule to provide greater clarity and as an aid to interpretation for the Licensee. If the Board subsequently determines that an item in any of the Schedules requires revision in order to better reflect the intent and objectives of the Licence, the Board may at its discretion, and upon consulting and providing written notice to the Licensee and interested parties, revise the Schedule accordingly. Unless the Board directs otherwise, such revision may not necessarily be considered as an "Amendment" to the Licence.

#### **PART C: CONDITIONS APPLYING TO SECURITY**

1. The Licensee shall, within thirty (30) days following the approval of this Licence by the Minister, furnish and maintain security with the Minister in the amount of **\$24,777,500**. As set out in the *Meliadine Security Management Agreement*, February 8, 2016 Version, the amount secured under this Part constitutes 50% of the total global security amount of \$49,555,000 that is required to reclaim the Undertaking and reflects that the other 50% of the global security amount will be held outside the Licence by the Kivalliq Inuit Organization, in accordance with the terms and conditions of the *Meliadine Security Management Agreement*.
2. The security held under Part C, Item 1 shall be in the form, of the nature, and subject to such terms and conditions, as prescribed by the Act and Regulations.
3. The Licensee shall, within ten (10) days after furnishing security with the Minister, provide evidence to NWB and Kivalliq Inuit Association, that the security has been received by the Minister, indicating the amount, form, nature and conditions of the security.
4. The Licensee shall, within ten (10) days after furnishing security with the Kivalliq Inuit Association, provide evidence to NWB and to the Minister, that it has been received by the Kivalliq Inuit Association, indicating the amount, form, nature and conditions of the security.



5. The Licensee shall provide the Board with at least ninety (90) days written notice prior to any parties' termination of the Meliadine Security Management Agreement, or any material change to the Meliadine Security Management Agreement that may affect the amount of security held under Part C, Item 1.
6. The Licensee shall provide the Board with at least least ninety (90) days written notice prior to any material changes to the Undertaking or the risk of environmental damage associated with the Undertaking that could result in a material change to the reclamation liability associated with the Undertaking (including, but not limited to, updates to the reclamation cost estimate arising from unexpected changes or modifications of the works and activities associated with the Undertaking).
7. The Licensee shall, within six (6) months following commencement of Commercial Operation and at the time the Licensee files the Final Reclamation and Closure Plan as required under the Licence, submit to the Board for review in writing an updated reclamation cost estimate, using the INAC RECLAIM Reclamation Cost Estimating Model (Version 7.0 or the most current version at the time the updated reclamation cost estimate is submitted to the Board).
8. Upon the Board receiving notice under Part C, Items 5 or 6, or upon receiving an updated reclamation cost estimate as required under Part C, Item 7, the Board, may on its own initiative, or upon application by the Licensee, the Minister and/or Kivalliq Inuit Association, conduct a periodic review of the outstanding reclamation liability associated with the Undertaking and may, as the Board considers appropriate, amend the amount of security held under Part C, Item 1. Any submission requesting an amendment to the security provisions of the Licence shall include supporting evidence to justify the amendment and will be processed by the Board as an amendment to the terms and conditions of the Licence.
9. If the Board determines it to be necessary, or upon the request of Licensee, the Minister and/or the Kivalliq Inuit Association, the Board may issue further directions under this Part with respect to the process for the Board's conduct of periodic reviews of security and associated amendments to the amount of security to be furnished and maintained under the Licence.
10. The Licensee shall maintain the security deposit until such time as the Minister is satisfied that the Licensee has complied with all provisions of the approved Abandonment and Restoration Plan. This clause shall survive the expiry of the Licence or renewals thereof and until full and final reclamation has been completed to the satisfaction of the Minister.

**PART D: CONDITIONS APPLYING TO CONSTRUCTION**

1. The Licensee shall submit to the Board for approval, at least thirty (30) days prior to Construction, final design and Construction drawings accompanied, with a detailed report, for the following:



- a. Water works, including: Water Intake and causeway water control structures (dikes, berms, jetties, channels) and Water crossings (culverts, bridges);
  - b. Waste disposal facilities including: Contact Water Treatment Plant, Sewage Treatment Plant, Discharge Diffuser, Waste Rock Storage Facilities, Overburden stockpiles, Tailings Storage Facility (including thermal installation and monitoring), Landfill, Landfarm, and Incinerator; and
  - c. Fuel Storage Containments Facilities (Meliadine Site and Itivia Site).
2. The detailed report(s) referred to in Part D, Item 1 shall include:
  - a. Design rational, requirements, criteria, parameters, standards analysis, methods, assumptions and limitations;
  - b. Site specific data and analysis to support the design and management decisions;
  - c. Geochemical analysis of Waste Rock and fill, demonstrating their Acid Rock Drainage and Metal Leaching characteristics;
  - d. Construction methods and procedures regarding how infrastructure will be put in place, including quality assurance and quality control measures and equipment to be used;
  - e. Technical specifications for sedimentation, erosion control and bank stabilization measures, including proposed materials, location and extent, place methods and quantities required;
  - f. Timetable for submission, including date of Construction and proposed date of commissioning of infrastructure; and
  - g. Be signed and sealed by the appropriately qualified Engineer.
3. The Licensee shall submit to the Board for review, within ninety (90) days of completion of each facility designed to contain, withhold, divert or retain Waters or wastes, a Construction Summary Report prepared by a qualified Engineer that includes as-built plans and drawings, documentation of field decisions that deviate from original plans and any data used to support these decisions in accordance with Schedule D, Item 1.
4. The Licensee shall provide a brief summary of the Construction Summary Report required by Part D, Item 3, within the Annual Report required by Part B, Item 2.
5. The Licensee shall construct and operate the Fuel Storage and Containment Facilities to meet, at a minimum, all applicable legislation and industry standards that include the following:
  - a. *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003; CCME PN1326 (Updated in 2013)* or most recent; and
  - b. *National Fire Code, 2010* or most recent.



6. The Licensee shall cease works on water crossings/bridges, should the results of downstream monitoring under Part I, Item 11 exceed the upstream monitoring results for Total Suspended Solids concentration (mg/L) by twenty percent (20%).
7. The Licensee shall only use Waste Rock and fill material for construction, including the construction of any infrastructure, from approved sources that have been demonstrated by appropriate geochemical analyses to not produce Acid Rock Drainage and to be Non-Metal Leaching, and free of contaminants.
8. The Licensee shall monitor for signs of erosion and implement and maintain sediment and erosion control measures prior to and during the Construction and Operation where necessary to prevent entry of sediment into Water.
9. The Licensee shall conduct daily visual inspections for Construction activity during spring freshet and during and after remarkable rainfall events, with sampling of runoff/Seepage where turbidity is evident.
10. The Licensee shall construct and maintain all containment and runoff control structures to prevent escape of Wastes to surface Waters.
11. The Licensee shall direct contact runoff and Seepage to the Collection Ponds for storage and transfer to the Control Pond No.1 (CP1).
12. All Waters from dewatering activities at Monitoring Program Stations MEL-D-1 through MEL-D-TBD shall be directed to Meliadine Lake and shall not exceed the following Effluent quality limits:

<b>Parameter</b>	<b>Maximum Average Concentration</b>	<b>Maximum Concentration of Any Grab Sample</b>
Total Suspended Solids (TSS) (mg/L)	15.0	30.0
pH	6.0 to 9.5	6.0 to 9.5

13. All Waters, exceeding the Effluent quality limits under Part D, Item 12, shall be released to CP1.
14. The Licensee shall implement the Borrow Pits and Quarries Management Plan, dated April 2015, and the Roads Management Plan, dated April 2015, as approved by the Board under Part B, Item 12.
15. The Licensee shall designate an area for the deposition of excavated and stockpiled materials, with respect to access roads, laydown area, pad construction or other earthworks, at a distance of at least thirty-one (31) metres from the ordinary High Water Mark, in order to prevent the deposition of debris or sediment into or onto any Water body.



16. The Licensee shall maintain a minimum of thirty-one (31) metres undisturbed buffer zone between the periphery of quarry sites and the ordinary High Water Mark of any Water body unless otherwise approved by the Board in writing.
17. The Licensee shall not excavate and/or remove material from the quarry beyond a depth of one (1) metre above the ordinary High Water Mark or above the groundwater table, to prevent the potential contamination of surface and groundwater. The quarrying shall be in accordance with all applicable legislation and industry standards including the *Northern Land Use Guidelines, Pits and Quarries* (INAC, 2009, or as revised).
18. All surface runoff and/or discharge from drainage management systems, at the Monitoring Program Stations MEL-SR-1 to MEL-SR-TBD referred to in Part I, Item 11, during the Construction/Operation of any facilities and infrastructure associated with this project, including laydown areas and All-weather Access Road, where flow may directly or indirectly enter a Water body, shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Total Suspended Solids (TSS) (mg/L)	50.0	100.0
Oil and Grease	No Visible Sheen	No Visible Sheen
pH	Between 6.0 and 9.5	Between 6.0 and 9.5

19. The Licensee shall supervise and field check through an appropriately qualified Engineer, all Construction of engineered structures in such a manner that the project specification can be enforced and, where required, the quality control measures are followed. The Licensee shall maintain and make available at the request of the Board and/or an Inspector, all Construction records of all engineered structures.
20. The Licensee shall conduct all activities in a manner so as to minimize impacts on Surface Drainage and immediately undertake any corrective measures required in the event of any impacts on Surface Drainage.
21. The Licensee shall locate stream crossings to minimize approach grades. Approaches shall be stabilized during Construction and upon completion of the project, to control runoff, erosion and subsequent siltation to any Water body.
22. The Licensee shall limit any in-stream activity to low Water periods. In-stream activity is prohibited during fish migration.
23. The Licensee shall not cut any stream bank or remove any material from below the ordinary High Water Mark of any Water body.
24. The Licensee shall, for the purposes of culvert and bridge construction, ensure that all activities remain outside of the natural channel width by the placement of abutments,



footings or armouring above the ordinary High Water Mark so that there is no restriction to the natural channel processes.

25. Machinery is not permitted to travel up the stream bed and fording of any Water body is to be kept to a minimum. Machinery and equipment should be well cleaned and free of oil and grease and other pollutants and maintained free of fluid leaks.
26. The Licensee shall ensure that pollutants from machinery fording the crossings do not enter Water.
27. The Licensee shall locate equipment storage areas on gravel, sand or other durable land, at a distance of at least thirty one (31) metres above the ordinary High Water Mark of any Water body in order to minimize impacts on Surface Drainage and water quality.
28. The Licensee shall not utilize any equipment or vehicles in the course of this undertaking unless the ground surface is in a state capable of supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall cease if rutting occurs.
29. The Licensee shall not store material on the surface of frozen streams or lakes except what is for immediate use.
30. The Licensee shall determine all monitoring locations based on operational and site specific requirements, to be recorded and reported within the monthly and annual reports required under Part B, Schedule B and Part I.
31. The Licensee shall consider the principles of adaptive management in construction and operations.

#### **PART E: CONDITIONS APPLYING TO WATER USE AND MANAGEMENT**

1. The Licensee shall obtain all fresh Water for domestic camp use, mining and milling and associated uses, from Meliadine Lake at Monitoring Program Station MEL-01 using the Fresh Water Intake, or as otherwise approved by the Board in writing. The total authorized volume of Waters for all purposes shall not exceed sixty two thousand (62,000) cubic meters *per* year during Construction and three hundred and eighteen thousand (318,000) cubic meters *per* year during Operations of the Project.
2. The Licensee shall obtain all fresh Water from Meliadine Lake for domestic camp use and re-flooding of Tiriganiaq 1 and 2 Pits and associated uses, or as otherwise approved by the Board in writing. The total authorized volume of Waters for re-flooding of pits shall not exceed four million (4,000,000) cubic metres *per* year during closure of the Project.
3. The Licensee shall obtain all Water for use in dust suppression from ponded Water (against the AWAR), small ponds proximal to the road and/or Water obtained from the Meliadine



River, or as otherwise approved by the Board in writing. The total authorized volume of Waters for all purposes referred to in Part E, Items 1 and 2 shall be inclusive of the amounts required for dust suppression.

4. The Licensee shall maximize to the greatest practical extent, the use of Reclaim Water from contact Water management facilities, for use in the mill.
5. The Licensee shall not use streams as a Water source unless authorized and approved by the Board in writing.
6. The Licensee shall equip all Water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.
7. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless authorized by the Board in writing.
8. The Licensee shall undertake appropriate corrective measures to prevent and/or mitigate impacts to surface Water resulting from the Licensee's Operation.
9. The Licensee shall implement sediment and erosion control measures prior to and maintain such measures during the undertaking to prevent entry of sediment into Water.
10. The Licensee shall implement the Water Management Plan, dated April 2015, as approved by the Board under Part B, Item 12. The Licensee shall update the Water Management Plan for submission to the Board for review, within sixty (60) days of issuance of this Licence. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.
11. The Licensee shall submit an updated Water Management Plan to the Board for approval in writing, at least ninety (90) days prior to starting of the next phase (Operation, Closure, Post-closure) of mine development to reflect all changes in operations and/or technology. The Plan shall include updated Water Balance and Water Quality Model, and an action plan to be implemented, if predicted Water quality indicates that treatment is necessary.
12. The Licensee shall submit a revised Water Management Plan on an annual basis to the Board for review, following the commencement of Operations. The Plan shall include a Water Balance and Water Quality Model updated at a minimum of every two (2) years following commencement of Operations.
13. The Licensee shall, on an annual basis during Closure, compare the predicted Water quantity and quality within the pits, to the actual measured water quantity and quality. Should the difference between the predicted and measured values be 20% or greater, then the cause(s) of the difference(s) shall be identified and the implications of the differences shall be assessed and reported to the Board.





14. The Licensee shall submit a Groundwater Management Plan to the Board for approval in writing, at least six (6) months prior to the discharge of any Groundwater. The Plan shall take into consideration all comments raised and commitments made with respect to submissions received during the technical review of the Application as well as final submissions and issues raised during the Public Hearing Process, where applicable.
15. The Licensee shall carry out Weekly inspections of all Water management structures during periods of flow (rock drains, culverts, sedimentation and pollution control ponds and associated diversion berms, reagent and storage facility sumps, and the sedimentation control berm at the overburden dump) and Monthly thereafter and the records be maintained for review upon request of an Inspector. More frequent inspections may be required at the request of an Inspector.
16. The Licensee shall not breach dikes until the water quality in the pit re-flooded area has been shown to be less than or equal to the CCME Water Quality Guidelines for the Protection of Aquatic Life, baseline concentrations, or appropriate site specific water quality objectives. Should water quality parameters be above CCME Guidelines, a site specific risk assessment must be conducted in order to identify Site Specific Water Quality Objectives (SSWQO's) that are protective of the aquatic environment and approved by the Board in writing, prior to dyke breaching.
17. The Licensee shall implement measures to minimize the generation and deposition of dust and/or sediment into Water arising from road use.
18. The Licensee shall provide at least ninety (90) days' notice to the NWB and an Inspector prior to the to start of the next phase (Operation, Closure, Post-closure) of mine development including a notice to increase Water use for Operations and notice to increase Water use for re-flooding of pits during Closure .

**PART F: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT**

1. The Licensee shall direct all Sewage and Greywater to the Sewage Treatment Plant for treatment prior to releasing to CP1, or as otherwise approved by the Board in writing.
2. The Licensee shall direct all Contact Water from the Collection Ponds to CP1, or as otherwise approved by the Board in writing.
3. The Discharge of Effluent from the Final Discharge Point at Monitoring Program Station MEL-04 shall be directed to Meliadine Lake through the Meliadine Lake Outfall Diffuser and shall not exceed the following Effluent quality limits:





Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
pH	6.0 to 9.5 <sup>(a)</sup>	6.0 to 9.5 <sup>(a)</sup>
TDS (mg/L) (measured)	1400	1400
TSS (mg/L)	15 <sup>(a)</sup>	30 <sup>(a)</sup>
Total (T)-P (mg/L)	2.0	4.0
T-Al (mg/L)	2	3
T-As (mg/L)	0.3	0.6
T-CN (mg/L)	0.5	1.0
T-Cu (mg/L)	0.2	0.4
NH <sub>4</sub> -N (mg/L)	14	18
T-Ni (mg/L)	0.5 <sup>(a)</sup>	1.0 <sup>(a)</sup>
T-Pb (mg/L)	0.2 <sup>(a)</sup>	0.4 <sup>(a)</sup>
T-Zn (mg/L)	0.4	0.8
Total Petroleum Hydrocarbons (TPH) (mg/L)	5	5

<sup>(a)</sup> Metal Mining Effluent Regulations (SOR/2002-222).

4. The Discharge of Effluent from the Final Discharge Point at Monitoring Program Station MEL-04 shall be demonstrated to be non-Acutely Lethal under the following test in accordance with the Schedule I of the Licence:
  - a. Acute Lethality of Effluents to Rainbow Trout (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13 July 1990, published by the Department of the Environment, as amended in December 2000, and as may be further amended from time to time.
5. The Discharge of Effluent onto land from the Fuel Storage Facility at the Itivia Site, Monitoring Program Station MEL-15, shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration	Maximum Concentration of any Grab sample
pH	6.0 to 9.5	6.0 to 9.5
Total Suspended Solids (mg/L)	15	30
Benzene (µg/L)	370	370
Toluene (µg/L)	2	2
Ethylbenzene (µg/L)	90	90
T-Pb (mg/L)	0.1	0.1
Oil and Grease (mg/L)	5 and no visible sheen	5 and no visible sheen



6. The Licensee shall, under Part F, Item 5, discharge Effluent to a location at a distance of at least thirty-one (31) metres above the ordinary High Water Mark of any Water body, in such a manner as to minimize surface erosion to where direct flow into a Water body is not possible and no additional impacts are created, or as otherwise approved by the Board in writing.
7. All Effluent at Monitoring Station MEL-15, that exceeds the Effluent quality limits under Part F, Item 5, shall be transferred to CP1.
8. The Licensee shall confirm compliance with Effluent quality limits referred to in Part F, Items 3 and 5 prior to Discharge.
9. The Licensee shall submit to the Board for approval in writing an Operation and Maintenance Manual(s) for the Wastewater Treatment Plant(s), including the Sewage Treatment Plant, at least ninety (90) days prior to the construction/installation of facilities, prepared in accordance with the "*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996*". The Manual(s) shall include sludge management and disposal information and contingency measures in the event of plant malfunction.
10. The Licensee shall provide at least ten (10) day notice to the Inspector prior to any planned Discharge from any facility. The notice shall include the estimated volume proposed for Discharge and the receiving location.
11. The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any Water body such that the quality, quantity or flow of Water is not impaired, or as otherwise approved by the Board in writing.
12. The Licensee shall implement the Mine Waste Management Plan, dated April 2015, as approved by the Board under Part B Item 12. The Licensee shall update the Mine Waste Management Plan for submission to the Board for review, within sixty (60) days of issuance of this Licence. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.
13. The Licensee is authorized to dispose of and contain all non-hazardous, solid Wastes at the Meliadine Non-Hazardous Waste Landfill in accordance with the approved "Meliadine Gold Project Landfill Design and Management Plan", dated April 2012 and "Landfill and Waste Management Plan" dated April 2015, or as otherwise approved by the Board in writing.
14. The Licensee shall dispose of all food waste in an incinerator designed for this purpose and meets the requirements of the Canada-Wide Standards for Dioxins and Furans and Canada-Wide Standards for Mercury emissions or other standards as they become available in



accordance with the Incineration Management Plan, dated April 2015, as approved by the Board under Part B, Item 12.

15. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.
16. The Licensee shall remove from the Project site, all solid and liquid Hazardous Wastes generated through the course of the project's activities, for disposal at an approved hazardous waste disposal facility in accordance with the Hazardous Materials Management Plan, dated April 2015, as approved by the Board under Part B, Item 12 .
17. The Licensee shall incorporate Seepage management at Quarries using best management practices including ditches, diversions, sumps and berms where necessary.
18. The Licensee shall maintain records of all Waste backhauled and confirmation of proper disposal through the use of Waste manifest tracking systems and registration with the Government of Nunavut, Department of Environment. These records shall be made available to an Inspector upon request.
19. The Licensee shall dispose/treat of all petroleum hydrocarbon contaminated soils in the Landfarm in accordance with the Landfarm Management Plan, dated April 2015, as approved by the Board under Part B, Item 12.
20. Licensee shall dispose of tailings and operate the Tailings Storage Facility in accordance with the Mine Waste Management Plan, dated April 2015, as approved by the Board under Part B, Item 12, *Guide to the Management of Tailings Facilities (Mining Association of Canada September 2011 or more recent)* and with the engineering standards such that:
  - a. Implement Adaptive Management strategies as required;
  - b. Seepage from the TSF shall be collected in Collection Pond No.3 (CP3) and monitored for water quality;
  - c. The Licensee shall carry out, at a minimum, weekly inspections during any period in which the site is occupied and Water is being actively managed, to identify and remediate where necessary, areas of concern including issues of Seepage, cracking, and ponding for all structures and other associated structures; and
  - d. The Licensee shall consult the Geotechnical Engineer when significant issues associated with the TSF are observed and implement the Engineer's recommendations as necessary;
  - e. The solids fractions of all mill tailings (except for filtered cyanide leach residue placed underground as mine backfill) shall be deposited and permanently contained within the TSF;
  - f. The Licensee shall place all filtered cyanide leach residue in the TSF;
  - g. An annual Geotechnical inspection shall be carried out in accordance with Part I, Item 14;



- h. The Licensee shall perform more frequent inspections of the facilities at the request of an Inspector;
- i. The Licensee shall maintain records of all inspections for the review of an Inspector upon request.

**PART G: CONDITIONS APPLYING TO MODIFICATIONS**

1. The Licensee may, without written consent from the Board, carry out Modifications provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
  - a. The Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
  - b. Such Modifications do not place the Licensee in contravention of the Licence or the Act;
  - c. Such Modifications are consistent with the NPC Land Use Planning and NIRB Screening Determinations;
  - d. The Board has not, within sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - e. The Board has not rejected the proposed Modifications.
2. Modifications for which any of the conditions referred to in Part G, Item 1 have not been met can be carried out only with approval from the Board in writing.
3. Applications for modifications shall contain:
  - a. A description of the facilities and/or works to be constructed;
  - b. The proposed location of the structure(s);
  - c. Identification of any potential impacts to the Receiving Environment;
  - d. A description of any monitoring required, including sampling locations, parameters measured, and frequencies of sampling;
  - e. Schedule for construction;
  - f. Drawings of Engineered Structures stamped by a Professional Engineer; and
  - g. Proposed sediment and erosion control measures.
4. The Licensee shall provide to the Board, within ninety (90) days of completion of the Modification, as-built plans and drawings of the Modifications referred to in this Part. These plans and drawings shall be stamped by an Engineer.



**PART H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING**

1. The Licensee shall implement and maintain the Spill Contingency Plan, dated April 2015, the Hazardous Materials Management Plan, dated April 2015, and the Risk Management and Emergency Response Plan, dated April 2015, as approved by the Board under Part B, Item 12. The Licensee shall comply with the Plan(s), and any changes deemed significant shall require the submission and subsequent approval of the Board in writing.
2. The Licensee shall prevent any chemicals, petroleum products or unauthorized Wastes associated with the Project from entering Water.
3. The Licensee shall provide secondary containment for fuel and chemical storage as required by applicable standards and acceptable industry practice.
4. The Licensee shall perform weekly inspections of Fuel Storage and Containment Facilities, for leaks and settlement and shall keep a written log of inspections to be made available to an Inspector upon request. More frequent inspections may be requested by an Inspector.
5. The Licensee shall, upon providing notification with respect to Care and Maintenance under Part J, Item 2, shall submit to the Board an Addendum to the Emergency Response Plan and the Spill Contingency Plan, detailing the changes in operations, personnel, responsibilities, availability of equipment and access to the site for assistance.
6. The Licensee shall keep a copy of the Emergency Response Plan and the Spill Contingency Plan at each site of operation.
7. The Licensee shall conduct emergency maintenance and servicing on equipment, in designated areas, and shall implement measures to collect motor fluids and other Waste to prevent and contain spills.
8. The Licensee shall, subject to Section 16 of the Regulations, report any unauthorized deposits or foreseeable unauthorized deposits of waste and/or discharges of Effluent, and:
  - a. Employ the Spill Contingency Plan;
  - b. Report the incident immediately via the 24-Hour Spill Reporting Line (867) 920-8130 and to the Inspector at (867) 975-4295; and
  - c. For each spill occurrence, submit a detailed report to the Inspector, no later than thirty (30) days after initially reporting the event, which includes the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.
9. The Licensee shall, in addition to Part H, Item 8, regardless of the quantity of release of a harmful substance, report to the NWT/NU Spill Line if the release is near or into a Water body.



**PART I: CONDITIONS APPLYING TO GENERAL AND AQUATIC EFFECTS MONITORING**

1. The Licensee shall implement the Environmental Management and Protection Plan, dated April 2015, as approved by the Board under Part B, Item 12. The Licensee shall update the Environmental Management and Protection Plan for submission to the Board for review, within sixty (60) days of issuance of this Licence. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.
2. The Licensee shall update the Environmental Management and Protection Plan for submission to the Board for approval in writing, at least ninety (90) days prior to Operations. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.
  - a. Comprehensive Receiving Environment monitoring to identify changes to the aquatic environment associated with mine activities;
  - b. Linkage between monitoring results and adaptive management response;
  - d. Sampling and analysis plans;
  - e. Thresholds for contaminant levels in CP1 and triggers for mitigation measures; and
  - e. Monitoring under Fisheries Authorizations, NWB Licence Compliance Monitoring, Metal Mining Effluent Regulations (MMER) Environmental Effects Monitoring, and Groundwater Monitoring.
3. The Licensee shall implement the Aquatic Effects Monitoring Program (AEMP) Design Plan, dated April 2015, as approved by the Board under Part B, Item 12. The Licensee shall update the AEMP Design Plan for submission to the Board for review, within sixty (60) days of issuance of this Licence. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.
4. The Licensee shall implement the Plan entitled "Monitoring Plan for the Phase 1 All-Weather Access Road between Rankin Inlet and the Meliadine site" dated January 2012, that was previously approved by the Board within the issuance of the 2BW-MEL1215 original Licence related to AWAR construction/operation.
5. The Licensee shall install and maintain flow meters or other such devices, or implement suitable methods required for the measuring of the Use of Water and Effluent discharge volumes, to be operated and maintained to the satisfaction of an Inspector.
6. The Licensee shall undertake the Water Monitoring Program provided in the Tables 1 and 2 of [Schedule I](#). The Licensee shall establish the locations and GPS coordinates for all monitoring stations in consultation with an Inspector.



7. The Licensee shall install and maintain signs that identify monitoring stations. The signs shall be posted in English, Inuktitut and French.
8. The Licensee shall conduct Acute Lethality Testing, at monitoring station MEL-04, in accordance with Part F, Item 4 and Schedule I.
9. The Licensee shall measure and record the following on a Monthly basis in cubic metres or as otherwise stated:
  - a. The volume of fresh Water obtained from Meliadine Lake at Monitoring Program Station MEL-01;
  - b. The volume of fresh Water transferred to the Meliadine Lake during lakes' dewatering activities;
  - c. The volume of fresh Water obtained along the road and Meliadine River for dust suppression activities;
  - d. The volume of Effluent discharged from Final Discharge Point at Monitoring Program Station MEL-04;
  - e. The volume of reclaim Water obtained from the CP1;
  - f. The volume of Effluent discharged onto tundra at Monitoring Program Station MEL-15 or transferred to CP1 from the Itivia Site Fuel Storage and Containment Facility;
  - g. The volume of Effluent and Fresh Water transferred to the pits during pits' flooding;
  - h. The volume of Sewage sludge removed from the Sewage Treatment Plant and the locations or methods of Sewage sludge disposal;
  - i. Quantity of waste placed within the Landfill and Landfarm;
  - j. Tonnes of ore stockpiled and ore processed through the mill;
  - k. Tonnes of waste rocks placed within the Waste Rock Storage Facilities; and
  - l. The daily tonnes of dry combined tailings placed within the Tailings Storage Facility.
10. The Licensee shall submit to the Board, within thirty (30) days following the month being reported, a Monthly Monitoring Report. The Report shall include:
  - a. All data and information required by this Part and generated by the Monitoring Program in the Tables of Schedule I;
  - b. An assessment of data to identify areas of non-compliance with regulated discharge parameters referred to in Parts D and F.
11. The Licensee shall complete water quality testing immediately upstream and downstream of water crossings, any significant Water seeps in contact with the roads and any significant Water seeps/runoff originating from borrow pits and quarries, during blasting activities, periods of flow and following significant precipitation events at Monitoring Program Stations MEL-SR-1 through MEL-SR-TBD, prior to Construction, on a weekly basis during Construction and on a monthly basis upon completion of construction, in accordance with the Part D, Item 18 and Schedule I of the Licence.





12. The Licensee shall submit to the Board for approval, within six (6) months following construction of each the Mine Site Fuel Storage and Containment Facility and Itivia Site Fuel Storage and Containment Facility, a plan for the environmental and performance monitoring of each Facility. The Plans are to include:
  - a. An assessment of performance;
  - b. Location, environmental setting and the potential for leaks or Seepage that could impact Water;
  - c. An assessment of the need for, and if required, the design for installation, monitoring, and maintenance of vertical Groundwater monitoring wells to be installed in accordance with the *Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products, 2003*; CCME; and
  - d. Recommended sampling for ongoing monitoring of the integrity of the secondary containment.
13. The Licensee shall undertake the Waste Rock Storage Facilities' and Tailings Storage Facility's Thermal Monitoring Program detailed in the Environmental Management and Protection Plan, dated April 2015, and Mine Waste Management Plan, dated April 2015, as approved by the Board under Part B, Item 12.
14. The Licensee shall undertake a geotechnical inspection, to be carried out annually by a Geotechnical Engineer, between the months of July and September. The inspection shall be conducted in accordance with the *Canadian Dam Safety Guidelines* where applicable and take into account all major earthworks, included within Schedule I.
15. The Licensee shall submit to the Board as part of the Annual Report required by Part B, Item 2, a Geotechnical Engineer's Inspection Report. The Report shall include a cover letter from the Licensee outlining an implementation plan addressing each of the Geotechnical Engineer's recommendations.
16. The Licensee shall obtain a digital photographic record of all the watercourse crossings before, during, and after construction has been completed.
17. The Licensee shall maintain a Quality Assurance / Quality Control Plan, accepted by the Board that includes a cover letter from the accredited laboratory confirming approval of the Plan for analyses to be performed under this Licence. The QA/QC Plan shall be prepared and updated as needed in accordance with and in consultation with the accredited laboratory conducting the analyses. This Plan shall be developed in accordance with current Standard Methods and the 1996 Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "A" (INAC).
18. The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Accredited Laboratory for approval.





19. All analyses shall be conducted as described in the most recent edition of “*Standard Methods for the Examination of Water and Wastewater*” or by other such methods approved by an Analyst.
20. All compliance analyses shall be performed in an accredited laboratory according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
21. The NWB can modify the Monitoring Program as set out in Schedule I without a public hearing. Requests for changes to the Program should be forwarded to the NWB in writing, and should include the justification for the change.
22. Additional monitoring may be imposed by the Board or by the Inspector.

**PART J: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE**

1. The Board has approved the document entitled Preliminary Mine Closure and Reclamation Plan, dated April 2015, under Part B, Item 12. The Licensee shall submit to the Board for approval, within six (6) months of Commercial Operation, an Interim Closure and Reclamation Plan prepared in accordance with the *Mine Site Reclamation Guidelines for the Northwest Territories, 2007* and consistent with the *INAC Mine Site Reclamation Policy for Nunavut, 2002*. The Plan shall include the following:
  - a. Detailed description, including maps and other visual representations, of the pre-Construction conditions for each site, accompanied by a detailed description of the proposed final landscape, with emphasis on the reclamation of surface drainage over the restored area;
  - b. A description of how progressive reclamation will be employed and monitored throughout the life of the mine, plus reclamation scheduling and coordination of activities with the overall sequence of the project; details of reclamation scheduling and procedures for coordinating reclamation activities within the overall mining sequence and materials balance;
  - c. Implications of water quality model re-calibration results on discharge strategy and any adaptive management measures that may be required;
  - d. An evaluation of closure and reclamation measures for each mine component, including the goals, objectives, closure criteria and the rationale for selection of the preferred measures;
  - e. A comprehensive assessment of materials suitability, including geochemical and physical characterization, and schedule of availability for reclamation needs, with attention to cover materials, including maps where appropriate, showing sources and stockpile locations of all reclamation construction materials and any Water related mitigation required during implementation;
  - f. An assessment and description of any required post-closure treatment for drainage Water that is not acceptable for discharge from any of the reclaimed mine components;



- g. Contingency measures for all reclamation components including action thresholds that are linked to the monitoring programs;
  - h. Monitoring programs to assess reclamation performance and environmental conditions including monitoring locations for surface Water and groundwater, parameters, schedules and overall timeframes;
  - i. QA/QC procedures for managing all waste disposal areas;
  - j. A list of non-salvageable materials and disposal locations;
  - k. Rock storage facility closure design plans and sections including the types of material placed and volumes;
  - l. Underground mine plans and sections, including the areas of backfill, the type of material placed and volumes;
  - m. Protocol for the disposal of any contaminated soil at closure;
  - n. An assessment of the long-term physical stability of project components;
  - o. A detailed criteria for the final breaching of the Dam(s);
  - p. A revised closure and reclamation cost estimate; and
  - q. A detailed implementation schedule for completion of reclamation work.
2. The Licensee shall notify the Board in writing, at least sixty (60) days prior to, or as soon as practically possible, the intent to enter into a Care and Maintenance Phase.
3. The Licensee shall provide the Board for review, within thirty (30) days of the Licensee providing notice of intent to enter into Care and Maintenance under Part J, Item 2, a Care and Maintenance Plan that details the Licensee's plans for maintaining compliance with the Terms and Conditions of the Licence.
4. The Licensee shall provide the Board for approval in writing, within ninety (90) days of the Licensee providing a notice of intent to enter into Care and Maintenance under Part J, Item 2, all operational revised Plans to reflect the Care and Maintenance status.
5. The Licensee shall submit to the Board for approval at least twelve (12) months prior to the expected end of planned mining, a Final Closure and Reclamation Plan. The Final Plan shall incorporate revisions, which reflect the pending closed status of the mine, and include:
  - a. Soil Quality Remediation Objectives along with CCME Guidelines and the Government of Nunavut Environmental Guideline for Site Remediation;
  - b. Environmental Site Assessment plans in accordance Canadian Standards Association (CSA) criteria; and
  - c. An evaluation of the Human Health and Ecological Risk associated with closure options.
6. The Licensee shall complete all reclamation work in accordance with the Plan(s) referred to in this Part as and when approved by the Board in writing.
7. The Licensee shall review the Plans referred to in this Part as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to the Plans



should incorporate design changes and adaptive engineering required and implemented during Construction and on the basis of actual site conditions and monitoring results over the life of the Project.

8. The Licensee shall implement progressive reclamation, including progressive covering of the tailings, and re-vegetation if practically possible.
9. The Licensee shall notify the Board in writing, at least sixty (60) days prior to any intent to achieve Recognized Closed Mine status.



## **SCHEDULES**

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- Schedule A: Scope, Definition, and Enforcement
- Schedule B: General Conditions
- Schedule C: No Schedule for Security
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## Schedule A: Scope, Definitions, and Enforcement

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In this Licence: **2AM-MEL1631**

**“Abandonment”** means the permanent dismantlement of a facility so it is permanently incapable of its intended use. This includes the removal of associated equipment and structures;

**“Act”** means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

**“Acid Rock Drainage (ARD)”** means the production of acidic leachate, Seepage or drainage from underground workings, open pits, ore piles, waste rock, construction rock that can lead to the release of metals to groundwater or surface Water during the life of the Project and after closure;

**“Acutely Lethal Effluent”** means effluent as defined in the *Metal Mining Effluent Regulations* (SOR/2002-222 dated June 6, 2002 and last amended on May 20, 2015, and as may be further amended from time to time).

**“Adaptive Management”** means a management plan that describes a way of managing risks associated with uncertainty and provides a flexible framework for mitigation measures to be implemented and actions to be taken when specified thresholds are exceeded;

**“Addendum”** means the supplemental text that is added to a full plan or report, usually included at the end of the document and is not intended to require a full resubmission of the revised report. It may also be considered as an appendix or supplement;

**“All Weather Access Road”** means an approximately 25 km Phase-1 All Weather Access Road (AWAR) and associated water crossings between the Hamlet of Rankin Inlet and the Meliadine Gold mine site as described in the Application document entitled *“Roads Management Plan”* dated April 2015 and illustrated in Drawings No. 105-245-250-0A, 105-245-256-0A Agnico-Eagle All Weather Access Road Bridges, Pr. No. MEL-CS-001;

**“Amendment”** ; means a change to any terms and conditions of this Licence through application to the NWB, requiring a change, addition, or deletion of specific terms and conditions of the Licence not considered as a modification;

**“Analyst”** means an Analyst designated by the Minister under section 85 (1) of the *Act*;

**“Annually”** means, in the context of monitoring frequency, one sampling event occurring every 365 days with a minimum of 200 days between sampling events;

**“Appurtenant Undertaking”** means an undertaking in relation to which a use of Water or a deposit of waste is permitted by a licence issued by the Board;



**“Aquatic Effects Monitoring Program (AEMP)”** means a monitoring program designed to determine the short and long-term effects in the aquatic environment resulting from the Project, to evaluate the accuracy of impact predictions, to assess the effectiveness of planned impact mitigation measures and to identify additional impact mitigation measures to avert or reduce environmental effects;

**“Biannual”** means, in the context of monitoring frequency, one sampling event occurring every six months with a minimum of one hundred eighty days between sampling events;

**“Board”** means the Nunavut Water Board established under Article 13 of the *Nunavut Land Claims Agreement* and under section 14 of the Act;

**“Borrow Pits”** means sites used for the purpose of extracting materials, such as gravel or sand, for the construction of site infrastructure and facilities;

**“By-pass Road”** means an approximately 5 km road and associated water crossings around the Hamlet of Rankin Inlet from Rankin Inlet’ Itivia Laydown Area to the AWAR as described in the Application document entitled *“Roads Management Plan”* dated April 2015;

**“Canadian Council of Ministers of the Environment (CCME)”** means the organizations of Canadian Ministers of Environment that sets guidelines for environmental protection across Canada such as the *Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life*;

**“Care and Maintenance”** in respect of a mine, means the status of the facility when the Licensee ceases production or Commercial Operation temporarily for an undefined period of time;

**“Closure”** means when an Operator ceases Operations at a facility without the intent to resume mining activities in the future;

**“Collection Pond”** means a facility designed to temporarily contain runoff from areas impacted by mining activities, and site infrastructure, specifically the waste rock storage facilities, the ore stockpiles, tailings storage facility, industrial pad, the camp mill pad and open pits as described in the Application document entitled *“Water Management Plan”* dated April 2015, and illustrated in Drawings No. 6509-660-230-200, 6509-660-230-201-001, and 6509-660-230-202-001: Typical Sections for Contact Water Pond CP2, CP3, CP4;

**“Collection Pond No.1 or Control Pond No.1 (CP1)”** means a final site-wide contact water collection pond. Water collected in CP1 will be reused by the process plant and the excess water will be treated by the WTP prior to discharge to the outside environment via the diffuser into Meliadine Lake as in the Application document entitled *“Water Management Plan”* dated April 2015;



**“Commercial Operation”** in respect of a mine, means an average rate of production equal to or greater than 10% of the design-rated capacity of the mine over a period of 90 consecutive days as defined in the *Metal Mining Effluent Regulations* (SOR/2002-222 dated June 6, 2002 and last amended on May 20, 2015, and as may be further amended from time to time).

**“Construction”** means any activities undertaken to construct or build any component of, or associated with, the development of the Meliadine Gold Project, as described in the Water Licence Application, Supporting Documents, and Technical Meeting Information Supplement documents submitted to the Board throughout the regulatory process;

**“Contact Water”** means any Water that may be physically or chemically affected by mining activities;

**“Dam Safety Guidelines”** means the *Canadian Dam Association (CDA) Dam Safety Guidelines* (DSG), (2007) or subsequent approved editions;

**“Deposit”** means the placement of waste rock, tailings or other materials on land or in Water;

**“Diffuser”** means a pipeline used to move treated Water to the outside environment, as indicated in the Appendix E of the Application document entitled *“Water Management Plan”* dated April 2015, and illustrated in Figure 2: Diffuser Piping Detail;

**“Discharge”** means the release of any Water or Waste to the Receiving Environment;

**“Dissolved Metals”** means the suite of metals referred to in Table 6.3 of the *“Type A Water Licence Main Application Document”* dated April 2015, and in Group 2 of Table 1 – Monitoring Groups located in Schedule J of this Licence. Dissolved metals shall be analyzed on a filtered sample;

**“Effluent”** means treated or untreated liquid waste material that is discharged into the environment from the site water management facility such as a settling pond, tankfarm or a treatment plant;

**“Emulsion Plant”** means a facility designed for manufacturing of emulsion-based explosives, as indicated in the Application document entitled *“Explosives Management Plan”* dated April 2015, and illustrated in Drawing No.8810282-0070: ANE Manufacturing PFD Process Flow Diagram;

**“Engineer”** means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

**“Engineered Structure(s)”** means any facility, which was designed and approved by a Professional Engineer registered with the Association of Professional Engineers, Geologists and Geophysicists of Nunavut;



**“Final Discharge Point”** in respect of an effluent, means an identifiable discharge point of a mine beyond which the operator of the mine no longer exercises control over the quality of the effluent as defined in the *Metal Mining Effluent Regulations* (SOR/2002-222, June, 6, 2002 and amended on March 2, 2012, and as may be further amended from time to time);

**“Fresh Water Intake”** means the infrastructure required for extraction (pump system) of water from Meliadine Lake including the causeway as indicated in the Application document entitled **“Water Management Plan”** dated April 2015, and illustrated in Drawing No. 6509-630-230-200: Profile and Typical Section for WTP Intake Causeway;

**“Fuel Storage and Containment Facilities”** means the facilities designed for the bulk storage of fuel at the Meliadine Site and Itivia Site Fuel Storage and Containment Facilities as described in the **“Type A Water Licence Main Application Document”** dated April 2015;

**“Geotechnical Engineer”** means a professional engineer registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization with the engineering properties of earth materials in dealing with man-made structures and earthworks that will be built on a site. These can include shallow and deep foundations, retaining walls, dams, and embankments;

**“Grab Sample”** means an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;

**“Greywater”** means the component of effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding sewage;

**“Groundwater”** means water that occupies pores and fractures in rock and soil below the ground surface in a liquid or frozen state;

**“Hazardous Waste”** means materials or contaminant which are categorized as dangerous goods under the *Transportation of Dangerous Goods Act* (1992) and/or that is no longer used for their original purpose and is intended for recycling, treatment, disposal or storage;

**“High Water Mark”** means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. *Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities*);

**“Incinerator”** means the dual chamber, high temperature facility designed with the capacity to service the camp as described in the Application document entitled **“Incineration Management Plan”** dated April 2015;

**“Inspector”** means an Inspector designated by the Minister under section 85 (1) of the Act;





**“Interim Closure and Reclamation Plan”** means a conceptual detailed plan on the reclamation of mine components which will not be closed until the end of the commercial operation, and operational detail for components which are to be progressively reclaimed throughout the mine life;

**“Itivia Laydown Area”** means the area designed for temporary storage of equipment and materials at Itivia Site in Rankin Inlet, as indicated in the *“Type A Water Licence Main Application Document”* dated April 2015, and illustrated in Figure 1.2b;

**“Itivia Site Fuel Storage and Containment Facility”** means the fuel storage and containment facility at Itivia Site in Rankin Inlet as described in the *“Type A Water Licence Main Application Document”* dated April 2015;

**“Itivia Site”** means the Itivia Laydown Area and its facilities, including the fuel storage and containment facility, in Rankin Inlet as described in the *“Type A Water Licence Main Application Document”* dated April 2015;

**“Landfill”** means a facility designed to dispose of non-salvageable, non-hazardous, non-putrescible solid wastes from the Construction, Operation, and Closure of the Project, as indicated in the Application documents entitled *“Type A Water Licence Main Application Document”* dated April 2015, *“Landfill and Waste Management Plan”* dated April 2015, and illustrated in the Drawings No. 6509-666-210-200-004: Typical Design Section for Landfill and No. 6509-666-210-200-006: Typical Sections for Landfill Closure;

**“Landfarm”** means the engineered area designed to contain and treat hydrocarbon impacted sediment and soil using bioremediation as indicated in the documents entitled *“Type A Water Licence Main Application Document”* dated April 2015, *“Landfarm Management Plan”* dated April 2015, and illustrated in the Drawing No. 6509-665-210-200-002: Typical Design Section for Landfarm;

**“Licence”** means this Type “A” Water Licence 2AM-MEL1631, issued by the Nunavut Water Board in accordance with the *Act*, to Agnico Eagle Mines Limited for the Meliadine Gold Project. Type “B” Water Licences 2BW-MEL1525 and 8BC-MEL1516 are now amalgamated within File No: 2AM-MEL1631;

**“Licensee”** means to whom the Licence 2AM-MEL1631 is issued to or assigned;

**“Maximum Average Concentration”** means the average concentration of any four consecutively collected samples taken from the identical sampling location and taken during any given timeframe;

**“Meliadine Security Management Agreement”** means the agreement between Kivalliq Inuit Association, (KIA), Agnico-Eagle Mines Limited (Proponent) and Her Majesty Queen in Right of Canada as represented by the Minister of Indigenous and Northern Affairs Canada (the Minister), signed by KIA and AEM on February 16, 2016, and by Minister on February 17, 2016 that applies with respect to the Proponent’s Meliadine gold mine project.



**“Metal Leaching”** means the mobilization of metals into solution under neutral, acidic or alkaline conditions;

**“Mine Water”** means any water, including groundwater, that is pumped or flows out of any underground workings or open pit;

**“Minister”** means the Minister of Indigenous and Northern Affairs Canada (INAC);

**“Modification”** means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work;

**“Monitoring Program”** means the program to collect data on surface water and groundwater quality to assess impacts to the environment of an appurtenant undertaking;

**“Monthly”** means, in the context of monitoring frequency, one sampling event occurring every thirty (30) days with a minimum of twenty one (21) days between sampling events;

**“Nunavut Land Claims Agreement”** (NLCA) means the *“Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada,”* including its preamble and schedules, and any amendments to that agreement made pursuant to it;

**“Nutrients”** means the suite of parameters referred to in Table 6.3 of the *“Type A Water Licence Main Application Document”* dated April 2015, and in Group 2 of Table 1 – Monitoring Groups located in Schedule J of this Licence;

**“Operation or Operations”** means the entire set of site activities (excluding construction, care and maintenance, and decommissioning activities) associated with mining, processing and recovery of gold at the Meliadine Gold Project, as described in the Water Licence Application, Supporting Documents, and Technical Meeting Information Supplement documents submitted to the Board throughout the regulatory process;

**“Operator”** means the person who operates, has control or custody of, or is in charge of a mine or recognized closed mine;

**“Ore Stockpile”** means the above-ground facility designated for the temporary storage of ore to be processed in the mill as indicated in the Application document entitled *“Ore Storage Management Plan”* dated April 2015, and illustrated in Drawing No. 6509-618-210-202-001: Typical Sections for OP1, OP2 and OP3;

**“Progressive Reclamation”** means actions that can be taken during mining operations before permanent closure, to take advantage of cost and operating efficiencies by using the resources available from mine operations to reduce the overall reclamation costs incurred. It enhances environmental protection and shortens the timeframe for achieving the reclamation objectives and goals;



**“Project”** means the Meliadine Gold Project as outlined in the public registry for the Nunavut Impact Review Board (NIRB) File No. 11MN034 and for the Nunavut Water Board File No: 2AM-MEL1631, and 2BW-MEL1525 and 8BC-MEL1516 that are now amalgamated within File No: 2AM-MEL1631;

**“Quarry or Quarries”** means the area of surface excavation for extracting rock material for use as construction materials in the development of site infrastructure and facilities;

**“Quality Assurance / Quality Control (QA/QC)”** Quality Assurance means the system of activities designed to better ensure that quality control is done effectively; Quality Control means the use of established procedures to achieve standards of measurement for the three principle components of quality: precision, accuracy and reliability;

**“Receiving Environment”** means both the aquatic and terrestrial environments that receive any discharge resulting from the Project;

**“Reclaim Water”** means the water pumped from the Control Pond No.1 (CP1) or the Water Treatment Plant to the mill for reuse;

**“Reclamation”** means the process of returning a site to the pre-development or natural state, or a state that prevents environmental impacts or threats to human health and safety.

**“Recognized Closed Mine”** means a recognized closed mine as defined by section (1) of the *Metal Mining Effluent Regulations* (SOR/2002-222 dated June 6, 2002 and amended on March 2, 2012, and as may be further amended from time to time);

**“Reference Method EPS 1/RM/13”** means Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout (Reference Method EPS 1/RM/13), July 1990, published by the Department of the Environment, as amended in December 2000, and as may be further amended from time to time;

**“Regulations”** means the *Nunavut Waters Regulations* (SOR/2013/669 18th April, 2013);

**“Seepage”** means any Water that drains through or escapes from any structure designed to contain, withhold, divert or retain Water or Waste. Seepage also includes any flows that have emerged through open pits, runoff from waste rock storage facilities, ore stockpile areas, quarries, landfill or landfarm areas;

**“Sewage”** means all toilet wastes and greywater;

**“Sewage Treatment Plant”** means the prefabricated (modular) structure designed for the treatment of Sewage as indicated in the Application documents entitled **“Type A Water Licence Main Application Document”** dated April 2015 and **“Water Management Plan”** dated April 2015;



**“Soil Quality Remediation Objectives (SOROs)”** means the numerical concentration established as target value for soil quality remediation for contaminated sites as determined with guidance provided by the *Canadian Council of Ministers of the Environment (CCME) Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil* (January 2008, and as may be further amended from time to time) and/or *Government of Nunavut, Environmental Guideline for Contaminated Site Remediation* (March 2009).

**“Sump”** means a structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste;

**“Surface Drainage”** means contact Waters resulting from the flow over, through or out of an Operation area and is collected by means of Engineered Structures as described in the document entitled “Water Management Plan” dated April 2015;

**“Tailings Storage Facility”** means the engineered facility designated as a Tailings Storage Facility to receive dry stack tailings as described in the Application document entitled “*Mine Waste Management Plan*” dated April 2015, and illustrated in Design No. 6509-610-210-202: Typical Design Section for Dry Stack TSF;

**“Tiriganiaq Open Pit 1 and 2”** means two of the Meliadine Gold mine deposits to be developed using a traditional open-pit mining method and underground mining as described in the “*Type A Water Licence Main Application Document*” dated April 2015;

**“Total Metals”** means the suite of metals referred to in Table 6.3 of the “*Type A Water Licence Main Application Document*” dated April 2015, and in Group 2 of Table 1 – Monitoring Groups located in Schedule J of this Licence. Total metals shall be analyzed on an un-filtered sample;

**“Underground Mine”** means will use part of the existing decline built for advanced underground exploration and bulk sampling program. The decline will be extended and a new portal (Portal 2) will also be built closer to the mill as indicated in the “*Type A Water Licence Main Application Document*” dated April 2015, and illustrated in Drawing No. 6509-492-210-001: Ramp Portal (#2), General Arrangement Arch Portail – Ramp 2 Concrete, Steel and Earth Work (provided in the Mine Plan);

**“Undertaking”** means an undertaking in respect of which water is to be used or waste is to be deposited, of a type set out in Schedule I of the *Regulations*;

**“Use”** in relation to Waters, means Use as defined in S.4 of the Act;

**“Waste”** means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any Water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any Water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;



**“Waste Disposal Facilities”** means all site infrastructure designed to contain waste on a temporary or permanent basis including the Landfill, Incinerator, Landfarm, Sewage Treatment Plant, Ore Storage Facilities, and Waste Rock Storage Facilities;

**“Waste Rock”** means all rock materials, except ore and tailings, that are produced as a result of mining operations.;

**“Waste Rock Storage Facility”** means the engineered facility designed for the storage of Waste Rock as indicated in the Application document entitled *“Mine Waste Management Plan”* dated April 2015, and illustrated in Drawings No. 6509-616-210-202-001, 6509-616-210-202-002 and 6509-616-210-202-003: Typical Section for Waste Rock Storage Facilities – WRSF 1, WRSF 2, and WRSF 3;

**“Wastewater”** means the water generated by site activities or originates on-site that requires treatment or any other water management activity;

**“Water or Waters”** mean water as defined in S.4 of the *Act*, inland waters, whether in a liquid or solid state, on or below the surface of the land;

**“Water Licence Application”** for the purposes of this Licence includes the totality of the NWB and NIRB Public Registries established as a result of the filing of the application dated March 8, 2010, replaced by the Application dated May 15, 2015; and, including Supporting Documents, and Technical Meeting Information supplemental documents;

**“Water Supply Facilities”** means the Fresh Water Intake, the Reclaim Water system and associated infrastructure;

**“Water Treatment Plant (WTP)”** an *Actiflo®* from *Veolia Water* system designed for the treatment of contact water from Collection Pond 1 (CP1) as indicated in the *“Type A Water Licence Main Application Document”* dated April 2015, and illustrated in Drawing GA100: Actiflo ACP-300R General Arrangement and Actiflo ACP-600R General Arrangement (provided in the Mine Plan);

**“Weekly”** means, in the context of monitoring frequency, one sampling event occurring every 7 days with a minimum of 5 days between sampling events.



## **Schedule B: General Conditions**

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The Annual Report referred to in Part B, Item 2, shall include:

### **CONSTRUCTION**

1. For structures constructed to withhold Water or Waste:
  - a. An overview of methods and frequency used to monitor deformations, Seepage and geothermal responses;
  - b. A comparison of measured versus predicted performance;
  - c. A discussion of any unanticipated observations including changes in risk and mitigation measures implemented to reduce risk;
  - d. As-built drawings of all mitigation works undertaken;
  - e. Any changes in the design and/or as-built condition and respective consequences of any changes to safety, water balance and water quality;
  - f. Data collected from instrumentation used to monitor earthworks and an interpretation of that data;
  - g. A summary of maintenance work undertaken as a result of settlement or deformation of dikes, dams and berms;
  - h. The daily, monthly and annual flow volumes of any watercourse diverted during Construction activities and
  - i. The daily, monthly and annual quantities of Seepage from dikes, dams and other structures in cubic metres.

### **WATER**

2. Monthly and annual volume of fresh Water obtained from Meliadine Lake.
3. Monthly and annual volume of fresh Water transferred to Meliadine Lake as a result of dewatering activities.
4. Monthly and annual volume of fresh Water obtained from Meliadine River for road dust suppression activities.
5. Summary of reporting results for the Water Balance and Water Quality model as required in Part E Items 11-12.

### **WASTE**

6. Geochemical monitoring results including:
  - a. Operational acid/base accounting and paste pH test work used for waste rock designation (PAG and NPAG rock);
  - b. As-built volumes of waste rock used in construction and sent to the Waste Rock Storage Facilities with estimated balance of acid generation to acid neutralization capacity in a given sample as well as metal toxicity;





- c. All monitoring data with respect to geochemical analyses on site and related to roads and quarries;
  - d. Leaching observations and tests on pit slope and dike exposure;
  - e. Any geochemical outcomes or observations that could imply or lead to environmental impact;
  - f. Geochemical data associated with tailings, cyanide leach residue, and bleed from the cyanide destruction process including an interpretation of the data; and
  - g. Results related to the Borrow pits/ Quarries and roads, including the All-weather Access Road.
7. An update on the current capacity of the Tailings Storage Facility.
  8. Summary of quantities and analysis of Seepage and runoff monitoring from the Landfill, Landfarm, Waste Rock Storage Facilities, Borrow pits and Quarries.
  9. A summary report of all general waste disposal activities including monthly and annual quantities in cubic metres of waste generated and locations of disposal.
  10. Report of Incinerator test results including the materials burned and the efficiency of the Incinerator as they relate to Water and the deposit of Waste into Water.

## **SPILLS**

11. A list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up action taken.

## **MODIFICATIONS**

12. A summary of modifications and/or major maintenance work carried out on all Water and waste related structures and facilities.

## **MONITORING**

13. The results and interpretation of the Monitoring Program in accordance with Part D and Part I and Schedule I.
14. The results of monitoring related to the Environmental Management and Protection including:
  - a. Aquatic Effects Monitoring Program;
  - b. Metal Mining Effluent Regulation (MMER) Monitoring;
  - c. Mine site Water quality monitoring, including groundwater monitoring; and
  - d. Visual AWAR Water quality monitoring.

## **CLOSURE**

15. A summary of any progressive closure and reclamation work undertaken including photographic records of site conditions before and after completion of operations, and an outline of any work anticipated for the next year, including any changes to implementation and scheduling.



16. A summary of on-going field trials to determine effective capping thickness for the Tailings Storage Facility and Waste Rock Storage Facilities for the purpose of long term environmental protection.
17. An updated estimate of the current restoration liability based on Project development monitoring, results of restoration research and any changes or modifications to the Appurtenant Undertaking.

#### **PLANS/REPORTS/STUDIES**

18. A summary of any studies requested by the Board that relate to Water use, Waste disposal or Reclamation, and a brief description of any future studies planned.
19. Where applicable, revisions as Addendums, with an indication of where changes have been made, for Plans, Reports, and Manuals.
20. An executive summary in English and Inuktitut of all updated plans, reports, or studies conducted under this Licence.

#### **GENERAL**

21. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector.

#### **OTHER**

22. A summary of public consultation and participation with local organizations and the residents of the nearby communities, including a schedule of upcoming community events and information sessions.
23. Any other details on Water use or Waste disposal requested by the Board by November 1<sup>st</sup> of the year being reported.





## **Schedule D: Conditions Applying to Construction**

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1. The Construction Summary Report referred to in Part D Item 3 shall include:
  - a All final design and construction drawings shall be stamped and signed by a Professional Engineer.
  - b Site specific data and analysis, including Geochemical analysis of waste rocks and fills, demonstrating their Non Acid Rock Drainage and Non Metal Leaching characteristics, to support the design and management decisions
  - c A summary of construction activities including photographic records before, during and after construction;
  - d As-built drawings:
  - e Documentation of field decisions that deviate from original plans and any data used to support these decisions;
  - f Discussion of mitigation measures implemented during construction and effectiveness;
  - g Construction monitoring summary including Monitoring undertaken in accordance with Part D;
  - h Blast vibration monitoring for activities carried out in close proximity to fish bearing waters;
  - i Monitoring for sediment release from construction areas; and
  - j Monitoring and reporting on use of water to manage dust emissions from crushing and construction activity.



## **Schedule I: Conditions Applying to General and Aquatic Effects Monitoring**

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1. The Annual Geotechnical Inspection referred to in Part I Item 14 shall include:
  - a. Dikes;
  - b. Berms;
  - c. Collection Ponds;
  - d. Channels;
  - e. Jetties;
  - f. Water Intake causeway;
  - g. All Weather Access Road (AWAR) and site roads, in particular bridges and culverts;
  - h. Sumps;
  - i. Industrial Pads;
  - g. Open Pits;
  - k. Ore Stockpiles;
  - l. Underground portals;
  - m. Tailings Storage Facility;
  - n. Waste Rock Storage Facilities;
  - o. Landfill;
  - p. Landfarm;
  - q. Fuel Storage and Containment Facilities at Meliadine site and Itivia site;
  - r. Geotechnical instrumentation and associated monitoring data; and
  - s. A description of geophysical and permafrost conditions at the project site.



TABLE 1 – MONITORING GROUP

Group	Parameters
1	pH, turbidity, hardness, alkalinity, chloride, fluoride, sulphate, total dissolved solids (TDS), total suspended solids (TSS), total cyanide, ammonia nitrogen, nitrate, nitrite, phosphorus, orthophosphate, Total Metals (aluminum, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, and zinc).
2	<p><b>Total and Dissolved Metals:</b> aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium, and zinc.</p> <p><b>Nutrients:</b> ammonia-nitrogen, total Kjeldahl nitrogen, nitrate-nitrogen, nitrite-nitrogen, orthophosphate, total phosphorus, total organic carbon, dissolved organic carbon, and reactive silica.</p> <p><b>Conventional Parameters:</b> bicarbonate alkalinity, chloride, carbonate alkalinity, turbidity, conductivity, hardness, calcium, potassium, magnesium, sodium, sulphate, pH, total alkalinity, TDS, TSS, total cyanide, free cyanide, and weak acid dissociable (WAD) cyanide.</p>
3	<p><b>MMER parameters:</b> total cyanide, arsenic, copper, lead, nickel, zinc, radium-226, TSS, pH, sulphate, turbidity, and aluminum.</p> <p><b>MMER additional requirements:</b> Effluent volumes and flow rate of discharge, Acutely Lethality tests (Rainbow Trout and Daphnia magna) and environmental effects monitoring (EEM).</p>
4	Total arsenic, total copper, total lead, total nickel, TSS, ammonia, benzene, toluene, ethylbenzene, xylene, total petroleum hydrocarbons (TPH), and pH.
Full Suite	Group 2, TPH, and turbidity.
Flow	Flow data-logger.
Field measurements	Field pH, specific conductivity, dissolved oxygen, and temperature.

**MMER** - Metal Mining Effluent Regulations (SOR/2002-222).



TABLE 2 – MONITORING PROGRAM

Station	Description	Phase	Monitoring Parameters	Frequency
MEL-D-1 to TBD	Dewatering: Water transferred from lakes to Meliadine Lake during dewatering of lakes	Construction	As defined in the Water Management Plan referred to in Part D, Item 12	Prior to discharge and Weekly during discharge
			Volume (m3)	Daily during periods of discharge
MEL-SR-1-TBD	Surface Runoff – runoff downstream of Construction areas at Meliadine Site and Itivia Site, Seeps in contact with the roads, earthworks and any Runoff and/or discharge from borrow pits and quarries	Construction, and Operations	As defined in the Water Management Plan referred to in Part D, Item 18 and Part I, Item 11	Prior to Construction, Weekly during Construction
			Group 1	Monthly during open water or when water is present upon completion
MEL-01 (MEL-04 suggested by AEM in the Application)	Water intake from Meliadine Lake	Construction, Operation, and Closure	Full Suite	Monthly during periods of intake
			Volume (m <sup>3</sup> )	Daily during periods of intake
MEL-02	<i>Water treatment plant (pre-treatment) coming from CP1, off the pipe and not in the pond</i>	<i>Construction (prior to release), Operations, and Closure</i>	<i>Group 1</i>	<i>Monthly during periods of discharge</i>
MEL-03 (and AEMP Stations)	Mixing zone in Meliadine Lake, Station 1; and MMER exposure stations for final discharge point	Construction (prior to release), Operations, and Closure	Full Suite, Group 3 (MMER)	Monthly during periods of discharge



Station	Description	Phase	Monitoring Parameters	Frequency
	within mixing zone			
MEL-04 <sup>(a)</sup> (MEL-01 suggested by AEM in the Application)	Water treatment plant from CP-1 (post-treatment), end of pipe (before offsite release) in the plant before release.	Construction (upon effluent release), Operations, and Closure	Full Suite, Group 3	Prior to discharge and Weekly during discharge
			Volume (m <sup>3</sup> )	Daily during periods of discharge
			Acute Lethality	Once prior to discharge and Monthly thereafter
MEL-05	Local Lake E-3	Operations, and Closure	Group 2	Bi-annually during open water
MEL-06	Local Lake G2	Construction, Operations, and Closure	Group 2	Bi-annually during open water
MEL-07	Local Pond H1	Construction, Operations, and Closure	Group 2	Bi-annually during open water
MEL-08	Local Lake B5	Construction, Operations, and Closure	Group 2	Bi-annually during open water
MEL-09	CP-2 Collection of natural catchment drainage from the outer berm slopes of the Landfarm and industrial pad	Construction, Operations, and Closure	Group 1	Monthly during open water or when Water is present
MEL-10	CP-3 Collection of drainage from dry stacked tailings	Operations, and Closure	Group 1	Monthly during open water or when water is present
MEL-11	CP-4 Collection of drainage from WRSF1	Operations, and Closure	Group 1	Monthly during open water or when water is present
MEL-12	CP-5 Collection of drainage from	Construction, Operations, and Closure	Group 1	Monthly during open water or when water is



Station	Description	Phase	Monitoring Parameters	Frequency
	WRSF1 and WRSF2			<i>present</i>
MEL-13	CP-6 Collection of drainage from WRSF3	Construction, Operations, and Closure	Group 1	Monthly during open water or when water is present
MEL-14	Seepage from the Landfill between the landfill and Pond H3	Construction, Operations, and Closure	Group 1	Monthly during open water or when water is present
MEL-15	Secondary containment area at the Itivia Site Fuel Storage and Containment Facility	Construction, Operation, Closure	Group 4, Volume (m <sup>3</sup> )	Prior to discharge or transfer of Effluent
Monitoring Legend: Green - Regulated; Blue - General Aquatic; Red - Verification				
Regulated Monitoring occurs at Monitoring Program Stations in licences or regulations. It includes discharge limits that must be achieved to maintain compliance with water licence or regulation (i.e., Metal Mining Effluent Regulations). Enforcement action may be taken if discharge limits are exceeded.				
General Aquatic Monitoring is subject to compliance assessment to confirm sampling is carried out using established protocols, including quality assurance/quality control provisions, and addresses identified issues. General monitoring is subject to change as directed by an Inspector, or by the Licensee, subject to approval by the NWB.				
<i>Verification Monitoring Program to be carried out for operational and management purposes by Licensee. Monitoring parameters may vary between locations. Monitoring parameters and locations are internal for Licensee.</i>				

Notes: as per Metal Mining Effluent Regulations (MMER), samples for Effluent characterization and Receiving Environment must be collected quarterly or at least one month apart while Effluent is being deposited.

<sup>a</sup> Sampling may not occur during break-up (June)

CP - Collection Pond;

WRSF - Waste Rock Storage Facility.