NUNAVUT WATER BOARD

WATER LICENCE NO. 2AM-LUP2032

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LICENCE NO. 2AM-LUP2032

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

LUPIN MINES INCORPORATED

(Licensee)

#1204 - 700 WEST PENDER STREET, VANCOUVER, BC V6C 1G8

(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:	2AM-LUP2032, TYPE "A"
Water Management Area:	QUEEN MAUD GULF WATERSHED (30)
Location:	LUPIN MINE KITIKMEOT REGION, NUNAVUT
Purpose:	WATER USE AND DEPOSIT OF WASTE
Description:	MINING UNDERTAKING: CLOSURE AND RECLAMATION
Quantity of Water not to be Exceeded:	250,025 CUBIC METRES *PER* YEAR DURING ACTIVE CLOSURE AND RECLAMATION, AND 5,000 CUBIC METRES *PER* YEAR DURING POST CLOSURE
Date Licence Issuance:	FEBRUARY 28, 2020
Expiry of Licence:	FEBRUARY 27, 2032

This Licence issued **(Motion Number 2019-22-P11-05)** and recorded at Gjoa Haven, Nunavut includes and is subject to the annexed conditions.

Lootie Toomasie
Nunavut Water Board
Chair

APPROVED BY:

Daniel Vandal
Minister of Northern Affairs

APPROVAL DATE: _____

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. SCOPE

This Licence authorizes Lupin Mines Incorporated (LMI or the Licensee) to use Water and deposit Waste during activities and undertakings carried out in support of the Closure and Reclamation of the Lupin Mine (Lupin or the Project), for an undertaking categorized as Mining under *Schedule 1* of the Regulations. The Project is located on the west shore of Contwoyto Lake, approximately 285 kilometres southeast of Kugluktuk, within the Kitikmeot Region, Nunavut, at the following general geographical coordinates: Latitude: 65° 46' N and Longitude: 111° 14' W.

Lupin Mines Incorporated is authorised to undertake the final reclamation and closure of on-site facilities at the Lupin Mine site, in accordance with the *Final Closure and Reclamation Plan* and the *Closure and Reclamation Plan for the Tailings Containment Area* during the Closure and Post Closure Phase and continue to implement progressive reclamation in accordance with *Care and Maintenance Plan* for the Project. This will generally include the following activities:

- Use of Water in accordance with thresholds established for each of the respective phases of the project;
- Consolidation and burial of Potentially Acid Generating/Metal Leaching (PAG/ML) waste rock into underground works and into a surface dome like structure;
- Construction of a non-hazardous waste landfill to dispose of demolition materials;
- Deposit of hydrocarbon contaminated soils into underground works or treatment in a Landfarm Facility;
- Deposit and treatment of Sewage into the Sewage Disposal Facilities;
- Deposit of asbestos containing materials on site;
- Discharge of treated Effluent from Tailing Containment Area (TCA);
- Cover and proper containment of the Tailing Containment Area;
- Discharge of Effluent from Sewage Disposal Facilities;
- Required Monitoring Program;
- Decommissioning and reclamation of site facilities and infrastructure, including:
    - Underground Mine Workings
    - Mining and Milling structures
    - Water Supply Facility
    - Mine site camp facilities
    - Tailings Containment Area
    - Tailings Line and associated facilities
    - Sewage Disposal Facilities
    - Landfill and Landfarm Facilities
    - Breakwater and Causeway
    - Fuel Storage Facilities
    - Mine site roads
    - Mine site airstrip

b. This Licence is issued subject to conditions contained herein with respect to the use of Water 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 the 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 Water 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 in accordance with section 12 of the Regulations.

2. The Licensee shall file an Annual Report with the Board no later than March the 31st in the year following the calendar year being reported. The Annual Report shall be developed and submitted in accordance with Schedule B of the Licence, unless otherwise approved by the Board in writing.

3. The Licensee shall install, operate and maintain meters, devices or other such methods used for measuring the volumes of Water used and Waste discharged to the satisfaction of an Inspector.

4. The Licensee shall maintain to the satisfaction of the Inspector, all the signs necessary to identify the stations of the "Monitoring Program", detailed in Schedule J.

5. The Licensee shall retain and have a copy of this Licence available at the site of operations at all times.

6. 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

7. 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

8. The Licensee shall submit one (1) electronic copy of all reports, studies, and plans required under this Licence unless otherwise requested by the Board. Reports, studies, and/or plans submitted to the Board by the Licensee shall include an executive summary in English, French, Inuinnaqtun, and Inuktitut.

9. 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.

10. This Licence is assignable as provided in Section 44 of the Act.

11. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted that require approval or acceptance, cannot be undertaken without subsequent written Board approval and/or 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. Plans or drawings submitted to the Board for information purposes only do not generally require the Board's approval prior to implementation; however, the Board reserves the right to accordingly request revisions to those Plans or drawings.

12. If a Plan is found unacceptable by the Board, the Licensee shall, within sixty (60) days following notification by the Board, or within the timeframe specified in Board's notification, provide to the Board for review and/or approval a revised version of the Plan.

13. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board.

    The Board has previously approved the following Plans for implementation under this Licence:

    a. *Spill Contingency Plan, March 2016;*
    b. *Care and Maintenance Plan, March 2016;*
    c. *Waste Management Plan (Solid and Hazardous), March 2016, that included: Incinerator Operation and Maintenance Procedure, Landfill Management Plan, and Landfarm Management Plan;*
    d. *Liquid Waste Management Plan, March, 2016;*
    e. *Monitoring and Inspection Schedule, March 2016;*
    f. *Water Quality Monitoring Plan and Quality Assurance/Quality Control Plan, March 2016;*
    g. *Fuel Containment Management Strategy, February 2012; and*
    h. *Closure Plan for Tailing Containment Area, January 2005.*

    The Board has approved the following Plan for implementation with the issuance of this Licence:

    i. *Final Closure and Reclamation Plan, July 2018.*

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 condition imposed upon the Licensee through the approval of a Plan by the Board, shall become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan.

15. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to the Plans 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 expiry or cancellation of this Licence does not relieve the Licensee from any obligations imposed by the Licence, or any other regulatory requirements.

17. The Schedules attached to this Licence provide details regarding the requirements associated with specific items in the main body of the Licence and 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.

18. Unless otherwise stated, references in the Licence to any specific legislation, policy, guideline or other regulatory requirement are deemed to refer to the regulatory requirement as may be amended or as may be expressly replaced by successor legislation, policy, guidelines or other regulatory requirement following the approval of the Licence.

19. The Licensee shall consider high greenhouse gas emissions scenarios, along with low and average emission scenarios, when developing management plans under this Licence.

20. During the Licensee's development of the Post Closure Monitoring Plan required under Part J, Item 13 and on an annual basis during the Licensee's implementation of the updated Final Closure and Reclamation Plan under Part I, Item 2, the Licensee shall conduct consultations with community members and organizations in the community of Kugluktuk to provide information regarding the status of reclamation and closure activities, communicate the results of monitoring conducted under the Licence, and to consider and address any relevant questions and concerns raised by community members and organizations.

PART C: CONDITIONS APPLYING TO SECURITY

1. Until the Minister releases security posted under this Part to the Licensee as contemplated under subsection 76(5) of the *Act*, Part C, Items 3-5, and to reflect the Licensee meeting milestones and completing specified reclamation and closure activities as set out in Schedule C, the Licensee shall furnish and maintain security with the Minister in the amount of $26,107,303 dollars.

2. The security held under Part C, Item 1 shall be provided by the Licensee in a form that is satisfactory to the Minister and consistent with the *Act* and *Regulations*.

3. The milestones and reclamation and closure activities specified in Schedule C, shall each be considered to be discreet aspects of the Licensee's reclamation and closure work (including both direct costs and indirect costs as described in Schedule C).

4. Upon the completion of one or more milestones and specified reclamation and closure activities set out in Schedule C, the Licensee may submit a request to the Minister for the release of a portion of the security posted under Part C, Item 1 pursuant to subsection 76(5) of the *Act*. The Licensee's request to the Minister shall be supported by the following evidence:

    a. Details of the reclamation and closure activities completed by the Licensee to meet the milestone specified (as per Schedule C), including the evidence the Licensee must provide to the Minister to demonstrate completion of the specified activities as set out in Schedule C, Tables 3-11; and
    b. An updated estimate of the cost of the remaining reclamation and closure work required at the site, including cost contingency for ongoing care and maintenance, monitoring, and reflecting remaining project risks.

5. Within 45 days from the date the Minister receives a request for release of reclamation security from the Licensee, under Part C, Item 4, the Minister or their delegate will advise the Licensee and the Board regarding:

    a. Whether the Minister or their delegate has determined that the Licensee has met the requirements for the release of security under subsection 76(5) of the *Act*, and Part C, Item 4 and Schedule C; and
    b. If the Licensee's request for the release of security will be granted, the Minister or their delegate will specify the amount of reclamation security that will be released to the Licensee and the expected process and timeline for the release of the security.

6. Within thirty (30) days of receiving any security released by the Minister in accordance with a request under Part C, Item 4, the Licensee shall provide written confirmation to the Board regarding the amount of security that has been returned to the Licensee and the amount of security that remains posted with the Minister under Part C, Item 1.

7. The Licensee shall furnish and maintain such further or other amounts as may be required by the Board based on required periodic updated estimates of current mine reclamation liability.

8. In addition to the process for releasing security to reflect the Licensee meeting milestones and completing specified reclamation and closure activities as set out in Part C, Items 4-6 and Schedule C, the Licensee or the Minister may apply at any time to amend the amount of security held under the Licence. A request to amend the amount of security under this Item shall be supplemented by submission(s) that include supporting evidence to justify the amendment.

9. A Licensee's request for the release of security under Part C, Item 4 and Schedule C will not constitute an amendment to the Licence. An application under Part C, Item 8 by the Licensee or Minister to amend the amount of security held under the Licence will be considered by the Board to constitute an amendment to the Licence.

10. The security referred to in Part C, Item 1, shall be maintained until such time as the Minister:

    a. has released some or all of the security in accordance with Part C, Items 4 and 5 and Schedule C;
    b. is otherwise fully or partly refunded by the Minister pursuant to subsection 76(5) of the *Act*; or
    c. the security amount in Part C, Item 1 is amended by the Board under Part C, Items 7 or 8.

    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.

11. For greater certainty, nothing in Part C of the Licence is intended to operate in such a way as to limit the discretion of the Minister or their delegate with respect to security as established under subsection 76(5) of the *Act*.

PART D: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all fresh Water from Contwoyto Lake at Monitoring Program Station LUP-01 using the Water Supply Facility, and from ponds against the roads, or ponds or lakes proximal to the road, for industrial purposes, including dust suppression, or as otherwise approved by the Board in writing.

2. The annual volume of Water Use under this Licence, during the active Closure and Reclamation Phase, shall not exceed 250,025 cubic metres.

3. The annual volume of Water Use under this Licence, during the Care and Maintenance Phase and Post Closure Phase, shall not exceed 5,000 cubic metres.

4. 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.

5. The Licensee shall, during the active Closure Phase and Care and Maintenance Phase of the Project, conduct inspections of Water and Waste management structures on a bi-weekly basis during freshet (approx. May and June), and on a monthly basis during the remainder of the open water period (approx. July to October). All records of the inspections and findings must be maintained for review, upon the request of the Board or an Inspector

6. The Licensee shall provide at least sixty (60) days' notice to the NWB and an Inspector indicating the date on which the project will shift Phase of operation.

7. The Licensee shall, during the Post Closure Phase of the Project, conduct regular inspections of all Water and Waste management structures in accordance with the Monitoring Program, and maintain records of the inspections and findings for review, upon the request of the Board and/or Inspector.

8. The Licensee shall implement measures to prevent the generation and deposition of dust and/or sediment into Water arising from road and airstrip use.

PART E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT

1. The Licensee shall contain all Tailings in the Tailings Containment Area (TCA), in accordance with the *Closure Plan for Tailing Containment Area*, dated January 2005, and the *Final Closure and Reclamation Plan*, dated July 2018, or as otherwise approved by the Board in writing.

2. The discharge of Effluent from the Tailings Containment Area at Monitoring Program Station LUP-10 shall commence no sooner than July 15 of any calendar year unless otherwise approved by the Board in writing.

3. The discharge of Effluent from the Tailings Containment Area shall not exceed a rate of 125,000 cubic metres per day, unless otherwise approved by the Board in writing.

4. The Licensee shall provide at least ten (10) days' notice to the Inspector prior to any planned Discharge from any facilities design to contain, withhold, divert or retain Water or Wastes. The notice shall include an estimated volume proposed for Discharge, duration of Discharge and the receiving location.

5. All Effluent discharged from the Tailings Containment Area at Monitoring Program Station LUP-10, shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Total Arsenic	0.50	1.00
Total Copper	0.15	0.30
Total Cyanide	0.80	1.60
Total Lead	0.10	0.20
Total Nickel	0.20	0.40
Total Zinc	0.40	0.80
Total Suspended Solids	15	30
Oil and Grease	No Visible sheen	
The Effluent discharged shall have a pH between 6.0 and 9.5		

6. In addition to the Effluent quality limits referred to in Part E, Item 5, any discharge(s) occurring between June 2021 and the date that Lupin Mine attains Recognized Closed Mine status will be subject to the following Effluent quality limits:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Total Arsenic	0.30 (mg/L)	0.60 (mg/L)
Total Cyanide	0.50 (mg/L)	1.00 (mg/L)
Un-ionized Ammonia (as N)	0.50 (mg/N-L)	1.00 (mg/N-L)

7. The Tailings Containment Area shall be constructed, operated and maintained to engineering standards such that:

   a. A minimum Freeboard of 1.0 metre shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board in writing;
   b. Seepage from the Tailings Containment Area is minimized;
   c. Any Seepage that occurs is collected and returned immediately to the Tailings Containment Area;
   d. Erosion of constructed facilities is addressed immediately;
   e. The solids fraction of the mill Tailings shall be permanently contained within the Tailings Containment Area or underground as Backfill;

f. Implement measures to ensure that the Tailings Containment Area is adequately covered or managed, including the use of approved binding agents, so as to prevent windblown tailings from impacting other areas of the project site; and
g. Transduces are installed and maintained within existing stand pipes, to collect water level data and ensure tailings saturation.

8. The Licensee shall direct all Sewage to the Sewage Lakes Disposal Facilities or as otherwise approved by the Board in writing.

9. All Effluent discharged from the Sewage Lakes Disposal Facilities at Monitoring Program Station LUP-14, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of Any Grab Sample (mg/L)
Total Arsenic	0.05
Total Copper	0.20
Total Lead	0.05
Total Nickel	0.30
Total Zinc	0.50
Total Suspended Solids	35
BOD_5	30
Fecal Coliforms	1000 colony forming units/100 mL
Oil and Grease	No Visible sheen
The Effluent discharged shall have a pH between 6.0 and 9.5	

10. The Licensee is authorized to treat petroleum hydrocarbon contaminated soil generated by the Project at the Landfarm Facility as per the *Waste Management Plan (Solid and Hazardous)*, dated March 2016, or disposed of underground as per the *Final Closure and Reclamation Plan*, dated July 2018, or as otherwise approved by the Board in writing. All soil treated at the Landfarm Facility must meet the appropriate post-treatment, land-use criteria outlined in the Canadian Council of Ministers of the Environment's (CCME) Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) and the Government of Nunavut – Department of Environment's Guidelines for Contaminated Site Remediation (Revised 2009).

11. All Effluent discharged from the Bulk Fuel Storage Facility and the Landfarm Facility at Monitoring Program Stations LUP-27 and LUP-28 respectfully, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of Any Grab Sample (mg/L)
pH	6.0 – 9.0
Total Suspended Solids (TSS)	15.0
Total Oil and Grease	5.0 and no visible sheen
Total Ammonia	2.0
Total Lead	0.01

Benzene	0.37
Toluene	0.002
Ethyl Benzene	0.090

12. The Licensee is authorized to dispose of relevant inert, non-hazardous and non-combustible waste generated by the Project at any Landfill Facility, unless otherwise approved by the Board in writing.

13. All Effluent discharged from the Landfill Facility at Monitoring Stations LUP-31 and LUP-35 into the Receiving Environment, shall not exceed the following Effluent quality limits:

Parameters	Maximum Concentration of Any Grab Sample (mg/L)
Total Arsenic	0.50
Total Copper	0.30
Total Lead	0.20
Total Nickel	0.50
Total Zinc	0.50
Total Suspended Solids	15
Oil and Grease	No Visible Sheen
pH	Between 6.0 and 9.5

14. Effluent exceeding the limits referred to in Part E, Items 11 and 13, shall be collected and treated or disposed of at an approved waste disposal facility, or as otherwise approved by the Board.

15. The Licensee shall confirm compliance with respective Effluent quality limits referred to in Part E, Items 5, 6, 9, 11 and 13, prior to Discharge.

16. The Licensee shall discharge all Minewater to the underground mine workings, the Tailings Containment Area, the Sewage Lakes Disposal Facilities, or as otherwise approved by the Board in writing.

17. The Licensee shall submit to the Board for approval in writing, a proposal for the disposal of Minewater at a location other than that specified in Part E, Item 16. The proposal shall describe options for the Discharge of Minewater, data on the quantity and quality of the Minewater, and the alternative options for Minewater treatment and disposal.

18. The Licensee shall implement the proposal referred to in Part E, Item 17, as approved by the Board in writing.

19. The Licensee shall backhaul and dispose of Hazardous Wastes generated through the course of the Project operation at an approved waste disposal facility, or as in accordance with the approved *Final Closure and Reclamation Plan*, dated July 2018. Transporting of the Hazardous Waste shall be in accordance with the Government of Nunavut – Department of Environment, Environmental Guidelines for the General Management of Hazardous Waste (revised 2010) and the Transportation of Dangerous Goods Regulation (SOR/2014-306).

20. The Licensee shall handle and dispose of asbestos containing materials in underground mine workings or buried in a landfill in accordance with *Department of Environment, Government of Nunavut, Environmental Guideline for Waste Asbestos*, January 2011, and *Northwest Territories & Nunavut Code of Practice, Asbestos Abatement*, September 2018.

21. The Licensee shall maintain records of all Hazardous 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.

22. The Licensee shall implement the *Waste Management Plan (Solid and Hazardous)*, dated March 2016, and *Liquid Waste Management Plan*, dated March 2016, as approved by the Board.

23. The Licensee shall, in consultation with an Inspector, establish Discharge locations, as required, for any facilities authorized in this Licence.

24. The Licensee shall, within ninety (90) days following the approval of the Licence, submit to the Board for review updated Plan(s) referred to in Part E, Item 22 to reflect changes in operations.

25. The Licensee shall, within sixty (60) days following the approval of the Licence, submit to the Board for review, a Technical Memorandum that provides design details on the Waste Rock Dome, including but not limited to the following:

    a. Cardinal direction cross sections and slopes;
    b. Details on drainage systems and conceptual water features; and
    c. Erosion control measures and cover stabilization of the dome.

26. The Licensee shall, within sixty (60) days following the approval of the Licence, submit to the Board for review, a Technical Memorandum that provides additional geotechnical details on TCA Dam K and Dam M cross sections, including but not limited to the following:

    a. Magnified image that clearly identifies the materials used for the re-sloping, the distance that the re-sloping materials will extend from the crest of these Dams (including a break line with minimums and maximums noted), and the distances to the closure water mark;
    b. Perpendicular/longitudinal cross section of the outflow structures for Cell 5 and Cell 3, with invert elevations from the cover to the ponds, and a note to clarify the storm return period that will be used for designing the features.

27. The Licensee shall, within sixty (60) days following the approval of the Licence, submit to the Board for review, a Technical Memorandum that provides rationale and detailed designs of cover construction for tailings that becomes exposed, including but not limited to the following:

    a. Further rationale supporting in-situ cover as a contingency measure;

b. Preliminary detail designs;
c. Typical cross sections; and
d. Long-term erosion control measures.

PART F: 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, that includes the requirements of Part F, Item 3;
    b. Such modifications do not place the Licensee in contravention of the Licence or the Act;
    c. Such Modifications are consistent with the NIRB Screening;
    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 F, Item 1 have not been met, can be carried out only with approval of the Board in writing.

3. Notifications for modifications shall contain:

    a. Description of the facilities and/or works to be constructed or remediated;
    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 or remediation;
    f. Drawings of engineered structures stamped by a Professional Engineer; and
    g. Proposed sediment and erosion control measures.

4. The Licensee shall, within ninety (90) days of completion of the Modifications, where applicable, provide as-built plans and drawings of the Modifications referred to in this Licence. These plans and drawings shall be stamped by an Engineer.

PART G: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATION

1. The Licensee shall, at least sixty (60) days prior to initiating construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Wastes, submit to the Board for review, final design specifications and for construction drawings, signed and stamped by an Engineer.

2. The construction of engineered earthworks shall be supervised and field-checked by an Engineer. Construction records shall be maintained and made available at the request of the Board.

3. The Licensee shall, within ninety (90) days of completion of each facility designed to contain, withhold, divert or retain Waters or Wastes, submit to the Board for review, a Construction Summary Report prepared by a qualified Engineer(s) in accordance with Schedule G.

4. The Licensee shall only use fill material for construction that is derived from an approved source and that has been demonstrated to be non-potentially acid generating (Acid Rock Drainage) and have non-potentially metal leaching characteristics.

5. The Licensee shall implement sediment and erosion control measures prior to and during construction, and reclamation and closure, to prevent entry of sediment into Water.

6. The Licensee shall inspect daily, all activities related to construction, and reclamation and closure, for signs of erosion in order to prevent the entry of sediment into Water and maintain the measures required under Part G, Item 5.

7. The Licensee shall minimize disturbance to terrain, permafrost and drainage during movement of the Licensee's and its contractors' equipment and personnel around the site during the construction, and reclamation and closure activities.

8. The Licensee shall not store material on the surface of frozen streams or lakes except what is for immediate use.

9. 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 waterbody in order to minimize impacts on surface drainage and Water quality, unless otherwise approved by the Board in writing.

10. The Licensee shall undertake necessary appropriate corrective measures to mitigate impacts on surface drainage resulting from the Licensee's operations.

11. The Licensee shall limit any in-stream activity to low flow Water periods. In-stream activity is prohibited during fish migration unless otherwise approved by the Board and Fisheries and Oceans Canada.

12. For the purposes of culvert and bridge installations, the Licensee shall not encroach on the natural channel width by the placement of abutments, footings or armoring below the ordinary High Water Mark of any waterbody.

13. The Licensee shall implement preventive and mitigation measures to prevent any chemicals, fuels or Wastes associated with the undertaking from entering a waterbody, unless otherwise authorized under this License.

14. The Licensee shall provide secondary containment for fuel and chemical storage as required by applicable regulations, standards and industry practice.

15. Licensee shall operate the Bulk Fuel Storage Facilities in accordance with all applicable legislation, guidelines, and industry practices, including:

    a. Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products. (CCME, 2003, updated 2013 or most recent);
    b. National Fire Code of Canada, 2010; and
    c. *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (SOR/2008-197).*

16. All sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent Water body and inspected on a regular basis.

17. The Licensee shall consider the principles of adaptive management in construction, reclamation, and closure upon approval by the Board. The proposed adaptive management principles or actions shall comply with the Licence terms, and relevant legislation.

PART H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING

1. The Licensee shall implement the *Spill Contingency Plan (Care and Maintenance),* dated March 2016, as approved by the Board.

2. The Licensee shall, within ninety (90) days following the approval of the Licence, submit to the Board for review, an updated Plan referred to in Part H, Item 1, to reflect changes in operations.

3. The Licensee shall keep up-to-date copy of the spill contingency plans at each site, at all times.

4. The Licensee shall conduct emergency maintenance and servicing on equipment in designated areas, and shall implement measures to collect motor fluids and other Waste in order to prevent and/or contain spills.

5. The Licensee shall, subject to Section 16 of the *Regulations*, report any identified 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 NWT/NU 24-Hour Spill Reporting Line at (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, clean up and restore the spill site.

6. The Licensee shall, in addition to Part H, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU 24-Hour Spill Reporting Line, if the release is near or into a waterbody.

PART I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION, AND CLOSURE PLANNING

1. The Board has approved the *Final Closure and Reclamation Plan,* dated July 2018.

2. The Licensee shall, within ninety (90) days of approval of the Licence, submit to the Board for review, an updated *Final Closure and Reclamation Plan*, to address relevant comments and recommendations provided by intervening parties and the Board during the review process for the Application.

3. The Licensee shall notify the Board in writing, as soon as is practically possible, of any change in the status of the mine or activities associated with the mine. This notice shall include a summary of Plans and a Schedule for anticipated activities related to change in Phase of the Project.

PART J: CONDITIONS APPLYING TO MONITORING

1. The Licensee shall undertake the Monitoring Program as per Tables 1 and 2 of Schedule J.

2. The Licensee shall provide the GPS co-ordinates, in degrees, minutes and seconds of latitude and longitude, of all locations where sources of Water are utilized for all purposes.

3. The Licensee shall determine the GPS co-ordinates, in degrees, minutes and seconds of latitude and longitude, of all locations where Wastes associated with the Project are deposited.

4. All sampling, sample preservation and analyses shall be conducted in accordance with the most recent edition of *Standard Methods for the Examination of Water and Wastewater,* or by such other methods approved by an Analyst.

5. 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.

6. The Licensee shall implement the *Water Quality Monitoring Plan and Quality Assurance/Quality Control Plan* (March 2016) and Monitoring and Inspection Schedule (March 2016), previously approved by the Board.

7. The Licensee shall, within ninety (90) days following the approval of the Licence, submit to the Board for review updated Plan(s) referred to in Part J, Item 6 to reflect changes in operations. Where applicable (i.e. QA/QC measures), proposed changes shall be submitted to an accredited laboratory for approval.

8. Additional monitoring requirements may be requested by the Inspector.

9. The Licensee shall include in the Annual Report required under Part B, Item 2, all data, monitoring results and information required by this Part and the associated Schedule.

10. The Licensee shall submit to the Board for approval any requests for change(s) to the Monitoring Program as outlined in Part J and Schedule J, including justification for the change(s). The NWB may modify the Monitoring Program under Schedule J without an Amendment to the Licence.

11. The Licensee shall undertake inspections of the Tailings Containment Area, to include at a minimum:

    a. During active Closure Phase and Care and Maintenance Phase, inspections shall be carried out on a bi-weekly basis during freshet (approx. May and June), and monthly during the remainder of the open water period (approx. July to October) of the following:

        i. Seepage from Dams;
        ii. Water levels in ponds/cells;
        iii. General surface erosion, tension cracks, and/or anomalies on dams; and
        iv. Records of these inspections shall be kept for review upon the request of an Inspector, or as otherwise approved by the Board. More frequent inspections shall be performed at the request of an Inspector.

    b. More frequent inspections shall be performed at the request of an Inspector

12. The Licensee shall, during active Closure Phase and prior to Post Closure, undertake annual inspection of the Tailings Containment Area, during ice free, open-water conditions by a Geotechnical Engineer. The Engineer's report shall be submitted to the Board within sixty (60) days following the inspection, and shall include a cover letter from the Licensee outlining an implementation plan to respond to the Engineer's recommendations.

13. The Licensee shall, within one (1) year following the approval of the Licence, submit to the Board for approval a Post Closure Monitoring Plan in accordance with requirements in Schedule J.

14. The Licensee shall undertake the Post Closure Monitoring Program as per the Post Closure Monitoring Plan referred to in Part J, Item 13.

SCHEDULES

Schedule A: Definitions of Terms

In this Licence, Licence No. 2AM-LUP2032:

"**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 as defined in the Mine Site Reclamation Guidelines for the Northwest Territories (INAC, 2007);

"**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, tailings, and overburden that can lead to the release of metals to land, groundwater or surface water during the life of the mine and after mine closure;

"**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;

"**Amendment**" means a change to any terms and conditions of this Licence, not considered as a modification, through application to the Board from the Licensee or induced by the Board, allowing for additions, deletions, and adjustments to specific terms and conditions of the Licence;

"**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;

"**Application**" includes the totality of relevant documents filed by the Licensee on the NWB public registry in support of the Water Licence application filed by the Licensee in July 2018 and includes all documents subsequently submitted to the Board throughout the regulatory process;

"**Board**" means the Nunavut Water Board (NWB) established under Article 13 of the *Nunavut Agreement* and under Section 14 of the Act;

"**Bulk Fuel Storage Facility**" means the facilities used to store large quantities of fuel as described in the Lupin Mine Site Spill Contingency Plan, dated March 2016;

"**Canadian Council of the Ministers of Environment (CCME)**" means the organizations of Canadian Ministers of the 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 Phase**" means the status of a mine when it undergoes a temporary closure, as defined in the MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013);

"**Closure Criteria**" standards that measure the success of selected closure activities in meeting closure objectives. Closure criteria may have a temporal component (e.g., a standard may need to be met for a pre-defined number of years). Closure criteria can be site-specific or adopted from territorial/federal or other standards and can be narrative statements or numerical values as defined in the MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013);

"**Closure Objectives**" statements that describe what the selected closure activities are aiming to achieve; they are guided by the closure principles (physical stability; chemical stability; no long-term active care requirements; and future use, including aesthetics and values). Closure objectives are typically specific to project components, are measurable and achievable, and allow for the development of closure criteria as defined in the MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013);

"**Closure Phase**" means when an Operator ceases operations at a facility without the intent to resume mining activities in the future as defined in the Mine Site Reclamation Guidelines for the Northwest Territories (INAC, 2007);

"**Dam Safety Guidelines**" means the *Canadian Dam Association (CDA) Dam Safety Guidelines (DSG),* published in 2007, revised in 2013, or subsequent approved editions;

"**Demolition Waste Landfill Facility**" means the new landfill facility developed for the disposal of inert demolition waste produced from the removal of buildings and infrastructure during reclamation and remediation activities of final closure of the mine site as described in the Lupin Mine Site, Final Closure and Reclamation Plan, July 2018;

"**Discharge**" means the release of any water or waste to the receiving environment;

"**Effluent**" means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or a treatment plant as defined in the Mine Site Reclamation Guidelines for the Northwest Territories (INAC, 2007);

"**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*;

"**Freeboard**" means the vertical distance between the water line and the crest on a dam or dyke's upstream slope;

"**Fresh Water Intake**" means the infrastructure required for extraction of Water from Contwoyto Lake, as described in the Lupin Mine Site, Final Closure and Reclamation Plan, July 2018;

"**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. Such structures and earthworks 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;

"**Hazardous Waste**" means materials or contaminant which are categorized as dangerous goods under the *Transportation of Dangerous Good Act* (1992) and/or that are no longer used for their original purpose and are 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*);

"**ICP Metals Scan**" means for the purpose of the Licence elements detected using Inductively Coupled Plasma (ICP) mass spectrometer. Metal parameters chosen to be included in the ICP Metals Scan under the Licence should be consistent with baseline data previously collected, in particular Arsenic, Copper, Zinc, Nickel and Lead, and include any other metals of concern or interest;

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

"**Landfarm Facility**" means the facility to be designed and constructed for treating petroleum hydrocarbon contaminated soil as described in the Application, including the document entitled *Landfarm Management Plan*, dated March 2016;

"Landfill Facility" means the existing or historical Waste disposal facility constructed for the purpose of disposing of non-hazardous and/or non-combustible Waste generated by the Project as described in the Landfill Management Plan, dated March 2016;

"**Licence**" means this Type "A" Water Licence No 2AM-LUP2032, issued by the Nunavut Water Board in accordance with the *Act*, to Lupin Mines Incorporated;

"**Licensee**" means the entity to which Licence 2AM-LUP2032 is issued or assigned;

"**Maximum Average Concentration**" means the arithmetic mean of any four consecutive analytical results of samples collected from the identical sampling location during any given timeframe;

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

"**Minewater**" means any water, including groundwater, which is pumped or flows out of any underground workings or open pit;

"**Minister**" means the Minister of Northern Affairs (formerly Crown-Indigenous Relations and Northern Affairs);

"**Modification**" means an alteration to a physical work that introduces new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion; changes to the operating system that are consistent with the terms of this Licence and do not require amendment;

"**Monitoring Program**" means the program to collect data on surface water and groundwater quality and quantity 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 Agreement**" 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;

"**Post Closure Phase**" means the period of time after the Closure Phase where confirmatory water quality, stability, aquatic effects, and ecosystem monitoring is conducted in order to ensure closure objectives have been met;

"**Progressive Reclamation**" means those reclamation activities conducted during the operation period of the mine prior to modification of final closure, to modify and restore the land and water to standards acceptable to the Board;

"**Project**" means the Lupin Mine project as described in the Application;

"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;

"**Reclamation**" the process of returning a disturbed site to its natural state or which prepares it for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety as defined in the MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013);

"**Recognized Closed Mine**" means a recognized closed mine as per the conditions defined in Part 4, Section 32(1) of the Metal and Diamond Mining Effluent Regulations SOR/2002-22, ;

"**Regulations**" means the *Nunavut Waters Regulations SOR 2013/669 18th April, 2013*;

"**Seepage**" means any Water that drains through or escapes from any site 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 and ore stockpile areas, quarries, landfill, landfarm or other facilities;

"**Sewage**" means all toilet wastes and greywater;

"**Sewage Lakes Disposal Facilities**" means the sewage treatment area and the engineered structures designed to contain and treat Sewage as described in Drawing Number LUSEW95.DWG entitled "Lupin Mine-Sewage Lakes Disposal Plan-General Arrangement" updated March, 1995, and in the Application;

"**Sump or Sumps**" 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;

"**Tailings**" means material rejected from the mill after the recoverable valuable minerals have been extracted;

"**Tailings Containment Area (TCA)**" means the area of the Tailings containment basin and the engineered structures designed to contain Tailings as described in the Lupin Mine Site, Final Closure and Reclamation Plan, July 2018, and general arrangement Figure 3;

"**Use**" means Water use as defined in section 4 of the Act;

"**Waste**" means waste as defined in section 4 of the Act;

"Waste Management Facilities" means all site infrastructure designated for the storage, treatment, and temporary or permanent disposal of Waste generated by the Project;

"**Waste Rock Dome**" means dome like struck proposed for construction, that will consists of waste rock on site consolidated in one area and covered with non-PAG/ML quarry rock and designed to contain waste rock and minimize the potential of ARD on site, as described in the application;

"**Water**" means water as defined in section 4 of the Act;

"**Water Supply Facility**" comprises the Fresh Water Intake and associated infrastructure as identified in Drawing Number LUWAT95.DWG entitled "Lupin Mine-Raw Water Supply Plan General Arrangement" updated March, 1995, and described in the Application;

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

Schedule B: General Conditions

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

    a. The monthly and annual quantities in cubic metres of Water pumped from Contwoyto Lake at Station Number LUP-01 and other sources;

    b. The monthly and annual quantities in cubic metres of Water pumped from ponds against the roads, or ponds or lakes proximal to the road, for industrial purposes, including dust suppression;

    c. The monthly and annual quantities in cubic metres of treated Tailings Effluent discharged at Station Number LUP-10;

    d. The monthly and annual quantities in cubic metres of Minewater discharged at Station Number LUP-11;

    e. The monthly and annual quantities in cubic metres of treated Sewage Effluent discharged at Station Number LUP-14;

    f. Details on the types and quantities of Hazardous Waste and chemicals stored on site;

    g. Tabular summaries of all data generated under the "Monitoring Program";

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

    i. A summary of modification and/or major maintenance work carried out on the Water supply and the Waste Management Facilities, including all associated structures;

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

    k. Where applicable, revisions as Addendums, with an indication of where changes have been made, for Plans, Reports, and Manuals;

    l. 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 and the consultation efforts of the Licensee required under Part B, Item 20.

    m. A summary of any abandonment and reclamation work completed during the year and an outline of any work anticipated for the next year;

n. Any other details on water use or waste disposal requested by the Board by the Board by November 1 of the year being reported.

2. The Post Closure Monitoring Plan referred to in Part J, Item 13, shall include, an update to Schedule B for Annual Reporting requirements, reflecting the Post Closure Phase.

Schedule C: Conditions Applying to Security

1. Tables 1 and 2 that follow provide the general milestones that govern the release of security associated with the Licensee's proposed progressive reclamation and closure activities associated with the Project:

Schedule C - Table 1: Description of General Milestones for Capital Cost Associated Activities

MILESTONES FOR CAPITAL COST ASSOCIATED ACTIVITIES	EVIDENCE REQUIRED TO CONFIRM COMPLETION
UNDERGROUND MINE	As outlined in Schedule C, Table 3
TAILINGS FACILITY	As outlined in Schedule C, Table 4
ROCK PILE	As outlined in Schedule C, Table 5
BUILDINGS AND EQUIPMENT	As outlined in Schedule C, Table 6
CHEMICALS AND CONTAMINATED SOIL MANAGEMENT	As outlined in Schedule C, Table 7
SURFACE AND GROUNDWATER MANAGEMENT	As outlined in Schedule C, Table 8
INTERIM CARE AND MAINTENANCE	As outlined in Schedule C, Table 9

Schedule C - Table 2: Description of General Milestones for Indirect Costs

MILESTONES FOR INDIRECT COSTS	EVIDENCE REQUIRED TO CONFIRM COMPLETION
MOBILIZATION/DEMOBILIZATION	As outlined in Schedule C, Table 10
POST CLOSURE MONITORING	As outlined in Schedule C, Table 11
ENGINEERING	Submit new cost estimate with each reduction - percentages will reduced as shown in the new cost estimate
PROJECT MANAGEMENT - CONTRACTOR	Submit new cost estimate with each reduction - percentages will reduced as shown in the new cost estimate
PROJECT MANAGEMENT - LMI	Submit new cost estimate with each reduction - percentages will reduced as shown in the new cost estimate
BONDING/INSURANCE	Submit new cost estimate with each reduction - percentages will reduced as shown in the new cost estimate
CONTINGENCY	Submit new cost estimate with each reduction - percentages will reduced as shown in the new cost estimate

2. Tables 3 - 11 that follow provide the detailed breakdown of the specified progressive reclamation and closure activities completed under the general milestones set out in Tables 1 and 2, and identify the evidence the Licensee must provide to the Minister to

demonstrate completion of the specified activities in support of the Licensee's request to release security under Part C, Item 4.

Schedule C: Table 3: Breakdown of Specific Activities to Be Completed for the Underground Mine Milestone and Evidence Required to Confirm Completion

Underground Mine	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
CONTROL ACCESS	
Backfill portal - plug portal with waste rock - 10 m long	Mines Inspector sign-off, Attached Mines Inspectors Letter to Monthly Report, CIRNA Inspector on site will/can also assess
CROWN PILLAR BLASTING FOR STORAGE	
Pump out water from crown pillars	Photos and Engineer Verification, Engineer Verification as part of the Monthly Report, CIRNA Inspector via email or will/can also access
West Zone - drill and blast	Mines Inspector sign-off and Engineer Verification, Engineer Verification as part of the Monthly Report, CIRNA Inspector on site will/can also assess

Schedule C: Table 4: Breakdown of Specific Activities to Be Completed for the Tailings Facility Milestone and Evidence Required to Confirm Completion

Tailings Facility	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
STABILIZE EMBANKMENT(S)	
Toe buttress, bulk fill - place esker toe berm to repair erosion on K Dam	Survey and documentation , Engineer Verification, CIRNA Inspector on site will/can also assess
Flatten granular fill on Pond 1 side of M Dam	Survey and documentation, Engineer Verification, CIRNA Inspector on site will/can also assess
COVER TAILINGS	
Soil cover and outflow - Cell 3	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
Soil Cover and outflow - Cell 5	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
Cover tailings exposed in Cell 4	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
BURY PAG ROCK / TAILINGS	
Remove tailings from emergency dump ponds	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access

Tailings Facility	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
STABILIZE DECANT SYSTEM	
Remove and dispose of syphons (8) from J Dam and Dam 1A	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access
REMOVE TAILINGS DISCHARGE	
Tailings Pipe	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access
UPGRADE SPILLWAYS	
Cell 4 Outlet	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access
Excavate channel, soil - Spillway on Dam 1A and Dam J	Design, Design and Engineer sign-off, CIRNA Inspector via email or will/can also access
Rip rap - Cover the spillway invert and channel slopes to 2 m flow depth using rip rap recovered from dam slopes.	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access
Geotextile- Place under spillway rip rap.	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access

Schedule C: Table 5: Breakdown of Specific Activities to Be Completed for the Rock Pile Milestone and Evidence Required to Confirm Completion

Rock Pile	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
COVER ROCK PILE	
Mine Site Soil cover - Quadrant 1 excavate, haul, spread & compact	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
Mine Site Soil cover - Quadrant 2 excavate, haul, spread & compact	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
Mine Site Soil cover - Quadrant 3 excavate, haul, spread & compact	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
Mine Site Soil cover - Quadrant 4 excavate, haul ,spread & compact	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
Mine Site Soil cover - Shop Area excavate, haul, spread & compact	Aerial photo, survey with field engineer sign-off that depth of cover was confirmed, Engineer Sign-Off, CIRNA Inspection on site
CONSOLIDATE ROCK INTO CENTRAL AREA	
Mine Site Quadrant 1 - Load, haul, dump or doze, erosion control	Confirm survey quantities. Proof of waste rock removal (visual assessment on outer edge of facility, Engineer sign-off, CIRNA Inspection on site
Mine Site Quadrant 2 - Load, haul, dump or doze, erosion control	Confirm survey quantities. Proof of waste rock removal (visual assessment on outer edge of facility, Engineer sign-off, CIRNA Inspection on site

Rock Pile	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
Mine Site Quadrant 3 - Load, haul, dump or doze, erosion control	Confirm survey quantities. Proof of waste rock removal (visual assessment on outer edge of facility, Engineer sign-off, CIRNA Inspection on site
Mine Site Quadrant 4 - Load, haul, dump or doze, erosion control	Confirm survey quantities. Proof of waste rock removal (visual assessment on outer edge of facility, Engineer sign-off, CIRNA Inspection on site
SPECIALIZED ITEMS	
Install permanent instrumentation - Thermistor strings in rock dome area	Photographs of Complete Work, Engineer Verification
Install permanent instrumentation, drilling - rock dome area	Photographs of Complete Work, Engineer Verification

Schedule C: Table 6: Breakdown of Specific Activities to Be Completed for the Chemicals And Contaminated Soil Management Milestone and Evidence Required to Confirm Completion of Activities

Chemicals And Contaminated Soil Management	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
BUILDING DECONTAMINATION & CONSOLIDATION OF HAZARDOUS MATERIALS	
Decontaminate: oil, fuel and glycol systems	Photographs of Completed Work and Item Inventory
Remove all asbestos containing materials - landfill or underground	Photographs of Completed Work and Item Inventory, Engineer Verification
HAZARDOUS MATERIALS REMOVAL	
Waste oils	Manifests/Photographs, CIRNA Inspector via email or will/can also access
Waste fuel	Manifests/Photographs, CIRNA Inspector via email or will/can also access
Other hazardous materials	Manifests/Photographs, CIRNA Inspector via email or will/can also access
CONTAMINATED SOIL REMOVAL	
Excavate treated soils and move to underground from landfarm	Confirmation of Placement Underground, Engineer Verification, CIRNA Inspector via email or will/can also access
Load, haul and dump into crown pillar - PHC Soils	Confirmation of Placement Underground, Engineer Verification, CIRNA Inspector via email or will/can also access
Type-2 -As, CN- and PbNO3 to crown pillars	Confirmation of Placement Underground, Engineer Verification, CIRNA Inspector via email or will/can also access
Lumber/boneyard contaminated soils - Excavate and move to crown pillars	Confirmation of Placement Underground, Engineer Verification, CIRNA Inspector via email or will/can also access

Chemicals And Contaminated Soil Management	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
Waste rock from mill laydown area - Excavate and move to crown pillars	Confirmation of Placement Underground, Engineer Verification, CIRNA Inspector via email or will/can also access

Schedule C: Table 7: Breakdown of Specific Activities to Be Completed for the Building and Equipment Milestone and Evidence Required to Confirm Completion

Buildings And Equipment	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
DISPOSE MOBILE EQUIPMENT	
Decontaminate and dispose in on-site landfill	Photographs and Inventory, Engineer Verification, CIRNA Inspector via email or will/can also access
REMOVE BUILDINGS	
Accommodation Complex 2020 - Kitchen, Recreation, 100, 200, 300, 400, 900, 1000, 1100, 1200	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Accommodation Complex 2021 - Offices 500, 600, 700, 800, 1300	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Hoist Room and Travel Ways	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Shaft House	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Warehouse	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Mill	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Powerhouse	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Headframe	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Airlock Building and Fresh air Intake	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Cold Storage 2 buildings	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Surface Mobile Shop	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Carpenter Shop	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access

Buildings And Equipment	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
As Treatment Plant Building	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Pumphouse	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Explosives Storage	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Fire house	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Emergency Power House	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
LMI Weather Station (Not ECCC) and Storage Buildings	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Shop	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Batch Plant	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
ATV Building	Confirm Removal was Completed, Engineer Verification, CIRNA Inspector via email or will/can also access
Fuel Tanks - Main Tank Farm - 2020 - All - excluding Tank 13-14	Confirmation of Tanks still requiring cleaning - Photographs once they are removed, Mechanical Engineer sign-off - Engineer Verification of removal , CIRNA Inspector via email or will/can also access
Fuel Tanks - Main Tank Farm - 2021 - Tank 13-14	Mechanical Engineer in Nunavut sign-off for cleaning - Photographs once they are removed, Mechanical Engineer sign-off - Engineer Verification of removal , CIRNA Inspector via email or will/can also access
Fuel Tanks - Satellite Tank Farm - already cleaned	Photographs once they are removed, Engineer Verification, CIRNA Inspector via email or will/can also access
Flush sewage pipelines	Confirmation, Engineer Verification, CIRNA Inspector via email or will/can also access
Break foundation slabs - Use hoe ram to puncture slabs. Leave in place and cover.	Photographs of perforated/broken slabs, Engineer Verification, CIRNA Inspector via email or will/can also access
Boneyard debris and steel from tanks	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access

Buildings And Equipment	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
LANDFILL FOR DEMOLITION WASTE	
Place rock cover	Confirmation work was carried out in accordance with requirements, Engineer Verification, CIRNA Inspector via email or will/can also access
Place soil cover	Confirmation work was carried out in accordance with requirements, Engineer Verification, CIRNA Inspector via email or will/can also access
Clean burn pit and incinerator	Confirmation work was carried out in accordance with requirements, Engineer Verification, CIRNA Inspector via email or will/can also access
Load, haul and dump in landfill	Confirmation work was carried out in accordance with requirements, Engineer Verification, CIRNA Inspector via email or will/can also access
RECLAIM ROADS	
Remove culverts	Photos and locations of where the culverts were located, Engineer Verification, CIRNA Inspector via email or will/can also access
Other - grade and contour the esker borrow area	Drone Survey - Final grade plan, Engineer Verification, CIRNA Inspector via email or will/can also access

Schedule C: Table 8: Breakdown of Specific Activities to Be Completed for the Surface and Groundwater Management Milestone and Evidence Required to Confirm Completion

Surface and Groundwater Management	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
BREACH DYKE EMBANKMENT	
Upper and Lower Sewage Lagoons	Photographs , Engineer Verification, CIRNA Inspector via email or will/can also access
CONSTRUCT WATER TREATMENT PLANT	
Upgrade treatment plant	Photographs, Engineer Verification, CIRNA Inspector via email or will/can also access
Treatment Materials - Soda Ash	Ice Road Manifests or other documentation, CIRNA Inspector via email or will/can also access
Water Treatment Labour	Photographs of Work, Engineer Verification, CIRNA Inspection on site

Schedule C: Table 9: Breakdown of Specific Activities to Be Completed for the Interim Care and Maintenance Milestone and Evidence Required to Confirm Completion

Interim Care and Maintenance	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
INTERIM CARE & MAINTENANCE	
SNP/AEMP water sampling & reporting	Analysis reports filed, CIRNA Inspector via email
Geotechnical assessment	Filed with the NWB, CIRNA Inspector via email

Schedule C: Table 10: Breakdown of Specific Activities to Be Completed for the Mobilization and Demobilization Milestone and Evidence Required to Confirm Completion

Mobilization/Demobilization	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
MOBILIZE HEAVY EQUIPMENT	
Mobilize equipment fleet	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
De-mobilize equipment fleet	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
De-mobilize salvageable equipment and materials	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
Labour for Mobilization	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
Labour for Demobilization	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
Equipment	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
Demobilize - Excavator and Rock Truck via Herc	Photographs - Inventory List, CIRNA Inspector via email or will/can also access
MOBILIZE WORKERS	
Reclamation activities - transport	Release on completion of direct work apportioned to the total value of direct work as at March 31 2020, for example if a tenth of the direct work is released, a tenth of the indirect item is released, CIRNA Inspector to confirm work is being carried out at site

Mobilization/Demobilization	
RECLAMATION AND CLOSURE ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
Rotation over reclamation period	Release on completion of direct work apportioned to the total value of direct work as at March 31 2020, for example if a tenth of the direct work is released, a tenth of the indirect item is released, CIRNA Inspector to confirm work is being carried out at site
WORKER ACCOMMODATIONS	
Reclamation activities	Release on completion of direct work apportioned to the total value of direct work as at March 31 2020, for example if a tenth of the direct work is released, a tenth of the indirect item is released, CIRNA Inspector to confirm work is being carried out at site
CONSTRUCTION MAINTENANCE	
Site roads and airstrip	Release on completion of direct work apportioned to the total value of direct work as at March 31 2020, for example if a tenth of the direct work is released, a tenth of the indirect item is released, CIRNA Inspector to confirm work is being carried out at site
Site equipment and facilities	Release on completion of direct work apportioned to the total value of direct work as at March 31 2020, for example if a tenth of the direct work is released, a tenth of the indirect item is released, , CIRNA Inspector to confirm work is being carried out at site
MOBILIZE FUEL	
Fuel for reclamation activities	Photographs, CIRNA Inspector via email
WINTER ROAD	
Mobilization - Construction and operation 2020	Photographs, CIRNA Inspector via email
Demobilization - Construction and operation 2022	Photographs, CIRNA Inspector via email

Schedule C: Table 11: Breakdown of Specific Activities to Be Completed for the Post-Closure Monitoring Milestone and Evidence Required to Confirm Completion of Activities

Post-Closure Monitoring & Maintenance:	
ACTIVITIES	**EVIDENCE REQUIRED TO CONFIRM COMPLETION**
MONITORING & INSPECTIONS	
Annual geotechnical inspection	Annual basis, once work is completed at site - Filed with the NWB, CIRNA Inspector via email
Monitoring years - 10	Annual basis, once work is completed at site, CIRNA Inspector via email
Site water monitoring (AEMP and SNP)	Analysis filed, CIRNA Inspector via email
Environmental Effects Monitoring (EEM) after 3 years	Annual basis, once work is competed at site - Filed with ECCC, CIRNA Inspector via email

Schedule G: Conditions Applying to Construction and Operation

1. The Construction Summary Report referred to in Part G, Item 3 shall include:

    a. A summary of construction activities including photographic records before, during and after construction;
    b. As-built drawings;
    c. Documentation of field decisions that deviate from original plans and any data used to support these decisions;
    d. Discussion of mitigation measures implemented during construction as well as their effectiveness;
    e. Monitoring undertaken in accordance with Part G;
    f. Blast vibration monitoring for any quarrying activity carried out in close proximity to fish bearing waters; and
    g. Monitoring for sediment release from construction areas.

Schedule J: Conditions Applying to Monitoring

1. As set out in Part B, Item 20 during the development of the Post Closure Monitoring Plan and subsequently during post closure monitoring, the Licensee will consult with community members and organizations in Kugluktuk, and will include in the Annual Report referred to in Part B, Item 2, and provided to the Board, a summary of these community consultations.

2. The Post Closure Monitoring Plan referred to in Part J, Item 13, shall include:

    a. An updated framework for annual reporting requirements as required by Schedule B, Item 2;
    b. A review of historical data and estimate of waste rock quantities use across the site for construction of dams and other permanent structures;
    c. Existing and Future Instrumentation Monitoring;
    d. Monitoring Program Table 1 and 2 applicable to Post-Closure Phase;
    e. dam stability monitoring;
    f. TCA monitoring;
    g. thresholds for water quality and tailings cover performance that would trigger moving to reduced monitoring frequency or intensity; and
    h. Monitoring of the TCA cover and water quality over a period that is sufficient to demonstrate physical and chemical stability and acceptable quality for the long term.

3. The current Monitoring Program shall take into account Table 1 and Table 2 as applicable.

Schedule J Table 1 – Monitoring Program Requirements for Licence No. 2AM-LUP2032

Station ID	Location	Frequency	Parameter
LUP-01	Freshwater Intake from Contwoyto Lake	Annually	Field, Conventional, Total Metals, and Biological
		Monthly	Quantity of water measured and recorded in cubic metres
LUP-10	Pond 2 discharge at Dam 1A	Daily during periods of Discharge	Field, Conventional, Total Metals, Cyanide, no visible sheen of Oil & Grease
		Daily during periods of Discharge	Quantity of treated effluent discharged, measured and recorded in cubic metres
		Weekly	Nutrients Radium (^{226}RA)
		Monthly (no less than one month Intervals) commencing with the first day of decant	Cyanide Bioassay
LUP-10a (LUP-102)	Internal station in TCA Pond 2, approximately 100 m upstream from siphon intake	Once prior to initiation of decant and once prior to termination of decant	Field, Conventional, Nutrients, Total Metals, Cyanide, and Radium (^{226}RA), and Bioassay
LUP-11	Mine-water discharge at automatic sampler in the mill	Not Active	
LUP-12	Mill tailings taken at the mill	Not Active	
LUP-14	Decant structure from the Sewage Lakes Disposal Facilities	First day of discharge and then monthly thereafter during periods of flow	Field, Conventional, Nutrients, Total Metals, Biological, and Other: Biochemical Oxygen Demand (BOD5), Total Phosphorus, Total Orthophosphorus

Schedule J Table 1 – Monitoring Program Requirements for Licence No. 2AM-LUP2032			
Station ID	**Location**	**Frequency**	**Parameter**
			- (OPO4), Total Kjeldahl Nitrogen (TKN))
		Monthly	Quantity of treated effluent discharged in cubic metres
LUP-15	Discharge from TCA Pond 1 (east pond) into TCA Pond 2 (west pond)	Not Active	
LUP-16	TCA Pond 2 at center	Not Active	
LUP-17	TCA Pond 2 upstream of Station LUP-10	Not Active	
LUP-19	East end of Seep Creek in Dam 2 Lake	Not Active	
LUP-20	West end of Seep Creek before discharge into Unnamed Lake	Weekly during discharge from the Tailings Containment Area, commencing with the first day of decant	Field, Conventional, Nutrients, Total Metals, Cyanide, and Radium (^{226}RA)
LUP-21	North end of Concession Creek before discharge into Unnamed Lake	Weekly during discharge from the Tailings Containment Area, commencing with the first day of decant	Field, Conventional, Nutrients, Total Metals, Cyanide, Radium (^{226}RA)
LUP-22	Inner Sun Bay near center and midway between end of peninsula and west shore	Weekly at mid-depth, commencing one (1) week prior to discharge from the Tailings Containment Area and concluding two (2) weeks after cessation of the discharge	Field, Conventional, Nutrients, Total Metals, Cyanide, Radium (^{226}RA)

Schedule J Table 1 – Monitoring Program Requirements for Licence No. 2AM-LUP2032

Station ID	Location	Frequency	Parameter
LUP-24	Inner Sun Bay at mid-way point in narrows	Weekly at mid-depth, commencing one (1) week prior to discharge from the Tailings Containment Area, and concluding two (2) weeks after cessation of the discharge and when bioassay sample is collected at LUP-10 just prior to termination of decant	Field, Conventional, Nutrients, Total Metals, Cyanide, Radium (^{226}RA)
LUP-25	Outer Sun Bay (Total Rather than specific metals)	Weekly at mid-depth, commencing one (1) week prior to discharge from the Tailings Containment Area, and concluding two (2) weeks after cessation of the discharge	Field, Conventional, Nutrients, Total Metals, Cyanide, Radium (^{226}RA)
LUP-26	Contwoyto Lake in bay east of water intake	Not Active	
LUP-27	Bulk Fuel Storage Facility	Once prior to discharge and weekly during periods of discharge	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-28	Discharge from the Landfarm Facility	Once prior to discharge and weekly during periods of discharge	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-29	Landfarm Facility Monitoring Well – Up gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-30a	Landfarm Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-30b	Landfarm Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-31	Seepage from the Landfill Facility	Monthly during periods of observed flow	Field, Conventional,

Schedule J Table 1 – Monitoring Program Requirements for Licence No. 2AM-LUP2032

Station ID	Location	Frequency	Parameter
			Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-32	Landfill Facility Monitoring Well – Up gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-33a	Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-34b	Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-35	Seepage from the Landfill Facility	Monthly during periods of observed flow	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-36	Demolition Landfill Facility Monitoring Well – Up gradient	Monthly during periods of observed flow– June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-37a	Demolition Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow– June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-37b	Demolition Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	Field, Conventional, Nutrients, Total Metals, Total Oil and Grease, BTEX
LUP-EL-01	East Lake near shoreline near the potential seepage inputs	Twice-yearly: Once in freshet and once in late open-water season, ensuring that baseline samples are collected prior to construction of the waste rock dome.	Field, Conventional, Total Metals

Schedule J Table 1 – Monitoring Program Requirements for Licence No. 2AM-LUP2032

Station ID	Location	Frequency	Parameter
LUP-BL-01	Boot Lake near shoreline near the potential seepage inputs	Twice-yearly: Once in freshet and once in late open-water season, ensuring that baseline samples are collected prior to construction of the waste rock dome.	Field, Conventional, Total Metals
LUP-LSL-01	Lower Sewage Lake near shoreline near the potential seepage inputs	Twice-yearly: Once in freshet and once in late open-water season, ensuring that baseline samples are collected prior to construction of the waste rock dome.	Field, Conventional, Total Metals
LUP-SP-01 to LUP-SP-XX[(a)]	Seeps from the Waste Rock Dome, Locations of observed seepage or flow from waste rock pile	Twice-yearly: Once in freshet and once in late open-water season	Field, Conventional, Total Metals
LUP-TCA-01 to LUP-TCA-XX(a)	Seeps from the Tailings Containment Area (TCA), Locations of observed seepage or flow from waste rock pile	Twice-yearly: Once in freshet and once in late open-water season	Field, Conventional, Total Metals

Notes:
(a) Seep sampling locations will be added to the post-closure monitoring program as new seeps are documented.

Schedule J Table 2 – Water Quality Parameter Groups

Parameter Group Code	Specific Parameters
Volume	Volume per day (discharged to the environment or withdrawn from the environment for use)
Field	Field measurements (pH, temperature, conductivity, dissolved oxygen*)
Conventional	pH, total suspended solids, alkalinity, hardness
Nutrients	Total ammonia, nitrate, and nitrite
Total Metals	aluminum, antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, mercury, molybdenum, nickel, selenium, uranium, and zinc
Cyanide	Total cyanide
Radium (^{226}RA)	Radium-226
Biological	Fecal coliform
Bioassay	Acute toxicity tests (rainbow trout and Daphnia)
BTEX	Benzene, toluene, ethyl benzene, xylene
Other	Specified by station

Notes: *Only measured at receiving environment monitoring stations.