GOLDER

## Draft Water Licence Framework Rev0

## Attachment A: Draft Water Licence Framework Rev0 Clean Version

| Part | Item | Sub | Proposed Terms |
|---|---|---|---|
| Cover Sheet | | | **Licensee:** Lupin Mines Incorporated<br>**Mailing Address:** 76 Richmond Street East, Suite 330, Toronto, ON M5C 1P1<br>**Water Management Area:** Queen Maud Gulf Watershed (30)<br>**Location:** Lupin Mine, Kitikmeot Region, Nunavut<br>**Purpose:** Use of Water and Deposit of Waste<br>**Description:** Mining Undertaking: Care and Maintenance Phase and Closure and Reclamation<br>**Quantity of Water not to Exceeded:** 5,000 cubic metres per year during Care & Maintenance Phase and/or passive Post Closure Phase or 250,025 cubic metres per year during active Closure Phase |
| **A** | | | SCOPE, DEFINITIONS AND ENFORCEMENT |
| A | 1 | | Scope |
| A | 1 | a | 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 Care and Maintenance Phase and Closure and Reclamation Phase 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.<br><br>Lupin Mines Incorporated is authorised to undertake final reclamation and restoration of on -site facilities in accordance with the Final Closure and Reclamation Plan and Final 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. |
| A | 1 | 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 |

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| | | | 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. |
| A | 1 | 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. |
| A | 2 | | DEFINITIONS |
| A | 2 | a | The Licensee shall refer to Schedule A for definitions of terms used in this Licence. |
| A | 3 | | ENFORCEMENT |
| A | 3 | 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. |
| A | 3 | b | All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the Act. |
| A | 3 | 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. |
| **B** | | | GENERAL CONDITIONS |
| B | 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*. |
| B | 2 | | The Licensee shall file an Annual Report with the Board no later than March 31st in the year following the calendar year being reported. The Annual Report for shall be developed and submitted in accordance with Schedule B of the Licence, unless otherwise approved by the Board in writing. |
| B | 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. |
| B | 4 | | The Licensee shall maintain to the satisfaction of an Inspector, all the signs necessary to identify the stations of the “Monitoring Program”, detailed in Schedule J. |

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| B | 6 | | Any communication with respect to this Licence shall be made in writing to the attention of:<br>Manager of Licensing Nunavut Water Board<br>P. O. Box 119<br>Gjoa Haven, NU X0B 1J0<br>Telephone: (867) 360-6338<br>Fax: (867) 360-6369<br>Email: licensing@nwb-oen.ca |
| B | 7 | | Any notice made to an Inspector shall be made in writing to the attention of:<br>Water Resources Officer<br>Aboriginal Affairs and Northern Development Canada Nunavut District, Nunavut Region<br>P.O. Box 100<br>Iqaluit, NU X0A 0H0<br>Telephone: (867) 975-4295<br>Fax: (867) 979-6445 |
| B | 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. Unless otherwise requested by the Board, reports and/or studies and plans submitted to the Board by the Licensee shall include an executive summary in English, Inuinnaqtun and Inuktitut. |
| B | 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. |
| B | 10 | | This Licence is assignable as provided in Section 44 of the Act. |
| B | 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, generally do not require the Board's approval prior to implementation; however, the Board reserves the right to accordingly request revisions to those Plans or drawings. |
| B | 12 | | Unless otherwise directed by the Board in writing, if a Plan is found not acceptable to the Board, the Licensee shall provide a revised version of the Plan to the Board for review within sixty (60) days following notification by the Board. |

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| Part | Item | Sub | Proposed Terms |
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| B | 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 the relevant sections in the Licence:<br>a. Spill Contingency Plan, March 2016;<br>b. Care and Maintenance Plan, March 2016;<br>c. Waste Management Plan (Solid and Hazardous), March 2016, including: Incinerator Operation and Maintenance Procedure; Landfill Management Plan; and Landfarm Management Plan;<br>d. Liquid Waste Management, March, 2016;<br>e. Monitoring and Inspection Schedule, March 2016;<br>f. Water Quality Monitoring Plan and Quality Assurance/Quality Control Plan, March 2016; and<br>g. Closure Plan for Tailing Containment Area, January 2005. |
| B | 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 where appropriate. |
| B | 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. |
| B | 16 | | The expiry or cancellation of this Licence does not relieve the Licensee from any obligations imposed by the Licence, or any other regulatory requirement. |
| B | 17 | | 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 Licence. 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. |
| | | | Unless otherwise stated, references in the Licence to any specific legislation, policy, guideline or other regulatory requirement are deemed to refer to the |

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<tr><th>Part</th><th>Item</th><th>Sub</th><th>Proposed Terms</th></tr>
<tr><td></td><td></td><td></td><td>regulatory requirement as may be amended or as may be expressly replaced by successor legislation, policy, guidelines or other regulatory requirement after the Licence is approved by the Minister.</td></tr>
<tr><td>B</td><td>18</td><td></td><td>The Licensee shall submit to the Board for processing, at least nine (9) months prior to the proposed date for recommencing the Operations Phase of the Project and associated activities, an application to renew and/or or amend the Licence that includes but is not limited to updated management plans, any changes to monitoring and inspection requirements, an updated security assessment, and other requirements stipulated in this Licence.</td></tr>
<tr><td>C</td><td></td><td></td><td>CONDITIONS APPLYING TO SECURITY</td></tr>
<tr><td></td><td></td><td></td><td>The Licensee shall furnish and maintain the specified reclamation security amounts with the Minister under the Licence set in Schedule C:
<table>
<tr><th></th><th>Infrastructure</th><th>Total Security</th><th>Timeline</th></tr>
<tr><td>a</td><td></td><td>$</td><td></td></tr>
<tr><td>b</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td></td><td></td><td></td><td>The Licensee shall furnish and maintain security with the Minister under Part C, Item 1 in accordance with section 76 of the Act.</td></tr>
<tr><td></td><td></td><td></td><td>The Licensee shall furnish and maintain such further or other amounts as may be required by the Board based on required periodic estimates of current mine reclamation liability.</td></tr>
<tr><td></td><td></td><td></td><td>The Licensee shall furnish and maintain such further or other amounts as may be required by the Board, based on any reclamation activities completed in accordance with the Final Closure and Reclamation Plan dated July 2018 and approved by the Board in accordance with Part B, Item 13. The Licensee shall submit proof of completed reclamation activities to the Board and to the Minister for the Minister’s consideration under sections 76(2) and (5) of the Act.</td></tr>
<tr><td></td><td></td><td></td><td>The Licensee or the Minister may apply to change the amount of security held under Part C, Item 1 and/or Part C, Item 2 of the Licence. Any request to change the amount of security shall be supplemented by submission(s) that include supporting evidence to justify the request and will be processed by the Board.</td></tr>
<tr><td></td><td></td><td></td><td>Within thirty (30) days after receiving notice and evidence that that the Licence has completed reclamation of one or more infrastructure specified in Part C, Item</td></tr>
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| | | | 1, the Minister shall release the security amount attributed to that infrastructure in the Part C, Item 1 back to the Licensee. |
| | | | Within thirty (30) days after receiving any security released by the Minister in accordance with Part C Item 6 the Licensee shall provide written confirmation to the NWB and that the security has been received by the Licensee. |
| | | | The security referred to in Part C, Item 1 shall be maintained until such time as it is fully or in part refunded by the Minister pursuant to section 76(5) of the Act, unless otherwise refunded under Part C, Item 6. This clause shall survive the expiry of this Licence or renewals thereof and until full and final reclamation has been completed to the satisfaction of the Minister. |
| **D** | | | CONDITIONS APPLYING TO WATER USE |
| D | 1 | | The Licensee shall obtain all fresh Water from Contwoyto Lake, at monitoring station LUP-01 using the Water Supply Facility or as otherwise approved by the Board in writing. |
| D | 2 | | The annual volume of Water withdrawn from Contwoyto Lake for all uses under this Licence, during the active Closure Phase of the Project, shall not exceed 250,025 cubic metres. |
| D | 3 | | The annual volume of Water withdrawn from Contwoyto Lake for all uses under this licence, during the Care and Maintenance and/or passive Post Closure Phase of the Project, shall not exceed 5,000 cubic metres. |
| D | 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. |
| D | 5 | | The Licensee shall, during the active Closure Phase, conduct regular inspections of Water and Waste management structures during periods of flow and the records to be kept for review, upon the request of an Inspector. |
| D | 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. |
| D | 8 | | The Licensee shall implement measures to minimize the generation and deposition of dust and/or sediment into Water arising from road and airstrip use. |
| | | | The Licensee shall obtain water, for industrial purpose, including dust suppression from ponded water (against the road), or ponds or lakes proximal to the road. |

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<table>
<tr><th>Part</th><th>Item</th><th>Sub</th><th>Proposed Terms</th></tr>
<tr><td>E</td><td></td><td></td><td>CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT</td></tr>
<tr><td>E</td><td>1</td><td></td><td>The Licensee shall discharge all Tailings into the Tailings Containment Area, underground as Backfill, or to other locations in accordance with document entitled A Guide to the Management of Tailings Facilities (Mining Association of Canada, 2011) or as otherwise approved by the Board in writing.</td></tr>
<tr><td>E</td><td>2</td><td></td><td>The discharge of Effluent from the Tailings Containment Area at Monitoring Station LUP-10 shall commence no sooner than July 15 of any calendar year unless otherwise approved by the Board in writing.</td></tr>
<tr><td>E</td><td>3</td><td></td><td>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.</td></tr>
<tr><td>E</td><td>4</td><td></td><td>The Licensee shall provide at least ten (10) days’ notice to an 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.</td></tr>
<tr><td>E</td><td>5</td><td></td><td>All Effluent discharged from the Tailings Containment Area at Monitoring Program station LUP-10, shall not exceed the following Effluent quality limits:
<table>
<tr><th>Parameter</th><th>Maximum Average Concentration (mg/L)</th><th>Maximum Concentration of Any Grab Sample (mg/L)</th></tr>
<tr><td>Total Arsenic</td><td>0.50</td><td>1.00</td></tr>
<tr><td>Total Copper</td><td>0.15</td><td>0.30</td></tr>
<tr><td>Total Cyanide</td><td>0.80</td><td>1.60</td></tr>
<tr><td>Total Lead</td><td>0.10</td><td>0.20</td></tr>
<tr><td>Total Nickel</td><td>0.20</td><td>0.40</td></tr>
<tr><td>Total Zinc</td><td>0.40</td><td>0.80</td></tr>
<tr><td>Total Suspended Solids</td><td>15</td><td>30</td></tr>
<tr><td>Oil and Grease</td><td colspan="2">No Visible sheen</td></tr>
<tr><td colspan="3">The Effluent discharged shall have a pH between 6.0 and 9.5</td></tr>
</table></td></tr>
<tr><td>E</td><td>6</td><td></td><td>The Tailings Containment Area shall be constructed, operated and maintained to engineering standards such that:</td></tr>
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<tr><th>Part</th><th>Item</th><th>Sub</th><th>Proposed Terms</th></tr>
<tr><td>E</td><td>6</td><td>a</td><td>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;</td></tr>
<tr><td>E</td><td>6</td><td>b</td><td>Seepage from the Tailings Containment Area is minimized;</td></tr>
<tr><td>E</td><td>6</td><td>c</td><td>Any Seepage that occurs is collected and returned immediately to the Tailings Containment Area;</td></tr>
<tr><td>E</td><td>6</td><td>d</td><td>Erosion of constructed facilities is addressed immediately;</td></tr>
<tr><td>E</td><td>6</td><td>e</td><td>The solids fraction of the mill Tailings shall be permanently contained within the Tailings Containment Area or underground as Backfill;</td></tr>
<tr><td>E</td><td>6</td><td>f</td><td>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;</td></tr>
<tr><td>E</td><td>6</td><td>g</td><td>Moved to Part J</td></tr>
<tr><td>E</td><td>6</td><td>i</td><td>Moved to Part J</td></tr>
<tr><td>E</td><td>8</td><td></td><td>The Licensee shall direct all Sewage to the Sewage Lakes Disposal Facilities or as otherwise approved by the Board in writing or in accordance with the approved Final Closure and Reclamation Plan.</td></tr>
<tr><td>E</td><td>9</td><td></td><td>All Effluent discharged from the Sewage Lakes Disposal Facilities at Monitoring Program monitoring station LUP-14, shall not exceed the following Effluent quality limits:
<table>
<tr><th>Parameter</th><th>Maximum Concentration of Any Grab Sample (mg/L)</th></tr>
<tr><td>Total Arsenic</td><td>0.05</td></tr>
<tr><td>Total Copper</td><td>0.20</td></tr>
<tr><td>Total Lead</td><td>0.05</td></tr>
<tr><td>Total Nickel</td><td>0.30</td></tr>
<tr><td>Total Zinc</td><td>0.50</td></tr>
<tr><td>Total Suspended Solids</td><td>35</td></tr>
<tr><td>BOD5</td><td>30</td></tr>
<tr><td>Fecal Coliforms</td><td>1000 colony forming units/100</td></tr>
<tr><td>Oil and Grease</td><td>No Visible sheen</td></tr>
</table></td></tr>
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<table>
<tr><th>Part</th><th>Item</th><th>Sub</th><th>Proposed Terms</th></tr>
<tr><td></td><td></td><td></td><td>The Effluent discharged shall have a pH between 6.0 and 9.5</td></tr>
<tr><td>E</td><td>10</td><td></td><td>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
<table>
<tr><th>Parameter</th><th>Maximum Concentration of Any Grab Sample (mg/L)</th></tr>
<tr><td>pH</td><td>6.0 – 9.0</td></tr>
<tr><td>Total Suspended Solids (TSS)</td><td>15.0</td></tr>
<tr><td>Total Oil and Grease</td><td>5.0 and no visible sheen</td></tr>
<tr><td>Total Ammonia</td><td>2.0</td></tr>
</table></td></tr>
<tr><td>E</td><td>11</td><td></td><td>The Licensee shall confirm compliance with respective Effluent quality limits in Part E, Items 5, 9 and 10, prior to Discharge.</td></tr>
<tr><td>E</td><td>12</td><td></td><td>The Licensee shall Discharge all Minewater to the underground mine workings, the Tailings Containment Area or to the Sewage Lakes Disposal Facilities, or subject to Part E, Item 5 to the receiving environment, or as otherwise approved by the Board in writing.</td></tr>
<tr><td>E</td><td>13</td><td></td><td>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 12. 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.</td></tr>
<tr><td>E</td><td>14</td><td></td><td>The Licensee shall implement the proposal specified in Part E, Item 13, as approved by the Board in writing.</td></tr>
<tr><td>E</td><td>15</td><td></td><td>The Licensee shall backhaul and dispose of Hazardous Wastes, generated through the course of the operation at a licensed waste disposal site, unless otherwise approved for disposal in accordance with the approved Final Closure and Reclamation Plan.</td></tr>
<tr><td>E</td><td>16</td><td></td><td>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.</td></tr>
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<tr><th>Part</th><th>Item</th><th>Sub</th><th>Proposed Terms</th></tr>
<tr><td>E</td><td>17</td><td></td><td>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.</td></tr>
<tr><td>E</td><td>18</td><td></td><td>The Licensee shall implement the Waste Management Plan (Solid and Hazardous), dated March 2016 and Liquid Waste Management Plan, dated March 2016, approved by the Board.</td></tr>
<tr><td>E</td><td>19</td><td></td><td>All Effluent discharged from the Landfill Facility at Monitoring Station LUP-31, and LUP-35, into the Receiving Environment, shall not exceed the following Effluent quality limits:
<table>
<tr><th>Parameters</th><th>Maximum Concentration of Any Grab Sample (mg/L)</th></tr>
<tr><td>Total Arsenic</td><td>0.50</td></tr>
<tr><td>Total Copper</td><td>0.30</td></tr>
<tr><td>Total Lead</td><td>0.20</td></tr>
<tr><td>Total Nickel</td><td>0.50</td></tr>
<tr><td>Total Zinc</td><td>0.50</td></tr>
<tr><td>Total Suspended Solids</td><td>15</td></tr>
<tr><td>Oil and Grease</td><td>No Visible Sheen</td></tr>
<tr><td>pH</td><td>Between 6.0 and 9.5</td></tr>
</table></td></tr>
<tr><td>E</td><td>20</td><td></td><td>Effluent exceeding the limits set out in Part E, Item, 19 shall be collected and treated or disposed of at an approved facility, or as otherwise approved by the Board.</td></tr>
<tr><td>E</td><td>21</td><td></td><td>The Licensee is authorized to treat Project related petroleum hydrocarbon contaminated soils at the Landfarm Facility, or dispose of underground, or as otherwise approved by the Board in writing or as approved in the Final Closure and Reclamation Plan.</td></tr>
<tr><td>E</td><td>24</td><td></td><td>The Licensee shall treat, as required, the Effluent generated by the Landfarm Facility such that the Effluent discharged shall not exceed the Effluent quality limits established under Part E, Item 10, prior to Discharge into the Receiving Environment.</td></tr>
<tr><td></td><td></td><td></td><td>The Licensee shall submit to the Board for review, within ninety (90) days of Approval of the Licence by the Minister, updated Plan(s) referred to in Part E, Item 18 to reflect changes in operations.</td></tr>
<tr><td>F</td><td></td><td></td><td>CONDITIONS APPLYING TO MODIFICATIONS</td></tr>
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| F | 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: |
| F | 1 | 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; |
| F | | b | Such modifications do not place the Licensee in contravention of the Licence or the Act; |
| F | | c | Such Modifications are consistent with the NIRB Screening; |
| F | | 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 |
| F | | e | The Board has not rejected the proposed Modifications. |
| F | 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. |
| F | 3 | | Notifications for modifications shall contain: |
| F | 3 | a | Description of the facilities and/or works to be constructed or remediated; |
| F | 3 | b | The proposed location of the structure(s); |
| F | 3 | c | Identification of any potential impacts to the Receiving Environment; |
| F | 3 | d | A description of any monitoring required, including sampling locations, parameters measured and frequencies of sampling; |
| F | 3 | e | Schedule for construction or remediation; |
| F | 3 | f | Drawings of engineered structures stamped by a Professional Engineer, if applicable; and |
| F | 3 | g | Proposed sediment and erosion control measures. |
| F | 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. |
| **G** | | | CONDITIONS APPLYING TO CONSTRUCTION AND OPERATION |

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| G | 1 | | Prior to construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Wastes, the Licensee shall submit to the Board, for review, final design specifications and for construction drawings, signed and stamped by an Engineer. |
| G | 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. |
| G | 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(s) in accordance with Schedule G, Item 2. |
| G | 5 | | 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-metal leaching characteristics. |
| G | 6 | | The Licensee shall implement sediment and erosion control measures prior to and during Construction, Operations and Closure where necessary, to prevent entry of sediment into Water. |
| G | 7 | | The Licensee shall inspect daily, all activities related to Construction and Remediation, for signs of erosion in order to prevent the entry of sediment into Water and maintain the measures required under Part G, Item 6. |
| G | 8 | | The Licensee shall minimize disturbance to terrain, permafrost and drainage during movement of contractors' equipment and personnel around the site during Construction and Remediation activities. |
| G | 9 | | The Licensee shall not store material on the surface of frozen streams or lakes except what is for immediate use. |
| G | 10 | | 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. |
| G | 11 | | The Licensee shall undertake appropriate corrective measures to mitigate impacts on surface drainage resulting from the Licensee's operations. |
| G | 12 | | The Licensee shall limit any in-stream activity to low Water periods. In-stream activity is prohibited during fish migration unless otherwise approved by the Board or Fisheries and Oceans Canada. |

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| G | 13 | | 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 water body. |
| | | | 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. |
| | | | The Licensee shall provide secondary containment for fuel and chemical storage as required by applicable regulations, standards and industry practice. |
| | | | Licensee shall operate the Bulk Fuel Storage Facilities in accordance with all applicable legislation, guidelines, and industry practices, including: |
| | | | *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003 (Updated in 2013) or most recent; CCME; and* |
| | | | *National Fire Code of Canada, 2010.* |
| | | | The Licensee shall consider the principles of adaptive management in construction, operation and closure. |
| | | | 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. |
| **H** | | | CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING |
| H | 1 | | The Licensee shall implement the *Spill Contingency Plan (Care and Maintenance)*, dated March 2016, approved by the Board. |
| H | 2 | | The Licensee shall submit to the Board for review, within ninety (90) days of Approval of the Licence by the Minister, an update to the plan referred to in Part H, Item 1 to reflect changes in operations. |
| H | 4 | | The Licensee shall keep an up-to-date copy of the spill contingency plans at each site, at all times. |
| H | 5 | | *Moved to Part G* |
| H | 6 | | *Moved to Part G* |
| H | 7 | | *Moved to Part G* |

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| H | 7 | a | *Moved to Part G* |
| H | 7 | b | *Moved to Part G* |
| H | 7 | c | *Moved to Part G* |
| H | 8 | | 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. |
| H | 9 | | The Licensee shall, subject to Section 16 of the Regulations, report any unauthorized deposits of Waste and/or discharges of Effluent and: |
| H | 9 | a | Employ the *Spill Contingency Plan*; |
| H | 9 | 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 |
| H | 9 | 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. |
| H | 10 | | The Licensee shall, in addition to Part H, Item 9, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body. |
| **I** | | | CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION, AND CLOSURE PLANNING |
| I | 1 | | The Licensee shall implement the *Final Closure and Reclamation Plan*, dated July 2018, approved by the Board. |
| I | 2 | | The Licensee shall, within ninety (90) days following the approval, by the Minister, submit to the Board for review, an updated *Final Closure and Reclamation Plan*, dated July 2018, to address relevant comments and recommendations provided by intervening parties and the Board during the review process for the Application. |
| I | 3 | | |
| I | 3 | a | *Moved to Part E* |
| I | 3 | b | *Moved to Part E* |
| I | 3 | c | *Moved to Part E* |

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| Part | Item | Sub | Proposed Terms |
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| I | 3 | d | *Moved to Part J* |
| I | 3 | f | *Moved to Part H* |
| I | 4 | | *Moved to E, J and H* |
| I | 7 | | 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 the change in Phase. |
| **J** | | | CONDITIONS APPLYING TO MONITORING |
| J | 1 | | The Licensee shall undertake the Monitoring Program provided in Table I, 2 and 3 of Schedule J. |
| 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. |
| J | 5 | | All analyses shall be conducted as described in the most recent edition of "*Standard Methods for the Examination of Water and Wastewater"* or by such other methods approved by an Analyst. |
| J | 6 | | 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. |
| J | 8 | | The Licensee shall submit to the Board for review, within ninety (90) days of Approval of the Licence by the Minister, updated Plan(s) referred to in Part J, Item 7 to reflect changes in operations. Where applicable (i.e. QA/QC measures), proposed changes shall be submitted to an Accredited Laboratory for approval. |
| J | 9 | | Additional monitoring requirements may be requested by the Inspector. |
| J | 10 | | 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 Schedules. |
| J | 11 | | As noted in Part B, Item (TBD), changes to the Schedules, including Schedule J, which provides details of the Monitoring Program, may, at the Board's discretions, be considered without requiring an Amendment to the Licence. However, the Board must approve any changes to the Monitoring Program, as outlined in Part J and Schedule J; any request for changes to the Monitoring Program should be |

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| Part | Item | Sub | Proposed Terms |
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| | | | submitted to the Board in writing and should include the justification for the change. |
| | | | The Licensee shall prior to Post Closure, carry out an inspection of the Tailings Containment Area, annually 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. |
| | | | The Licensee shall, submit to the Board for Approval, within one (1) year following approval by the Minister, a Post-Closure Monitoring Plan in accordance with requirements in Schedule J, Item 1. |
| **Sch. A** | | | *Only terms used should remain in the final draft.* |
| Sch. A | | | "**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. |
| Sch. A | | | "**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 Project and after Closure; |
| Sch. A | | | **"Acutely Lethal Effluent"** means acutely lethal effluent as defined in the Metal and Diamond Mining Effluent Regulations SOR/2002-222 dated June 6, 2002, last amended on December 8, 2017 and as may be further amended from time to time; |
| Sch. A | | | "**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; |
| Sch. A | | | "**Amendment**" means a change to any terms and conditions of this Licence, through application to the Board, allowing for additions, deletions, and adjustments to specific terms and conditions of the Licence; |
| Sch. A | | | "**Analyst**" means an Analyst designated by the Minister under section 85 (1) of the *Act*; |

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| Sch. A | | | "**Annually**" means, in the context of monitoring frequency, one sampling event occurring every 365 days with a minimum of 200 days between sampling events; |
| Sch. A | | | **"Application"** includes the totality of relevant documents filed by the Licensee on the NWB and NIRB public registries in support of the Water Licence application filed in July 2018 and includes all documents subsequently submitted to the Board throughout the regulatory process; |
| Sch. A | | | "**Board**" means the Nunavut Water Board (NWB) established under Article 13 of the *Nunavut Land Claims Agreement* and under section 14 of the Act; |
| Sch. A | | | "**Bulk Fuel Storage Facilities**" means the facilities used to store large quantities of fuel as described in the Lupin Mine Site Spill Contingency Plan, dated March 2016, and as shown in Figure 3. |
| Sch. A | | | "**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; |
| Sch. A | | | "**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; |
| Sch. A | | | "**Closure**" means when an Operator ceases operations at a facility without the intent to resume mining activities in the future; |
| Sch. A | | | **"Closure Phase"** means that period of time after the Operations Phase where the Project is no longer producing gold, there is no intention to resume mining activities, and reclamation and remediation of all mine facilities is undertaken. |
| Sch. A | | | **"Dam Safety Guidelines"** means the Canadian Dam Association (CDA) Dam Safety Guidelines (DSG), (published in 2007, revised in 2013 or subsequent approved editions); |
| Sch. A | | | "**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; |

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| Part | Item | Sub | Proposed Terms |
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| Sch. A | | | "**Discharge**" means the release of any water or waste to the receiving environment; |
| Sch. A | | | "**Effluent**" means the treated or untreated liquid waste that is discharged into the environment from all site water management facilities; |
| Sch. A | | | "**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*; |
| Sch. A | | | "**Freeboard**" means the vertical distance between the water line and the crest on a dam or dyke's upstream slope; |
| Sch. A | | | "**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; |
| Sch. A | | | "**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. Such structures and earthworks can include shallow and deep foundations, retaining walls, dams, and embankments; |
| Sch. A | | | "**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; |
| Sch. A | | | "**Greywater**" means the component of effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding sewage; |
| Sch. A | | | "**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; |
| Sch. A | | | "**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*); |
| Sch. A | | | "**ICP Metals Scan**" means elements detected using Inductively Coupled Plasma (ICP) mass spectrometer. Metal parameters chose to be included in an ICP |

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| | | | Metals Scan under the Licence should be consistent with baseline data previously collected, and include any metals of concern or interest; |
| Sch. A | | | "**Inspector**" means an Inspector designated by the Minister under section 85 (1) of the Act; |
| Sch. A | | | "**Landfarm Facility**" means the for treating of petroleum hydrocarbon contaminated soil as described in the Application, including the document entitled *Landfarm Management Plan*, dated March 2016; |
| Sch. A | | | "**Landfill Facility**" means the existing or historical Waste disposal facility constructed for the purposed of disposing of non-hazardous and/or non-combustible Waste generated by the Project as described in the Landfill Management Plan, dated March 2016; |
| Sch. A | | | "**Licence**" means this Type "A" Water Licence No 2AM-LUP2030, issued by the Nunavut Water Board in accordance with the *Act*, to Lupin Mines Incorporated for the Lupin Mine; |
| Sch. A | | | "**Licensee**" means the entity to which Licence 2AM-LUP*(TBD)* is issued or assigned; |
| Sch. A | | | "**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; |
| Sch. A | | | "**Metal Leaching**" means the mobilization of metals into solution under neutral, acidic or alkaline conditions; |
| Sch. A | | | "**Minewater**" means any water, including groundwater, which is pumped or flows out of any underground workings or open pit; |
| Sch. A | | | "**Minister**" means the Minister of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC, formerly Indigenous and Northern Affairs Canada); |
| Sch. A | | | "**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; |
| Sch. A | | | "**Monitoring Program**" means the program to collect data on surface water and Ground Water quality and quantity to assess impacts to the environment of an appurtenant undertaking; |

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| Sch. A | | | "**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; |
| Sch. A | | | "**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; |
| Sch. A | | | **"Post Closure"** 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. |
| Sch. A | | | "**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; |
| Sch. A | | | "**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; |
| Sch. A | | | "**Receiving Environment**" means both the aquatic and terrestrial environments that receive any discharge resulting from the Project; |
| Sch. A | | | "**Reclamation**" means the process of returning a disturbed site to its natural state or one for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety; |
| Sch. A | | | "**Recognized Closed Mine**" means a recognized closed mine as defined by section (1) of the Metal and Diamond Mining Effluent Regulations SOR/2002-222 (last amended June 1, 2018); |
| Sch. A | | | "**Regulations**" means the *Nunavut Waters Regulations SOR 2013/669;* |
| Sch. A | | | "**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, ore stockpile areas, quarries, Landfill, or Landfarm areas; |
| Sch. A | | | "**Sewage**" means all toilet wastes and greywater; |

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| Sch. A | | | "**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; |
| Sch. A | | | "**Sump or Sumps**" ~~A~~ 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. |
| Sch. A | | | "**Tailings**" means material rejected from the mill after the recoverable valuable minerals have been extracted; |
| Sch. A | | | "**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 |
| Sch. A | | | "**Use**" means Water use as defined in section 4 of the Act; |
| Sch. A | | | "**Waste**" means waste as defined in section 4 of the Act; |
| Sch. A | | | "**Waste Management Facilities**" means all site infrastructure designed to contain Waste on a temporary or permanent basis as described in the Final Closure and Reclamation Plan(s); |
| Sch. A | | | "**Water**" means water as defined in section 4 of the Act; |
| Sch. A | | | "**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; |
| Sch. A | | | "**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. |
| **Sch. B** | | | General Conditions |
| Sch. B | 1 | | The Annual Report referred to in, shall include: |
| Sch. B | 1 | a | The monthly and annual quantities in cubic metres of Water pumped from Contwoyto Lake at Station Number LUP-01; |
| Sch. B | 1 | b | The monthly and annual quantities in cubic metres of treated Tailings Effluent discharged at Station Number LUP-10; |

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| Sch. B | 1 | c | The monthly and annual quantities in cubic metres of Minewater discharged at Station Number LUP-11; |
| Sch. B | 1 | d | The monthly and annual quantities in cubic metres of treated Sewage Effluent discharged at Station Number LUP-14; |
| Sch. B | 1 | e | Details on the types and quantities of Hazardous Waste and chemicals stored on site |
| Sch. B | 1 | f | Tabular summaries of all data generated under the "Monitoring Program"; |
| Sch. B | 1 | g | A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector; |
| Sch. B | 1 | h | A summary of modification and/or major maintenance work carried out on the Water supply and the Waste disposal facilities, including all associated structures; |
| Sch. B | 1 | i | A list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up action taken; |
| Sch. B | 1 | j | Where applicable, revisions as Addendums, with an indication of where changes have been made, for Plans, Reports, and Manuals; |
| Sch. B | 1 | 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. |
| Sch. B | 1 | m | A summary of any abandonment and reclamation work completed during the year and an outline of any work anticipated for the next year; |
| Sch. B | 1 | 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. |
| Sch. B | 2 | | The Post Closure Monitoring Plan referred to in Part J, Item (TBD) shall include, an update to Schedule B for Annual Reporting requirement reflective of the Post Closure Phase. |
| **Sch. C** | | | *Refer to Attachment C* |
| **Sch. G** | | | Conditions Applying to Construction and Operations |
| Sch. G | 1 | | The Construction Monitoring Report referred to in Part G, Item 3 shall include: |

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| Sch. G | 1 | a | A summary of construction activities including photographic records before, during and after construction; |
| Sch. G | 1 | b | As-built drawings; |
| Sch. G | 1 | c | Documentation of field decisions that deviate from original plans and any data used to support these decisions; |
| Sch. G | 1 | d | Discussion of mitigation measures implemented during construction as well as their effectiveness; |
| Sch. G | 1 | e | Monitoring undertaken in accordance with Part G; |
| Sch. G | 1 | f | Blast vibration monitoring for any quarrying activity carried out in close proximity to fish bearing waters; and |
| Sch. G | 1 | g | Monitoring for sediment release from construction areas. |
| **Sch. I** | | | CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION, AND CLOSURE PLANNING |
| **Sch. J** | | | |
| Sch. J | 1 | | The Post Closure Monitoring Plan referred to in Part J, Item (TBD), shall include:<br>a. An updated framework for annual reporting requirements as required by Schedule B, Item 2.<br>b. Existing and Future Instrumentation Monitoring. |

Notes:
(1) Waste Management Plan (Solid and Hazardous) (March 2016), was originally Appendix 1 to Care & Maintenance Plan (March 2016);
(2) Liquid Waste Management; (March 2016) was originally Appendix 2 to Care & Maintenance Plan (March 2016);
(3) Monitoring and Inspection Schedule (March 2016) was originally Appendix 4 to Care & Maintenance Plan (March 2016);
(4) Water Quality Monitoring Plan and Quality Assurance/Quality Control Plan (March 2016) was originally Appendix A of the Liquid Waste Management Plan (March 2016);
(5) Final Closure Plan for Tailings Containment Area (January 2005) approved by the NWB in licence renewal issued August 19, 2015 by Part I, Item 1(b).

**Sch. J Table 1**

| Term and Conditions Current | | | | Proposed Changes/Term | | | | | | | | | LMI Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | Location | Frequency | Parameter | Parameter Group Code (See Table J.2) | Preparatory Work | Closure Phase | | Post-Closure Phase | | | | | |
| | | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| | | | | | | Active Stage | | Passive Stage | | | | | |
| LUP-01 | Freshwater Intake from Contwoyto Lake | Annually | pH, Conductivity, Total Suspended Solids (TSS), Fecal Coliform, Total Metals (ICP Metals Scan), Total Mercury | Field, conventionals, Total metals, and biological | Yes | Yes | Yes | Only if still active | | | | | |
| | | Monthly | Quantity of water measured and recorded in cubic metres | Quantity of water measured and recorded in cubic metres | | | | | | | | | |
| LUP-10 | Pond 2 discharge at Dam 1A | Daily during periods of Discharge | pH, Hardness, Alkalinity, Total Suspended Solids (TSS), Total Metals (ICP Metals Scan), Total Cyanide, Nitrate, Nitrite | Field, conventionals, metals, cyanide, no visible sheen of Oil & Grease | Yes | Yes | No | Only if still active control – otherwise annually during open water | | | | | Monitoring during Post Closure annually during Goetechnical inspection, assuming spillway in place and flow is natural with no controls/treatment.<br>Additional parameters covered under the Field, conventionals and nutrients (based on MDMER requirements)<br><br>Nitrate and Nitrite removed for daily monitoring, included in weekly monitoring under nutrients. |
| | | | Quantity of treated effluent discharged, measured and recorded in cubic metres | Quantity of treated effluent discharged, measured and recorded in cubic metres, | | | | | | | | | As per POL and NAN. |
| | | Weekly during periods of discharge from the Tailings Containment Area | Ammonia (NH4), Radium (226RA) | Nutrients, Radium (226RA) | | | | | | | | | This should be worded to state first day of discharge and weekly thereafter. |
| | | Monthly (no less than one month Intervals) commencing with the first day of decant | Total Cyanide, Bioassay | Bioassay | | | | | | | | | This should be worded to state first day of discharge and monthly thereafter.<br><br>Total cyanide removed from the monthly requirement as it is already included as a daily requirement. |

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| Term and Conditions Current | | | | Proposed Changes/Term | | | | | | | | | LMI Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | Location | Frequency | Parameter | Parameter Group Code (See Table J.2) | Preparatory Work | Closure Phase | | Post-Closure Phase | | | | | |
| | | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| | | | | | | Active Stage | | Passive Stage | | | | | |
| LUP-10a (LUP-102) | Internal station in TCA Pond 2, approximately 100 m upstream from siphon intake | ~~Twice annually~~, Once prior to initiation of decant and once ~~just~~ prior to termination of decant | Bioassay, Total Metals (ICP Metals Scan), Ammonia (NH4), Radium (226RA), Total Cyanide, Mercury, Ammonia (NH4), Alkalinity, Total Suspended Solids, Nitrate, Nitrite | Field, conventionals, nutrients, metals, cyanide, and radium, and bioassay | Yes | if water present | No | No | No | No | No | No | This was originally LUP-17, not sure way it was changed or how? But may as well leave as is to avoid confusion.<br><br>Remove the 'twice annually", simply read as once prior to decant, and once prior to completion of decant. |
| LUP-11 | Minewater discharge at automatic sampler in the mill | Not Active | | | | | | | | | | | Mine water is no longer pumped from the underground at this station. Some minewater may be pumped/relocated from the open stopes to the underground shaft or fresh air raise during dewatering. |
| 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 | Alkalinity, Ammonia (NH4), $BOD_5$,Hardness, pH, Total Metals (ICP Metals Scan), Total Suspended Solids, Nitrite, Nitrate, Fecal Coliform, Total Phosphorus, Total Orthophosphorus - (OPO4), Total Kjeldahl Nitrogen (TKN) | Field, conventionals, nutrients, metals, biological, and other - biochemical oxygen demand ($BOD_5$), Total Phosphorus, Total Orthophosphorus - (OPO4), Total Kjeldahl Nitrogen (TKN) | Yes | Yes | Yes | Only if still active Control, otherwise – Annually during open water | | | | | During post closure, once control has been removed, monitoring done in conjunction with the annual geotechnical inspection visit.<br>Additional parameters to be included above what is in Table 2, includes 'other' |
| | | Monthly | Quantity of treated effluent discharged, measured and recorded in cubic metres | Quantity of treated effluent discharged, volume measured and recorded in cubic metres | | | | | | | | | |
| LUP-15 | Discharge from TCA Pond 1 (east pond) into TCA Pond 2 (west pond) | Not Active | | No change | | | | | | | | | |
| LUP-16 | TCA Pond 2 at center | Not Active | | No change | | | | | | | | | |

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| Term and Conditions Current | | | | Proposed Changes/Term | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | Location | Frequency | Parameter | Parameter Group Code (See Table J.2) | Preparatory Work | Closure Phase | | Post-Closure Phase | | | | | LMI Notes |
| | | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| | | | | | | Active Stage | | Passive Stage | | | | | |
| LUP-17 | TCA Pond 2 upstream of Station LUP-10 | Not Active | | No change | | | | | | | | | This station number has been replaced by LUP-10a (LUP-102) in previous licences |
| LUP-19 | East end of Seep Creek in Dam 2 Lake | Not Active | | No change | | | | | | | | | |
| 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 | Alkalinity Ammonia (NH4) Hardness pH Total Cyanide Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, cyanide, and radium | Yes | Yes | No | No | No | No | No | No | |
| 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 | Alkalinity Ammonia (NH4) Hardness pH Total Cyanide Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, cyanide, and radium | Yes | Yes | No | No | No | No | No | No | This station monitoring should also coincide with monitoring at 20, 22, 24 and 25. |
| | | Weekly at mid-depth and when bioassay sample is collected at LUP-10 just prior to termination of decant | Nitrate (NO3) Ammonia (NH4) | Delete | | | | | | | | | If collected weekly, there is no need to duplicate item, also, when collected weekly, no need for reference to when the bioassay sample is collected at LUP-10 (which should actually be the LUP-10a sample station (102). |
| | | Monthly at mid-depth and when bioassay sample is collected at LUP-10 just prior to termination of decant | Total Metals (ICP Metals Scan) Cyanide Radium (226RA) | Delete | | | | | | | | | Same as above. |
| 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 | Alkalinity Ammonia (NH4) Hardness pH Total Cyanide Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, cyanide, and radium | Yes | Yes | No | No | No | No | No | No | |
| LUP-24 | Inner Sun Bay ~~near~~ 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 | Alkalinity Ammonia (NH4) Hardness pH Total Cyanide Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, cyanide, radium | Yes | Yes | No | No | No | No | No | No | This monitoring station should be described as ‘at’ or ‘within’ the narrows, not ‘near’<br>This should read “at” narrows, it has, and should have been located midway in the narrows, so unaffected by the outside bay, inside bay (actually a good current going from inner to outer Sun Bay. |
| | | Weekly at Mid-depth | Ammonia (NH4) Nitrate (NO3) | Delete – included in above | | | | | | | | | Remove, parameters covered under main monitoring weekly |

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| Term and Conditions Current | | | | Proposed Changes/Term | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | Location | Frequency | Parameter | Parameter Group Code (See Table J.2) | Preparatory Work | Closure Phase | | Post-Closure Phase | | | | | LMI Notes |
| | | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| | | | | | | Active Stage | | Passive Stage | | | | | |
| | | Monthly at Mid-depth | Total Cyanide Total Metals (ICP Metals Scan) Radium (226RA) | Delete - Included in above | | | | | | | | | Same as above |
| 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 | Alkalinity Ammonia (NH4) Hardness pH Total Cyanide Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, cyanide, radium | Yes | Yes | No | No | No | No | No | No | |
| LUP-26 | Contwoyto Lake in bay east of water intake | Not Active | | | | | | | | | | | This monitoring station needs to be corrected on the maps, east of the pumphouse, where sewage effluent enters contwoyto lake. |
| LUP-27 | Bulk Fuel Storage Facility | Once prior to discharge and weekly during periods of discharge | pH, Total Suspended Solids, Total Oil and Grease, BTEX, Total Ammonia, Total Metals, (ICP Metals Scan) Hardness, Alkalinity, Nitrite (NO2), Nitrate (NO3) | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | | |
| LUP-28 | Discharge from the Landfarm Facility | Once prior to discharge and weekly during periods of discharge | pH, Total Suspended Solids, Total Oil and Grease, BTEX, Total Ammonia, Total Metals, (ICP Metals Scan) Hardness, Alkalinity, Nitrite (NO2), Nitrate (NO3) | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | | |
| LUP-29 | Landfarm Facility Monitoring Well – Up gradient | Monthly during periods of observed flow – June through September | Same as LUP-28 | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | | Currently not installed, received variance from NWB for installation of all monitoring wells associated with the landfarm due to the incorporation of a leak detection system/containment. |

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| Term and Conditions Current | | | | Proposed Changes/Term | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | Location | Frequency | Parameter | Parameter Group Code (See Table J.2) | Preparatory Work | Closure Phase | | Post-Closure Phase | | | | LMI Notes |
| | | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| | | | | | | Active Stage | | Passive Stage | | | | |
| LUP-30a | Landfarm Facility Monitoring Well – Down gradient | Monthly during periods of observed flow – June through September | Same as LUP-28 | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | Currently not installed, received variance from NWB for installation of all monitoring wells associated with the landfarm due to the incorporation of a leak detection system/containment. |
| LUP-30b | Landfarm Facility Monitoring Well – Down gradient | Monthly during periods of observed flow – June through September | Same as LUP-28 | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | Currently not installed, received variance from NWB for installation of all monitoring wells associated with the landfarm due to the incorporation of a leak detection system/containment. |
| LUP-31 | Seepage from the Landfill Facility | Monthly during periods of observed flow | Alkalinity Ammonia (NH4) Hardness pH Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | The landfill monitoring wells would likely be still active following closure and into post closure. |
| LUP-32 | Landfill Facility Monitoring Well – Up gradient | Monthly during periods of observed flow – June through September | Same as LUP-31 | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | Received confirmation from Inspector that the requirement for monitoring wells was not required until the landfill was complete and decommissioned. |
| LUP-33a | Landfill Facility Monitoring Well – Down gradient | Monthly during periods of observed flow – June through September | Same as LUP-31 | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | |

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| Term and Conditions Current | | | | Proposed Changes/Term | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | Location | Frequency | Parameter | Parameter Group Code (See Table J.2) | Preparatory Work | Closure Phase | | Post-Closure Phase | | | | | LMI Notes |
| | | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| | | | | | | Active Stage | | Passive Stage | | | | | |
| LUP-34b | Landfill Facility Monitoring Well – Down gradient | Monthly during periods of observed flow – June through September | Same as LUP-31 | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | | |
| LUP-35 | Seepage from the Landfill Facility | Monthly during periods of observed flow | Alkalinity Ammonia (NH4) Hardness pH Total Metals (ICP Metals Scan) Total Suspended Solids | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | Only if still active | | | | | | | The landfill monitoring wells would likely be still active following closure and into post closure. |
| LUP-35a | Demolition Landfill Facility Monitoring Well – Up gradient | Monthly during periods of observed flow – June through September | | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | | | | | | | | | New proposed with the Demolition Landfill<br><br>The Demolition landfill monitoring wells would likely be still active following closure and into post closure. |
| LUP-35b | Demolition Landfill Facility Monitoring Well – Down gradient | Monthly during periods of observed flow – June through September | | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | | | | | | | | | New proposed with the Demolition Landfill |
| LUP-35c | Demolition Landfill Facility Monitoring Well – Down gradient | Monthly during periods of observed flow – June through September | | Field, conventionals, nutrients, metals, oil and grease, benzene, toluene, ethyl benzene, xylene | Yes | | | | | | | | New proposed with the Demolition Landfill |

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Sch J. Table 2 Water Quality Monitoring 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[a]) |
| Conventionals | pH, total suspended solids, alkalinity, hardness |
| Nutrients | Total ammonia, nitrate, and nitrite |
| Metals | Total aluminum, antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, mercury, molybdenum, nickel, selenium, uranium, and zinc |
| Cyanide | Total cyanide |
| Radium | Radium-226 |
| Biological | Fecal coliform |
| Bioassay | Acute toxicity tests (rainbow trout and Daphnia) |
| Other | Specified by station |

Note: a - only measured at receiving environment stations