



Mackenzie Valley Land and Water Board
7th Floor - 4922 48th Street
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

February 7, 2019

File: MV2014L2-0001

Mr. Mark Wiseman
Avalon Advanced Materials Inc.
1901-130 Adelaide St. West
TORONTO ON M5H2P5

Email: mwiseman@AvalonAM.com

Dear Mr. Wiseman:

Water Licence Term Amendment Request - Approved
Mining and Milling – Thor Lake, NT

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on February 7, 2019 and reviewed your request for a two-year extension to the term of Water Licence MV2014L2-0001 which was submitted on December 17, 2018.

Preliminary Screening

Based on the evidence provided, the Board has also confirmed that the Application is exempt from preliminary screening as per Schedule 1, Paragraph 2 of the Exemption List Regulations of the MVRMA which states:

A development, or part thereof, for which renewal of a permit, licence or authorization is requested that

- a) Has not been modified; and
- b) Has fulfilled the requirements of the environmental assessment process established by the *Mackenzie Valley Resource Management Act*, the *Canadian Environmental Assessment Act* or the *Environmental Assessment Review Process Guidelines Order*.

The Board hereby approves the amendment to the term of Water Licence MV2014L2-0001 as submitted. Attached is the updated cover page and Permit, which now expires on May 21, 2021. A copy of this Licence and all related correspondence and documents has been filed on the [Public Registry](#) at the MVLWB office.

If you have any questions or concerns, please contact Tyree Mullaney at (867) 766-7464 or email tyree@mvlwb.com.

Yours sincerely,

Mavis Cli-Michaud
MVLWB, Chair

Copied to: Distribution List

Attachment: Water Licence MV2014L2-0001



Mackenzie Valley Land and Water Board
Water Licence

Pursuant to the *Mackenzie Valley Resource Management Act*, *Waters Act*, and *Waters Regulations*, the Mackenzie Valley Land and Water Board, hereinafter referred to as the Board, hereby grants to:

Avalon Advanced Materials Inc.
(Licensee)

of 1305 Adelaide St. W Suite 1901 Toronto ON M5H 3P5
(Mailing Address)

hereinafter called the Licensee, the right to alter, divert, or otherwise use water subject to the restrictions and conditions contained in the *Waters Act* and *Regulations* made thereunder and subject to and in accordance with the conditions specified in this Licence.

Licence Number:	MV2014L2-0001
Licence Type:	B
Water Management Area:	WMA 1
Location:	62°05'56"N and 112°35'37"W
Purpose:	To use water and dispose of waste and associated uses
Description:	Mining and Milling (early works)
Quantity of Water not to be exceeded :	75 cubic metres (m ³)/per day
Effective date of Licence:	May 22, 2014
Expiry date of Licence:	May 21, 2021

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions.

Mackenzie Valley Land and Water Board

Handwritten signature of Mavis Cli-Michaud in blue ink.

Mavis Cli-Michaud, Chair

Handwritten signature of Amanda Gauthier in black ink.

Amanda Gauthier, Witness

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Part A: Scope and Definitions

1. Scope

- a) This License entitles the Licensee to use Water and dispose of Waste for industrial undertakings for early mine set up and pre-construction and associated uses at the Nechalacho Project, as described in the Amended Water License Application, submitted February 27, 2014 and supporting documents, and includes the following:
 - a. Withdrawal and use of water from Thor Lake;
 - b. Construction of the portal;
 - c. Construction of sediment control structures;
 - d. Quarrying of materials from specified locations and crushing;
 - e. Bulk fuel storage;
 - f. Use and storage of explosives;
 - g. Construction and operation of a camp; and
 - h. Construction and operation of site services infrastructure such as water lines, electrical distribution, site roads, airstrip, sewage treatment, incinerator, and material sorting facilities.
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the depositing 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 deposit of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Commissioner in Executive Council under the *Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations.
- c) Compliance with the terms and conditions of this Licence does not excuse the Licensee from its obligation to comply with the requirements of any applicable, Federal, Territorial, or Municipal laws.

2. Definitions

"Acid Rock Drainage (ARD)" means acidic water, often with elevated sulphate concentrations, that occurs as a result of oxidation of sulphide minerals contained in rock or other materials that are exposed as a result of natural weathering processes, Construction or mining activities.

"Act" means the *Waters Act*.

"Analyst" means an Analyst designated by the Minister under subsection 65(1) of the Act.

"Board" means the Mackenzie Valley Land and Water Board established under Part 4 of the *Mackenzie Valley Resource Management Act*.

"Construction" means any activities undertaken to construct or build any components of, or associated with, the development of the Project.

“Discharge” means the direct or indirect release of any Water or Waste to the Receiving Environment.

“Environmental Assessment” means, for the purpose of this Licence, the totality of the Mackenzie Valley Environmental Review Board (MVEIRB) Public Registry as established under the authority of Part 5 of the *Mackenzie Valley Resource Management Act* for this Licence application. This includes without limiting the foregoing, all documents, records, and materials of any kind submitted to the MVEIRB Public Registry established in accordance with Part 5 of the *Mackenzie Valley Resource Management Act* which are relevant to Water Licence Application MV2010L2-0005 made by Avalon Rare Metals Inc.

“Inspector” means an Inspector designated by the Minister under section 65(1) of the Act.

“Licensee” means the holder of this Licence.

“Maximum Average Concentration” means the running average of any analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the “Surveillance Network Program”.

“Metal Leaching (ML)” means the release of metals and metalloids in leachate, Seepage or drainage from rock or other materials associated with Construction, operations, or after closure of the Project.

“Minewater” means groundwater or any Water generated for the life of the project including runoff from facilities associated with the project and all Water or Waste pumped or flowing out of any mine workings.

“Minewater Settling Pond” means any natural or manmade depression designed to act as a settling facility for the purpose of separating solids from **Minewater**.

“Minister” means a duly appointed member of the Executive Council who is responsible for the Act or the department responsible for administering that Act.

“Modification” in respect of a structure, means a change, other than an expansion, that does not alter the purpose or function of a structure.

“Professional Engineer” means a person who is registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists in accordance with the *Engineering and Geoscience Professions Act*. S.N.W.T. 2006, V.16, or subsequent editions, as a Professional Engineer, and whose principal field of specialization is appropriate to address the components of the Project at hand.

“Receiving Environment” means, for the purpose of this Licence, the natural aquatic environment that receives any deposit or Discharge of Waste, including Seepage or Minewater, from the Project.

“Reclamation” means activities which facilitate the return of affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment.

"Regulations" are those Regulations promulgated pursuant to section 63 of the Act.

"Report of Environmental Assessment" means the Mackenzie Valley Environmental Impact Review Board's Report of Environmental Assessment and Reasons for Decision EA1011-0001, January July 26, 2013.

"Seepage" includes Water or Waste that drains through or escapes from any structure designed to contain, withhold, divert or retain Water or Waste.

"Sewage" means all toilet Waste and greywater.

"Sump" means a storage facility constructed to temporarily collect, hold, or transfer Water, and or Waste within the project.

"Unauthorized Discharge" is a release or Discharge of any Water or Waste not authorized under this Licence.

"Waste" means any substance defined as Waste by section 1 of the Act.

"Wastewater" means the Water that is generated by site activities are originate on site that requires treatment or any other Water management activity.

"Waste Rock" means all unprocessed rock materials that are produced as a result of mining operations.

"Water(s)" means any Waters as defined by section 1 of the Act.

"Water Supply Facilities" means the area, and associated intake infrastructure at the project.

"Water Use" means the use of Water as defined by section 1 of the Act and shall include freshwater from all sources and Minewater.

"Water Use Fee" means a fee for the use of Water set out in the Regulations promulgated under section 63 of the Act.

Part B: General Conditions

- 1.** The Licensee shall ensure a copy of this Licence is maintained on site at all times.
- 2.** The Water Use fee shall be paid annually in advance of any Water Use, in accordance with the Mackenzie Valley Land and Water Board's *Water Use Fee Policy*.
- 3.** The Licensee shall comply with the Schedules, which are annexed to and form part of this Licence, and any amendments to the Schedules as may be made from time to time by the Board.
- 4.** The Licensee shall comply with the Surveillance Network Program, which is annexed to and forms part of this Licence, and any amendment to the Surveillance Network Program as may be made from time to time by the Board.

5. The Schedules, the Surveillance Network Program, and any compliance dates specified in this Licence may be amended at the discretion of the Board.
6. Meters, devices, or other such methods used for measuring the volumes of Water used and Waste Discharged shall be installed, operated, and maintained by the Licensee to the satisfaction of an Inspector.
7. The Licensee shall submit to the Board and Inspector, drawings/specifications of the Sewage Treatment Plant, 30 days prior to the installation of the selected Sewage Treatment Plant.
8. Prior to Waste Discharge from the Sewage Treatment Plant, the Licensee shall accompany an Inspector during an inspection of the proposed discharge location.
9. The Licensee shall only discharge effluent from the Sewage Treatment Plant to the specific location approved by the Inspector.
10. The Licensee shall post and maintain signs necessary to identify the stations of the Surveillance Network Program to the satisfaction of an Inspector.
11. The Licensee shall file an **Annual Water Licence Report** with the Board no later than April 30th of the year following the calendar year reported. The report shall contain the information set out in Schedule 1, Item 1.
12. The Licensee shall adhere to the **Engagement Plan** submitted on February 27, 2014, and shall annually review the plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.
13. If any Plan is not approved by the Board, the Permittee shall revise the Plan according to the Board's direction and re-submit it to the Board for approval.
14. In conducting its activities under this Licence, the Licensee shall make best efforts to consider and incorporate any scientific and Traditional Knowledge that is made available to the licensee.
15. The Licensee shall take every reasonable precaution to protect the environment.

Part C: Conditions Applying to Security Deposits

1. The Licensee shall post and maintain a security deposit in accordance with Schedule 2, Item 1.
2. Upon request of the Board, the Licensee shall submit an updated mine Reclamation liability estimate utilizing the current version of RECLAIM or another method acceptable to the Board.

3. The amount of the security deposit required by Part C, Item 1 and Schedule 2, Item 1 may be revised by the Board based on estimates of the current mine Reclamation liability referred to in Part C, Item 2 of this Licence or based on such other information as may be available to the Board.

Part D: Conditions Applying to Water Use

1. The Licensee may only obtain Water for domestic purposes, processing, road watering, and associated uses from Thor Lake, unless otherwise approved by the Board. Water will be withdrawn using the Water Supply Facilities, unless otherwise authorized in writing by an Inspector.
2. The annual quantity of fresh Water withdrawn shall not exceed the limit set out in Schedule 3, Item 1.
3. The Licensee shall construct and maintain the Water intake(s) with a fish screen designed to prevent impingement and/or entrainment of fish. The fish screen shall be in accordance with the detailed guidance referred to in Schedule 3, Item 2.
4. In one ice-covered season, total Water withdrawal from a single waterbody shall not exceed 10% of the available Water volume calculated using the appropriate maximum expected ice thickness in accordance with the detailed guidance referred to in Schedule 3, Item 3.

Part E: Conditions Applying to Construction

1. The Licensee shall ensure that all engineered structures are designed, constructed, and maintained to prevent escape of Waste to the Receiving Environment.
2. The Licensee shall ensure that all engineered structures intended to contain, withhold, divert, or retain Water or Wastes are designed, constructed, and maintained to meet or exceed the *Dam Safety Guidelines*.
3. The Licensee shall maintain Construction records of engineered structures and make them available at the request of the Board or an Inspector.
4. A minimum of forty-five(45) days prior to the start of Construction of any facilities related to Water use or Waste disposal for the Project, excluding Sumps, that are not part of a Board approved management plan, the Licensee shall submit to the Board for approval a **Construction Plan** that shall contain, but not be limited to, the following information:
 - a) A description of the facilities to be constructed;
 - b) The proposed location for the structures;
 - c) Any potential impacts to the Receiving Environment;
 - d) A description of any monitoring including, but not limited to, sampling locations, parameters measured and frequencies of sampling to be carried out to determine impacts to the Receiving Environment;

- e) A detailed description of any measures used to prevent or mitigate impacts to the Receiving Environment;
 - f) A schedule for the Construction; and
 - g) Drawings of engineered structures stamped by a Professional Engineer.
5. Within 90 days of completion of Construction of the engineered structures, the Licensee shall submit to the Board an **As-Built Report**, including final drawings and specifications, documentation of field decisions that deviate from the Final Detailed Construction Plan, and any data used to support these decisions.
6. A minimum of 10 days prior to commencement of Construction of engineered structures, the Licensee shall provide written notification to the Board and an Inspector.
7. A minimum of sixty days prior to quarry and portal development, the Licensee shall submit to the Board for approval, a **Geochemical Characterization and Management Plan for Early Works Activities** for the characterization and management of rock to prevent the use of material with potential for ARD and/or ML in construction. The Licensee shall not commence quarry and portal development until the Board has approved the Plan. The Plan shall include, at a minimum, the following elements:
- a) Contingency plans for managing any materials with potential for ARD and/or ML that are identified during excavation, including plans for the immediate term, over the life of the project, and after closure;
 - b) Sampling and testing plans to identify materials with potential for ARD and/or ML, including sampling and testing a minimum of 10 spatially representative samples from each geologically distinct rock unit within the quarry area either in advance of or during quarry development. If the amount of quarry rock is greater than 100,000 tonnes, an additional sample shall be collected for each additional 10,000 tonnes of rock. All of the samples shall be submitted for acid base accounting (ABA) tests, and trace element analyses. Five of the samples shall be submitted for shake flask extraction tests, including analysis of pH, acidity, alkalinity, sulphate, and dissolved metals. The results shall be submitted to the Board within 90 days of the start of quarry development. If any significant ARD or metal leaching potential is identified, then contingency plans for this material shall be implemented;
 - c) Inspection of the rock from each blast by an appropriately qualified individual for the presence of sulphide mineralization. Any rock that contains greater than 0.5% (visual estimate) of sulphide mineralization shall be segregated and stockpiled in a designated area within the quarry area. A minimum of 3 ABA tests per 5000 tonnes of this stockpiled material shall be completed to determine the ARD potential. If testing indicates that the rock has a Neutralizing Potential/Acidic Potential (NP/AP) ratio *and* Total Inorganic Carbon (TIC)/AP ratio of greater than 3, then it may be used for construction. If testing indicates that the rock has an NP/AP *or* TIC/AP ratio of less than 3, then contingency plans for this material shall be implemented; and

- d) Post-construction monitoring, including inspection of the rock used in the roads and infrastructure areas for the presence of sulphides, confirmation sampling of the rock, and a seep survey.
8. The Licensee shall adhere to the Geochemical Characterization and Management Plan for Early Works Activities, once approved, and shall annually review the Plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.
 9. The Licensee shall adhere to the Geochemical Characterization and Management Plan, once approved, and shall annually review the plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.

Part F: Conditions Applying to Modifications

1. The Licensee may, without written approval from the Board, carry out Modifications to facilities related to Water use or Waste disposal provided the following requirements are met:
 - a) The Licensee has notified the Board and Inspector in writing of such proposed Modification at least 60 days prior to beginning the Modifications;
 - b) The Modifications do not place the Licensee in contravention of either the Licence or the Act;
 - c) The Board has not, during the 60 days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than 60 days;
 - d) An Inspector has authorized the proposed Modifications and provided a letter of notification to the Board; and
 - e) The Board has not rejected the proposed Modifications.
2. Within 90 days of the completion of Modifications referred to in Part F, Item 1, the Licensee shall provide as-built drawings stamped by a Professional Engineer to the Board.
3. Modifications for which all of the conditions referred to in Part F, Item 1, have not been met, may be carried out only with written approval from the Board.

Part G: Conditions Applying to Waste and Water Management

1. The Licensee shall manage Waste and Water with the objective of minimizing the impacts of the Project on the quantity and quality of Water in the Receiving Environment through the use of appropriate mitigation measures, monitoring, and follow-up action.
2. The Licensee shall adhere to the **Waste Management Plan** submitted on February 27, 2014, until a revised Plan is approved by the Board.

3. The Licensee shall submit a revised Waste Management Plan to the Board for approval, in accordance with the Mackenzie Valley Land and Water Board's March 2011, or subsequent editions, *Guidelines for the Development of a Waste Management Plan*, within 30 days of the issuance of this Licence.
4. The Licensee shall adhere to the Waste Management Plan, once approved, and shall annually review the plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.
5. The Licensee shall adhere to the **Erosion and Sediment Control Plan**, submitted on February 27, 2014, until a revised Plan is approved by the Board.
6. The Licensee shall submit a revised Erosion and Sediment Control Plan to the Board for approval within 30 days of the issuance of this Licence.
7. The Licensee shall adhere to the Erosion and Sediment Control Plan, once approved, and shall annually review the plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.
8. The Licensee shall adhere to the **Explosives Management Plan**, submitted on February 27, 2014, until a revised Plan is approved by the Board.
9. The Licensee shall submit a revised Explosives Management Plan to the Board for approval within 45 days of the issuance of this Licence.
10. The Licensee shall adhere to the Explosives Management Plan, once approved, and shall annually review the plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.
11. The Licensee shall provide Water sampling results to an Inspector a minimum of five (5) days prior to any planned discharges of Water or Waste from collar construction activities. Discharge shall not commence until authorized by an Inspector.
12. The Licensee shall dispose of all Sewage and Greywater as described in the approved Waste Management Plan, unless otherwise authorized in writing by an Inspector.
13. 45 days prior to discharge from the Sewage Treatment Plant, the Licensee shall submit to the Board for approval an **Operation and Maintenance Plan** for the Sewage Treatment Plant. The Licensee shall not commence discharge from the Sewage Treatment Plant until the Board has approved the Plan.

14. All Water or Wastes from the Project that enters the Receiving Environment, including all Discharge from the Surveillance Network Program Station 1, shall meet the following effluent quality requirements:
15. Effluent from the Sewage Treatment Plan shall be tested prior to be in discharged at Surveillance Network Program Station Number 1 and will meet the following effluent quality requirements.

Parameter	Maximum Concentration of any Grab Sample (mg/L)
CBOD ₅	25 mg/L
TSS	25 mg/L
Faecal Coliforms	20 CFU/100mL

16. Any Water or Waste from the Project that enters the Receiving Environment shall have a pH between 6 and 9, and no visible sheen of oil and grease.
17. All analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater* or by such other methods as may be approved by an Analyst.
18. All cleaning materials, absorbent mats and sludge shall be separated from the Water and disposed of in a manner approved by an Inspector.

Part H: Conditions Applying to Contingency Planning

1. The Licensee shall adhere to the **Spill Contingency Plan** submitted on February 27, 2014, until a revised Plan is approved by the Board.
2. The Licensee shall submit a revised Spill Contingency Plan to the Board for approval, in accordance with Indian and Northern Affairs Canada's *Guidelines for Spill Contingency Planning, 2007*, or subsequent editions, within 30 days of the issuance of this Licence.
3. The Licensee shall adhere to the Spill Contingency Plan, once approved, and shall annually review the plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.

4. If, during the period of this Licence, an Unauthorized Discharge occurs or is foreseeable, the Licensee shall:
 - a) Implement the Spill Contingency Plan;
 - b) Report the incident immediately via the 24 Hour Spill Reporting Line (867) 920-8130 in accordance with the instructions contained in the Spill Report Form NWT 1752/0593 or subsequent editions;
 - c) Report each spill to an Inspector within 24 hours; and
 - d) Submit, to the Board and an Inspector, a detailed report on each spill within 30 days.

5. All Unauthorized Discharges of Water or Waste shall be reclaimed to the satisfaction of an Inspector.

Part I: Conditions Applying to Closure and Reclamation

1. The Licensee shall adhere to the **Closure and Reclamation Plan** submitted on February 27, 2014, until a revised Plan is approved by the Board.

2. The Licensee shall annually review the Closure and Reclamation Plan and make any necessary revisions to reflect changes in operations or as directed by the Board. Revisions to the plan shall be submitted to the Board for approval.

3. The Licensee shall, one year prior to the expiration of this Licence, submit a revised Closure and Reclamation Plan to the Board for approval, in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*, or subsequent editions.

Mackenzie Valley Land and Water Board



Mavis Cli-Michaud, Chair



Amanda Gauthier, Witness



ANNEX A: SURVEILLANCE NETWORK PROGRAM

LICENSEE: Avalon Rare Metals Inc.

LICENCE NUMBER: MV2014L2-0001

EFFECTIVE DATE OF LICENCE: May 22, 2014

EFFECTIVE DATE OF SURVEILLANCE

NETWORK PROGRAM (SNP): May 22, 2014

Part A: General

1. The Licensee shall, within thirty (30) days following the month being reported, submit to the Board and an Inspector, in electronic and printed format acceptable to the Board, a **Surveillance Network Program Report**, which shall include, but not be limited to the following:
 - a) Tabular summaries of all data and information generated under the SNP for the month being reported, including rationale for SNP sites where samples were not collected (but should have been) and results and interpretation of quality assurance / quality control procedures;
 - b) An explanation of any actions taken in response to any exceedances of the Effluent Quality Criteria;
 - c) Information regarding the calibration and status of the meters and devices referred to in Part B, Item 6 (of the body);
 - d) The coordinates of all SNP sites which were established within the month being reported, including an updated map identifying the locations of all the SNP sites;
 - e) A tabular summary of cumulative water use;
 - f) Tabular summaries of all data and information generated under the Supplementary Measurement Requirements referred to in Part C.
2. More frequent sample collection may be required at the request of an Inspector.
3. All sampling, sample preservation, and analyses shall be conducted in accordance with methods prescribed in the current edition of APHA "Standard Methods for the Examination of Water and Wastewater" at the time of analysis, or by such other methods approved by an Analyst.
4. All analyses shall be performed in a laboratory accredited by the Canadian Association for Laboratory Accreditation (CALA) for the specific analyses to be performed or as approved by an Analyst.

5. A minimum of sixty (60) days prior to the collection of SNP samples, the Licensee shall submit to an Analyst for approval, a **Quality Assurance and Quality Control (QA/QC) Plan**, which shall include a list of techniques that will be used to collect and analyze samples collected under the SNP.
6. The Licensee shall adhere to the QA/QC Plan, once approved, and shall annually review the plan and make any necessary revisions to reflect changes in Operations or as directed by the Board. Revisions to the plan shall be submitted to the Analyst for approval.
7. If the QA/QC Plan is not approved by the Analyst, the Licensee shall revise the plan according to the Analyst's direction and re-submit it to the Analyst for approval.

Part B: Site Descriptions and Monitoring Requirements

1. The location of sampling sites is subject to approval of the Inspector.
2. The location of sampling sites and site-specific monitoring requirements, according to mine phase, are as follows (and presented in Figures 1 and 2, attached):

A. Surveillance Network Program Description and Monitoring Requirements

1. The location of sampling sites and specific monitoring requirements are as follows:

Surveillance Network Program (SNP) 1: (active):

Description:	Sewage Treatment Plant (STP) Effluent	
Location:	Direct discharge of STP. Location to be finalized after STP is installed.	
Sampling Frequency:	Weekly	Monthly
Sampling Parameters:	Flow, Biological oxygen demand (BOD), Nutrients ¹ , Total Oil and Grease, TSS, <i>E. Coli</i> , Faecal Coliforms, pH, Temperature, Conductivity, Turbidity	CCMS scan ³ (total and dissolved), Total Mercury, Total Arsenic
Rationale:	Water License Compliance Monitoring during construction and operations; to evaluate whether sewage has been adequately treated before discharge to specified discharge location on land.	

¹ Nutrients shall include the following parameters: Ammonia (NH₃), Nitrite (NO₃-N), Nitrate (NO₂-N), Total Kjeldahl Nitrogen (TKN), total Phosphorus (P), Dissolved Phosphorous (P), Orthophosphate (PO₄³⁻), Total Organic Carbon (TOC)

Surveillance Network Program (SNP) 2: (active):

Description:	Any Earthworks Facilities that are constructed from more than 10,000 tonnes of quarry rock (EWF)
Location:	Seepage from these materials
Sampling Frequency:	Weekly
Sampling Parameters:	Ammonia and Nitrate
Rationale:	Water License Compliance Monitoring during construction and operations; to evaluate whether blasting materials are seeping into runoff from waste rock piles.

Schedule 1

Part B: General Conditions

1. The Annual Water Licence Report referred to in Part B, Item 11 shall include, but not be limited to, the following:
 - a) The monthly and annual quantities in cubic metres of fresh water obtained;
 - b) The monthly and annual quantities in cubic metres of each and all Waste discharged;
 - c) A summary of Modifications and/or major maintenance work carried out on the Waste Disposal Facilities, including all associated structures;
 - d) Tabular summaries of all data generated under the Surveillance Network Program;
 - e) A list of unauthorized discharges;
 - f) An outline of any spill training and communications exercises carried out;
 - g) A summary of any progressive reclamation work completed during the year and an outline of any work anticipated for the next year;
 - h) The annual quantities in tonnes of waste rock placed in the any waste rock facility; and
 - i) A summary of any studies requested by the Board that relate to Waste disposal, water use, or reclamation and a brief description of any future studies planned.

Schedule 2

Part C: Conditions Applying to Security Requirements

1. Pursuant to section 35 of the Act and section 11 of the Regulations, the licensee shall post security on the schedule set out below and once achieved shall maintain a security deposit totaling \$2,760,000.00:

Phase	Cost	When required
Phase 1	\$386,400.00	Prior to: <ul style="list-style-type: none"> • Withdrawal and use of water from Thor Lake; • Construction and operation of a camp; and • Construction and operation of site services infrastructure such as water lines, electrical distribution, site roads, airstrip, sewage treatment, incinerator, and material sorting facilities.
Phase 2	\$800,400.00	Prior to: <ul style="list-style-type: none"> • Construction of sediment control structures; • Quarrying of materials from specified locations and crushing; and • Use and storage of explosives.
Phase 3	\$1,573,200.00	Prior to: <ul style="list-style-type: none"> • Construction of the portal; and • Bulk fuel storage.
Total	\$2,760,000.00	

Schedule 3

Part D: Conditions Applying to Water Use

1. The annual quantity of freshwater withdrawn shall not exceed 75m³/day.
2. The Licensee shall adhere to the best practices outlined in both *the Department of Fisheries and Oceans' Freshwater Intake End-of-Pipe Fish Screen Guidelines, 1995*, or subsequent editions, and *Fish Screen Design Criteria for Flood and Water Truck Pumps, 2011*, or subsequent editions.
3. The Licensee shall adhere to the best practices outlined in the *Department of Fisheries and Oceans' Protocol for Winter Water-Withdrawal from Ice-Covered Waterbodies in the NWT and NU*.