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

Diavik Diamond Mines (2012) Inc.
(Licensee)

of P.O. Box 2498, 5201-50th Avenue, Yellowknife, NT X1A 2P8
(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: W2015L2-0001 (Formerly W2007L2-0003, MV2005L2-0009, N7L2-1645)

Licence Type: A

Water Management Area: NORTHWEST TERRITORIES 07

Location: LAC DE GRAS, NT

Purpose: WATER USE AND WASTE DISPOSAL

Description: DIAMOND MINING AND MILLING

Quantity of water **not to be exceeded**: SEE PART D, ITEM 3

Effective Date of Licence:

Expiry Date of Licence:

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

Witness

APPROVED BY

Chair

Minister of Environment and Natural Resources



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PART A: SCOPE AND DEFINITIONS

1. Scope

1. This Licence entitles Diavik Diamond Mines (2012) Inc. (DDMI) to use water, dewater a portion of Lac de Gras, and dispose of Waste, for the purpose of construction, operation, closure, and reclamation of the Diavik Diamonds Project in the Lac de Gras area of the Coppermine Watershed, Northwest Territories, as shown on Figure 2.1, (Overall Site plan, page 13, Diavik Diamonds Project Supporting Documentation Class A Water Licence Application, August 1999);
2. 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 deposits of such Waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended 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;
3. The Licensee shall take every reasonable precaution to protect the environment;
4. In conducting its activities under this Licence the Licensee shall make every reasonable effort to consider and incorporate any scientific and traditional knowledge that is made available to the Licensee; and
5. Compliance with the terms and conditions of this Licence does not excuse Licensee from its obligation to comply with the requirements of any other applicable federal, territorial, Tłıchǫ, or municipal laws.

2. Definitions

"A154 Pit" means the developed open pit and underground mine workings for the mining of the A154 North and South Kimberlite Pipes.

"A21 Pit" means the developed open pit for the mining of the A21 Kimberlite Pipe.

"A418 Pit" means the developed open pit and underground mine workings for the mining of the A418 Kimberlite Pipe.

"Acid Rock Drainage (ARD)" means the production of acidic leachate, Seepage or drainage from underground workings, pits, ore piles, Waste rock, tailings, and overburden that could lead to the release of metals to Groundwater and surface water during the life of the mine and after mine closure.

"Act" means the *Waters Act*.



"Action Level" means a predetermined qualitative or quantitative event which, if met, requires the Licensee to take appropriate actions including, but not limited to: further investigations, changes to operations, or enhanced mitigation measures.

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

"Annual Load of Total Phosphorus" means the sum of monthly loads from a calendar year.

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

"Average Annual Loading of Total Phosphorus" means the sum of annual loads divided by the number of annual loads summed.

"Board" means the Wek'èezhii Land and Water Board established under section 57.1 of the *Mackenzie Valley Resource Management Act*.

"Closure and Reclamation Plan" means either an Interim or Final Closure and Reclamation Plan approved under this Licence and as described in the Mackenzie Valley Land and Water Board's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*.

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

"Cut off Wall Trench" means a trench excavated vertically through a dike to allow the construction of a Diaphragm Wall Seepage barrier.

"Dam Safety Guidelines (DSG)" means the Canadian Dam Association's (CDA) *Dam Safety Guidelines*, 2007. The scope and applicability of the DSG referred to in this Licence, is presented in section 1 of the DSG.

"Dewatering" is the complete removal of water from an existing water body or portion thereof by pumping or draining.

"Diaphragm Wall" means the plastic concrete Cut Off Wall constructed in a dike as a Seepage barrier.

"Dike Rock Placement" means the placement of rock associated with the construction of a dike.

"DDMI Geotechnical Review Board" means the Expert Review Board established by DDMI to review dike designs.

"Dike Seepage" means any water which passes through a dike.

"Discharge" means the direct or indirect release of any water or Waste to the Receiving Environment.



"Drainage Control and Collection System" means the ditches, ponds, and associated piping and pumps used for the diversion, collection, and disposal of surface runoff and Seepage as proposed in Figure 4.1 (Runoff Drainage System, Volume II-A Part F, Drainage Ditches and Collection Ponds, Water Licence Application, August 1999).

"Dredged Sediment Containment Facility" means the engineered containment structure identified as the disposal location for the dredged sediments from the A154 dike footprint as proposed in Drawing Number 4100-41D1-3020 (Processed Kimberlite Containment, Country Rock Piles & Dredged Sediments Management Plan Year 2, On-Land Dredged Sediment Storage Design Report, Water Licence Application, August 1999).

"Dredging Activities" means excavating and moving lake-bottom sediments and glacial till below the high water mark and from the bottom of Lac de Gras in the area of the footprints of the dikes.

"East Island" means the large eastern-most island in Lac de Gras as identified in Figure I.1 B (Final Design Report Site Location, Volume II-A, Part A, Water Management Plan, Version 1, Water Licence Application, August 1999).

"Engagement Plan" a document developed in accordance with the Board's *Engagement and Consultation Policy* and *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permit*, 2013.

"Engineering Geologist" means a professional geologist registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists and whose principal field of specialization is the investigation and interpretation of geological conditions for civil engineering purposes.

"Engineered Structures" means any constructed facility which was, or normally would be, designed and approved by a Professional Engineer.

"Freeboard" means the vertical distance between the water line and the effective water containment crest on a dam's or dike's upstream slope.

"Frozen Core" means a permafrost core comprising frozen ice-saturated aggregate material and functioning as an impervious Seepage barrier to water or tailings.

"Geotechnical Engineer" means a Professional Engineer whose principal field of specialization is the design and construction of earthworks in a permafrost environment.

"Ground Ice" means ice that occupies pores and crevices in rock and soil below the ground surface.

"Groundwater" means all water below the ground surface.

"ICP Metal Scan" means the elements detected using an inductively coupled plasma mass spectrometer.

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

"Licensee" means the holder of this Licence.



"LC20" is the concentration of effluent in water that is estimated to be lethal to 20% of the test organisms. The LC20 and its 95% confidence limits are usually derived by statistical analysis of percent mortalities in several test concentrations, after a fixed period of exposure. The duration of exposure must be specified (e.g., 48-h LC20).

"Maximum Average Concentration" means the moving average of any five (5) consecutive analytical results collected at six (6) day intervals as submitted to the Board in accordance with the sampling and analysis requirements specified in the Surveillance Network Program.

"Metal Leaching" means the production of leachate under neutral or alkaline conditions, Seepage or drainage from underground workings, pits, ore piles, Waste rock, tailings, and overburden that could lead to the release of metals to Groundwater and surface water during the life of the mine and after mine closure.

"Mine Design" means the detailed engineered designs for all mine components stamped by a design Engineer.

"Mine Plan" means the plan for development of the proposed mine, including the sequencing of the development.

"Minewater" means any water that accumulates in any underground workings or open pits.

"Minister" means a duly-appointed member of the Executive Council who is responsible for the Act or the department responsible for administering the Act.

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

"Monthly Load of Total Phosphorus" means the load calculated from the daily flow volume measurements and analytical results collected at 6-day intervals that fall within a calendar month.

"Mount Polley Report" means the *Report on Mount Polley Tailings Storage Facility Breach* (January 30, 2015), prepared by the Independent Expert Engineering Investigation and Review Panel established by the B.C. Government, the Williams Lake Indian Band, and the Soda Creek Indian Band.

"North Inlet Facility" means the containment facility that is constructed within the North Inlet of East Island of Lac de Gras.

"North Inlet Water Treatment Plant" includes the treatment facility designated for the treatment of waters associated with the North Inlet Facility and mine workings.

"Pit Water" means the water that seeps into and/or is collected within the pit.

"Processed Kimberlite" means material rejected from the process plant after the recoverable minerals have been extracted.

"Processed Kimberlite Containment Facility" comprises the tailings containment basins and the Engineered Structures that are designed to contain tailings as identified in Drawing Number 1 11O-42D3-1005 (Overall Site Plan, Volume II-B Part L, Processed Kimberlite Containment, Water Licence Application, August 1999).



"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*, as a Professional Engineer.

"Project" means the undertaking described in Part A, Item 1.

"Receiving Environment" means, for the purpose of this Licence, the natural environment that receives any deposit or Discharge of Waste, including Seepage and runoff, from the Project.

"Regulations" means Regulations proclaimed pursuant to section 63 of the Act.

"Response Framework" is a systematic approach to responding when the results of a monitoring program indicates that an Action Level has been reached.

"Response Plan" is a part of the Response Framework and describes the specific actions to be taken by the Licensee in response to reaching or exceeding an Action Level.

"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.

"Sewage Treatment Facility" means the facility that is designed to contain and treat Sewage.

"Spillway" means an engineered structure to facilitate the emergency release of water or Waste from a facility. The Spillway elevation is the elevation at which water or Waste begins to flow through the Spillway structure.

"Unauthorized Discharge" means any Discharge of any water or Waste not authorized by law or under this Licence.

"Waste" has the meaning set out in section 1 of the Act.

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

"Waste Rock Storage Area" includes the engineered facilities for the disposal of rock and till, which are designated as the North and South Waste Rock Piles.

"Waste Treatment Facilities" includes all facilities designated for the treatment and/or disposal of waters or Wastes, and includes the North Inlet Water Treatment Plant, the Processed Kimberlite Containment Facility, and the Sewage Treatment Facility.

"Water Intake Facility" comprises the water intake infrastructure as identified in Drawing Number 1135-41D1-1001 (Raw Water Intake Earthworks & Section, Volume II-A, Part E, Water Intake Structure, WLA, August 1999).



"Water Licence Application" means the Type A Water Licence Application as submitted to the NWT Water Board comprising Volume I, Volume IIA, and Volume IIB, dated August 1999 and all additional supporting documents.



PART B: GENERAL CONDITIONS

1. The Licensee shall ensure a copy of this Licence is maintained at the site of operations 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 file an **Annual Water Licence Report** with the Board no later than March 31 of the year following the calendar year reported. The Report shall contain the information set out in Schedule 1, Item 1.
4. 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 by the Board.
5. The Surveillance Network Program, Schedules, and compliance dates specified in the Licence may be modified 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 maintain the necessary signs to identify the stations of the Surveillance Network Program. All signs shall be located and maintained to the satisfaction of an Inspector.
8. The Licensee shall operate in accordance with the approved **Engagement Plan**, review the Plan annually, and shall submit updates to this Plan to the Board for approval at the following times:
 - a) a minimum of ninety (90) days prior to any proposed changes to the approved Plan; and,
 - b) upon the request of the Board.
9. All revised plans submitted to the Board shall include a brief summary of changes made to the plan.
10. The Plans referred to in Part H, Items 3, 4, 5, 8, 9, and 10, shall be presented in a format consistent with the Mackenzie Valley Land and Water Boards' *Standard Outline for Management Plans*, unless otherwise approved by the Board.
11. The Licensee shall operate in accordance with any Plans approved pursuant to the conditions of this Licence and with any revisions to the plans as may be made pursuant to the conditions of this Licence and as approved by the Board.
12. Any reference to a Plan, Guideline, Act, or Regulation in this Licence is a reference to the most current version unless otherwise stated explicitly.



PART C: CONDITIONS APPLYING TO SECURITY DEPOSITS

1. The Licensee shall post and maintain a security deposit in an amount which is in accordance with Schedule 2.
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 security deposit required by Part C, Item 1 and Schedule 2 may be revised by the Board based on estimates of the mine Reclamation liability referred to in Part C, Item 2 of this Licence or based on such other information as may become available to the Board.
4. If the amount of the security deposit is revised by the Board as described under Part C, Item 3, the Licensee shall post the revised amount with the Minister within ninety (90) days of the Board giving notice of the revised amount.



PART D: CONDITIONS APPLYING TO WATER USE

1. 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.
2. The Licensee is authorized to use water from the Water Intake Facility or as approved by the Board.
3. The quantity of water used for all purposes shall not exceed the limits set out in Schedule 3, Item 1.
4. The Licensee shall construct and maintain the water intake(s) with a fish screen designed to prevent impingement and entrainment of fish. The fish screen shall be in accordance with the detailed guidance referred to in Schedule 3, Item 2.



PART E: CONDITIONS APPLYING TO DEWATERING

1. The Licensee is authorized to dewater a portion of Lac de Gras to facilitate mining the A21 kimberlite pipe.
2. Each water source shall be sampled and analyzed in accordance with the requirements set out in the Surveillance Network Program and the results shall be provided to an Inspector for approval prior to the commencement of Dewatering.
3. The Licensee shall ensure that any waters associated with Dewatering activities that are to be discharged to Lac de Gras, are of such quality that the effluent quality criteria specified in Part H, Item 6, are not exceeded.
4. All Dewatering Discharge structures shall be designed and located so that their operation minimizes erosion and impacts on receiving water quality.
5. During the Dewatering of any water source that is to be discharged to Lac de Gras, daily erosion inspections of the Discharge points shall be carried out and records of these inspections shall be kept for review, upon the request of an Inspector. If any erosion is observed, the Licensee shall immediately notify an Inspector and take the necessary corrective action to mitigate the erosion problem to the satisfaction of an Inspector.
6. Within sixty (60) days of the completion of Dewatering the A21 pit, the Licensee shall submit to the Board an **A21 Dewatering Summary Report** that shall include, but not be limited to, the requirements of Schedule 4.



PART F: CONDITIONS APPLYING TO CONSTRUCTION

1. The Licensee shall ensure that all structures intended to contain, withhold, divert, or retain water or Waste 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 Waste that meet the definition of a dam under the *Dam Safety Guidelines*, are designed, constructed, and maintained to meet or exceed the *Dam Safety Guidelines*.
3. The Licensee shall ensure that all Engineered Structures are constructed and maintained in accordance with the recommendations of the Professional Engineer responsible for the design, including but not limited to recommendations regarding field supervision and inspection requirements.
4. At least forty-five (45) days prior to the start of construction of any dams, dikes, or structures intended to contain, withhold, divert or retain water or Wastes, the Licensee shall submit to the Board for approval, design drawings stamped by a Geotechnical Engineer.
5. All rock used in construction must meet the appropriate geochemical criteria as specified in the approved **Waste Rock Management Plan** as per Part H, Item 7.
6. Prior to the start of construction the Licensee shall undertake and submit to the Board, the results of a comprehensive delineation program to identify soil, rock and Ground Ice conditions along the centerline of all containment structures and runoff control ditches. This program shall be developed in accordance with Schedule 5, Item 1.
7. The Processed Kimberlite Containment Facility shall be constructed according to the **Processed Kimberlite Containment Facility Design Report** (including drawings stamped by a Geotechnical Engineer and/or Engineering Geologist) in accordance with Schedule 5, Item 2.
8. The Processed Kimberlite Containment Facility shall be designed, constructed, and maintained to prevent Discharge to the Groundwater system.
9. There shall be no accumulation of water against the containment dam structures of the Processed Kimberlite Containment Facility, unless approved by the Board.
10. The Licensee shall comply with the approved **A21 Construction Environmental Management Plan** which shall be in accordance with Schedule 5, Item 3.
11. The Licensee shall annually review the **A21 Construction Environmental Management Plan** and shall submit updates to the Board, for approval, at the following times:
 - a) a minimum of ninety (90) days prior to any proposed changes to the requirements in the approved Plan; and,
 - b) upon request of the Board.



12. The Licensee shall implement the approved **Characterization of Enhanced Permeability Zones and Hydrogeological Test Work Plan for the A21 Pit Area**.
13. The Licensee shall construct the A21 Water Retention Dike in accordance with the **Final A21 Dike Design Report** stamped by a Geotechnical Engineer and/or Engineering Geologist.
14. The Licensee shall construct the A21 Mine according to the **Final Detailed Mine Design Report**, stamped by a Geotechnical Engineer and/or an Engineering Geologist. This Report shall be developed in accordance with Schedule C, Item 3.
15. The Licensee shall submit a comprehensive report from the DDMI Dike Review Board that indicates their assessment and approval of the **Final Dike Design Report** and plastic concrete wall performance.
16. Prior to the construction of the south Waste Rock Storage Area, the Licensee shall submit a **Waste Rock Storage Area Design Report**. The Licensee shall construct the Waste Rock Storage Area according to the **Waste Rock Storage Area Design Report** stamped by a Professional Engineer and/or Engineering Geologist and meet the requirements of Schedule 5, Item 4.
17. The Licensee shall construct the Drainage Control and Collection System according to the final detailed **Drainage Control and Collection System Design Report** (including representative cross sections and drawings of the Drainage Control and Collection System stamped by a Professional Engineer and/or Engineering Geologist).
18. The Licensee shall ensure that all construction of Engineered Structures is supervised by a Professional Engineer and/or Engineering Geologist. The Licensee shall also ensure that construction records of Engineered Structures are maintained and made available at the request of the Board and/or Inspector.
19. The Licensee shall, within ninety (90) days after completion of any Engineered Structure, submit to the Board a **Geotechnical Engineering Report** prepared by a Professional Engineer and/or Engineering Geologist that shall include as-built drawings, documentation of field decisions that deviate from original plans, and any data used to support these decisions.
20. Prior to the start of construction of all on-land water and Waste management structures, the Licensee shall prepare a **Quality Assurance/Quality Control Manual**. The Manual shall be submitted to the Board for approval, prior to the commencement of the construction of those structures. This Manual shall be developed in accordance with Schedule 5, Item 5.
21. The Licensee shall operate in accordance with the approved **Quality Assurance/Quality Control Manual** for the construction of the A21 Dike. The Manual shall be in accordance with Schedule 5, Item 5.



PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written approval from the Board, carry out Modifications to Engineered Structures related to water use and Waste disposal provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) the Licensee has notified the Board in writing of such proposed Modifications at least forty-five (45) 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 forty-five (45) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than forty-five (45) days;
 - d) an Inspector has confirmed the acceptability of the proposed Modification to the Board in writing; and,
 - e) the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1, have not been met may be carried out only with written approval from the Board.
3. Within ninety (90) days of the completion of Modifications referred to in Part G, Item 1, the Licensee shall provide as-built drawings stamped by a Professional Engineer to the Board.



PART H: CONDITIONS APPLYING TO WATER AND WASTE MANAGEMENT

1. The Licensee is authorized to Discharge Waste from the Water Treatment Facilities at SNP #1645-18, waters from hydrostatic testing, and waters associated with Dewatering activities.
2. Within ninety (90) days of the effective date of this Licence, the Licensee shall submit a **Waste Management Plan**. The Plan shall be in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for Developing a Waste Management Plan*, 2011. In addition to conforming with the Guidelines, the Plan shall include a section that addresses the Licensee's plan for the mitigating and monitoring of dust resulting from its operations.
3. The Licensee shall operate in accordance with the approved **Water Management Plan**. The Plan shall be in accordance with Schedule 6, Item 1.
4. The Licensee shall operate in accordance with the approved **Processed Kimberlite Containment Facility Plan**. The Plan shall be in accordance with Schedule 6, Items 2.
5. The Licensee shall operate in accordance with the approved **North Inlet Water Treatment Plant Plan**. The Plan shall be in accordance with Schedule 6, Item 3.
6. The Licensee shall operate in accordance with the approved **Sewage Treatment Facility Plan**. The Plan shall be in accordance with Schedule 6, Item 4.
7. The Licensee shall operate in accordance with the approved **Dredged Sediment Containment Facility Plan**. The Plan shall be in accordance with Schedule 6, Item 5.
8. The Licensee shall operate in accordance with the approved **Waste Rock Management Plan**. The Plan shall be in accordance with Schedule 6, Item 6.
9. The Licensee shall operate in accordance with the approved **Hazardous Materials Management Plan**.
10. The Licensee shall operate in accordance with the approved **Ammonia Management Plan**.
11. The Licensee shall annually review the **Waste Management Plan, Water Management Plan, Processed Kimberlite Containment Facility Plan, North Inlet Water Treatment Plant Plan, Sewage Treatment Facility Plan, Dredged Sediment Containment Facility Plan, Waste Rock Management Plan, Hazardous Materials Management Plan, and Ammonia Management Plan** referred to in Part H, Items 2, 3, 4, 5, 6, 8, 9, and 10, respectively, and shall submit updates to the Plans to the Board, for approval, at the following times:
 - a) a minimum of ninety (90) days prior to any proposed changes to the requirements in the approved Plan; and,
 - b) upon request of the Board.
11. The Licensee shall implement the Standard Operating Procedures for pH adjustment for all Discharges to Lac de Gras from SNP Station # 1645-18.



12. Upon instruction from the Board, the Licensee shall modify the Standard Operating Procedures for pH adjustment referred to in Part H, Item 11, to reflect directives from the Board. The modified Procedures shall be submitted to the Board for approval and shall be implemented upon approval.
13. The Licensee shall conduct a Seepage survey for all constructed rock piles, stockpiles of reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams.
14. By March 31 each year, the Licensee shall submit to the Board, for approval, a **Seepage Survey Report**. The Report shall be in accordance with Schedule 6, Item 7.
15. Within six (6) months following the effective date of this Licence, the Licensee shall submit a **Mount Polley Report Evaluation** prepared by a Professional Engineer. The Report shall assess the applicability of the recommendations in the Mount Polley Report to the Diavik Diamond Mine Project.
16. On or before January 31, 2016, the Licensee shall submit to the Board, for approval, a **Report on North Inlet Sludge Management**. The objective of the Report is to determine whether North Inlet Water Treatment Facility sludge should be disposed in an alternative location in order to meet the closure objectives in the approved Closure and Reclamation Plan. The Report shall be in accordance with Schedule 6, Item 8.
17. Within 90 days of the effective date of this Licence, the Licensee shall submit a **Hydrocarbon Monitoring and Management Plan**. The objective of the Plan is to identify sources of hydrocarbon contamination in the North Inlet Facility, identify appropriate mitigations to reduce hydrocarbon contamination, and monitor the performance of any mitigations. The Plan shall be in accordance with Schedule 6, Item 9.

Engineering Standards

18. The Licensee shall operate and maintain the Water Retention Dikes to engineering standards such that at a minimum they comply with the **Dam Safety Guidelines**, and in accordance with the following:
 - a) the lowest point on the upper edge of the Diaphragm Wall shall not be lower than 419.0 metres above mean sea level, or as recommended by a Geotechnical Engineer and as approved by the Board;
 - b) the Licensee shall install and maintain geotechnical instrumentation in the Water Retention Dikes as described in the Water Retention Dikes Final Design Report, dated July 1999;
 - c) a schedule of reading the instrumentation shall be submitted to the Board for approval not less than three (3) months before Dewatering is scheduled to commence. The Licensee shall carry out instrumentation reading schedule upon approval of the Board;
 - d) weekly inspections of the Water Retention Dikes shall be conducted and the records of these inspections and all monitoring records shall be kept for review upon request of an Inspector;



- e) any Seepage through the Water Retention Dikes that does not meet the effluent quality criteria Part H, Item 24 shall be collected and directed to the North Inlet and through the treatment facilities prior to Discharge, and measures shall be employed to reduce Seepage;
- f) any deterioration or erosion of any Engineered Structures associated with the Water Retention Dikes shall be reported to an Inspector and repaired immediately; and,
- g) an inspection of the Water Retention Dikes shall be carried out annually in August by a Geotechnical Engineer. The Engineer's report shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an implementation plan for addressing each of the Engineer's recommendations.



19. The Licensee shall operate and maintain the Processed Kimberlite Containment Facility to engineering standards such that:

- a) a minimum Freeboard limit of 1.5 metres below the lowest surveyed point of the liner or of the engineered emergency Spillway, whichever is lower, shall be maintained at all times; or as recommended by a Geotechnical Engineer and as approved by the Board;
- b) if Seepage from the Processed Kimberlite Containment Facility occurs, the Licensee shall collect and return the Seepage to the Processed Kimberlite Containment Facility and measures shall be undertaken to eliminate the Seepage;
- c) any deterioration or erosion of any Engineered Structures associated with the Processed Kimberlite Containment Facility shall be reported to an Inspector and repaired immediately;
- d) the solids fraction of all Processed Kimberlite shall be deposited and permanently contained within the Processed Kimberlite Containment Facility;
- e) weekly inspections of the Processed Kimberlite Containment Facility dams, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be conducted and the records of these inspections shall be kept for review upon the request of an Inspector; and,
- f) an inspection of the Processed Kimberlite Containment Facility shall be carried out annually in July by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an implementation plan for addressing each of the Engineer's recommendations.

20. The Licensee shall operate and maintain the Drainage Control and Collection System to engineering standards such that:

- a) a minimum Freeboard limit of one (1) metre below the engineered emergency Spillways shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board;
- b) Seepage from the Drainage Control and Collection System shall be minimized, collected and returned to the Drainage Control and Collection System or Processed Kimberlite Containment Facility;
- c) any deterioration or erosion of any Engineered Structures associated with the Drainage Control and Collection System shall be reported to an Inspector and repaired immediately;
- d) weekly inspections of the Drainage Control and Collection System, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be conducted and the records of these inspections shall be kept for review upon the request of an Inspector; and,
- e) an inspection of the Drainage Control and Collection System shall be carried out annually in July by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an implementation plan for addressing each of the Engineer's recommendations.

21. The Licensee shall operate and maintain the Dredged Sediment Containment Facility to engineering standards such that:



- a) a minimum Freeboard limit of 1.5 metres below the lowest surveyed point of the liner or of the engineered emergency Spillway, whichever is lower, shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board;
- b) any deterioration or erosion of any Engineered Structures associated with the Dredged Sediment Containment Facility shall be reported to an Inspector and repaired immediately;
- c) the solids fraction of the lake bed sediments shall be permanently contained within the Dredged Sediment Containment Facility or as approved by the Board;
- d) Seepage from the Dredged Sediment Containment Facility shall be minimized, collected and returned to the Dredged Sediment Containment Facility;
- e) weekly inspections of the facility, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be carried out and records of these inspections shall be kept for review upon the request of an Inspector; and,
- f) an inspection of the facility shall be carried out annually in July by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an implementation plan for addressing each of the Engineer's recommendations.

22. The Licensee shall operate and maintain the North Inlet Facility to engineering standards such that:

- a) a minimum Freeboard limit of 1.5 metres below the engineered emergency Spillway shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board;
- b) any deterioration or erosion of any Engineered Structures associated with the North Inlet Facility shall be reported to an Inspector and repaired immediately;
- c) the solids fraction of the lake bed sediments that are disposed in the North Inlet Facility shall be permanently contained within the North Inlet Facility or as approved by the Board;
- d) Seepage from the west dike of the North Inlet Facility shall be minimized, collected, and returned to the North Inlet Facility;
- e) weekly inspections of the North Inlet Facility, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be carried out and records of these inspections shall be kept for review upon the request of an Inspector; and,
- f) an inspection of the North Inlet Facility shall be carried out annually in August by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an implementation plan for addressing each of the Engineer's recommendations.

23. The Licensee shall conduct Dam Safety Reviews of the following:

- a. The Processed Kimberlite Containment Facility in 2015 and every five years thereafter, or at a frequency approved by the Board;
- b. The A418 dike in 2017 and every five years thereafter, or at a frequency approved by the Board;
- c. The A154 dike in 2015 and every five years thereafter, or at a frequency approved by the Board; and,
- d. The A21 dike in 2020 and every five years thereafter, or at a frequency approved by the Board.



The Dam Safety Reviews shall be conducted in accordance with the *Dam Safety Guidelines* by a Professional Engineer. The timing of the Dam Safety Review inspection will be at the discretion of the review Engineer conducting the inspection.

24. Within ninety (90) days after completing a Dam Safety Review inspection, the Licensee shall submit to the Board:
- a. the Engineer's **Dam Safety Review Report**; and
 - b. an **Implementation Plan** outlining how the Licensee will respond to each recommendation in the Engineer's **Dam Safety Review Report**, including a rationale for any decisions that deviate from the Engineer's recommendations.

Effluent Quality Criteria (EQC)

25. The Licensee shall ensure that Discharges to Lac de Gras of Waste from the Water Treatment Facilities at SNP #1645-18, waters from hydrostatic testing, and waters associated with Dewatering activities meet the following Effluent Quality Criteria Requirements:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Total Ammonia (up to December 31, 2007)	8.0 mg/L	16.0 mg/L
Total Ammonia (January 1, 2008 onwards)	6.0 mg/L	12.0 mg/L
Total Aluminum	1.5 mg/L	3.0 mg/L
Total Arsenic	0.05 mg/L	0.1 mg/L
Total Copper	0.02 mg/L	0.04 mg/L
Total Cadmium	0.0015 mg/L	0.003 mg/L
Total Chromium	0.02 mg/L	0.04 mg/L
Total Lead	0.01 mg/L	0.02 mg/L
Total Zinc	0.01 mg/L	0.02 mg/L
Total Nickel	0.05 mg/L	0.1 mg/L
Nitrite	1.0 mg/L	2.0 mg/L
Total Suspended Solids	15.0 mg/L	25.0 mg/L
Turbidity	10 NTU	15 NTU
BOD ₅	15.0 mg/L	25.0 mg/L
Oil and Grease	3.0 mg/L	5.0 mg/L
Faecal Coliforms	10 CFU/100ml	20 CFU/100ml

26. All authorized Discharges to Lac de Gras shall have a pH between 6.0 to 8.4 and,

27. No Discharge to Lac de Gras by the Licensee from the Water Treatment Facilities at SNP Station #1645-18 shall be acutely toxic under the following tests to be conducted as per the Surveillance Network Program annexed to this Licence:



- a) Acute lethality to rainbow trout, *Oncorhynchus mykiss* as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13; and,
 - b) Acute lethality to the crustacean, *Daphnia magna* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/14.
28. The Licensee shall ensure that all in-lake dredging, dike construction, or other in-lake activities meet the following criteria: At SNP Station #1645-82 to 1645-84 inclusive, and at a 200 metre distance in any direction from the centerline of the dike footprint the maximum concentration for Total Suspended Solids shall not exceed 25 mg/L over the background concentration, at SNP station #1645-55, in any grab sample.
29. Total phosphorus loads from all treatment facilities discharging to Lac de Gras must be controlled, as per approved operations plans, such that loads of total phosphorus do not exceed a maximum of 300 kg per month during the life of the mine, and do not exceed an average annual loading of 1,000 kg per year during the life of the mine, and do not exceed a maximum loading of 2,000 kg per year in any year during the life of the mine.
30. The Licensee shall provide water sampling results to an Inspector prior to any authorized Discharge to the Receiving Environment. Discharge shall not commence until authorized in writing by an Inspector.



PART I: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall operate in accordance with the approved **Contingency Plan**. The Plan shall be in accordance with Indian and Northern Affairs Canada's *Guidelines for Spill Contingency Planning*, 2007, and Schedule 7, Item 1.
2. The Licensee shall annually review the **Contingency Plan** and shall submit updates to the Plan to the Board, for approval, at the following times:
 - a) a minimum of ninety (90) days prior to any proposed changes to the requirements in the approved Plan; and,
 - b) upon request of the Board.
3. If, during the period of this Licence, an Unauthorized Discharge of Waste occurs or is foreseeable, the Licensee shall:
 - a) implement the approved **Contingency Plan**;
 - b) report the incident immediately via the 24 Hour Spill Report Line (867) 920-8130 in accordance with the instructions contained in the Spill Report Form NWT 1752/0593;
 - c) report each spill and Unauthorized Discharge to an Inspector within 24 hours; and,
 - d) within thirty (30) days of an Unauthorized Discharge or an incident reported under Part I, Item 3b, the Licensee shall submit a detailed report to the Board and an Inspector. The report shall include descriptions of root causes, response actions, and any changes to procedures to prevent similar occurrences in the future.
4. The **Contingency Plan** required under Part I, Item 1, shall not include the extraction of water from Lac de Gras for the purpose of pre-diluting the effluent as an ongoing operational approach for dealing with elevated levels of ammonia.
5. All spills and Unauthorized Discharges of water and Waste shall be reclaimed to the satisfaction of an Inspector.



PART J: CONDITIONS APPLYING TO AQUATIC EFFECTS MONITORING

1. The Licensee shall revise the May 2006 report, Historical Information Review – Aquatic Environmental, that was submitted under Licence N7L2-1645 as directed by the Board. Revisions of this report shall be submitted to the Board for approval.
2. The Licensee shall comply with the approved **AEMP Design Plan**. The **AEMP Design Plan** shall include a Response Framework and be in accordance with Schedule 8, Item 1.
3. The Licensee shall review and revise, as necessary, the **AEMP Design Plan** every three years, or as directed by the Board.
4. The Licensee shall comply with the approved **AEMP Quality Assurance Project Plan**. To reflect changes to the **AEMP Design Plan**, the Licensee shall, every three years or as directed by the Board, review and revise the **AEMP QA/QC Plan**, for Board approval.
5. The Licensee shall complete Specific Effects Studies and shall submit the study reports for approval according to directives to be issued by the Board. These studies shall include but not necessarily be limited to the following:
 - a) in-situ evaluation of Metal Leaching and releases of explosives residues from the Water Retention Dikes;
 - b) delineation study of any plumes from the main effluent Discharge;
 - c) characterization of the toxicity of the effluent source waters;
 - d) validation of nutrient input predictions for Lac de Gras;
 - e) evaluation of the effects of dredging, dike construction, and associated sediment plumes on water quality and biota;
 - f) evaluation of contaminant loading and the fate of contaminants in Lac de Gras;
 - g) an evaluation of various eutrophication monitoring tools that may be used to evaluate the effects of nutrient releases to Lac de Gras;
 - h) an evaluation of the effects of nutrient releases on the algal, benthos, and zooplankton communities and trophic status of Lac de Gras; and,
 - i) a site-specific evaluation of the impacts of cadmium on the waters of Lac de Gras.
6. If any Action Level defined in the approved **Response Framework** is exceeded, the Licensee shall:
 - a) Notify the Board within thirty (30) days of when the exceedance is detected; and,
 - b) Within ninety (90) days of when the exceedance is detected, submit a **Response Plan** that satisfies the requirements of Schedule 8, Item 4 to the Board for approval.
7. The Licensee shall implement **Response Plans** as, and when, approved by the Board.
8. The Licensee shall revise **Response Plans** as directed by the Board.
9. On or before March 31 each year, the Licensee shall submit an **AEMP Annual Report** to the Board for approval. This Report shall satisfy the requirements of Schedule 8, Item 3, and include information relating to data collected in the preceding calendar year.



10. The Licensee shall submit an **Aquatic Effects Re-evaluation Report** for Board approval every three years, or upon direction from the Board. The Report shall meet the following objectives and satisfy the requirements of Schedule 8, Item 2.
 - a) To describe the Project-related effects on the Receiving Environment compared against Environmental Assessment (EA) predictions;
 - b) To update predictions of Project-related effects on the Receiving Environment based on monitoring results obtained since Project inception; and,
 - c) To provide supporting evidence, if necessary, for proposed revisions to the **AEMP Design Plan**.

11. If not approved by the Board, the Plans and Reports referred to in Part I, Items 2, 3, 4, 6, 8, 9, and 10 shall be revised and resubmitted in accordance with directives from the Board.



PART K: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. The Licensee shall implement the **Closure and Reclamation Plan** as approved by the Board and endeavour to carry out progressive reclamation of Project areas as soon as is reasonably practicable.
2. Updates to the **Closure and Reclamation Plan** shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*. In addition to conforming with the Guidelines, the Plan shall include:
 - a) Contingencies for Pit Water treatment during closure;
 - b) Dike breach locations and sizes;
 - c) A comprehensive assessment of materials suitability, including geochemical and physical characterization, and schedule of availability for reclamation needs, with attention to top-dressing materials, including maps where appropriate, showing sources and stockpile locations of all reclamation construction materials;
 - d) A description of any post-closure treatment that may be required for drainage water that is not acceptable for discharge from any of the reclaimed mine components including a description for handling and disposing of post-closure treatment facility sludges;
 - e) A description of the Plan to assess and monitor any ground water contamination during post-closure;
 - f) A description of how metal uptake in re-vegetated plan communities will be monitored;
 - g) A field testing program and an implementation timetable to verify the effectiveness of the proposed impermeable closure cap for the Process Kimberlite Containment Facility and the Waste Rock Storage Area;
 - h) An evaluation of the potential to re-vegetate disturbed sites that includes the identification of criteria to be used to determine technical feasibility and alternative reclamation options;
 - i) A description of proposed means to provide long term maintenance of collection system and treatment plant; and
 - j) A conformance table that identifies the location within the **Interim Closure and Reclamation Plan** where the information required by Part K, Items 1a) through i) can be found.
3. The Licensee shall submit a revised **Closure and Reclamation Plan** upon request of the Board.
4. Prior to December 31 of each year, the Licensee shall submit an **Annual Closure and Reclamation Plan Progress Report**. The Report shall be developed in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*, Schedule 9, Item 1, and any other direction from the Board.



5. Following the closure and/or reclamation of components of the Project, the Licensee shall submit a **Reclamation Completion Report** to the Board for approval. The Report shall be developed in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites within the Northwest Territories*.
6. Once the Licensee has determined that Closure Objectives and Closure Criteria have been met, the licensee shall submit a **Performance Assessment Report** to the Board for approval. The Report shall be developed in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites within the Northwest Territories*.
7. The Licensee shall submit a **Final Closure and Reclamation Plan** to the Board for approval 3 years prior to the expiry date of this Licence or a minimum of twenty-four (24) months prior to the end of commercial operations, whichever occurs first.



SCHEDULE 1
PART B: GENERAL CONDITIONS

1. The **Annual Water Licence Report** referred to in Part B, Item 3, shall include, but not be limited to, the following:

Quantities and Measurements

- a) the monthly and annual quantities in cubic metres of water obtained from Lac de Gras;
- b) the monthly, annual and total quantities in cubic metres of water dewatered from the A21 pool;
- c) the monthly elevations of water within each of the cells in the North Inlet during the open water period;
- d) the monthly and annual quantities in cubic metres of recycled water identifying both the source and use;
- e) the monthly and annual quantities of solids in tonnes and liquid fractions in cubic metres of each Waste stream discharged to the Processed Kimberlite Containment Facility, the Dredged Sediment Containment Facility and the North Inlet;
- f) the monthly and annual quantities in cubic metres of any Discharges from the Processed Kimberlite Containment Facility, Dredged Sediment Containment Facility the North Inlet and the Water Treatment Facilities;
- g) the monthly and annual quantities in cubic metres of Minewater and Dike Seepage pumped from the A154, A418, A21 open pits to the North Inlet or Lac de Gras;
- h) the monthly and annual quantities in cubic metres of treated effluent discharged from the Sewage Treatment Facilities;
- i) the monthly and annual quantities in cubic metres of Sewage solids removed from the Sewage Treatment Facilities;
- j) a summary report describes any important trends, notable events, or other significant interpretations of the data. all raw data in electronic form;
- k) annual reporting of the quantity of Waste rock disposed in each of the North and South country Waste rock piles and inert rock stockpiled for reclamation purposes;

Management Plans and Activities

- l) a summary of Dewatering activities undertaken in accordance with Part E;
- m) a summary of construction activities conducted and an updated Mine Plan, including any changes to the schedule for mine development;
- n) a summary of all work carried out under the Management Plans in accordance with Part F;



- o) a summary of modifications and/or major maintenance work carried out on the Water Treatment Facilities, Dredged Sediment Containment Facility, Processed Kimberlite Containment Facility, Sewage Treatment Facilities, Drainage Control and Collection System and any associated structures;
- p) for each Management Plan required by this Licence:
 - i. a summary and interpretation of monitoring results;
 - ii. a summary of any exceedances of Action Levels described in the Plan; and,
 - iii. a description of actions taken in response to any Action level exceedances under the Plan;

Spills and Unauthorized Discharges

- q) a list and description including volumes of all Unauthorized Discharges and spills of Waste, and summaries of follow-up actions taken;
- r) an outline of any spill training exercises carried out;

Closure and Reclamation

- s) a summary of results and activities carried out under the Reclamation Research Plan and Reclamation Monitoring Program;
- t) a summary of any progressive reclamation work undertaken during the year and an outline of any work anticipated for the next year;
- u) an updated estimate of the current mine reclamation liability based upon the results of the mine reclamation research, monitoring during mine development, and any modifications to the Mine Plan;

Other Reporting Requirements

- v) results and interpretation of further fracture zone characterization and hydrogeological test work conducted in accordance with Part H, Item 3, and its implications for potential ground water inflows and overall water balances;
- w) a progress report on any studies requested by the Board and a brief description of any future studies planned by the Licensee; and,
- x) any other details on water use or Waste disposal requested by the Board by November 1 of the year being reported.



SCHEDULE 2
PART C: CONDITIONS APPLYING TO SECURITY

1. The Licensee shall maintain a security deposit of \$118,460,000 in accordance with section 35 of the Act and section 11 of the *Waters Regulations*.



SCHEDULE 3:
PART D: CONDITIONS APPLYING TO WATER USE

1. The annual quantity of freshwater withdrawn referred to in Part D, Item 2 shall not exceed the limit set out below (in cubic metres):
 - a) 1,280,000 cubic metres annually during the operational phase for domestic, mining, milling and associated purposes;
 - b) 11,400,000 cubic metres during the Dewatering of the A21 pool water; and,
 - c) 3,500,000 cubic metres during in-lake Dredging activities.

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*, and *Fish Screen Design Criteria for Flood and Water Truck Pumps, 2011*.

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*.



SCHEDULE 4:
PART E: CONDITIONS APPLYING TO DEWATERING

1. The Licensee shall submit to the Board, within sixty (60) days of the completion of Dewatering the A21 pit, an **A21 Dewatering Summary Report** that shall include, but not be limited to, the following:
 - a) the metered daily, monthly, and total Discharge rates;
 - b) a description of any water treatment undertaken, erosional problems encountered, and mitigative actions taken;
 - c) the results of water quality monitoring and an evaluation of compliance with the regulated water quality requirements; and,
 - d) an evaluation of any impacts to Lac de Gras resulting from Dewatering activities.



SCHEDULE 5
PART F: CONDITIONS APPLYING TO CONSTRUCTION

1. The Comprehensive Delineation Program referred to in Part F, Item 6 of the Licence, shall include, but not necessarily be limited to, the following:
 - a) detailed delineation of ice rich features;
 - b) follow up test pit and/or borehole investigations; and,
 - c) geophysical surveys

2. The **Processed Kimberlite Containment Facility Design Report** referred to in Part F, Item 7 of the Licence, shall include, but not necessarily be limited to, the following:
 - a) a description of existing conditions beneath the footprint of the structure and extending at least fifty (50) metres beyond the footprint in either direction, including the distribution of the frozen and unfrozen soil and rock materials along representative cross sections of the dams;
 - b) an explanation for any significant lateral variations in soil materials and the implications of the soil variability on the West Dam design;
 - c) intended depth of excavation for each of the cross sections selected;
 - d) a description of the variability of the spatial and engineering properties of the soil;
 - e) the interpreted engineering properties of unfrozen materials below the depth of excavation within the areas delineated in the cross sections in Item 2 i);
 - f) representative cross sections showing the various stages of dam raises when geothermal modelling and short term slope stability analyses are to be conducted;
 - g) a schedule indicating the time of year when the construction of each lift will be carried out;
 - h) representative cross sections showing the final configuration of the upstream toe of all dams when operation of the facility commences;
 - i) an evaluation of the magnitude of differential settlement related to the taliks underneath the proposed dams, as well as foundation movement related to frost heave and thaw settlement over the design life of the structure; and,
 - j) the results of revised geothermal modelling throughout the intermediate and final stages of construction.

3. The **A21 Construction Environmental Management Plan** shall include but not necessarily be limited to:
 - a) Dredging Plan
 - i. a schedule of dredging activities;
 - ii. dredging equipment design and operation;
 - iii. production rates;
 - iv. operational approaches for minimizing sediment disturbance;
 - v. final monitoring plan details;
 - b) Dewatering Plan
 - i. the volume of water to be dewatered from each source;



- ii. the expected quality of water to be discharged to Lac de Gras;
- iii. a schedule for Dewatering and daily Discharge rates;
- iv. pumping methods including locations of intake and outflow structures;
- v. the design of any erosion protection measures to be employed in the Discharge areas;
- vi. the description of procedures and schedules for visual inspections of any erosion along the Discharge areas;
- vii. the frequency and locations for water quality monitoring as referred to in the Surveillance Network Program;
- viii. the frequency, location, and procedures for monitoring flow rates in the Discharge stream;
- ix. the design of each pipeline and related facilities;
- x. the procedures and rates for Dewatering during the winter months to minimize erosion;
- xi. the identification of any treatment that may be used to ensure that effluent quality criteria are met, in accordance with Part H, Item 6; and,
- xii. a description of how the Licensee will link the results of monitoring to those corrective actions necessary to prevent or minimize any Dewatering-related effects to the Receiving Environment. The description shall include, but not be limited to:
 - a. Definitions, with rationale, of Action Levels applicable to monitoring. At a minimum, Action Levels should be set that:
 - 1. define a level of Discharge quality or receiving water quality that indicates that water from the A21 pit should cease to be discharged to Lac de Gras; and,
 - 2. define a level of Discharge quality or receiving water quality that indicates that additional monitoring (i.e., through the SNP or AEMP) should be undertaken.
 - b. For each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken if the Action Level is exceeded.
- c) A conformance table identifying where each of the requirements in Schedule 5, Items 3(a) and (b), are located in the Plan (e.g., page number and/or document section).

4. The final **Waste Rock Storage Area Design Report** referred to in Part C, Item 14, of the Licence, shall include, but not necessarily be limited to, the following:

- a) geothermal analysis of the foundation of the Waste Rock Storage Area and till storage areas; and,
- b) short term stability analyses that simulate the development of the Waste rock disposal facilities and till storage area across the sediment retention pond and the clarification pond, particularly the portions underlain by thawed/thawing ice rich soils. These analyses should identify the method of construction and lift thickness of the rock pile that will not result in the release of water or sediment from the facility and/or damage to the containment structures.



5. The **Quality Assurance/Quality Control Manual** for on-land water and Waste management structures referred to in Part F, Item 18 of the Licence, shall include, but not necessarily be limited to, the following:
- a) a complete characterization of the soil and/or rock properties of both insitu and placed materials necessary to meet performance objectives for each structure;
 - b) the procedures to be followed upon identification of any unacceptable materials, that includes reporting, removal, replacement, specifications for insitu remediation and/or replacement materials;
 - c) the protocol and schedule for inspections and sampling during the construction of each structure;
 - d) the frequency of visual inspections for the identification of material types, stratigraphy, ice content and distribution, and any other parameters as may be identified in Item 5 a) above; and,
 - e) the schedule of sampling for confirmatory laboratory testing of the materials identified in Items 5 a) and 5 b) above.
6. The **Quality Assurance/Quality Control Manual** for the construction of the Water Retention Dikes referred to in Part C, Item 19 of the Licence, shall include, but not necessarily be limited to, the following:
- a) For Dredging Activities:
 - i. the protocol and schedule of inspecting and sampling during the dredging period that includes a description of methods that will be used to assess dredging effectiveness to remove lakebed sediments;
 - ii. the procedures to be followed upon identification of any unacceptable materials that includes reporting requirements and removal methods;
 - iii. the operational measures that will be employed to minimize re-suspension of lakebed sediments in Lac de Gras as a result of Dredging Activities; and,
 - iv. monitoring requirements and operational in-line dredge metering for determining dredging effectiveness.
 - b) For Dike Rock Placement Activities:
 - i. the protocol and schedule of inspecting and sampling during the placement of rock materials to ensure performance objectives are met for grain size distribution, surveying and geometric control and verification of vibrodensification;
 - ii. the schedule of monitoring that includes the type and distribution of instrumentation to be used , monitoring frequency, monitoring threshold limits upon which action should be taken and proposed contingency measures in the event that design specifications are not achieved; and,



- iii. identify operational measures to be employed to minimize introduction of sediments in Lac de Gras as a result of dike placement activities.

c) For Plastic Concrete Placement Activities:

- i. the protocol and schedule of inspecting and sampling for preparation of the plastic concrete;
- ii. the protocol of inspections and monitoring of the excavation of the Cut Off Wall trench including vertical alignment, slurry loss, preparation of primary panel ends, cleaning of panel base, sequence of panel construction and placement;
- iii. the schedule of monitoring that includes type and distribution of instrumentation, monitoring frequency, design specifications upon which action should be taken and proposed contingency measures in the event that design specifications are not met; and,
- iv. measures to be employed for the management of all bentonite not confined to the Cut Off Wall trench.

d) For Jet Grouting and Bedrock Grouting Activities:

- i. the protocol and schedule of inspecting and sampling for preparation of the grout mixtures;
- ii. the protocol of inspections and monitoring for the alignment of drill holes;
- iii. the protocol of inspections and monitoring for the grouting pressures, grout take and return volume; and,
- iv. the schedule of monitoring including type and distribution of instrumentation and monitoring frequency.

7. The Quality Assurance/Quality Control Manuals in Items 5 and 6 above, shall describe the management thresholds upon which action will be taken to implement the contingency measures and mitigation in the event that design specifications are not met.



SCHEDULE 6
PART H: CONDITIONS APPLYING TO WATER AND WASTE MANAGEMENT

1. The **Water Management Plan** referred to in Part H, Item 3, shall include, but not necessarily be limited to the following:
 - a) measures that will be undertaken to minimize the amount of raw water required from Lac de Gras; the measures shall integrate the requirements of or work done under other management plans or research projects and shall consider alternative water sources such as the Processed Kimberlite Containment Facility, Dredged Sediment Containment Facility, North Inlet Facility, and Pits;
 - b) the projected amount of water to be obtained from Lac de Gras in the upcoming year;
 - c) a summary of plans for managing water to be stored in the Processed Kimberlite Containment Facility, the North Inlet Facility, the Dredged Sediment Containment Facility and for the management of all other waters on East Island; and,
 - d) an overall water balance for the Project, that includes the specific water balances for each of the Processed Kimberlite Containment Facility and the North Inlet Facility, and associated waters for both facilities as updated with current information respecting:
 - i. on-site precipitation, evaporation and runoff;
 - ii. volumes of recycled water and raw water utilized during the previous year;
 - iii. ground water inflows to the pit;
 - iv. realized capacity of water treatment plants;
 - v. and,
 - vi. stage volume curves that show the expected capacity of the Processed Kimberlite Containment and North Inlet Facilities.
 - e) Information regarding monitoring including:
 - i. details of monitoring, including rationale, for each component of the water management system;
 - ii. linkages to other monitoring programs required in the Licence; and,
 - f) Information about responses to monitoring results:
 - i. a description of how the Licensee will link the results of monitoring to any necessary corrective actions. This description shall include:
 1. definitions, with rationale for Action Levels applicable to the performance of the water management system;
 2. for each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken by the Licensee if the Action Level is exceeded
 - ii. action Level exceedances and actions taken during the year shall be reported in the **Annual Water Licence Report** as per Part B, Item 3, and Schedule 1, Item 1.

2. The **Processed Kimberlite Containment (PKC) Facility Plan**, (formerly the Processed Kimberlite and Waste Water Management Plan) referred to in Part H, Item 4, shall be in accordance with the NWT Water Board's "*Guidelines for Tailings Impoundment in the Northwest Territories*, February 1987", and will include, but not necessarily be limited to, the following:



- a) a comprehensive description of all sources and types of Waste and wastewater which will be deposited in the Processed Kimberlite Containment (PKC) Facility;
- b) a description of any proposed physical or chemical treatment of Waste or wastewater prior to its discharge to the PKC Facility and prior to discharge from the PKC Treatment Facility to the receiving environment;
- c) a description, including maps to scale, of the locations of all monitoring stations within the PKC Facility and Discharge locations to and from the PKC Facility. The description should include the sampling protocols for each station;
- d) a description of the management and scheduling of all Processed Kimberlite deposition within the PKC Facility;
- e) stage-volume curves and water, solids and ice balance calculations showing life expectancy of the PKC Facility; and,
- f) any operational and/or structural modifications which may be implemented that will affect the management of the PKC Facility and associated wastewater operations.
- g) a description of the methods that will be used to determine the volume in cubic metres of fine and coarse fractions of Processed Kimberlite disposed of in the PKC Facility on an annual basis;
- h) a description of the procedures that will be used to characterize the physical, thermal and chemical properties of the fine kimberlite in the frozen and thawed condition within the PKC Facility;
- i) a description of the procedures that will be used to characterize pore water within frozen and thawed zones;
- j) a description of the thermal monitoring of dam structures that will be conducted to ensure that the Frozen Core develops as planned and is maintained throughout the life of the mine;
- k) Information regarding monitoring including:
 - i. details of monitoring, including rationale;
 - ii. linkages to other monitoring programs required in the Licence; and,
- l) Information about responses to monitoring results:
 - i. a description of how the Licensee will link the results of monitoring to any necessary corrective actions. This description shall include:
 - 1. definitions, with rationale for Action Levels applicable to the performance of the water management system;
 - 2. for each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken by the Licensee if the Action Level is exceeded
 - ii. action Level exceedances and actions taken during the year shall be reported in the **Annual Water Licence Report** as per Part B, Item 3, and Schedule 1, Item 1.



3. The **North Inlet Water Treatment Facility Plan** (formerly the North Inlet Sediment and Waste Water Management Plan) referred to in Part H, Item 5, shall include, but not necessarily be limited to, the following:
- a) a comprehensive characterization of all sources and types of wastewater and Wastes including sediments that will be directed and stored in the North Inlet Facility;
 - b) a description of any proposed physical and chemical treatment of Waste prior to discharge to the North Inlet Facility and proposed treatment of Waste stored in the North Inlet Facility prior to release to the environment;
 - c) a description of proposed management and scheduling of sediment deposition in the North Inlet Facility;
 - d) any operational and/or structural modifications that may affect the North Inlet Facility operations;
 - e) Information regarding monitoring including:
 - i. details of monitoring, including rationale;
 - ii. linkages to other monitoring programs required in the Licence; and,
 - f) Information about responses to monitoring results:
 - i. a description of how the Licensee will link the results of monitoring to any necessary corrective actions. This description shall include:
 - 1. definitions, with rationale for Action Levels applicable to the performance of the water management system;
 - 2. for each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken by the Licensee if the Action Level is exceeded
 - ii. action Level exceedances and actions taken during the year shall be reported in the **Annual Water Licence Report** as per Part B, Item 3, and Schedule 1, Item 1.
4. The **Sewage Treatment Facility Operations Plan** referred to in Part H, Item 6, shall include, but not necessarily be limited to, the following:
- a) details on the design;
 - b) operational capacity, management, and maintenance; and,
 - c) disposal of sludge.
5. The **Dredged Sediment Containment Facility Management Plan** referred to in Part H, Item 7 shall include, but not necessarily be limited to, the following:
- a) a comprehensive characterization of all sources and types of wastewater and sediments directed to and stored in the facility;
 - b) a description of any proposed physical or chemical treatment of Waste prior to any Discharge to the environment;
 - c) a schedule of anticipated volumes of sediments deposited to and Waste discharged from the facility; and,
 - d) a description of the reclamation and closure plans for the facility.



6. The **Waste Rock Management Plan** referred to in Part H, Item 8 shall incorporate the approved Biotite Schist Management Plan (Volume II-B, Part N, Version 1, Water Licence Application, August 1999) to address the management of all rock that is disturbed, moved, stored, or otherwise affected by mining-related activity on the property, over the term of the project, and shall be in accordance with the Department of Indian and Northern Affairs Canada's *Guidelines for Acid Rock Drainage Protection in the North*, 1992. This Plan shall describe decision criteria and operating procedures for how all rock will be placed and managed during construction, mining and post closure, and include, but not necessarily be limited to, the following:
- a) an annual schedule for till storage, ore stockpiling, Processed Kimberlite generation and Waste rock production by rock type, tonnage, and destination over the term of the Project including sources and volumes of each rock type;
 - b) geochemical decision criteria for managing Waste rock extracted from quarries and pits. Criteria will facilitate classification of rock which is suitable and not suitable for the following uses in terms of acid generation and heavy metals leaching potential:
 - i. construction of on-land roads and facilities;
 - ii. construction in Lac de Gras;
 - iii. reclamation;
 - iv. disposal in Waste rock piles; and,
 - v. segregated as potentially acid generating rock.
 - c) a description of operational procedures that will be used to segregate and manage the rock that is identified for construction;
 - d) a complete description, including site maps to scale, of each till, ore and Waste Rock Storage Area including the PKC Facility;
 - e) a description of the sampling design and analytical methods that will be used to support the operational classification of all rock types;
 - f) a description of the methods that will be used to construct till storage, ore stockpiling, Processed Kimberlite, and Waste rock facilities such that generation of acidic drainage and/or Metal Leaching is limited;
 - g) design details for the construction of large-scale tests for assessing the effectiveness of blending different combinations of biotite schist and granite. The Licensee shall undertake these tests as and when approved by the Board; and,
 - h) a description of the temperature analysis that will be implemented in all Waste Rock Storage Area having Acid Rock Drainage (ARD) potential to evaluate the potential for oxidation reactions and to determine predicted ARD generation rates.
 - i) a comparison of predicted and measured quantities of each rock type produced in the preceding year;
 - j) results of geochemical sampling and testing of till, ore, Processed Kimberlite, and Waste rock produced during the preceding year;
 - k) geochemical characteristics of each rock type and area of exposure in the current pit wall(s); updated predictions of water chemistry of the leachate from the Waste rock based on measured results, from all sources; and,



- l) the results and interpretation of any additional geochemical testing on various rock types or Processed Kimberlite;
 - m) Information regarding monitoring including:
 - i. details of monitoring, including rationale;
 - ii. linkages to other monitoring programs required in the Licence; and,
 - n) Information about responses to monitoring results:
 - i. a description of how the Licensee will link the results of monitoring to any necessary corrective actions. This description shall include:
 - 1. definitions, with rationale for Action Levels applicable to the performance of the water management system;
 - 2. for each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken by the Licensee if the Action Level is exceeded
 - ii. Action Level exceedances and actions taken during the year shall be reported in the **Annual Water Licence Report** as per Part B, Item 3 and Schedule 1, Item 1.
7. The **Seepage Survey Report** referred to in Part H, Item 14, shall consist of the results of Seepage surveys of all mine components including: constructed rock piles, stockpiles of reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams, and include, but not necessarily be limited to:
- a) monthly sampling of detected Seepages during periods of flow;
 - b) testing in the field shall include volume, dissolved oxygen, conductivity, Eh, field pH, water temperature, water colour, and precipitate colour;
 - c) laboratory analysis of each sample shall include major ions (as defined in the SNP), nitrite, nitrate, Total ammonia, Total arsenic, Total Dissolved Solids, Total Phosphorus, TSS, pH, conductivity, Total and Dissolved metals determined by Inductively Coupled Plasma Mass Spectrometry (ICP-MS) analysis as defined in this Licence and the SNP; and,
 - d) a site plan showing sampling locations, interpretation of SNP data collected from the drainage control and collection ponds and a description of how the results have been interpreted relative to the results of the QA/QC program.
 - e) Information about responses to monitoring results:
 - i. a description of how the Licensee will link the results of monitoring to any necessary corrective actions. This description shall include:
 - 1. definitions, with rationale for Action Levels applicable to the performance of the water management system;
 - 2. for each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken by the Licensee if the Action Level is exceeded
 - ii. Action Level exceedances and actions taken during the year shall be reported in the **Annual Water Licence Report** as per Part B, Item 3 and Schedule 1, Item 1.



8. The Report on North Inlet Sludge Management referred to in Part H, Item 16, shall include, but not necessarily be limited to, the following:

- a) the results of the North Inlet sediment characterization study update;
- b) the results of the risk assessment described in Appendix VIII-5 of the approved ICRP;
- c) a cost benefit analysis conducted by a third party of the following alternative disposal locations for sludge:
 - i. Waste Rock Facility;
 - ii. Processed Kimberlite Containment Facility;
 - iii. New on-land facility;
 - iv. Mixing with cover soils or hydrocarbon contaminated soils;
 - v. Underground mine back fill mix;
 - vi. North Inlet followed by selective dredging;

The third party analysis shall assess the costs (financial, environmental, and other) and the benefits (operational, environmental, closure, other) of each alternative, and include a recommendation and rationale regarding the best location for sludge disposal; and,

- d) a letter indicating the Licensee's preferred sludge disposal location, with rationale. If the Licensee proposes to dispose sludge in an alternate location, the letter shall include a schedule for implementing the change, and shall identify any management plans that require revisions as a result of the change.

9. The Hydrocarbon Management and Monitoring Plan referred to in Part H, Item 17, shall include, but not necessarily be limited to, the following:

- a) a summary of the results of investigations into the source of hydrocarbon contamination in the north inlet conducted to date, including but not limited to:
 - i. a summary of the investigations, including dates;
 - ii. a summary of what is known about the toxicity of north inlet sediment;
 - iii. a description of the types of hydrocarbons known to be present in north inlet sediment; and,
 - iv. a description of known sources of hydrocarbons contamination;
- b) a list of possible additional sources of hydrocarbon contamination, and the types of hydrocarbons that may be associated with each source;
- c) a monitoring plan and schedule for identifying all source(s) of hydrocarbon contamination in the north inlet;
- d) a summary of the Licensee's current practices for minimizing hydrocarbon contamination of North Inlet Facility sediments; and,
- e) a description of proposed mitigations to minimize hydrocarbon contamination and a schedule for implementation.



SCHEDULE 7
PART I: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The **Contingency Plan** referred to in Part I, Item 1, of the Licence shall include, but not be necessarily limited to, the following contingencies for:
 - a) contingencies for managing ground water and Pit Water flows should they become excessive and threaten to exceed treatment facility capacity or storage capacity;
 - b) contingencies for the following items:
 - i. water management during construction;
 - ii. treatment plant operation and the capacity to ensure the effluent quality criteria are met;
 - iii. in-lake construction activities, including spills of hazardous materials and any plume beyond the 200 metre zone;
 - iv. dam Seepage, reduced capacity, failures of containment facilities, uncontrolled Discharges, metal contamination and threshold limits at which point management action will be taken;
 - v. handling of larger volumes of water than expected associated with pit Dewatering, and the capacity of the PKC and North Inlet Facilities;
 - vi. hazardous materials storage areas, including spills of fuel and explosive chemical;
 - vii. management of water associated with inland lake Dewatering, including poor water quality, and erosion;
 - viii. operations of all treatment facilities including: poor treatment performance, toxic effluent, and inadequate diffuser performance;
 - ix. stability and drainage control associated with Waste rock management, including slope failure and poor Seepage quality;
 - x. Seepage control systems, including the failure of collection ditches;
 - xi. uncontrolled Discharges from Spillways;
 - xii. ground water contamination; and,
 - xiii. solid Waste management.
 - c) specific triggers to define when contingency measures are to be implemented;
 - d) specific contingency measures to deal with effluent and actions to be taken if effluent exceeds LC20 values due to ammonia in accordance with toxicity testing as required by the Surveillance Network Program annexed to this Licence. If the effluent exceeds LC20 values due to ammonia, the **Contingency Plan** shall address the following:
 - i. in the event of a monthly toxicity test failure, the effluent shall be retested immediately (confirmatory testing);
 - ii. if the confirmatory test also fails, the effluent shall be held and a Toxicity Identification Evaluation conducted to determine the cause of the toxicity;



- iii. if failure is noted on two (2) tests in any four (4) month period, then the **Contingency Plan** shall be implemented, the effluent shall be held, and a Toxicity Identification Evaluation conducted;
 - iv. if the Toxicity Identification Evaluation indicates ammonia is the cause, actions will be taken in accordance with the **Contingency Plan**, and effluent will continue to be held until it passes an LC20 test;
 - v. if the Toxicity Identification Evaluation indicates a cause other than ammonia, DDMI will follow the steps identified in the **Contingency Plan** including continued Toxicity Identification Evaluation; and,
 - vi. a protocol for undertaking pH adjustments, based on the results of the Toxicity Identification Evaluation.
- e) hydrocarbon spill management performance tracking.



SCHEDULE 8
PART J: CONDITIONS APPLYING TO AQUATIC EFFECTS MONITORING

1. The **AEMP Design Plan** referred to in Part J, Item 2 shall include, but not be limited to, the following:
 - a) a process for measuring Project-related effects on the following components of the Receiving Environment:
 - i. water quality, quantity, and rate of flow;
 - ii. sediment quality;
 - iii. dust deposition;
 - iv. plankton abundance, taxonomic richness, and diversity;
 - v. benthic invertebrate abundance, taxonomic richness, and diversity; and,
 - vi. fish health and chemistry;
 - b) plume characterization;
 - c) a description of the AEMP components;
 - d) a description of the area to be monitored including maps showing all sampling and reference locations in the AEMP.
 - e) a description of procedures to minimize the impacts of the AEMP on fish populations and fish habitat;
 - f) a description of the approaches to be used to evaluate and adjust the AEMP;
 - g) a summary of how Traditional Knowledge has been collected and incorporated into the AEMP, as well as a summary of how Traditional Knowledge will be incorporated into further studies relating to the AEMP;
 - h) a description of an AEMP Response Framework which shall include:
 - i. definitions, with rationale, for Significance Thresholds and tiered Action Levels applicable to the aquatic Receiving Environment of the Project; and,
 - ii. for each Action Level:
 1. a description of the rationale including, but not limited to, a consideration of the predictions and conclusions of the Environmental Assessment as well as AEMP results to date;



2. a description of how exceedances of Action Levels will be assessed; and,
 3. a general description of what types of actions may be taken if an Action Level is exceeded.
 - i) a plain language description of the program objectives, methodology, and interpretative framework; and
 - j) a summary of changes to AEMP design since the last approved design and a rationale for the changes.
2. The **Aquatic Effects Re-evaluation Report** referred to in Part J, Item 2, shall include, but not be limited to, the following:
- a) a review and summary of AEMP data collected to date including a description of overall trends in the data and other key findings of the monitoring program;
 - b) an analysis that integrates the results of individual monitoring components (e.g., water quality, fish health, etc.) to date and describes the overall ecological significance of the results;
 - c) a comparison of measured Project-related aquatic effects to predictions made during the Environmental Assessment and an evaluation of any differences and lessons learned;
 - d) updated predictions of Project-related aquatic effects or impacts from the time of writing to the end of mine life based on AEMP results to date and any other relevant operational monitoring data;
 - e) a plain language summary of the major results of the above analyses and a plain language interpretation of the significance of those results;
 - f) recommendations, with rationale, for changes to Action Levels as set in the **AEMP Design Plan**;
 - g) recommendations, with rationale, for changes to any other aspect of the **AEMP Design Plan**; and,
 - h) any other information required as requested by the Board.
3. The **AEMP Annual Report** referred to in Part J, Item 9, shall include, but not be limited to, the following:
- a) a summary of activities conducted under the Aquatic Effects Monitoring Program;
 - b) tabular summaries of all data and information generated under the AEMP in an electronic and printed format acceptable to the Board;



- c) An interpretation of the results, including an evaluation of any identified environmental changes that occurred as a result of the Project;
 - d) an evaluation of any adaptive management response actions implemented during the year;
 - e) recommendations for refining the Aquatic Effects Monitoring Program to improve its effectiveness as required; and,
 - f) an evaluation of the overall effectiveness of the Aquatic Effects Monitoring Program to date; and, any other information specified in the approved Aquatic Effects Monitoring Program or that may be requested by the Board.
4. The **AEMP Response Plan** referred to in Part J, Item 6 shall contain the following information for each parameter that has been reported in the **AEMP Annual Report** to have exceeded an Action Level:
- a) a description of the parameter, its relation to Significance Thresholds, and the ecological implication of the Action Level exceedance;
 - b) a summary of how the Action Level exceedance was determined and confirmed;
 - c) a description of likely causes of the Action Level exceedance and potential mitigation options if appropriate;
 - d) a description of actions to be taken by the Licensee in response to the Action Level exceedance including:
 - i. a justification of the selected action(s) which may include a cost/benefit analysis;
 - ii. a description of timelines to implement the proposed actions;
 - iii. a projection of the environmental response to the planned actions, if appropriate;
 - iv. a monitoring plan for tracking the response to the actions, if appropriate; and
 - v. a schedule to report on the effectiveness of actions and to update the **AEMP Response Plan** as required.
 - e) any other information necessary to assess the response to an Action Level exceedance or that has been requested by the Board.



SCHEDULE 9
PART K: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. The **Annual Closure and Reclamation Plan Progress Report** referred to in Part K, Item 4, shall include but not be limited to:

a. Report Summary

- i. Summarize the key aspects of the previous year's closure and reclamation planning.

b. Community Engagement

- i. Summarize community engagement that was conducted during the previous year and is related to closure and reclamation.
- ii. Provide engagement records, in accordance with the MVLWB's *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*.

c. Reclamation Research Update

For each research plan in the Closure and Reclamation Plan:

- i. identify completed tasks and summarize results. Research or study results can be appended to the Annual ICRP Progress Report;
- ii. analyse results and provide conclusions, focussing on how the results impact closure activities, objectives, criteria, or other key aspects of the closure plan;
- iii. identify next steps and any proposed changes to research plans;
- iv. develop detailed scopes of work for each research task that is within 3 years of implementation; and,
- v. update the timelines for the completion of all research tasks.

d. Proposed Changes to Design Concepts

Identify any proposed changes to the preferred closure activities currently outlined in the ICRP and provide supporting rationale. Changes to closure activities for any mine components require approval, but will not need to be incorporated directly into the ICRP until the next version. Submit diagrams clearly demonstrating the configuration of any proposed changes to major physical features of the site (e.g., tailings covers, waste rock pile configuration, etc.).

e. Closure Objectives and Criteria

- i. Identify any proposed changes to closure objectives, including documentation of related engagement; and,



- ii. Describe progress on development of closure criteria, and outline next steps.

2. Progressive Reclamation

Report any progressive reclamation that occurred since submission of the previous version of the ICRP. Describe the effectiveness of these activities, and identify any work expected for the upcoming year. Describe how the effectiveness of progressive reclamation will be monitored.

This section should include a discussion about the impacts of leaving the waste rock pile uncovered, and provide enough information so that the Board can be confident that there are no unnecessary delays in placing the cover.

3. Schedule

Discuss whether the current closure planning schedule is on track (e.g., completion of research tasks within the specified timeframes, development of final design concepts, etc.) Identify the key milestones that must be completed within the next three years to ensure closure planning remains on track. Identify any unanticipated delays in the previous year or new threats to timely closure. This is one of the most important sections of the progress report, and the Licensee should provide sufficient detail to demonstrate that the Licensee is on schedule.

4. Other Important Information

Any other information related to closure planning. At a minimum, this should include:

- Summary of any operational monitoring results (e.g., PKC seepage monitoring) that impact closure
- Any changes to the estimates of amounts of reclamation materials that will be available or required,
- Once research results are available, a description of the effectiveness of potential top-dressing materials for revegetation and the amounts of required top-dressing material. If research on the amounts required are not complete, provide a rough estimate (e.g., as a range) of the total amount of top-dressing that might be required to re-vegetate the site.
- A description of any collaboration with BHP or other companies on closure issues;
- New industry best practices or corporate requirements related to the mine's closure plan;
- A review of updated meteorological data and a discussion of whether the results impact closure planning, in particular as it relates to climate change;
- Improved diagrams of the waste rock pile, including cross-sectional diagrams, diagrams clearly demonstrating the scale of the piles, a depiction of possible configurations, information about covers, slopes, wildlife access, vegetation, etc. Include a figure showing the different pockets/areas of types of waste rock (including spill contaminated material).



5. Record of Revisions to be made in the next version of the CRP

Include a list of any ICRP changes that the Licensee has proposed and the Board has approved since the previous CRP approval.

