



*By Courier, Email and Regular Mail*

**Subject:** License NWB1JER0410  
Jericho Diamond Mine, Nunavut

Please find enclosed licence NWB1JER0410 duly issued by the Nunavut Water Board (NWB). This licence authorizes Benachee Resources Incorporated, a wholly-owned subsidiary of Tahera Diamond Corporation to use water and dispose of waste in relation to the operation of the Jericho Diamond Mine. Records of Proceedings including Reasons for Decision are also attached for your information.

In accordance with section 56 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, your approval is required.

Please contact the undersigned in writing should you have any questions regarding this matter.

Sincerely,

ORIGINAL SIGNED BY:

Thomas Kudloo  
Chair

c.c. G. Missal, Tahera Diamond Corporation  
Distribution List  
NWB Public Registry



## NUNAVUT WATER BOARD WATER LICENCE

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

**BENACHEE RESOURCES INC., A WHOLLY OWED SUBSIDIARY OF  
TAHERA DIAMOND CORPORATION**

(Licensee)

**803-121 RICHMOND STREET WEST, TORONTO, ONTARIO M5H 2K1**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number/Type: NWB1JER0410 Type "A"

Water Management Area: NUNAVUT 07

Location: KITIKMEOT REGION, NUNAVUT

Purpose: INDUSTRIAL WATER USE AND WASTE DISPOSAL

Description: MINING AND PROCESSING

Quantity of Water not to be Exceeded: 350,400 CUBIC METRES ANNUALLY

Date of Licence: DECEMBER 21, 2004

Expiry of Licence: DECEMBER 31, 2010

This License issued and recorded at Baker Lake, Nunavut includes and is subject to the annexed conditions.

*ORIGINAL SIGNED BY*

**Thomas Kudloo,  
Nunavut Water Board  
Chair**

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

**EFFECTIVE DATE OF LICENCE:** \_\_\_\_\_

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

### **1. SCOPE**

- a. This Licence entitles Benachee Resources Incorporated (“BRI” and the “Licensee”), a wholly-owned subsidiary of Tahera Diamond Corporation, to use water and dispose of waste associated with the industrial undertakings in diamond mining of Kimberlite as outlined in the Mine Plan and summarized below.

BRI may conduct mining and associated activities at the Jericho Diamond Mine in the Kitikmeot Region of Nunavut, (65°59’50” N, 111°28’30 W) including:

- i. the extraction of overburden, waste rock and ore from the open pit and underground;
- ii. the development and operation of site facilities (including the airstrip);
- iii. the construction, handling, and storage of petroleum products and hazardous material;
- iv. the construction of dams, spillway, and embankment infrastructure needed for the operation of a Processed Kimberlite Containment Area;
- v. to divert a watercourse (Stream C1 and Stream C4) for on site water management;
- vi. the construction and maintenance of water/sediment control infrastructure;
- vii. the processing of Kimberlite, including the deposition of Processed Kimberlite;
- viii. the construction and operation of a Short-Term Landfill;
- ix. the construction and operation of a Landfill and Landfarm;
- x. the construction of site roads and lay down area;
- xi. the construction and operation of a Waste Water Treatment Plant for sewage;
- xii. the construction of storage pads;
- xiii. the quarrying of materials from specified locations;
- xiv. the construction and maintenance of a winter ice road;
- xv. the progressive reclamation of on site infrastructure; and,

- xvi. the use of water for processing, hydrostatic testing, winter road construction, and domestic purposes.
- b. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal 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 to be subject to such requirements.
- c. Compliance with the terms and conditions of this licence does not absolve the Licensee from responsibility for compliance with all applicable legislation, guidelines and directives.
- d. The Licensee shall notify the Board within sixty (60) days should the Licensee decide to enter into a Care and Maintenance Phase.

## 2. DEFINITIONS

Refer to Schedule A

## 3. ENFORCEMENT

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

## **PART B: GENERAL CONDITIONS**

- 1. Water Use fees shall be paid annually in advance of any use in accordance with the Section 9 of the *Regulations*.
- 2. The Licensee shall file an Annual Report with the Board no later than March 31 or sixty (60) days following the anniversary, of the effective date of issuance of the licence in the year following the calendar year being reported. The Annual Report shall be developed in accordance with Schedule B Item 1.

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

Chief Administrative Officer  
Nunavut Water Board  
P. O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nwb.nunavut.ca](mailto:licensing@nwb.nunavut.ca)
5. Any notice made to an Inspector shall be made in writing to the attention of:

Water Resources Officer  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4298  
Fax: (867) 979-6445
6. The Licensee shall submit three (3) paper copies and one (1) electronic copy of all reports, studies, and plans to the Board unless otherwise requested by the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut and Inuinnaqtun.
7. This Licence is not assignable except as provided in Section 44 of the *Act*.

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

1. The Licensee shall within thirty (30) days of the effective date of the Licence, furnish and maintain a security in the amount of \$2.2 million dollars in the form and nature in accordance with the Regulation or that is satisfactory to the Minister.
2. The Licensee shall furnish and maintain such further or other amounts of security as may be required by the Board, and adjustment to the amount of security upon request of the Licensee with supporting evidence may be approved by the Board, based on annual estimates of current mine restoration liability in accordance with Part B, Item 2, Schedule B, Item 1(u) of this License.
3. The security shall be maintained until such time as it is fully or in part refunded by the Minister pursuant to Section 76(5) of the *Act*. This clause shall survive the expiry of this License or renewals thereof and until full and final restoration has been completed to the satisfaction of the Minister.

## **PART D: CONDITIONS APPLYING TO CONSTRUCTION**

1. The Licensee shall submit to the Board for review, within thirty (30) days of the effective date of the licence, a detailed Mine Plan which outlines timing of construction for all infrastructure components. The Plan shall identify measures to be taken should implementation deviate from the proposal. The plan shall be developed in accordance with Schedule D, Item 1.
2. The Licensee shall submit to the Board for approval, design plans and drawings stamped by a Geotechnical Engineer, at least sixty (60) days prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Waste. The Licensee shall ensure that such facilities are designed and constructed to engineering standards such that at a minimum they comply with the Dam Safety Guidelines.
3. All rock used in construction must meet the appropriate geochemical criteria as specified in the approved as per Schedule D Item 3.
4. The Licensee shall submit to the Board for review, a revised Borrow Management Plan at least sixty (60) days prior to the extraction of any borrow material. This plan shall be developed in accordance with Schedule D, Item 4.
5. The Licensee shall submit to the Board for approval, a detailed Design Plan at least sixty (60) days prior to the construction of the Processed Kimberlite Containment Area including drawings, stamped by a Geotechnical Engineer and/or Engineering Geologist. This plan shall be developed in accordance with Schedule D, Item 5.
6. The Licensee shall submit to the Board for approval, a detailed Landfill Design Plan at least sixty (60) days prior to the construction of the Landfill including drawings, stamped by an Engineer. The plan shall be developed in accordance with Schedule D, Item 6.
7. The Licensee shall submit to the Board for approval, a detailed Landfarm Design Plan at least sixty (60) days prior to the construction of the Landfarm including drawings, stamped by an Engineer. The plan shall be developed in accordance with Schedule D, Item 7.
8. The Licensee shall submit to the Board for approval, a detailed Waste Water Treatment Plant Design Plan at least sixty (60) days prior to the construction of the Waste Water Treatment Plant including drawings, stamped by an Engineer. The plan shall be developed in accordance with Schedule D, Item 8.
9. The Licensee shall, submit to the Board for approval, a detailed Design Plan at least sixty (60) days prior to the construction of the Site Water Management Facilities, including drawings stamped by an Engineer. The plan shall be development in accordance with Schedule D Item 9.
10. The Licensee shall submit to the Board for approval, a detailed Design Plan at least sixty (60) days prior to the construction of the Ore Stockpile, Coarse Processed Kimberlite, Recovery Rejects Stockpile, Waste Rock Dump No. 1 and Waste Rock Dump No. 2, the including drawings, stamped by a Geotechnical Engineer and/or Engineering Geologist.

This plan shall be developed in accordance with Schedule D, Item 10.

11. The Licensee shall, at least sixty (60) days prior to the construction of the Collection Ponds A, B, and C submit to the Board for approval the final detailed Design Plan stamped by a Geotechnical Engineer and/or Engineering Geologist. This report shall be developed in accordance with Schedule D, Item 11.
12. The Licensee shall, at least sixty (60) days prior to the construction of the Fuel Storage and Containment Facility, submit to the Board for approval the final detailed design plan stamped by a qualified Engineer. This report shall be developed in accordance with Schedule D, Item 12.
13. The Licensee shall, at least sixty (60) days prior to the dewatering of Long Lake, submit to the Board for approval, a Long Lake Dewatering Plan, certified by a Hydrologist. This report shall be developed in accordance with Schedule D, Item 13.
14. The Licensee shall, at least sixty (60) days prior to commencement operations, submit to the Board for review, an approved Explosives Management Plan. This report shall be developed in accordance with Schedule D, Item 14.
15. The Licensee shall, at least sixty (60) days prior to the construction of the Causeway, submit to the Board for approval the final detailed Causeway design plan stamped by a Geotechnical Engineer and/or Engineering Geologist. This report shall be developed in accordance with Schedule D, Item 15.
16. The Licensee shall, at least sixty (60) days prior to the construction of the C1 Diversion, submit to the Board for approval the final detailed design plan stamped by a Geotechnical Engineer and/or Engineering Geologist. This report shall be developed in accordance with Schedule D, Item 16.
17. The Licensee shall ensure that all containment and runoff control structures are constructed and maintained to prevent escape of wastes to the surface or ground water systems.
18. The Licensee shall, within ninety (90) days of completion of any structure designed to contain, withhold, divert or retain waters or wastes, submit to the Board for review, a construction report prepared by a qualified Engineer that shall include as-built drawings, documentation of field decisions that deviate from original plans and any data used to support these decisions.
19. The Licensee shall ensure that all construction of engineered structures will be supervised and field checked by an appropriately qualified and experienced Engineer in such a manner that the project specification can be enforced and, where required, the quality control measures can be followed. The licensee shall also ensure that the construction records of all engineered Structures are maintained and made available at the request of the Board and/or an Inspector.
20. All detailed design plans referred to in this Part shall consider Adaptive Management strategies.

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

1. The Licensee shall install meters to measure flow for all structures used to withdraw water to the satisfaction of an Inspector.
2. The Licensee is authorized to use water for domestic purposes, construction, hydrostatic testing, mining, processing and associated used for the Water Intake Facility or as approved by the Board.
3. The Licensee is authorized to use water for winter road construction from Lynne Lake and Contwoyto Lake or as otherwise approved by the Board.
4. The Licensee shall ensure that direct water use for Winter Road construction shall not be extracted from locations with the potential to generate adverse effects to fish habitat.
5. The total annual quantity of water used for all purposes and from all sources shall not exceed 350,400m<sup>3</sup>.
6. The Licensee shall ensure that the water intake is equipped with a screen with a mesh size sufficient such that no entrainment of fish can occur and that the chosen site is to the agreement of DFO.
7. The Licensee shall ensure that the rate of water withdrawal is such that fish do not become impinged on the screen.

## **PART F: CONDITIONS APPLYING TO WATER MANAGEMENT**

1. The Licensee shall, at least four (4) months prior to commencement of production, submit to the Board for approval a detailed Site Water Management Plan. The final detailed report shall be stamped by an Engineer. This report shall be developed in accordance with Schedule F, Item 1.
2. In the event that the Site Water Management Plan described in Part F Item 1, and outlined in Schedule F Item 1, is not approved by the Board, the Licensee shall provide a revised version to the Board for review within thirty (30) of notification by the Board.
3. The Licensee shall implement the Site Water Management Plan as and when approved by the Board.
4. The Licensee shall operate and maintain the Site Water Management Facilities. C1 Diversion and C4 Ditch to engineering standards such that at a minimum, they comply, where applicable to the Dam Safety Guidelines, and in accordance with the following (where applicable):
  - a. The Licensee shall ensure that all containment and runoff control structures are constructed and maintained to prevent escape of wastes to the surface or ground water



systems.

- b. a minimum freeboard limit of one (1) metre (where applicable) shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board;
- c. the Licensee shall carry out, at a minimum, weekly inspections, during periods of flow, and the records be kept for review upon request of an Inspector. Areas of deterioration and erosion shall be repaired immediately
- d. any runoff accumulated and/or seepage that does not meet the effluent quality criteria Part G, Item 6(a) shall be collected and directed to the PKCA and measures shall be employed to reduce seepage;
- e. an inspection shall be carried out annually in July by a Geotechnical Engineer. The engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations; and
- f. The Licensee shall perform more frequent inspection of the Site Water Management Facilities at the request of an Inspector.

#### **PART G: CONDITIONS APPLYING TO WASTE MANAGEMENT**

- 1. The Licensee shall install meters for all structures used to discharge wastes to the satisfaction of an Inspector.
- 2. The Licensee shall operate and maintain the Processed Kimberlite Containment Area to engineering standards such that:
  - a. a minimum freeboard limit of one (1) metre below the lowest point of either the zero degree isotherm for the perimeter dams or the 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. the minimum Freeboard limit of one (1) metre as defined in Part B shall be maintain at all times; or as recommended by a Geotechnical Engineer and as approved by the Board;
  - c. the Licensee shall collect and return seepage from the PKCA and corrective measures shall be implemented,
  - d. the Licensee shall carry out, at a minimum, weekly inspections including, but not limited to, dams, spillway, pipeline(s), and the records be kept for review upon request of an Inspector. Areas of deterioration and erosion shall be repaired immediately;
  - e. the Licensee shall make every effort to simulate natural water flows in Stream C3

during discharge.

- f. the solids fraction of all Processed Kimberlite shall be deposited and permanently contained within the PKCA;
  - g. an inspection shall be carried out annually in July by a Geotechnical Engineer. The engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations; and
  - h. The Licensee shall perform more frequent inspection of the PKCA at the request of an Inspector.
3. The Licensee shall carry out, at a minimum, weekly (regular) inspection, including, but not limited to, all major earthworks, retention structures, dams and diversion structures, stockpiles, dumps, berms as well as open pit slopes and the records shall be kept for review upon request of an Inspector. Areas of deterioration and erosion shall be repaired immediately.
  4. The Geotechnical Engineer inspection to be carried out annually as required by Part F, 4(e), Part G, Item 2 (g) may be carried out as one inspection and reported accordingly and shall include, not limited to: Landfill, Landfarm, Fuel Containment Facility, Collection Ponds (if applicable) and facilities provided in the Waste Rock Management Plan.
  5. The Licensee shall provide at least ten (10) days written notice to an Inspector and the Board prior to any planned discharges from the PKCA to Steam C3.
  6. The Licensee shall ensure that any discharges to Steam C3 meet the following Effluent quality requirements:
    - a. All discharges to Stream C3 by the licensee from the PKCA at monitoring Station Number JER-WQ2 shall meet the following effluent quality criteria:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Total Aluminum – Al	1.5 mg/L	3.0 mg/L
Dissolved Aluminum – Al	1.0 mg/L	2.0 mg/L
Total Arsenic – As	0.05 mg/L	0.1 mg/L
Total Cadmium – Cd	0.0012 mg/L	0.0024 mg/L
Total Chromium – Cr	0.087 mg/L	0.17 mg/L
Total Copper – Cu	0.02 mg/L	0.04 mg/L
Total Lead – Pb	0.01 mg/L	0.02 mg/L
Total Molybdenum – Mo	0.73 mg/L	1.5 mg/L
Total Nickel – Ni	0.05 mg/L	0.1 mg/L
Uranium – U	0.5 mg/L	1.0 mg/L
Total Zinc – Zn	0.25 mg/L	0.50 mg/L
Total Ammonia – N	6 mg/L	12 mg/L

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Nitrate – N	28 mg/L	56 mg/L
Nitrite – N	2.5 mg/L	5.0 mg/L
Phosphorus – P	0.2 mg/L	0.4 mg/L
Chloride – Cl	500 mg/L	1000 mg/L
Total Dissolved Solids – TDS	2000 mg/L	4000 mg/L
Total Suspended Solids –TSS*	15.0 mg/L	25.0 mg/L
pH	6 – 8.8	6 – 8.8

\* Conditional on Part G, Item 4 (b) below

- i. Upon directing discharge from the WWTP to the PKCA, the main effluent discharge to Stream C3 shall meet the following additional effluent quality requirements:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Biological Oxygen Demand (5 day) - BOD <sub>5</sub>	15.0 mg/L	25.0 mg/L
Oil and Grease <sup>(1)</sup>	3.0 mg/L	5.0 mg/L
Faecal Coliforms	10 CFU/100 ml	20 CFU/100 ml

- b. All surface runoff during construction of any facilities designed to withhold, divert, or retain such runoff (except for within the PKCA) shall meet the following criteria:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Total Suspended Solids –TSS	50.0 mg/L	100.0 mg/L

- c. All surface runoff during construction within the PKCA shall meet the criteria for TSS as required by Part G, Item 9 (a).
7. All discharges to Stream C3 by the Licensee from the PKCA at Station Number JER-WQ2 shall not be acutely toxic under the following tests to be conducted once prior to discharge and monthly thereafter until freeze up:
    - 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).
  8. The Licensee shall ensure that the de-watering of Long Lake and or effluent discharge to Stream C3 is undertaken such that

- a. the discharge does not exceed the typical average freshet flows over the sustained discharge period for the de-watering and the discharge during operation should simulate the natural seasonal flows;
  - b. the discharge is supervised by a qualified hydrologist;
  - c. erosion control mitigation shall be implemented where necessary; and
  - d. if, erosion is evident, pumping shall cease immediately until mitigation is complete.
9. The Licensee shall not add flocculant directly to the PKCA.
10. During the first year of construction and operation, the Licensee shall dispose of and contain all solid waste at the Short Term Landfill or as otherwise approved by the Board.
11. Following commissioning and approval by the Board for the Landfill, the Licensee shall dispose of and contain all solid waste at the Landfill or as otherwise approved by the Board.
12. The Licensee shall implement measure to ensure leachate from the Landfill does not enter water.
13. The Licensee shall dispose of and contain all identified hydrocarbon-contaminated soils from spill in the Landfarm.
14. The Licensee shall dispose of and contain all identified hydrocarbon-contaminated snow and ice in a segregated sump in the Coarse Processed Kimberlite stockpile.
15. The Licensee shall dispose of and contain all identified hydrocarbon-contaminated rock in a segregated area of Waste Dump No.1.

#### **PART H: CONDITIONS APPLYING TO WASTE MANAGEMENT PLANS**

1. The Licensee shall, at least four (4) months prior to the first effluent discharge from the PKCA, submit to the Board for approval, the PKCA Management Plan. The final detailed report shall be stamped by an Engineer. This report shall be developed in accordance with Schedule H, Item 1.
2. The Licensee shall implement the PKCA Discharge Management Plan as and when approved by the Board.
3. The Licensee shall submit to the Board for approval within four (4) months of the effective date of this license a Waste Rock Management Plan, to address the management of all rock this is disturbed, moved, stored, or otherwise affected by mining-related activity on the property over the term of the project. This Plan shall be developed in accordance with Schedule H, Item 2.
4. The Licensee shall submit to the Board for review, after the first year of operation, a report identifying the characteristics of the recovery plant rejects, and the specifics of how they will be handled, including final location, and rationale for appropriate blending ratio. The report may be submitted as an addendum to the plan referred to in Part H, Item

- 3.
5. The Licensee shall, within one (1) year of the effective date of this License, submit to the Board for approval an Operation and Management Plan for the Waste Water Treatment Plant, the Landfill and the Landfarm. The plan(s) shall be developed in accordance with Schedule H, Item 3.
6. In the event that the Plans referred to in Part H, Item 1, Item 3, and Item 5, are not approved by the Board, the Licensee shall provide a revised versions to the Board for review within thirty (30) of notification by the Board.
7. The Licensee shall implement the Plan referred to in the Part as and when approved by the Board.

#### **PART I: CONDITIONS APPLYING TO MODIFICATIONS**

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
  - a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
  - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
  - c. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - d. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part I, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

#### **PART J: CONDITIONS APPLYING TO CONTINGENCY PLANNING**

1. The Licensee shall submit to the Board for approval within thirty (30) days of the effective of this Licence, a revised Contingency Plan prepared in accordance with the NWT Water Board's, "Guidelines for Contingency Planning, January 1987," or subsequent editions. This Plan shall be developed in accordance with Schedule J, Item 1.

2. In the event that the Plan referred to in Part J, Item 1, is not approved by the Board, the Licensee shall provide a revised versions to the Board for review within thirty (30) of notification by the Board.
3. The Licensee shall implement the Plan referred to in the Part as and when approved by the Board.
4. The Licensee shall review the Contingency Plan annually and revise as necessary to reflect changes in operation and technology. Any proposed changes to the plan shall be submitted to the Board for approval. Proposed changes may be submitted as addendum to the approved plan as part of the Annual report requirement Part B, Item 2.
5. If, during the period of this Licence, an unauthorized discharge of Waste and/or Effluent occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a. Employ the Contingency Plan;
  - b. Report the incident immediately via the 24-Hour Spill Reporting Line (867) 920-8130; and
  - c. Submit to an Inspector a detailed written report on each occurrence no later than thirty (30) days after initially reporting to the Spill Reporting Line.
6. If, during the period of this Licence, the Licensee enters into a Care and Maintenance phase, the Licensee shall submit to the Board for approval an addendum to the Contingency Plan within thirty (30) days of providing notification to the Board. This shall be developed in accordance with Schedule I, Item 2.

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

1. The Licensee shall install meters or such devices, or use such methods as approved by the Board for measuring the volumes of Water used and Effluent discharged. The meters and measuring devices or methods shall be operated and maintained to the satisfaction of an Inspector.
2. The Licensee shall install the appropriate hydrograph instrumentation to adequately monitor the Lake C3 water elevations in order to correlate the release of PKCA effluent to the otherwise naturally occurring hydrograph of Stream C3.
3. The Licensee shall maintain the necessary signs to identify the stations of the Monitoring Program to the satisfaction of an Inspector.
4. The Licensee shall, for the purposes of general monitoring, refer to Tables 1 – Water Quality Parameters and Table 2 – Receiving Environment Water Quality Monitoring Requirements, in Schedule K for the description of the locations to be monitored in the receiving environment and the required analytical parameters to be measured.

5. The Licensee shall, for the purposes of specific site water management monitoring, refer to Table 3 – Site Water Quality and Thermal Monitoring Requirements in Schedule K for the description of the locations to be monitored and the analytical parameters to be measured.
6. Additional monitoring may be requested by the Board or the Inspector.
7. The Licensee shall collect the samples referred to in this Part without delay. If at any time, the period specified for collecting samples was extended due to unforeseen circumstances due to safety concerns or access problems and render the collection of samples impracticable, the Licensee shall notify an Inspector of the circumstances.
8. The Licensee shall increase sampling frequency if results of such sampling indicate that the Effluent Quality Requirements provided in Part G have been exceeded, or as requested by the Board or directed by an Inspector.
9. All analyses shall be conducted as described in the most recent edition of “*Standard Methods for the Examination of Water and Wastewater*”, or by such other methods as approved by an Analyst.
10. All analyses shall be performed in a laboratory approved by the Analyst.
11. An annual inspection of the earthworks, as required by Part G, Item 4 shall be carried out annually during the summer by a Geotechnical Engineer. The Geotechnical Engineer’s report shall be submitted to the Board within sixty (60) days of the inspection, with a covering letter from the Licensee outlining an implementation plan to respond to the Engineer’s recommendations.
12. The Licensee shall measure and record all flow and volume measurements on a monthly basis in cubic metres (unless otherwise stated) for the following:
  - a. the daily volume of water obtained from Carat Lake for all purposes;
  - b. the volume of water obtained from runoff collection, ponds or any other source used for any purpose;
  - c. the volume of water reclaimed from the PKCA;
  - d. the volume of the solids in tonnes and liquid fractions in cubic metres of each waste pumped to the PKCA;
  - e. the daily volume of effluent discharged from the PKCA;
  - f. the daily volume of minewater and seepage pumped from the open pit, Ponds, or other Site Water Management facilities to the PKCA;
  - g. the daily volume of treated Sewage effluent discharged from the Waste Water Treatment Plant; and

- h. the volume of Sewage sludge removed from the Waste Water Treatment Plant.
- 13. The Licensee shall, on a monthly basis, measure and record the amounts in tonnes (unless otherwise stated) including the location of disposal for the following:
  - a. the quantity of ore processed; and
  - b. the quantity of waste rock, coarse processed Kimberlite, till and overburden.

**PART L: CONDITIONS APPLYING TO GENERAL AND AQUATIC EFFECTS MONITORING PLANS**

- 1. The Licensee shall within one (1) month of the effective date of this License, submit to the Board for approval a General Monitoring Plan. The plan shall be developed in accordance with Schedule L, Item 1.
- 2. In the event that the Plan referred to in Part L, Item 1, is not approved by the Board, the Licensee shall provide a revised versions to the Board for review within thirty (30) of notification by the Board.
- 3. The Licensee shall implement the Plan referred to in the Part L, Item 1 as and when approved by the Board.
- 4. The Licensee shall annually review the approved General Monitoring Plan and modify the Plan as necessary. Proposed modifications shall be submitted to the Board for approval.
- 5. The Licensee shall submit to an Analyst for approval within three (3) months of the effective date of this License, a Quality Assurance/Quality Control (QA/QC) Plan that includes field and laboratory procedures and requirements. This report shall be developed in accordance with Schedule L, Item 2.
- 6. The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Analyst for approval.
- 7. In the event that the Plan referred to in Part L, Item 5, is not approved by the Board, the Licensee shall provide a revised version to the Analyst for review within thirty (30) of notification by the Board.
- 8. The Licensee shall implement the Plan referred to in the Part L, Item 5 as and when approved by the Analyst.
- 9. The Licensee shall conduct an Annual Seepage survey in July or August. The Licensee shall submit to the Board for review, sixty (60) days following completion of the survey, the results, analysis and recommendations. This report shall be developed in accordance with Schedule L, Item 3.
- 10. The Licensee shall within two (2) month of the effective date of this License, submit to the Board for approval an Aquatic Effects Monitoring Plan. The plan shall be developed



in accordance with Schedule L, Item 4.

11. In the event that the Plan referred to in Part L, Item 10, is not approved by the Board, the Licensee shall provide a revised versions to the Board for review within thirty (30) of notification by the Board.
12. The Licensee shall implement the Plan referred to in the Part L, Item 10 as and when approved by the Board.
13. The Licensee shall annually review the approved Aquatic Effects Monitoring Plan and modify the Plan as necessary. Proposed changes shall be submitted to the Board for approval.
14. The Licensee shall, within thirty (30) days following the month being reported, submit to the Board all data and information in an electronic and printed format acceptable to the Board required by Part K and Part L, including the results of the QA/QC program.

#### **PART M CONDITIONS APPLYING TO CLOSURE AND RECLAMATION**

1. The Licensee shall notify the Board in writing of its intent to enter into a Care and Maintenance Phase or to achieve Recognized Closed Mine status.
2. The Licensee shall submit to the Board for approval within nine (9) months of effective date of this Licence, a revised Interim Closure and Reclamation Plan in accordance with the NWT Water Board's, "Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories," or subsequent editions. The plan shall be developed in accordance with Schedule M, Item 1.
3. In the event that the Plan referred to in Part M, Item 2, is not approved by the Board, the Licensee shall provide a revised version to the Board for review within thirty (30) of notification by the Board.
4. The Licensee shall implement the Plan referred to in the Part M, Item 2 as and when approved by the Board.
5. The Licensee shall submit to the Board for approval, at the time of licence renewal, a Proposed Final Closure and Reclamation Plan developed in accordance with Schedule M, Item 2.
6. The Licensee shall implement progressive revegetation program and revegetation shall commence on an area as soon as possible once they are no longer utilized by the project;
7. The Licensee shall submit to the Board for approval, annually by March 31<sup>st</sup> for the preceding year, an updated estimate of the total mine closure restoration liability using the current version of RECLAIM, its equivalent or other similar method approved by the Board. In accordance with principles of DIAND's "Mine Site Reclamation Policy for Nunavut" (2000)

## **SCHEDULES**

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The following schedules provide instructive detail to the conditions appearing in more general terms in the main body of the Licence and are spelled out in this format for greater clarity.

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## Schedule A - Definitions

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In this Licence: NWB1JER0410

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

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

“**Acutely lethal effluent**” means effluent as defined in the *Metal Mining Effluent Regulations* SOR/2002-222 dated 6 June 2002;

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

“**Aliquot**” means the amount comprising a known fraction of a whole and constituting a sample used for analysis;

“**Amendment**” means a change to any terms and condition of this Licence, through application to the NWB, requiring correction, addition or deletion of specific terms and conditions of the Licence;

“**Ammonium Nitrate Storage Area**” means the location designed to store Ammonium nitrate-Fuel oil (ANFO) explosives to be used for dry blasting as described in the document titled “Ammonium Nitrate and Explosives Management Plan” by AMEC Earth & Environmental dated August 2004 and illustrated in Drawing 1CT004.06-G12 dated July 2004;

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

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

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

“**Care and Maintenance**” in respect of a mine, means when the licensee ceases production or commercial operation for an undefined period of time;

(Schedule A - Definitions)

**“Causeway”** means the infrastructure in Carat Lake designed to access and support the freshwater Water Supply Facilities;

**“Chief Administrative Officer”** means the Executive Director of the Nunavut Water Board;

**“Coarse PK Stockpile”** means the engineered facility designed to permanently store coarse processed Kimberlite as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M3 dated July 2004;

**“Collector Ditches”** means containment structures that are designed to direct local runoff toward the open pit and/or towards the collection ponds as described in the document titled “Site Water Management” prepared by SRK Consulting, August 2004 and illustrated in Drawing Numbers: 1CT004.06-W-1 dated July 2004;

**“Collection Ponds A, B, and C”** means containment structures that may be designed to contain runoff and potential seepage from Waste Rock Dump sites, overburden stockpile, ore stockpile, coarse PK stockpile and plant site area as described in the document titled “Site Water Management” prepared by SRK Consulting, August 2004 and illustrated in Drawing Numbers: 1CT004.06-W-1 dated July 2004; 1CT004.06-W-4 dated July 2004; and 1CT004.06-W-5 dated July 2004;

**“Commercial Operation”** in respect of a mine, means an average rate of production is equal to or greater than 25 % of the design rated capacity of the mine over a period of 90 consecutive days;

**“Construction”** means any activities undertaken to construct or build any component of, or associated with, the development of the Jericho Diamond Project, as described in the Summary Document, Appendices and Addendum information submitted to the Board throughout the regulatory process;

**“C1 Diversion”** means the engineered structures designed to divert waters and includes the C1 Diversion Dyke/Dam as described in the document titled “Site Water Management” prepared by SRK Consulting, August 2004 and illustrated in Drawing Numbers: 1CT004.06-W-2 dated July 2004 and 1CT004.06-W-3 dated July 2004;

**“C4 Ditch”** means the clean water containment structure that is designed to collect overland flow from southeast of Waste Dump Site 1 to be discharged to Lake C4 as described in the document titled “Site Water Management” prepared by SRK Consulting, August 2004 and illustrated in Drawing Number: 1CT004.06-W-1 dated July 2004;

**“Dam Safety Guidelines”** means the *Canadian Dam Association (CDA) Dam Safety Guidelines (DSG)*, January 1999 or subsequent approved editions;

**“Deleterious Substance”** means a substance as defined in Section 34(1) of the *Fisheries Act*

**“Deposit”** means the placement of waste rock, Processed Kimberlite or other solids materials on land or in water;

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

**“Divider Dyke”** means the embankment infrastructure within the PKCA dividing it into two sections to limit the extent to which fine PK solids move into the western half of the PKCA as described in document titled “Design of PKCA” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers 1CT004.06-P2 and 1CT004.06-P7 dated July 2004;

**“Domestic Waste”** means all solid waste generated from the accommodations, kitchen facilities and all other site facilities, excluding those industrial and hazardous wastes associated with the mining and processing of kimberlite;

**“East Dam”** means the embankment infrastructure utilizing a central frozen core as described in document titled “Design of PKCA” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-P5 and 1CT004.06-P7 dated July 2004;

**“Effective Date of Licence”** means the date on which the Minister of DIAND approves the Licence;

**“Effluent”** means the liquid discharge from all site water management facilities;

**“Emulsion Plant”** means the facility designed to manufacture on-site, emulsion explosives to be used for wet blasting as described in the document titled “Ammonium Nitrate and Explosives Management Plan” by AMEC Earth & Environmental dated August 2004 and illustrated in Drawing 1CT004.06-G10 dated July 2004;

**“Engineer”** means a professional engineer registered to practice in Nunavut in accordance with the *Engineering, Geological and Geophysical Act (Nunavut)* S.N.W.T. 1998, c.38, s.5;

**“Engineering Geologist”** means a professional geologist registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization is the investigation and interpretation of geological conditions for civil engineering purposes;

**“Fuel Storage and Containment Facility”** means the facility designed for the bulk storage of fuel as illustrated in the Addendum to the submission to the NWB dated October 8, 2004 Drawing “Diesel Fuel Farm Preliminary Layout” dated July 10, 2004;

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

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

(Schedule A - Definitions)

**“Environmental Assessment (EA)”** means, for the purpose of this licence, the totality of the Nunavut Impact Review Board (NIRB) Public Registry as established under the authority of Article 12 of the NLCA, this includes everything that was submitted by Tahera Diamond Corporation or Tahera Corporation Limited to the NIRB, the scope of which is consistent with the Water License Application;

**“Freeboard”** means the vertical distance between the water level and the top of the containment element (i.e. a liner), within a dam or any other channel or pond used for containment of site runoff;

**“Fresh Water Supply Facilities”** means the infrastructure required for extraction, storage, treatment and distribution of water as described in the Final Environmental Impact Statement, Project Description dated January 2003 and illustrated in Drawing Numbers 1CT004.06-G10 and 1CT004.06-W6 dated July 2004;

**“Frozen Core”** means a permafrost core comprising frozen ice-saturated aggregate material and functioning as an impervious seepage barrier;

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

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

**“Ground Ice”** means ice that occupies fractures in rock and soil below the ground surface and may be present as ice inclusion in permafrost, soil or rock, as pore ice, lense ice or massive ice;

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

**“ICP Metal Scan”** means, for the purpose of the License, elements detected in an inductively coupled plasma (ICP) mass spectrometer including, but not limited to, aluminum, barium, boron, cadmium, chromium, copper, iron, lead, manganese, molybdenum, nickel, selenium, strontium, uranium and zinc;

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

**“Landfill”** means a facility, designed to permanently contain inert solid waste materials, as described in the document titled “Landfill Management Plan” prepared by AMEC Earth & Environmental, August 2004 and illustrated in Drawing Number 1CT004.06-G10 dated July 2004 and in the Addendum Information Figure 1, dated May 31, 2004;

**“Kimberlite”** refers to the Jericho Kimberlite pipe with a length of ~300m, a width of up to 100m and a depth of at least 350m that was formed from multiple emplacement events comprising a precursor dyke (JDF2) and three diatreme intrusive stage consisting of a northern (JDF4N), central (JDF6) and southern lobe (JDF4s) as described in the FEIS Project Description

(Schedule A - Definitions)

prepared by Tahera Diamond Corporation, dated January 2003 and illustrated in Maps A and D in Appendix E-Maps dated June 2000

**“Landfarm”** means a lined, engineered area designed to contain and treat, using bioremediation, hydrocarbon impacted sediment and soil described in the document titled “Land Farm Management Plan” prepared by AMEC Earth & Environmental, August 2004 and illustrated in Figure 1, dated May 31, 2004 and Drawing Number 1CT004.06-G12 dated July 2004;

**“Licence”** means this Type “A” Water Licence NWB1JER0410, issued by the Nunavut Water Board in accordance with the *Act*, to Tahera Diamond Corporation (formerly Tahera Corporation Limited) for the Jericho Diamond Project;

**“Licensee”** means to whom Licence NWB1JER0410 is issued to or assigned;

**“Low Grade Stockpile”** means the engineered facility designed to store low grade ore pending future assessment of economic feasibility for processing as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M3 dated July 2004;

**“Major Ions”** means to include the following parameters: sulphate, nitrate, chloride, total magnesium, total sodium, total potassium and total calcium;

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

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

**“Mine Plan”** means the document which describes actual mining activities (i.e. open pit and underground drilling and blasting, Kimberlite extraction, ground water control, backfilling and other mining activities) including the sequencing of the development;

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

**“Minister”** means the Minister of Indian and Northern Affairs Canada;

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

**“North Dam”** means the embankment water retaining infrastructure utilizing a central frozen core backed by a geosynthetic clay liner as described in document titled “Design of PKCA” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers 1CT004.06-P4 and 1CT004.06-P7 dated July 2004;

(Schedule A - Definitions)

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

**“Nutrients”** means to include the following measurements: total ammonia-N, nitrate-N, nitrite-N, total phosphorus, orthophosphate, total carbon and total organic carbon;

**“Open Pit”** refers to the conventional open pit method of mining described in the Mine Plan included in the report “Waste Rock, Overburden, Low Grade ore and Coarse Kimberlite Management Plan” prepared by SRK Consulting, dated August 2004 and illustrated in Drawing Numbers 1CT004.06-G10 and 1CT004.06-M1, dated July 2004;

**“Operations”** means the entire set of site activities (excluding construction and commissioning activities) associated with mining, processing and recovery of diamonds at the Jericho Diamond Project, as described in the Water Licence Application Summary Document on October 19, 2004;

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

**“Ore Stockpile”** means the above-ground facility designated for the temporary storage of ore to be processed in the processing plant using conventional diamond extraction methods as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M3 dated July 2004;

**“Overburden”** means the material, excluding waste rock, that must be removed to gain access to the ore in the development of the Open Pit. Material is to be stored at Waste Dump No. 2 as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M3 dated July 2004;

**“Perimeter Dykes”** means the embankment infrastructure required at four shallow depressions located around the PKCA (i.e. two of the north side of the PKCA and two on the south side) as described in document titled “Design of PKCA” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-P2 and 1CT004.06-P7 dated July 2004;

**“Physical Parameters”** means to include the following measurements: alkalinity, turbidity, conductivity, pH and Hardness;

**“Pit Water”** means the water that seeps into and or is collected within the open pit;

**“Processed Kimberlite”** means material (solid/liquid), considered to have no current value, which is rejected from the process plant after the recoverable minerals have been extracted;

**“Processed Kimberlite Containment Area (PKCA)”** means the containment basin and the engineered structures that are designed to contain the Fine Processed Kimberlite as described in the document titled “Design of the Processed Kimberlite Containment Area Plan” prepared by



(Schedule A - Definitions)

SRK Consulting, August 2004 and illustrated in Drawing Numbers: 1CT004.06-G10 and 1CT004.06-P1, dated July 2004;

**“Project”** means the Jericho Diamond Project as outlined in the FEIS submitted by Tahera Diamond Corporation (formerly Tahera Corporation Limited) to the Nunavut Impact Review Board NIRB and supplemental information, and updated in the Submission to the NWB summary Document and Appendices and Addendum information, comprising an open pit and underground mine, surface processing facilities, surface waste containment, water collection and treatment facilities and other infrastructure;

**“Reclamation”** means the process of converting disturbed land back to its former or other productive use;

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

**“Recovery Plant Rejects (RPR) Stockpile”** means the engineered facility designed to permanently store RPR as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M4 dated July 2004;

**“Recognized Closed Mine”** means a recognized closed mine as defined by section (1) of the *Metal Mining Effluent Regulations* SOR/2002-222 dated 6 June 2002;

**“Regulations”** means the *Northwest Territories Water Regulations* SOR/93-303 8 June, 1993.

**“Seepage”** means any water that drains through or escapes from any structure designed to contain, withhold, divert or retain water or waste. Seepage also includes any flows that have emerged from the toe, or as a result of runoff from overburden storage areas, waste rock storage facilities, coarse kimberlite reject areas and ore stockpile areas;

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

**“Site Water Management Facilities”** means the sumps, ponds, ditches and associated piping and pumps used for collection and handling of surface runoff, minewater and seepage as described in the document titled “Site Water Management” by SRK Consulting dated August 2004 and illustrated in Drawing Number 1CT004.06-W1 dated July 2004;

**“Short Term Landfill”** means the facility, designed to contain inert Solid waste materials during Year 1 of operations located in the area of Waste Dump Site No. 1 as described in the “Landfill Management Plan” prepared by AMEC Earth & Environmental, and illustrated on Drawing Number 1CT004.06-G10, dated July 2004;

**“Southeast Dam”** means the embankment infrastructure utilizing a central frozen core as described in document titled “Design of PKCA” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-P6 and 1CT004.06-P7 dated July 2004;

(Schedule A - Definitions)

**“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 as illustrated in Drawing Numbers 1CT004.06-011 and 1CT004.06-P8, dated July 2004;

**“Surface Drainage”** means all surface waters resulting from the flow over, through or out of an operations area and is collected by means of engineered structures considered under the site Water Management Facilities as described in the document titled “Site Water Management” by SRK Consulting dated August 2004 and illustrated in Drawing Number 1CT004.06-W1 dated July 2004;

**“Traditional Knowledge”** means the practical knowledge that has been gathered through the experience of living in close contact with nature and has been passed along or communicated orally, and handed down from generation to generation;

**“Talik”** means a layer or body of *unfrozen* ground occurring in a permafrost area due to a local anomaly in thermal, hydrological, hydrogeological or hydrochemical condition;

**“Total Metals”** means to include at a minimum: arsenic, aluminum, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, manganese, molybdenum, nickel, selenium, strontium, uranium, vanadium and zinc. Total metals shall be analyzed on an un-filtered sample;

**“Uncontrolled Surface Runoff”** means the runoff that is not controlled by site Water Management Facilities as described in the document titled “Site Water Management” by SRK Consulting dated August 2004 and illustrated in Drawing Number 1CT004.06-W1 dated July 2004;

**“Use”** means use as defined in section 4 of the *Act*;

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

**“Waste Dump No. 1”** means the engineered facility designed for the disposal of waste rock as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M3 dated July 2004;

**“Waste Dump No. 2”** means the engineered facility designed for the disposal of overburden with a waste rock buttress as described in the document titled “Waste Rock, Low Grade Ore and Coarse Processed Kimberlite Management Plan” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers: 1CT004.06-M1 and 1CT004.06-M3 dated July 2004;

**“Waste Rock”** means all unprocessed rock materials that are or were produced as a result of mining operations and having no current economical value;

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

(Schedule A - Definitions)

**“Waste Water Treatment Plant (WWTP)”** means the engineered system designed for the containment and treatment of sewage during the construction and operation phase of the project as described in the report “Wastewater Treatment Plant Operation Plan” dated May 2004 as illustrated in Drawing No. A1-K17296-7868;

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

**“Water Licence Application”** for the purposes of this License includes to totality of the NWB and NIRB Public Registries as establishes as a result of the filing of the application dated September 11, 2000;

**“West Dam”** means the embankment water retaining infrastructure utilizing a central frozen core backed by a geosynthetic clay lined as described in document titled “Design of PKCA” by SRK Consulting dated August 2004 and illustrated in Drawing Numbers 1CT004.06-P3 and 1CT004.06-P7 dated July 2004;

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**Schedule B - General Conditions**

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1. The Annual Report referred to in Part B Item 2 shall include, but not necessarily be limited to the following:
  - a. the monthly and annual quantities in cubic metres of water obtained from Carat Lake;
  - b. the monthly and annual quantities in cubic metres of recycled water identifying both the source and use;
  - c. 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 Area;
  - d. the monthly and annual quantities in cubic metres of any discharges from the Processed Kimberlite Containment Area;
  - e. the monthly and annual quantities in cubic metres of mine water and dyke seepage pumped from all facilities to the Processed Kimberlite Containment Area;
  - f. the monthly and annual quantities in cubic metres of treated effluent discharged from the Waste Water Treatment Facility;
  - g. the monthly and annual quantities in cubic metres of Sewage solids removed from the Waste Water Treatment Facility;
  - h. the annual quantities in cubic metres of overburden, waste rock, ore stockpiled, ore processed stored;
  - i. a summary report which includes all data and information generated under the Monitoring Program in an electronic and printed format acceptable to the Board;
  - j. a summary of construction activities conducted and an update Mine Plan;
  - k. a summary of any modification and/or major maintenance work and/or demolition work carried out and any associated structures;
  - l. a summary of all work carried out under the Managements Plans in accordance with this licence;
  - m. a progress report and revisions (if applicable) to any studies requested by the Board that relate to waste management, water use or reclamation and a brief description of any future studies planned by the Licensee including, an executive summary in terms understandable to the general public, translated into Inuktitut and Inuinnaqtun;
  - n. a report identifying whether recycle will be implemented at the PKCA for the remaining years of operation, and if not, providing a detailed rationale for why recycle is not considered a valid management practice at this site for that time.
  - o. the results of the Aquatic Effects Monitoring Program in accordance with Part L including QA/QC measures;
  - p. any revisions to the approved Contingency Plan;
  - q. a list and description including volumes, Spill report Line identification number of all un-authorized discharges, spills and summaries of follow-up action taken;
  - r. an outline of any spill training exercises carried out by the Licensee;
  - s. any revisions to the approved Closure and Reclamation Plan;
  - t. a summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling;
  - u. an updated estimate of the total current mine restoration liability based upon the

(Schedule B – General Conditions)

- results of mine reclamation research, monitoring during mine construction and development and any modification to the mine plan;
- v. a summary report describing public consultation and participation with local organizations and the residents of the nearby communities, including a schedule of upcoming community events/information sessions;
  - w. a summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector;
  - x. any other details on water use or waste disposal requested by the Board by November 1<sup>st</sup> of the year being reported.

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**Schedule C - Conditions Applying to Security**

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No schedule required

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**Schedule D - Conditions Applying to Construction**

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1. The Mine Plan referred to in Part D item 1 of the licence, shall include, but not necessarily be limited to the following:
  - a. Schedule of commissioning of all facilities and infrastructure;
  - b. Proposed schedule for mine development (open pit, and underground);
  - c. Plan for dealing with pit water;
  - d. Monitoring to be done during construction/development;
  - e. Adaptive Management strategy for construction phase;
  - f. Stability assessment planning.
2. The detailed design plans and drawings for water retention structures referred to in Part D Item 2 shall include any facilities and infrastructure not captured under conditions applying to construction.
3. The rock used for construction referred to in Part D, Item 3 of the Licence, shall meet the following geochemical criteria:
  - a. Non acid generating;
  - b. Provide a complete characterization of the rock properties (including thermal) of both in-situ and placed materials within the appropriate detailed design report for which material is to be use and confirm the material will to meet performance objectives or alternative shall be outlined; and
  - c. Should any material be found unacceptable as a construction material the Licensee shall confirm in the plan referred to in Part H, Item 1, procedures to be followed upon identification of any unacceptable materials, that includes reporting, removal, replacement, specifications for in-situ remediation and/or replacement of material;
4. The Borrow Management Plan referred to in Part D Item 4 of the Licence, shall be revised to include an outline the environmental management measures for at least the following:
  - a. Implementation plan for use of the resource;
  - b. Drainage and erosion control;
  - c. Contingency options for dealing with massive ice;
  - d. Air quality management;
  - e. Wildlife management;
  - f. Treatment and or disposal of meltwater
  - g. Overview of reclamation measures; including
  - h. Operational and post closure monitoring.
5. The detailed design report for the PKCA referred to in Part D, Item 5 of the Licence, shall include but not necessarily limited to the following:
  - a. Detailed construction implementation schedule for the PKCA infrastructure;

(Schedule D – Conditions Applying to Construction)

- b. Consideration of industry standard “Dam Safety Guidelines” (Canadian Dam Association, 1999)
  - c. Key design and performance parameters for PKCA components including, the spillway, West Dam, North Dam, Perimeter Dykes, East Dam, Southeast Dam, and the Divider Dyke.
  - d. Contingency components (i.e. the North Dam) can be submitted as part of this detailed design or may require separate submission of detailed design.
  - e. The PKCA shall be designed and constructed to prevent discharge to the groundwater system.
  - f. There shall be no accumulation of water against the containment dam structures of the PKCA until such time as the results of the thermal monitoring program has demonstrated the integrity of all frozen core dams;
  - g. Representative cross sections showing the various stages of dam raises when geothermal modeling and short term slope stability analyses are to be conducted;
  - h. The results of revised geothermal modeling throughout the intermediate and final stages of construction; and
  - i. Additional site assessments: delineation including of ice-rich features; follow-up test pit and/or bore hole investigations data; and geophysical surveys.
6. The detailed design plan for the Landfill referred to in Part D, Item 6 of the Licence, shall include but not necessarily limited to the following:
- a. Consideration for the “Guidelines for the Planning, Design, Operation and Management, of Modified Solid Waste Sites in NWT” (Ferguson, Simek, Clark, April 2003).
  - b. Detailed Implementation schedule;
  - c. A plan on how the landfill will be incorporated into the reclamation of Waste Rock Dump No.1;
  - d. Design criteria and Material specifications;
  - e. Estimates of cover thickness to ensure encapsulation in permafrost;
  - f. Consideration of global warming effects;
  - g. Overview Operation and Maintenance needs;
  - h. Runoff and seepage control measures; and
  - i. Monitoring requirements during construction.
7. The detailed design report for the Landfarm referred to in Part D, Item 7 of the Licence, shall include but not necessarily be limited to the following:
- a. Detailed Implementation Schedule;
  - b. Site baseline information (local features, site drainage patterns, location within Waste Rock Dump No. 2);
  - c. Comprehensive design details, including the dimensions, materials of construction and installation/construction procedures of all landfarm facility components are required such as: retaining structures, liner properties, monitoring equipment);
  - d. Measure for runoff, leachate or seepage control;
  - e. Environmental monitoring equipment;
  - f. Overview of Operation and Maintenance needs; and
  - g. Operational monitoring to assess treatment efficiency;



(Schedule D – Conditions Applying to Construction)

- h. Proposed soil quality remedial objective to be achieved; and
  - i. Closure and reclamation summary;
8. The detailed design report for the Waste Water Treatment Plant referred to in Part D, Item 8 of the Licence, shall include but not necessarily be limited to the following:
- a. Implementation schedule;
  - b. Design criteria/parameters;
  - c. Overview System components;
  - d. Site investigation and Alignment;
  - e. Treatment efficiency expectations; and
  - f. Site monitoring to be done during construction;
9. The detailed design report for the Site Water Management Facilities referred to in Part D, Item 9 of the Licence, shall include but not necessarily be limited to the following:
- a. Detailed Implementation schedule for construction of all facilities;
  - b. Design Criteria and parameters;
  - c. The report shall include design criteria for C4 Ditch; and
  - d. The effect of roads on surface drainage;
  - e. Monitoring requirements for each facility during construction; and
  - f. Overview of general operation and maintenance requirements.
10. The detailed design report for the Ore Stockpile, Coarse Processed Kimberlite, Recovery Rejects Stockpile, Waste Rock Dump No. 1 and Waste Rock Dump No. 2, referred to in Part D, Item 10 of the Licence, shall include but not necessarily limited to the following:
- a. Detailed Implementation for construction of each facility;
  - b. Plans in this part may be submitted individually depending upon the overall implementation strategy for construction;
  - c. Design Criteria and parameters for each stockpile and/or dump;
  - d. Design plan for the waste rock buttress or justification as to why it was not constructed;
  - e. Operational volumes of materials projected for each pile;
  - f. The Licensee shall ensure maintenance of a 200m buffer between the toe waste rock dump site 1 and Carat Lake;
  - g. Stability assessment based on projected volumes; and
  - h. Monitoring to be done during construction.
11. The detailed design report for the Collection Ponds A, B, and C referred to in Part D, Item 11 of the Licence, shall include but not necessarily be limited to the following:
- a. Detailed Implementation for construction of each facility;
  - b. Plans in this part may be submitted individually depending upon the overall implementation strategy for construction;
  - c. Design Criteria and parameters for each Pond; and
  - d. Monitoring to be done during construction.
12. The detailed design report for the Fuel Storage and Containment Facility referred to in

(Schedule D – Conditions Applying to Construction)

Part D, Item 12 of the Licence, shall include but not necessarily be limited to the following:

- a. Detailed Implementation schedule for construction of the facility;
  - b. Design Criteria and parameters;
  - c. Hydrostatic testing procedures for new tanks (water source and wash water disposal location);
  - d. Primary and secondary containment measures;
  - e. Monitoring to be done during construction.
13. The detailed design report for the Dewatering of the PKCA referred to in Part D, Item 13 of the Licence, shall include but not necessarily be limited to the following:
- a. Detailed Implementation schedule for construction of the facility;
  - b. Design Criteria and parameters for the program to ensure minimize effects to the receiving environment Stream C3;
  - c. Overview of fish salvage plan taking into account community interests; and
  - d. Monitoring to be done during construction.
14. The Explosives Management Plan referred to in Part D, Item 14 of the Licence, shall include but not necessarily be limited to the following:
- a. Consideration for the “Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright & Hopky, 1998)
  - b. In conjunction with DFO, the Licensee shall incorporate mitigation measures into the blasting plan ensure impacts to fish and fish eggs are minimized;
  - c. Measures to control runoff from storage areas;
15. The detailed design report for the construction of the Causeway referred to in Part D, Item 15 of the Licence, shall include but not necessarily be limited to the following:
- a. Detailed implementation schedule for construction;
  - b. Design criteria and parameters;
  - c. Mitigation measures to reduce TSS and control sedimentation;
  - d. Construction sampling monitoring of waste rock used for causeway construction;
  - e. The Licensee should ensure the Causeway is constructed to minimize disturbance and maximize development of fish habitat including benthic substrate.
  - f. Monitoring to be done during construction.
16. The detailed design report for the construction of the Stream C1 diversion and associated dam structure referred to in Part D, Item 16 of the Licence, shall include but not necessarily be limited to the following:
- a. Detailed implementation schedule for construction;
  - b. Design criteria and parameters;
  - c. The report shall discuss options adjusting the design of the two channel diversion energy dissipation pools to become a narrow, longer pool configuration and why this is to be considered or not;

(Schedule D – Conditions Applying to Construction)

- d. Consideration for the use of the pools and temporary cofferdams;
- e. Measure to be employed to control sediment;
- f. Stabilization along the banks of the channel considers the use of vegetation;
- g. Final design plan for culverts including specific location of installation; and
- h. Monitoring proposed during construction;

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**Schedule E – Conditions Applying to Water Use**

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No schedule required.

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**Schedule F - Conditions applying to Water Management**

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1. The detailed Site Water Management Plan referred to in Part F, Item 1 of the Licence, 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 Carat Lake, that includes consideration of alternative water sources;
  - b. the projected amount of water to be obtained from Carat Lake in the upcoming year;
  - c. assess drawdown on Carat Lake based on water use
  - d. a summary of plans for managing water to be stores in the PKCA and for management of all other waters in the project area;
  - e. an overall water balance for the project, including the specific water balance for the PKCA updated with current information respecting:
    - i. on-site precipitation, evaporation and runoff;
    - ii. volumes for recycled/reclaimed water and raw water utilized during the previous year;
    - iii. ground water inflows to the pit; and
    - iv. volumes of runoff redirected to the PKCA form water management facilities (i.e. ponds, ditches, diversions).

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**Schedule G - Conditions Applying to Waste Management**

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No schedule required.

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**Schedule H - Conditions Applying to Waste Management Plans**

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1. The PKCA Management Plan referred in Part H, Item 1 of the Licence, shall include but not necessarily limited to the following:
  - a. consider operational guidelines provided in “A Guide to the Management of Tailings Facilities (Mining Association of Canada, 1998)” and the “Dam Safety Guidelines (CDA, 1999)”
  - b. the use flocculant in the treatment process and controls for its use;
  - c. detail how effluent discharge rates will be managed to ensure a minimum 10:1 dilution at the edge of the mixing zone in Lake C3. This plan shall not rely on estimating receiving environment outflow rates from changes in Carat Lake level unless monitoring data is provided that shows that the procedure will work as a means of calibrating effluent discharge rates.
  - d. stage-volume curves and water, solids and ice balance calculations showing life expectancy of the PKCA Facility; and
  - e. any operational and/or structural modifications which may be implemented that will affect the management of the PKCA Facility and associate wastewater operations.
2. The detailed Waste Rock Management Plan referred to in Part H, Item 3 of the Licence, shall include but not necessarily limited to the following:
  - a. the Plan shall be developed in accordance with the Department of Indian Affairs and Northern Development’s (DIAND) “Guidelines for Acid Rock Drainage Protection in the North, September 1993” or subsequent editions.
  - b. this Plan shall describe decision criteria and operating procedures of how all rock will be placed and managed during construction, mining and post closure.
  - c. an annual schedule for 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;
  - d. a description of operational procedures that will be used to segregate and manage the rock that is identified for construction;
  - 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;
3. The detailed Operation and Management Plan for the Waste Water Treatment Plant, Landfill and Landfarm referred to in Part H, Item 5 of the Licence, shall include but not necessarily be limited to the following:
  - a. consideration for the “Guidelines for the Preparation on an Operation and maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories”, (Diep Duong and Ron Kent, 1996) (where applicable);

(Schedule H – Conditions Applying to Waste Management Plans)

b. For the Landfarm:

- i. The procedures to determine if soils may be accepted including (soil characterization, treat ability, and ampling)
- ii. Procedures to be used during active land farming including (cell development, soil thickness, method of aeration, oversize material management, surface water management); and
- iii. Surface and groundwater monitoring program including QA/QC measures.



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**Schedule I - Conditions Applying to Modifications**

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No schedule required.

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**Schedule J - Conditions Applying to Contingency Planning**

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1. The detailed Contingency Plan referred to in Part J Item 1 of the Licence, shall include but not necessarily be limited to the following:
  - a. The Plan shall comply with the Dam Safety Guidelines, address the construction and development phases;
  - b. Integration of the hazardous waste management plan as provided with the “Application for Water Licence Appendix F” into the spill contingency plan;
  - c. Introduction, scope of plan, when the plan is active, description of project and site;
  - d. Name, address and title of person in charge;
  - e. Name, job title and 24 hour number of person responsible; on site;
  - f. Chain of command and organizational chart;
  - g. Location, size and capacity of facility; Map showing all potential spill locations and materials storage;
  - h. Types and amounts of materials stored on site;
  - i. Current Materials Safety Data Sheets for all hazardous materials/petroleum products on site
  - j. Analysis of potential spills, fate and effects identified;
  - k. Site map, showing sensitive areas and potential for contamination;
  - l. Steps taken to report, contain, clean up and respond;
  - m. Response Team identification giving lines of authority and responsibility;
  - n. Reporting and communication procedures;
  - o. Site contact list with names, titles, phone and pager numbers;
  - p. Off-site contact list including all relative regional contacts; DIO, DIAND Water Resources Inspector, EC, DFO, GNU DOE, special assistance contacts;
  - q. How plan is activated;
  - r. Description of training provided to employees/designated responders; including the initial training and active response training;
  - s. Response Action Plans and countermeasures (ie fuel storage and transfer protocols, explosives transfers) in the event of a spill; this would include potential spills from the PKCA, process pipelines, material storage areas (fuels, chemicals, explosives)
  - t. Clean-up and disposal practices; hazardous waste transportation and removal;
  - u. Inventory and location of response equipment and supplies;
  - v. Copy of NWT Spill Report Form;
  - w. Date plan was prepared;
2. The detailed Contingency Plan during Care and Maintenance referred to in Part I, Item 6 of the Licence, shall include but not necessarily be limited to the following:
  - a. Any changes to the operations resulting from the move to Care and Maintenance;
  - b. Any changes in the personnel on site;
  - c. Response Team identification and responsibility;
  - d. Any changes to the availability of response equipment; and
  - e. Any changes with respect to access at the site and access to the site from the nearest location for assistance.

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**Schedule K - Conditions Applying to General and Aquatic Effects Monitoring**


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**Table 1 - Water Quality Parameters**

<b>Test Group</b>	<b>Analytical Parameters</b>	<b>Measurement Units</b>
<b>Routine - R</b>	Alkalinity, acidity, chloride, carbonate, bicarbonate, total hardness, hydroxide, sulphate, total suspended solids (TSS), total dissolved solids (TDS) total organic carbon (TOC), total inorganic (TIC) pH (field and lab) ORP (field) Conductivity (field and lab) Temperature (field) Turbidity	mg/L  pH units mV uS/cm °C NTU
Metals (Total – Unfiltered) - <b>MT</b> and, Metals (Dissolved – Filtered) <b>MD</b>	T-Aluminum, T-Arsenic T-Cadmium, T-Chromium T-Copper, T-Lead T-Molybdenum, T-Nickel T-Uranium, T-Zinc Aluminum	mg/L
<b>ICP-T, ICP-D;</b> ICP Metals Scan (Total and Dissolved) 24 or 32 metal scan or equivalent that shall include at a minimum	Ca, Mg, Na, K, Al, As, Ba, B, Be, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Sr, U, V, Zn	Mg/L
<b>Nutrients – N</b>	Ammonia-N, Nitrate-N, Nitrite-N  Total Phosphorus, Orthophosphate	mg N/L  mg/L
<b>Biological –B</b>	Biochemical Oxygen Demand Fecal Coliform	mg/L CFU/100mL (colony forming units)
<b>Potable Water - PW</b>	Fecal Coliform ICP Metals (Total and dissolved) Total Suspended Solids –TSS	CFU/100mL mg/L mg/L
<b>Dissolved Oxygen Profile - DO</b>		

(Schedule K – Conditions Applying to General and Aquatic Effects Monitoring)

**Table 2 - Receiving Environment Water Quality Monitoring Requirements<sup>1</sup>**

Station	Location	Phase	Test Group Water Chemistry (refer to Table 1)	Frequency	Flow Measurement	Frequency	
JER-WQ1	Carat Lake-Freshwater Intake	Pre-construction					
		Construction					
		Operation	PW	M2	M <sup>3</sup> /day	C	
JER-WQ2	PKCA Discharge	Pre-construction					
		Construction	Turbidity (correlate with TSS)	D	M <sup>3</sup> /day	D	
		Operation	R, ICP-T, ICP-D, N B	W M2	M <sup>3</sup> /day	C	
JER-WQ3	Stream C3 upstream of Lake C3	Pre-construction	R, ICP-T, ICP-D, N	M2			
		Construction	R, ICP-T, ICP-D, N	M2			
		Operation	R, ICP-T, ICP-D, N	M2			
JER-WQ4	Lake C3 South Basin	Pre-construction	R, ICP-T, ICP-D, N, DO	A1			
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ5	Lake C3 Outlet	Pre-construction			M <sup>3</sup>	C	
		Construction	R, ICP-T, ICP-D, N	M2	M <sup>3</sup>	C	
		Operation	R, ICP-T, ICP-D, N	M2	M <sup>3</sup>	C	
JER-WQ6	Carat Lake Centre Basin	Pre-construction	DO	A1			
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N				
JER-WQ7	Carat Lake Outlet	Pre-construction					

<sup>1</sup>Notes: A1=Annual Once in Winter  
A2=Annual once in summer

M1=Montly; Mid-Apr, Jun, Jul, Aug, Sept, and Mid-Dec at a minimum 3 weeks apart  
M2=Monthly; once during Jun, Jul, Aug, Sep at a minimum 3 weeks apart

W=Weekly      D=Daily      C=Continuous      CS=Continuous Seasonal

(Schedule K – Conditions Applying to General and Aquatic Effects Monitoring)

**Table 2 - Receiving Environment Water Quality Monitoring Requirements<sup>1</sup>**

Station	Location	Phase	Test Group Water Chemistry (refer to Table 1)	Frequency	Flow Measurement	Frequency	
		Construction	R, ICP-T, ICP-D, N	M2			
		Operation	R, ICP-T, ICP-D, N	M2			
JER-WQ8	Jericho Lake North Basin	Pre-construction	R, ICP-T, ICP-D, N, DO	A1			
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ9	Jericho River Downstream of Jericho Lake	Pre-construction					
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ10	Control Lake	Pre-construction					
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ11	Cigar Lake (2 <sup>nd</sup> Control)	Pre-construction					
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ12	Stream C1 Upstream of Carat Lake	Pre-construction					
		Construction	R, ICP-T, ICP-D, N	M2	Yes	CS	
		Operation	R, ICP-T, ICP-D, N	M2	Yes	CS	
JER-WQ13	Lake C1	Pre-construction	R, ICP-T, ICP-D, N, DO	A1			
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ14	Lake C4	Pre-construction	R, ICP-T, ICP-D, N, DO	A1			
		Construction	R, ICP-T, ICP-D, N	M1			
		Operation	R, ICP-T, ICP-D, N	M1			
JER-WQ15	Stream C4 upstream of Carat Lake	Pre-construction					
		Construction	R, ICP-T, ICP-D, N	M2			
		Operation	R, ICP-T, ICP-D, N	M2			
JER-WQ16	Lynne Lake	Pre-construction					

(Schedule K – Conditions Applying to General and Aquatic Effects Monitoring)

**Table 2 - Receiving Environment Water Quality Monitoring Requirements<sup>1</sup>**

Station	Location	Phase	Test Group Water Chemistry (refer to Table 1)	Frequency	Flow Measurement	Frequency	
		Construction					
		Operation	R, ICP-T, ICP-D, N	A2			
JER-WQ17	Key Lake	Pre-construction					
		Construction					
		Operation	R, ICP-T, ICP-D, N	A2			
JER-WQ18	Ash Lake	Pre-construction					
		Construction					
		Operation	R, ICP-T, ICP-D, N	A2			

**Table 3 - Site Water Quality and Thermal Monitoring Stations<sup>2</sup>**

Station	Location	Phase	Test Group Water Chemistry	Frequency	Flow Measurement	Frequency	
JER-SW1	Sewage Treatment Plant Effluent	Pre-construction	R, ICP-T, ICP-D, N, B	M	M <sup>3</sup>	C	
		Construction					
		Operation					
JER-SW2	Open Pit	Pre-construction	R, ICP-T, ICP-D, N	M2	M <sup>3</sup>	C	
		Construction					
		Operation					
JER-SW3	Process Plant Supernatant	Pre-construction	R, ICP-T, ICP-D, N	M	M <sup>3</sup>	C	
		Construction					
		Operation					
JER-SW4	Processed Kimberlite Containment Area Pond Water	Pre-construction	R, ICP-T, ICP-D, N	M			
		Construction					
		Operation					
JER-SW5	Temporary/permanent Collection Ditches	Pre-construction	R, ICP-T, ICP-D, N	M3			
		Construction					
		Operation					
JER-SW6	Collection Pond A	When in use	R, ICP-T, ICP-D, N	M2			
JER-SW7	Collection Pond B	When in use	R, ICP-T, ICP-D, N	M2			
JER-SW8	Collection Pond C	When in use	R, ICP-T, ICP-D, N	M2			

<sup>2</sup> Notes: A3=Annual during seepage survey

M=Monthly

M1=Monthly; Mid-Apr, Jun, Jul, Aug, Sept, and Mid-Dec at a minimum 3 weeks apart

M2=Monthly once during Jun, Jul, Aug, Sep at a minimum 3 weeks apart

M3=during periods of flow

W=Weekly

D=Daily

C=Continuous

CS=Continuous Seasonal

**Table 3 - Site Water Quality and Thermal Monitoring Stations<sup>2</sup>**

Station	Location	Phase	Test Group Water Chemistry	Frequency	Flow Measurement	Frequency	
JER-SW9	Rock Dump 1 Seepage	Operation	R, ICP-T, ICP-D, N	A3			
JER-SW10	Rock Dump 2 Seepage	Operation	R, ICP-T, ICP-D, N	A3			
JER-SW11	Coarse PK Stockpile	Operation	R, ICP-T, ICP-D, N	A3			
JER-SW12	Ore Stockpile	Operation	R, ICP-T, ICP-D, N	A3			
JER-SW13	Low Grade Ore Stockpile	Operation	R, ICP-T, ICP-D, N	A3			
JER-SW14	Recovery Plant Rejects	Operation	R, ICP-T, ICP-D, N	A3			
	West Dam Thermistor 1	Upon Installation	Temperature	M			
	West Dam Thermistor 2	Upon Installation	Temperature	M			
	East Dam Thermistor 1	Upon Installation	Temperature	M			
	East Dam Thermistor 2	Upon Installation	Temperature	M			
	Southeast Dam Thermistor 1	Upon Installation	Temperature	M			
	Southeast Dam Thermistor 2	Upon Installation	Temperature	M			
	Waste Dump 1 Thermistor 1	Upon Installation	Temperature	M			



(Schedule K – Conditions Applying to General and Aquatic Effects Monitoring)

**Table 3 - Site Water Quality and Thermal Monitoring Stations<sup>2</sup>**

Station	Location	Phase	Test Group Water Chemistry	Frequency	Flow Measurement	Frequency	
	Waste Dump 1 Thermistor 2	Upon Installation	Temperature	M			
	Waste Dump 2 Thermistor 1	Upon Installation	Temperature	M			
	Waste Dump 2 Thermistor 2	Upon Installation	Temperature	M			
	Coarse PK Stockpile Thermistor 1	Upon Installation	Temperature	M			
	Coarse PK Stockpile Thermistor 2	Upon Installation	Temperature	M			

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**Schedule L - Conditions Applying to General and Aquatic Effects Monitoring Plans**

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1. The General Monitoring Plan, referred to in Part L, Item 1 of the Licence, shall include but not necessarily be limited to, the following:
  - a. updated operation monitoring plan which reflects the requirements of this licence.
  - b. describe the assessment of Stream C3 by a hydrologist and, if required, erosion protection measures should be in place prior to dewatering or discharge from the PKCA.
  - c. the Licensee shall monitor the condition of channels occupied by flow released from PKCA; and record water levels and discharges near outlet of Stream C3 at Lake C3.
2. The detailed QA/QC plan referred to in Part L, Item 5 of the Licence shall include but not necessarily be limited to the following:
  - a. consideration of the INAC “QA/QC Guidelines for Type “A” Licenses”;
  - b. approval of the plan by an analyst;
  - c. information on the analyst;
  - d. introduction on Quality Assurance/Quality Control and its principles and how the Plan elements will be implemented on site;
  - e. field sampling, locations, frequency, sample types, sample containers;
  - f. logging of samples, sample handling, preservation, transportation requirements, information requirements, chain of custody;
  - g. field measurements, calibration of field equipment;
  - h. sampling and analysis, use of field blanks, replicate samples, spiked samples and split samples;
  - i. laboratory analysis and information methods used for analysis;
  - j. laboratory QC and reporting of data;
3. The detailed Annual Seepage Survey in July or August referred to in Part L, Item 9 shall include but not necessarily be limited to the following:
  - a. to include routine monitoring of all surface storage facilities identified in Table 3;
  - b. to include the explosives storage and emulsion plant areas;
  - c. to include seepage chemistry results from any sumps in the plant area;
  - d. an annual seepage survey from the toe of the recovery plant rejects stockpile should be submitted to the Nunavut Water Board, along with the annual seepage survey results for all other waste and low grade ore stockpile; and
  - e. to include any seepage at the base of the West Dam and all other dams around the perimeter of the PKCA.
4. Aquatic Effects Monitoring Plan referred to in Part L, Item 10 of the Licence, shall include but not necessarily be limited to the following:
  - a. Clearly identifiable objectives;
  - b. A description of the area to be monitored including maps showing all sampling and

(Schedule L – Conditions Applying to General and Aquatic Effects Monitoring Plans)

control sites as well as the overall area of influence of the Project;

- c. A description of the sampling program that will be conducted throughout the term of the license to achieve the objectives of the AEMP including the variables, sample media, monitoring protocols and Quality Assurance/Quality Control (QA/QC) protocols;
- d. Specifically, the AEMP shall include, but not necessarily be limited to, the following;
  - i. Water quality;
  - ii. Sediment quality;
  - iii. Fish and fish habitat;
  - iv. Testing done at least once per month during discharge, on samples taken at the edge of the Lake C3 mixing zone, just before freeze up, using *Ceriodaphnia dubia*;
  - v. Surface and shallow groundwater regimes;
  - vi. Fish migration routes;
  - vii. Water levels in Carat Lake with relation to water usage, lake recharge;
  - viii. Structure, abundance and biomass of phytoplankton, zooplankton, benthic macro invertebrates and fish communities;
  - ix. Contaminant levels in fish and procedures that will minimize impacts to fish populations;
  - x. Establishment of control sites;
  - xi. Procedures to assess the accuracy of the Licensee's impact predictions and effectiveness of mitigation measures;
  - xii. Statistical design criteria, including a description of sampling frequencies for each parameter that ensures both accurate characterization of short-term variability and the collection of sufficient data to establish long-term trends;
  - xiii. a description of procedures to analyze and interpret data collected;
  - xiv. a description of evaluation criteria for the AEMP and approaches to revise and refine the Program;
  - xv. description of how the results of the AEMP will be incorporated in the overall Adaptive Management strategies employed by the Licensee. This description shall include details related to any new monitoring requirements for the evaluation of the effects to the Receiving Environment, the management of the risk to the Receiving Environment and any mitigation/treatment methods that will be implemented;
  - xvi. description of the QA/QC protocols. QA/QC protocols must ensure that any future changes in monitoring protocols will be calibrated to initial monitoring protocols and data sets so that continuity, consistency, validity, and applicability of monitoring results will be maintained;
  - xvii. a description of the measures that will be taken to identify and address any information deficiencies; and
  - xviii. how the AEMP will minimize the impacts of the Project

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**Schedule M - Conditions Applying to Closure and Reclamation**

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1. The Interim Closure and Reclamation Plan referred to in Part M, Item 2 of the Licence, shall include but not necessarily be limited to the following:
  - a. The combined use of a Inuksuit built by Elders, berms, and signs to warn people and animals about the unfilled open pit. The edge of the Pit Lake shall be contoured and controlled-blasted on a shallow 5:1 angle into the lake for a 10 meter distance so as not pose a hazard to people or wildlife;
  - b. Maintenance of the diversion channel, as a permanent structure beyond closure should water quality dictate. This issue shall be further addressed during operation and resolve the issue prior to closure, when water quality concerns and the options available to re-instate the flows in the channel are better understood;
  - c. The implementation of revegetation through the abandonment and restoration planning;
  - d. to conduct re-vegetation research on the kimberlite to determine if the post-closure conditions can be improved.
  - e. details of the proposed methodology for recovering the stockpiled overburden materials for reclamation purposes;
  - f. address how meltwater from the stockpile is managed to prevent release of suspended sediment;
  - g. revisions based on all monitoring data collected to that time,
  - h. an updated prediction of pit fill rate and effluent discharge quality after closure;
  - i. a plan to remove and dispose all chemicals and regulated materials in a manner that meets all current regulations.
  - j. An evaluation of alternative closure and reclamation measures for each project component, including the rationale for selection of the preferred measures, to include, but not be limited to all site facilities/infrastructure as defined in this licence.
  - k. detailed description, including maps and other visual representations, of the pre-disturbance conditions for each site, accompanied by a detailed description of the proposed final landscape, with emphasis on the restoration of surface drainage over the restored units;
  - l. a comprehensive assessment of materials suitability, including geochemical and physical characterization, and schedule of availability for restoration needs, with attention to top-dressing materials, including maps where appropriate, showing sources and stockpile locations of all reclamation construction materials;
  - m. an assessment of the long-term physical stability of project components;
  - n. an assessment and description of any required post-closure treatment for drainage water that is not acceptable for discharge from any of the reclaimed mine components including a description for handling and disposing of post-closure treatment facility sludges;
  - o. monitoring programs to assess reclamation performance and environmental conditions including, but not limited to, monitoring locations for surface water and groundwater, parameters, schedules and overall timeframes;
  - p. contingency measures for all reclamation components including action thresholds that are linked to the monitoring programs;
  - q. a description of the proposed means for providing long-term maintenance of each

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- reclaimed project component, including the water collection and distribution systems, retaining structures and spillways;
- r. 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 restoration options;
  - s. a description of how Waste Rock Dumps and the PKCA could use a geomorphic approach to simulate surrounding landscape conditions, rather than the highly engineered closure designs;
  - t. an identification of the research needs for reclamation;
  - u. a description of how progressive reclamation will be employed and monitored throughout the life of the mine, plus reclamation scheduling and coordination of activities with the overall sequence of the project; details of restoration scheduling and procedures for coordinating restoration activities within the overall mining sequence and materials balance;
2. The Proposed Final Closure and Reclamation Plan referred to in Part M, Item 5 of the Licence, shall include, but not necessarily be limited to the following:
- a. An update of all information presented in the Interim Closure and Reclamation Plan based on data collected and proposed closure concepts;
  - b. A Human Health and Ecological Risk Assessment;
  - c. The setting soil quality remediation objectives along CCME guidelines;
  - d. All results of landfarming;
  - e. All results of revegetation trials;
  - f. Multi-stage Environmental Site Assessment plans; and
  - g. A revised closure and reclamation cost estimate.