

## LICENCE NWB1BOS0106

Pursuant to the *Nunavut Land Claims Agreement* the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

### Hope Bay Joint Venture (HBJV)

(Licensee)

**850-800 Rene-Levesque Blvd. West, Montreal QC H3B 1X9 and  
311 West First Street, North Vancouver, BC V7M 1B5**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of waste into water subject to and in accordance with the conditions specified in this Licence.

|                       |                    |
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| <b>LICENCE NUMBER</b> | <b>NWB1BOS0106</b> |
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|------------------------------|----------------|
| <b>WATER MANAGEMENT AREA</b> | <b>Nunavut</b> |
|------------------------------|----------------|

|                 |   |
|-----------------|---|
| <b>LOCATION</b> | <b>Boston Gold Project, Nunavut<br/>(67°39'N; 106°22'W)</b> |
|-----------------|---|

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|----------------|-------------------------------------|
| <b>PURPOSE</b> | <b>Water Use and Waste Disposal</b> |
|----------------|-------------------------------------|

|                    |   |
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| <b>DESCRIPTION</b> | <b>Prospecting, continued surface drilling, core-splitting and logging on site, underground drilling, operation of the bulk sample plant, domestic use and associated activities, environmental baseline data collection, demobilization of equipment and potentially future underground bulk sampling.</b> |
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|   |                                 |
|---|---------------------------------|
| <b>QUANTITY OF WATER<br/>NOT TO BE EXCEEDED</b> | <b>150 cubic meters per day</b> |
|---|---------------------------------|

|                                  |                        |
|----------------------------------|------------------------|
| <b>EFFECTIVE DATE OF LICENCE</b> | <b>October 5, 2001</b> |
|----------------------------------|------------------------|

|                               |                          |
|-------------------------------|--------------------------|
| <b>EXPIRY DATE OF LICENCE</b> | <b>December 31, 2006</b> |
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This Licence issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the conditions herein.

Signed this 5<sup>th</sup> day of October, 2001

### ORIGINAL SIGNED BY

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Thomas Kudloo  
Chairman

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

### **1. Scope**

This License allows for the use of water and the disposal of waste into water for advanced exploration by Hope Bay Joint Venture (HBJV) at the Boston Gold project located in the Hope Bay Belt area, Kitikmeot Region, Nunavut (67° 39' N; 106° 22' W).

### **2. Jurisdiction**

This Licence is issued pursuant to the Board's authority under the *Nunavut Land Claims Agreement*.

### **3. Enforcement**

- a. Subject to Part A, Item 3 (d), failure to comply with the licence will be a violation of the *Northwest Territories Waters Act*, exposing the licensee to the enforcement measures and the penalties provided for in the Act.
- b. Subject to Part A, Item 3 (d), all inspection and enforcement services regarding this licence will be provided by inspectors appointed under the *Northwest Territories Waters Act*.
- c. Subject to Part A, Item 3 (d), inspectors appointed under the *Northwest Territories Waters Act* enjoy-with respect to this licence, and for the purpose of enforcing this licence, and with respect to the use of water and deposit or discharge of waste by the licensee-all powers and privileges and protections that are conferred upon them by the *Northwest Territories Waters Act* or by other applicable law.
- d. To the extent that the *Northwest Territories Waters Act* is, subsequent to the issuance of this licence, replaced with respect to water management in Nunavut by other federal legislation (including, without limitation, a regulation or order referred to in Section 10.10.2 of the *Nunavut Land Claims Agreement*), and to the extent that the other federal legislation is consistent with the *Nunavut Land Claims Agreement*, the other federal legislation shall apply with respect to this licence and the *Northwest Territories Waters Act* shall cease to apply with respect to this licence.

### **4. Definitions**

In this licence: NWB1BOS0106

“**Act**” means the *Northwest Territories Waters Act*;

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

**“Amendment”** means a change to original terms and conditions of this licence requiring correction, addition or deletion of specific terms and conditions of the licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

**“Analyst”** means an Analyst designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

**“Average Concentration”** means the arithmetic means of any four consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the “Surveillance Network Program”;

**“Average Concentration for Faecal Coliform”** means the running geometric mean of any four consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the “Surveillance Network Program”;

**“Board”** means the Nunavut Water Board established under the *Nunavut Land Claims Agreement*;

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

**“Grab Sample”** means a single water or wastewater sample taken at a time and place representative of the total discharge;

**“Greywater”** means all liquid wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet wastes;

**“Geotechnical Engineer”** or "Engineer" means a professional engineer registered with the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories/Nunavut whose principle field of specialization is the design and construction of earthworks in a permafrost environment;

**“Inspector”** means an Inspector designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

**“Licensee”** means the holder of this Licence;

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

**“Minewater”** means groundwater or any water used in mining, which is pumped or flows out of any underground workings or open pit;

**“Minewater Pond”** means a structure of adequate capacity designed to contain and treat Minewater;

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

**“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;

**“Progressive Reclamation”** means those reclamation activities conducted during the operation period of the mine prior to modification of final closure, to modify and restore the land and water to standards acceptable to the board.

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

**“Sewage Disposal Facility”** comprises the area and engineered structures designed to contain and treat Sewage (i.e., Rotating Biological Contactor);

**“Sludge”** means the accumulated and concentrated solids removed from the Sewage Disposal Facility;

**“Solid Waste”** means garbage, refuse, or other discarded material resulting from operating the undertaking, excluding sewage sludge, commercial, industrial or hazardous waste;

**“Sump”** means an excavation or natural depression for the purpose of catching or storing water in an underground working or at the bottom of a shaft;

**“Toilet Waste”** means all human excreta and associated products, but does not include greywater;

**“Waste”** means any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substance contained in it or because it has been treated or changed, by heat or other means;

**“Waste Rock”** means all rock materials, except ore and tailings, which are produced as a result of mining operations;

**“Water Supply Facility”** means the area and associated water intake infrastructure at Spyder Lake.

## **PART B: GENERAL CONDITIONS**

1. The water use fee shall be paid in accordance to the requirements of the Act.
2. The Licensee shall furnish and maintain with the Minister a security deposit in the amount of \$1.7 million dollars.
3. The security deposit shall name as joint payees the Kitikmeot Inuit Association and the Minister, and shall be made in a form and schedule satisfactory to the Minister.

4. The security deposit may be applied to carry out work necessary to fulfill requirements of this licence and land use authorizations where there is contravention of a condition of the Licence and failure by the Licensee to comply with a direction issued by the Board or by any other competent and authorized government body or official. This includes operational requirements as well as the provision of any approved Abandonment and Restoration Plan.
5. Notwithstanding Part B, Item 2, the Licensee shall provide such further or other amounts as may be required by the Board based on annual assessment of current restoration liability.
6. The security deposit shall be maintained until such time as the Minister and the Kitikmeot Inuit Association are satisfied that the Licensee has complied with all provisions of the approved Abandonment and Restoration Plan. This clause shall survive the expiry of this Licence or renewals thereof.
7. The Licensee shall submit an Annual Report to the Board no later than March 31<sup>st</sup> of the year following the calendar year reported which shall contain the following information:
  - a. the monthly and annual quantities in cubic metres of all freshwater obtained from Spyder Lake at SNP station 1652-1a;
  - b. the monthly and annual quantities in cubic metres of Minewater pumped from the underground;
  - c. the monthly and annual quantities in cubic meters of treated Minewater discharged at Station Number 1652-2;
  - d. the monthly and annual quantities in cubic meters of treated Sewage effluent discharged at Station Number 1652-3;
  - e. the monthly and annual quantities in cubic metres of Sludge removed from the Sewage Disposal Facility;
  - f. tabular summaries of all data generated under the "Surveillance Network Program";
  - g. a summary of modification and/or major maintenance work carried out on the Water Supply and the Waste Disposal Facilities, including all associated structures, and an outline of any work anticipated for the next year;
  - h. a list of unauthorized discharges and follow-up action taken;
  - i. updates or revisions to the approved Abandonment and Restoration Plans, QA/QC, Waste Rock Disposal Plan, and/or Spill Contingency Plan;
  - j. a list of unauthorized discharges and follow-up action taken;

- k. a brief description of follow-up action taken to address concerns detailed in inspection and compliance reports prepared by the Inspector;
  - l. a summary of drilling activities and progressive reclamation of drill sites;
  - m. a public consultation/participation report describing consultation with local organizations and residents of the nearby communities, if any were conducted;
  - n. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year; and
  - o. a summary of any specific studies or reports requested by the Board, and a brief description of any future studies planned or proposed;
  - p. any other details on water use or Waste disposal requested by the Board by November 1<sup>st</sup> of the year being reported.
8. The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendments to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence.
  9. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Chief Administrative Officer.
  10. The Licensee shall maintain meters, devices or other such methods used for measuring the volumes of water or waste to the satisfaction of an Inspector.
  11. The Licensee shall maintain the necessary signs to identify the stations of the "Surveillance Network Program." All signs shall be located and maintained to the satisfaction of an Inspector.
  12. The Licensee shall post signs in the appropriate areas to inform the public of the location of the Water Supply Facility and the Waste Disposal Facility. All signs shall be located and maintained to the satisfaction of an Inspector.
  13. The Licensee shall immediately report to the 24-hour Spill Report Line (867) 920-8130 any spills of Waste that are reported to or observed by the Licensee.
  14. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

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

1. The Licensee shall obtain all fresh water from Aimaoktak Lake (Spyder Lake) at SNP Station 1652-1a using the Water Supply Facility or as otherwise approved by the Board.

2. The daily quantity of water used for all purposes shall not exceed 150 cubic metres.
3. The Licensee shall maintain the Water Supply Facility to the satisfaction of the Inspector.
4. The Spyder Lake freshwater intake shall be equipped with a screen with a mesh size sufficient to ensure no entrainment of fish.

**PART D: CONDITIONS APPLYING TO SEWAGE AND SLUDGE DISPOSAL**

1. The Licensee shall direct all Sewage to the Sewage Disposal Facility or as otherwise approved by the Board.
2. The Licensee shall maintain the Sewage Disposal Facility to the satisfaction of an Inspector.
3. Sludge removed from the Sewage Disposal Facility shall be disposed of in a sump located a minimum of thirty (30) meters from the normal high water mark and such that they do not enter any water body.
4. If the Licensee contemplates the disposal and treatment of Sludge on land, it shall submit to the Board for approval at least four (4) months prior to the disposal of Sludge a proposal which shall address, but not be limited to:
  - a. Location of disposal area;
  - b. Quantities and composition of sludge;
  - c. Mitigation measures to control run-off and restrict access;
  - d. A program for water quality monitoring;
  - e. An implementation schedule;
  - f. An executive summary of the proposal in English and Inuktitut.
5. The Licensee shall implement the proposal specified in this Part as and when approved by the Board.
6. If the Board does not approve the proposal referred to in this Part, the Licensee shall revise this proposal and resubmit it to the Board for approval within two (2) months of receiving notification of the Board's decision.
7. All Sewage discharged from the Sewage Disposal Facility at SNP Station 1652-3 shall not exceed the following quality standards:

| Parameter              | Maximum Average Concentration |
|------------------------|-------------------------------|
| Total Suspended Solids | 100 mg/L                      |
| BOD5                   | 80 mg/L                       |



|                 |                   |
|-----------------|-------------------|
| Faecal Coliform | 10,000 CFU/100 ml |
| Oil and Grease  | no visible sheen  |

The effluent discharged shall have a pH between 6.0 and 9.5

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8. The Licensee shall discharge waste in such a manner to minimize surface erosion.

#### **PART E: CONDITIONS APPLYING TO MINEWATER DISPOSAL**

1. All Minewater shall be pumped to a Minewater Pond prior to discharge.
2. The Licensee shall notify an Inspector at least ten (10) days prior to discharge from a Minewater Pond.
3. All Minewater discharged from a Minewater Pond shall not exceed the following limits:

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| Parameter              | Maximum Average Concentration | Maximum Concentration of any Grab Sample |
|------------------------|-------------------------------|--|
| Total Arsenic          | 0.05 mg/L                     | 1.00 mg/L                                |
| Total Copper           | 0.30 mg/L                     | 0.60 mg/L                                |
| Total Lead             | 0.20 mg/L                     | 0.40 mg/L                                |
| Total Nickel           | 0.50 mg/L                     | 1.00 mg/L                                |
| Total Zinc             | 0.50 mg/L                     | 1.00 mg/L                                |
| Total Suspended Solids | 25.0 mg/L                     | 50.0 mg/L                                |
| Oil and Grease         |                               | no visible sheen                         |

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The Waste discharged shall have a pH of between 6.0 and 9.5

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4. All Minewater discharges shall be conducted in such a manner to minimize surface erosion.
5. The Licensee shall at all times use and maintain Minewater Ponds to the satisfaction of the Inspector. In particular, the Licensee shall ensure that Minewater Ponds are adequately bermed at all times, and are used only for the disposal and treatment of Minewater.

#### **PART F: CONDITIONS APPLYING TO SOLID WASTE DISPOSAL**

1. If the Licensee contemplates the establishment of a Solid Waste Disposal site, it shall submit to the Board for approval at least four (4) months prior to the disposal of Sludge an application for amendment which shall address, but not be limited to:

- a) Discussion of the proposed disposal method in relation to current or other waste disposal practices, and design of the facility;
  - b) Characteristics of the environment of the proposed site, in particular in relation to water resources;
  - c) Economic, legal and regulatory considerations;
  - d) Operation and maintenance of the proposed facility;
  - e) Monitoring program; and
  - f) Abandonment and Restoration.
2. The Licensee shall implement the proposal specified in this Part as and when approved by the Board.
  3. If the Board does not approve the proposal referred to in this Part, the Licensee shall revise this proposal and resubmit it to the Board for approval within two (2) months of receiving notification of the Board's decision.

**PART G: CONDITIONS APPLYING TO WASTE DISPOSAL**

1. The Licensee shall not deposit any waste in any body of water, or on the banks thereof, which may impair the quality, quantity or flow of water.
2. Areas designated for waste disposal shall not be located within thirty (30) meters of the ordinary high water mark of any body of water, unless otherwise approved by the Board.

**PART H: CONDITIONS APPLYING TO DRILLING**

1. No land-based drilling is to be done within thirty (30) meters of the high water mark of any water body or watercourse.
2. Drilling wastes from land-based drilling shall be disposed of in a sump of sufficient capacity located at least thirty (30) meters from the high water mark of a water body, such that they do not enter any water body.
3. If artesian flow is encountered, drill holes should be plugged and permanently sealed.
4. If the drilling requires water in sufficient volume that the source water body may be drawn down the Licensee shall request approval prior to drilling and submit additional information on additional volume required and the hydrology of the water body.
5. No material should be left on the ice when there is the potential for that material to enter the water.

6. The use of biodegradable, salt-free drill additives is encouraged over non-biodegradable types.
7. For any on-ice drilling, the Licensee shall follow the *Interim Guidelines for On-Ice Drilling in the NWT* for all on-ice drilling operations. These are:
  - a. All drill cuttings shall be removed from the ice surface.
  - b. The release of total suspended solids in the receiving environment shall be in compliance with the *Guidelines for Total Suspended Solids* contained in the Canadian Council of Ministers of the Environment's (CCME) *Canadian Water Quality Guidelines, Chapter 3 - Freshwater Aquatic Life*.
  - c. For kimberlite targets, non-toxicity must be demonstrated; toxicity testing shall be done on the effluent from the drilling operation and the results shall be submitted to the Board and or inspector upon request.
8. Drilling additives or muds shall not be used in connection with holes drilled through the lake ice unless they are re-circulated or contained such that they do not enter the water, or are demonstrated to be nontoxic.
9. Drill sludge shall be disposed of on shore at a site where direct flow into a water body is not possible.

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

1. The Licensee may, without written approval from the Board, carry out modification 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 and/or 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 modification.
2. Modifications for which all of the conditions referred to in Part I, Item 1 have not been met may be carried out only with written approval from the Board.

3. The Licensee shall provide to the Board as-built plans and drawings of the modifications referred to in Part I, Item 1 within ninety (90) days of completion of the modifications.

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

1. At least sixty (60) days prior to the commencement of construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or waste, including facilities or systems for the treatment and disposal of Solid Waste and the storage of fuel, the Licensee shall notify the Board of its intentions and submit to the Board design drawings and plans stamped by an Engineer.
2. The Licensee may, without written approval from the Board, carry out the construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or Waste, including facilities or systems for the treatment and disposal of Solid Waste and the storage of fuel, provided that such constructions 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 construction at least sixty (60) days prior to beginning the construction;
  - b. Such construction does not place the Licensee in contravention of the Licence;
  - c. The Board has not, during the sixty (60) days following notification of the proposed construction, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - d. The Board has not rejected the proposed construction.
3. Constructions for which all of the conditions referred to in this Part have not been met may be carried out only with written approval from the Board.
4. The Licensee shall provide to the Board, within ninety (90) days of completion of the construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or Waste, including facilities or systems for the treatment and disposal of Solid Waste and the storage of fuel, all respective design drawings and construction reports, including as-built drawings, documentation of field decisions that deviate from original plans, and any data used to support these decisions.

#### **PART K: CONDITIONS APPLYING TO REPORTS, STUDIES AND PLANS**

1. The Licensee shall submit, to the Board for approval within twelve (12) months of issuance of this License, a Water And Ore/Waste Rock Management plan that addresses the ARD and metal leaching potential of the materials at the site. The waste rock/ore management plan shall address, but not be limited to:

- a) A re-evaluation of the criteria for the selection of site construction materials and the need for tighter containment of waste rock and ore stockpile runoff and leachate;
  - b) Provisions to prevent seepage from the stockpiles from entering the seasonal active zone within the pad foundation, where it may flow undetected;
  - c) As-built plans and drawings showing the existing and proposed method of controlling infiltration and runoff from the waste rock/ore stockpiles, including short-term and long-term contingency plans for treating or mitigating runoff;
  - d) A summary of the results of surface rinse extraction tests on uncrushed samples of materials currently stored on surface, including representative ore, waste rock and underlying pad material; and
  - e) Analytical results of sampling performed on any newly excavated materials.
2. If the Board does not approve the plans referred to in this Part, the Licensee shall revise this plan and resubmit it to the Board for approval within two (2) months of receiving notification of the Board's decision.
  3. The Licensee shall implement the plan specified in this Part as and when approved by the Board.

**PART L: CONDITIONS APPLYING TO FUEL STORAGE AND SPILL CONTINGENCY PLANNING**

1. The Licensee shall ensure that any fuels, chemicals, or wastes associated with this undertaking do not enter any waters. All facilities and equipment designed to contain or store these substances shall be located at a minimum of thirty (30) metres from the ordinary high water mark of any water body, and be sufficiently bermed or otherwise contained to ensure that these substances do not enter any water body.
2. The Licensee shall revise and submit to the Board for approval, within six (6) months of issuance of this License, the Spill Contingency Plan, updated May 15, 2000. The Spill Contingency Plan shall be prepared in accordance with the *Guidelines for Contingency Planning, January 1987*.
3. The Licensee shall revise the Plan referred to in this Part if not approved. The revised Plan shall be submitted for Board approval within two (2) months of receiving notification of the Board's decision.
4. The Licensee shall review, and amend as needed, the approved Spill Contingency Plan on an annual basis and shall advise the Board of any amendments in accordance with Part B, Item 1 of this Licence.

5. If during the period of this licence, any unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a. Employ the appropriate contingency plan;
  - b. Report the incident immediately by calling collect the 24-hour Spill Reporting Line at (867) 920-8130;
  - c. Submit to an Inspector a detailed report on each occurrence no later than thirty (30) days after initially reporting the event.

**PART M: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Licensee shall submit to the Board for approval a revised Abandonment and Restoration Plan within sixty (60) days of issuance of this Licence based on licensed or authorized activities at the site. The Plan shall include an estimate of the costs to carry out the proposed reclamation measures using the Reclaim model or an equivalent method.
2. If the Board does not approve the plan referred to in this Part, the Licensee shall revise and resubmit it to the Board for approval within two (2) months of receiving notification of the Board's decision.
3. The Licensee shall implement the plans specified in this Part as and when approved by the Board.
4. The Licensee shall complete all reclamation work within the time schedule specified in the approved Abandonment and Restoration Plan.
5. The Licensee shall carry out progressive restoration of areas that are abandoned prior to closure of operations.
6. The Licensee shall annually review the Abandonment and Restoration Plan and cost estimates and shall modify the plan to reflect changes in operations, technology and the results of reclamation and other studies.

**NUNAVUT WATER BOARD**  
**SURVEILLANCE NETWORK PROGRAM**

**Licensee:** **HBJV**

**License Number:** **NWB1BOS0106**

**A. GENERAL REQUIREMENTS**

1. All sampling, sampling preservation and analysis shall be conducted in accordance with methods prescribed in the current edition of "*Standard Methods for the Examination of Water and Wastewater*".
2. All analysis shall be performed in a certified laboratory.
3. The Licensee shall submit a revised Quality Assurance/Quality Control Plan to an Analyst designated under the *Northwest Territories Waters Act* for approval within three (3) months of the issuance of the licence. The plan shall include analysis of field blanks and certified reference material, and replicate sampling in order to assess accuracy, precision and field contamination.
4. The Licence shall annually review the approved Quality Assurance/Quality Control plan and modify it as necessary. Proposed modifications shall be submitted to an Analyst for approval.
5. The approved quality assurance/quality control plan shall be implemented as approved by an Analyst.
6. Additional sampling and analysis may be requested by an Inspector.

**B. STATION LOCATION, REQUIREMENTS AND PARAMETER ANALYSIS**

1. Sampling and analysis requirements are listed in Table 1 and are effective upon issuance of this licence.
2. The Licensee shall submit to the Board for approval, within five (5) months of issuance of this License, an updated SNP which shall take into consideration, but not be limited to, the following guidelines:
  - a. data on site topography, hydrology, current and future waste rock/ore pile storage pad locations and configurations and site drainage, ditching and runoff conditions which will be used by the Licensee to select the location or locations for additional SNP station(s) such that runoff and leachate can be collected and

- regularly monitored. At least one SNP station will be located below the waste/ore storage pad;
- b. The SNP station(s) shall be sampled during periods of flow, and focus on the spring thaw and during the short summer season;
  - c. Opportunistic sampling of seepage from existing and identified piles of waste rock/ore should be carried out whenever seeps are observed to verify the results from laboratory kinetic testing;
  - d. Water samples should be tested in accordance with a protocol that can be related to the kinetic testing. The following parameters are suggested as a minimum:
    - a) pH
    - b) Sulphate
    - c) Total metals (particularly heavy metals of environmental concern, including arsenic, nickel, cobalt, copper, chromium, lead and zinc)
    - d) Total Suspended Solids
    - e) Total Ammonia
  - e. The frequency of sampling shall be adjusted to suit the need to carry out opportunistic sampling during the short period of flow. The proposed protocol should be carried out at least once during the initial spring thaw to capture the flushing of metals from the stockpiles. Subsequent sampling intervals can be adjusted to meet the requirements of the SNP.



| <b>Table 1</b> |  |  |  |  |
|----------------|--|--|--|--|
| <b>Station</b> | <b>Location</b>  | <b>Requirements</b>  | <b>Parameter Analysis Total (T)</b>  |  |
| 1652-1         | Raw water supply intake at Spyder Lake for camp (no longer active) | Not Required   | Not Required   |  |
| 1652-1a        | Raw water supply intake at Spyder Lake                             | Monthly and annually   | Volume in cubic metres   |  |
| 1652-2         | Minewater discharge  | Once during the first week and monthly thereafter                    | Total Arsenic<br>(T) Suspended Solids<br>pH<br>ICP Metal Scan (monthly only)<br>Total Ammonia<br>Chlorides |  |
| 1652-3         | Sewage Effluent discharge Point                                    | Once Monthly   | Faecal Coliform<br>BOD<br>pH<br>(T) Nitrogen<br>Nitrate-Nitrite  | (T) Suspended Solids<br>Oil and Grease (visual)<br>(T) Phosphorus<br>Orthophosphorus |
| 1652-4         | Sewage Effluent point discharge into Spyder Lake                   | Once monthly during periods of sewage effluent flow into Spyder Lake | Faecal Coliform<br>BOD<br>pH<br>(T) Nitrogen<br>Nitrate-Nitrite  | (T) Suspended Solids<br>Oil and Grease (visual)<br>(T) Phosphorus<br>Orthophosphorus |
| 1652-5         | Sewage Effluent point discharge into Spyder Lake                   | Once monthly during periods of sewage effluent flow into Spyder Lake | Faecal Coliform<br>BOD<br>PH<br>(T) Nitrogen<br>Nitrate-Nitrite  | (T) Suspended Solids<br>Oil and Grease (visual)<br>(T) Phosphorus<br>Orthophosphorus |

NOTE: Field pH, sample temperature and ambient wind and weather conditions shall be recorded at all locations at the time of sampling. (T) refers to Total

**C. FLOW AND VOLUME MEASUREMENT REQUIREMENTS**

1. The monthly and annual quantities of water pumped from Surveillance Network Program Station Number 1652-1a for domestic purposes shall be measured and recorded in cubic metres.
2. The monthly quantities of Minewater pumped from SNP Station Number 1652-2 shall be measured and recorded in cubic metres.
3. The monthly quantities of Sludge removed from any Sewage Disposal Facilities shall be measured and recorded in cubic metres.

**D. REPORTS**

1. The Licensee shall submit to the Board within thirty (30) days following the month being reported, all data and information required by the "Surveillance Network Program" including the results of the approved quality assurance plan.

**E. MODIFICATIONS TO THE SNP**

1. Modifications to the SNP may be made only upon written approval of the Chief Administrative Officer.