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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

File No.: **2BE-HOP0712**

July 20, 2007

Terri L. Maloof  
Manager, Environmental Permitting and Compliance  
Miramar Hope Bay Ltd.  
300-889 Harbourside Drive  
North Vancouver, B.C.  
V7P 3S1

Email: [tmaloof@miramarmining.com](mailto:tmaloof@miramarmining.com)

**RE: NWB Licence No. 2BE-HOP0712**

Dear Ms Maloof,

Please find attached Licence No. **2BE-HOP0712** issued to Miramar Hope Bay Ltd. by the Nunavut Water Board pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*. The terms and conditions of the attached Licence related to water use and waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee will be in contravention of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence<sup>1</sup>. The NWB recommends that an application for the renewal of this Licence be filed at least three months prior to the Licence expiry date.

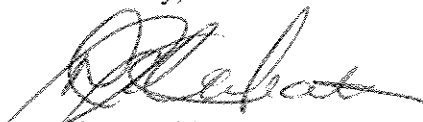
If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the

<sup>1</sup> Sec.46 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)*

the amendment process. The process and timing may vary depending on the scope of the amendment, however a minimum of 30 days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments received by interested persons on issues identified that are outside the Boards mandate but relevant to this project. This information is attached for your consideration.

Sincerely,



Dionne Filiatrault  
A/Chief Administrative Officer

DF/dh

Enclosure: Licence No. **2BE-HOP0712**  
Comments GN-DOE, INAC, EC, CLEY, KIA

|     |                   |        |
|-----|-------------------|--------|
| cc: | Andrew Keim       | INAC   |
|     | Carson Gillis     | NTI    |
|     | Cindy Parker      | EC     |
|     | Colette Spagnuolo | INAC   |
|     | Earle Baddaloo    | GN-DOE |
|     | Erin Calder       | NWMB   |
|     | Kevin Tweedle     | KIA    |
|     | Jim Rogers        | INAC   |
|     | John Dawe         | GN     |
|     | Paul Savoie       | DFO    |
|     | Peter Kusugak     | INAC   |
|     | Leslie Payette    | NIRB   |

## DECISION

### LICENCE NUMBER: 2BE-HOP0712

This is the decision of the Nunavut Water Board (NWB) with respect to an application for the renewal of a Water Licence, dated March 12, 2007 made by:

#### MIRAMAR HOPE BAY LTD.

to allow for the use of water and disposal of waste during camp activities and exploration drilling operations at the Windy Lake Camp associated with the Regional Hope Bay Exploration Program, located within the Kitikmeot Region, Nunavut generally located at the geographical coordinates as follows:

Latitude: 68° 3' N and Longitude: 106° 37' W (Existing Windy Lake Camp)

Max. Latitude: 68° 12' 29.89" N and Longitude: 106° 50' 33.21" W (Regional Drilling)

Min. Latitude: 67° 29' 9.58" N and Longitude: 106° 4' 18.48" W (Regional Drilling)

### DECISION

After having been satisfied that the application was for a location within an area in which there is no valid Land Use Plan and exempt from the requirement for screening by the Nunavut Impact Review Board in accordance with Schedule 12.1, Paragraph 5 of the *Nunavut Land Claim Agreement* (NLCA), the NWB decided that the application could proceed through the regulatory process. In accordance with S.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA) and Article 13 of the NLCA, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the NLCA and of the NWNSRTA, waived the requirement to hold a public hearing and determined that:

**Licence Number 2BE-HOP0712 be issued subject to the terms and conditions contained therein.  
(Motion #: 2007-12)**

SIGNED this 20<sup>th</sup> day of July, 2007 at Gjoa Haven, NU.



Dronne Filiatrault  
A/Chief Administrative Officer

DF/dh

## **LICENCE NUMBER: 2BE-HOP0712**

### **BACKGROUND**

The application for renewal of Licence 2BE-HOP0207 (formerly NWB2HOP0207) has been issued for a site with a long history of exploration in the Hope Bay belt area. Under the previous water regime within the Northwest Territories this type of activity was exempt. The NWB first issued a water licence for this site in 1998. Since that time several renewals, modifications and amendments have been processed and approved by the NWB. A brief summary is provided below:

|                             |                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------|
| Original Application        | NWB2WIN for Windy Camp Only<br>(additional water licence for NWB2WOL-wolverine camp) |
| Application for renewal     | Request to combine the licenses into one licence                                     |
| Renewal of NWB2HOP0002      | Licence for Windy Camp only as the Wolverine camp has been remediated                |
| NWB2HOP Renewal 2003        |                                                                                      |
| Modification/Amendment 2003 | Upgrade for the Sewage Treatment Facility                                            |
| Modification/Amendment 2005 | Construction of Bulk Fuel Storage Facility                                           |

### **CURRENT APPLICATION**

The current application for renewal of Licence 2BE-HOP0207 (formerly NWB2HOP0207) was received on March 12, 2007. No changes to the scope of the project were indicated or requested, however clarity was provided in that the previous Project plans had included a drilling program and will continue with this program during the planned exploration in 2007 through to 2012. As well, water sources in addition to Windy Lake were requested and these have been addressed in the Licence.

### **ISSUES**

The following section outlines the issues raised by interested parties and provides the background on the terms and conditions imposed within the body of the licence.

#### **Water Use**

The water use under this Licence has been adjusted to indicate the source and an amount for domestic use at the Windy Camp and a separate water use amount for activities associated with the Regional Drilling program. Total water use for the project remains unchanged at 50m<sup>3</sup>/day.

## **Waste Disposal**

### **Sewage Treatment**

The Waste Water Treatment Facility (WWTF), or sewage plant, has continued operations during the most recent Licence term on a seasonal basis. An upgraded treatment plant was provided to the Camp in 2004, allowing greater capacity and treatment efficiency. Effluent quality parameters were not included in the previous licence, however the requirement to monitor and report results was a major requirement of the monitoring program.

The design specifications submitted with the modification notice letter of October 24, 2003 indicated a treated effluent quality of 20/20(mg/L) BOD/TSS for the upgrade RBC. The NWB has included effluent quality criteria for the WWTF effluent based on Table 4.1 of the *Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories, 1992* and to be consistent with similar licences. It is expected that treatment efficiencies would be similar to the design parameters.

### **Operation and Maintenance Manual**

Under Part E, Item 5, the NWB has required the Licensee to provide an Operations and Maintenance Manual for the Waste Water Treatment Facility. In addition to the referenced guidelines, the Manual shall also address discharge procedures for the WWTF and any erosion control measures that are, or can be put in place, a description of any wetland treatment/land application that is provided to the RBC effluent prior to entering the lake and spill contingency procedures that are also to be included in the Spill Contingency Plan for the project.

### **Landfarm Facility**

The Landfarm at the Windy Project was constructed for the treatment of hydrocarbon contaminated soils from a spill that occurred on June 16, 2004 of approximately 19,000L of diesel fuel (Spill 04-388). An application for amendment had not been received by the Licensee. In October 2005, the NWB recommended to the Licensee that the facility be incorporated into its current Licence. The current application for renewal has included the Landfarm under its scope of operations.

Parameters set for waste water discharge at the Landfarm and the Bulk Fuel Storage Facilities have been set in accordance with CCME guidelines and recommendations by the Applicant in the supplementary information received. MHBL had suggested an effluent quality limit of 15mg/L Oil and Grease, whereas 5mg/L has been used in other LandFarm facilities (IBR-LTU). The NWB has determined that the discharge parameter for Oil and Grease remain consistent with similar requirements in other licenses.

The NWB has also included soil remediation parameters, under Part D, Item 19, for soil treated through the Landfarm, based on the recommendation of the Applicant and is consistent with the Government of Nunavut's *Environmental Guideline for Site Remediation*, industrial land use. In all cases, the Licensee is to confirm the required level of remediation with the Environmental

Protection Service (EPS) of the GN prior to final placement of remediated soils.

#### *Operations and Maintenance Manual*

In addition to the discharge parameters, the NWB has included the requirement for the Licensee to provide an Operations and Maintenance Manual for the Landfarm and directs the Licensee to the Environment Canada submission of April 26, 2007 for references and recommendations to the Operation and Maintenance of the Windy Lake Landfarm facility.

#### *Solid Waste Disposal*

The Application indicates that all solid waste, including bulky items will be stored onsite and eventually removed from site. The NWB, through comments received from interested parties, has requested that the Licensee obtain written authorization from the intended facility Owner prior to the transport and disposal of any solid waste. This requirement is reflected in the conditions of this Licence.

In addition, the Licensee is requested to develop its waste disposal practices and future abandonment and reclamation plans accordingly. This will involve the removal and disposal of all waste generated and materials to be removed upon closure to an appropriate disposal location unless otherwise approved by the Board.

#### **Environmental Management**

##### *Spill Contingency Plan (SCP)*

Comments and recommendations received during the review period include those from Indian and Northern Affairs Canada (INAC), Government of Nunavut – Department of Environment (GN-DOE) and Environment Canada (EC). Within these submissions, requests were received that would require the Licensee to provide a stand-alone SCP for the Windy Camp and its regional exploration activities (including Patch Lake). The current format, included within the Environmental Protection Plan (EPP), provides a poorly formatted document in terms of spill contingency planning. There are also numerous references within the EPP that refer to work being completed in 2006.

The NWB concurs with these concerns and requires that a full revision to the Plan under Part H, Item 1 be completed. The revision shall include, but not be limited to the following:

- i. Provisions for responding to unexpected events with respect to the WWTF and the Landfarm Facility; and
- ii. Consideration for all applicable comments from the parties received through the regulatory process of this renewal.

*Abandonment and Reclamation Planning (A&R Plan)*

The Licensee is requested to update the A&R Plan to deal with any new infrastructure on site. The supplementary questionnaire submitted with the Application included fuel storage facilities at Patch Lake (Major Drilling) and Roberts Bay. This revision is requested through conditions provided under Part I, Item 1.

**Other Applicable Legislation**

The Licensee is referred to the written submissions received during the public review period for this Application for renewal, specifically to the comments received by Environment Canada.

The Licensee is reminded that the compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all other applicable Federal, Territorial and Municipal legislation. Environment Canada has included the reminder to the Applicant that the Fisheries Act, Section 36(3) requires all wastes discharged to any waters, or where these wastes may enter water, be demonstrated to be non-toxic.

LICENCE 2BE-HOP0712

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

**MIRAMAR HOPE BAY LTD.**

(Licensee)

of

**300-889 HARBOURSIDE DRIVE, NORTH VANCOUVER, BC, V7P 3S1**

(Mailing Address)

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

**2BE-HOP0712**

Licence Number

**NUNAVUT 07**

Water Management Area

**HOPE BAY REGIONAL EXPLORATION PROJECT**

Location

**WATER USE AND WASTE DISPOSAL**

Purpose

**MINING AND MILLING – TYPE “B”**

Classification of Undertaking

**50 CUBIC METRES PER DAY**

Quantity of Water Not to Exceed

**MAY 20, 2007**

Date of Licence

**JUNE 30, 2012**

Expiry Date of Licence

Dated this 20th day of July, 2007 at Gjoa Haven, NU.



Dionne Filiatrault

A/Chief Administrative Officer

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

**1. Scope**

This Licence allows for the use of water and the disposal of waste for an undertaking classified as Mining and Milling as per Schedule II of the *Regulations* at the Hope Bay Regional Exploration Project, located approximately 100 km south of Cambridge Bay and 50 km east of Umingmaktok within the Kitikmeot Region, Nunavut (within the general latitudes 68° 12' 29.89' to 67° 29' 9.58"N and general longitudes 106° 50' 33.21" to 106° 4' 18.48"W and the Windy Camp located at Latitude: 68° 3'N and Longitude: 106° 37'W).

- i. 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, upon promulgation of such Regulations, to be subject to such requirements; and;
- ii. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

**2. Definitions**

**"Act"** means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

**"Addendum"** means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report.

**"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 85 (1) of the *Act*;

**"Appurtenant Undertaking"** means an undertaking in relation to which a use of water or a deposit of waste is permitted by a licence issued by the Board;

**"Board"** means the Nunavut Water Board established under the *Nunavut Land Claims*

*Agreement and the Nunavut Waters and Nunavut Surface Rights Tribunal Act;*

**“Bulk Fuel Storage Facilities”** means the fuel storage facilities, both at the Windy Camp and at Patch Lake, as described in the Renewal Application and supporting documents submitted March 12, 2007;

**“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;

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

**“ICP Scan”** means the laboratory method for determining trace metals in water through Emission Spectroscopy using inductively coupled plasma (including up to approximately 32 elements depending on the laboratory performing the analysis);

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

**“Landfarm”** means the storage facility as described in the Renewal Application and supporting documents (Landfarm questionnaire) submitted March 12, 2007, designed for the treatment of hydrocarbon contaminated soils;

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

**“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;

**“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;

**“Regulations”** means the *Northwest Territories Water Regulations* sor/93-303 8th June, 1993, omitting Section 5, Water Use or Waste Deposit without a Licence;

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

**“Sludge”** means accumulated and concentrated solids removed from the Waste Water Treatment Facility;

**“Spill Contingency Plan”** means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

**"Sump"** means an excavation in impermeable soil for the purpose of catching or storing water or waste;

**"Toilet Wastes"** means all human excreta and associated products, but does not include greywater;

**"Waste"** means, as defined in S.4 of the *Act*, 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 substances contained in it or because it has been treated or changed, by heat or other means.

**"Waste Water Treatment Facilities"** means the Rotating Biological Contact (ROTODISK™) facility as described in the Renewal Application and supporting documents submitted March 12, 2007, designed for the treatment camp sewage and greywater.

### **3. Enforcement**

- i. 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*;
- ii. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- iii. 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. The water use fees of \$30, payable to the Receiver General for Canada, shall be sent to the Board annually in advance of any use in accordance with Sections 9 of the *Regulations*.
2. The Licensee shall file an Annual Report on the appurtenant undertaking with the Board no later than March 31st of the year following the calendar year being reported which shall contain the following information:
  - i. A summary report of water use and waste disposal activities;
  - ii. A summary of all information requested and results of the Monitoring Program;

- iii. A list of unauthorized discharges and a summary of follow-up actions taken;
  - iv. A brief description of follow-up action taken to address concerns detailed in inspection and compliance reports prepared by the Inspector;
  - v. An up-to-date copy of the Spill Contingency Plan, including contact information;
  - vi. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
  - vii. 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;
  - viii. a summary of any specific studies or reports requested by the Board, and a brief description of any future studies planned or proposed; and
  - ix. Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.
- 3. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.
  - 4. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of water volumes, to be operated and maintained to the satisfaction of an Inspector.
  - 5. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

(i) **Manager of Licensing:**

Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)

**(ii) Inspector Contact:**

Water Resources Officer, INAC  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445

**(iii) Analyst Contact:**

Taiga Laboratories  
Department of Indian and Northern Affairs  
4601 – 52 Avenue, P.O. Box 1500  
Yellowknife, NT X1A 2R3  
Telephone: (867) 669-2781  
Fax: (867) 669-2718

6. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
7. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
8. This Licence is not assignable except as provided in Section 44 of the *Act*.

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

1. The Licensee shall obtain all water for domestic camp use from Windy Lake, not exceeding 20 cubic metres *per* day. Drill water shall be obtained from local water source(s), proximal to the drilling targets as outlined in the application and detailed on the June, 2007 drawing entitled "*Hope Bay Exploration Drilling Water Sources*". The volume of water for drilling purposes shall not exceed 30 cubic metres *per* day.
2. Streams cannot be used as a water source unless authorized and approved by the Board.
3. If the Licensee requires water in sufficient volume that the source water body may be drawn down the Licensee shall, at least 30 days prior to commencement of use of water, submit to the Board for approval, information on the water body that includes, but is not limited to: volume of water required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.
4. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish

do not become impinged on the screen.

5. The Licensee shall not remove any material from below the ordinary high water mark of any water body unless authorized.
6. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
7. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.

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

1. The Licensee shall locate areas designated for waste disposal, a minimum distance of thirty (30) metres from the ordinary high water mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise authorized by the Board.
2. The Licensee shall not practice open burning or on-site land filling of domestic waste, unless otherwise approved by the Board
3. The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.
4. The Licensee shall provide to the Board, documented authorization from the receiving community, prior to the backhauling of any non-hazardous waste for disposal at that community.
5. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation at an approved waste disposal site.
6. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste. These records shall be made available to an Inspector upon request.
7. The Licensee shall direct all sewage and greywater to the Waste Water Treatment Facilities, ("WWTF") as described in the application, unless otherwise approved by the Board.
8. The Licensee shall direct all effluent from the WWTF to a surge tank, prior to pumping and discharging the effluent approximately 300 metres over the ridge to the east of the camp facilities.
9. The Licensee shall discharge the effluent in Part D, Item 8 in such a manner to prevent

surface erosion.

10. All effluent being discharged from the WWTF, monitoring station HOP-2 shall meet the following effluent quality standards:

| <b>Parameter</b>       | <b>Maximum Average Concentration</b> |
|------------------------|--------------------------------------|
| BOD <sub>5</sub>       | 80 mg/L                              |
| Total Suspended Solids | 100 mg/L                             |
| Faecal Coliforms       | 10 x 10 <sup>4</sup> CFU/100mL       |
| pH                     | between 6 and 9                      |
| Oil and grease         | No visible sheen                     |

11. The Licensee shall collect as required, all sludge generated by the ROTODISK™ in 45 gallon drums and transport to the Boston Camp for proper disposal unless otherwise approved by the Board.
12. The Licensee shall provide to the Board for approval, at least four (4) months prior to any alternative means of sludge disposal, a proposal which shall address, but not be limited to:
- i. Location of disposal area;
  - ii. Quantities and composition of sludge;
  - iii. Mitigation measures to control run-off and restrict access;
  - iv. A program for water quality monitoring;
  - v. An implementation schedule;
  - vi. An executive summary of the proposal in English and Inuktitut.
13. The Licensee shall implement the proposal specified in this Part as and when approved by the Board.
14. 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.
15. The Licensee shall direct all appropriately characterized hydrocarbon contaminated soils and/or contaminated water, to the Landfarm for segregation and treatment, unless otherwise approved by the Board.
16. Licensee shall provide at least 15 days written notice to the Inspector prior to any planned discharges from the water collection point (sump) in the Landfarm and the Bulk Fuel Storage Facilities. This notice shall include the volume proposed for discharge and location.

17. All effluent being discharged to the WWTF surge tank from the Landfarm, monitoring station HOP-4 and the Bulk Fuel Storage Facilities, monitoring stations HOP-5 and HOP-6, shall meet the following effluent quality standards:

| <b>Parameter</b> | <b>Maximum Average Concentration (ug/L)</b> |
|------------------|---------------------------------------------|
| Oil & Grease     | 15,000 and with no visible sheen            |
| Benzene          | 370                                         |
| Toluene          | 2                                           |
| Ethylbenzene     | 90                                          |
| Lead             | 1                                           |

18. The Licensee shall determine the quality of the soil through representative sampling prior to the removal from the Landfarm, and shall meet the following Soil Quality Objectives for use as a remediation soil during Abandonment and Reclamation activities at the Windy Camp operations:

| <b>Parameter</b>                   | <b>Remediation Guidelines for Soil (Industrial) Concentration in ug/g</b> |
|------------------------------------|---------------------------------------------------------------------------|
| Total Petroleum Hydrocarbons (TPH) | 2500                                                                      |
| Benzene                            | 0.5                                                                       |
| Toluene                            | 0.8                                                                       |
| Ethylbenzene                       | 20                                                                        |
| Lead                               | 400                                                                       |

19. The Licensee shall submit to the Board for approval, six (6) months prior to the expiry of the Licence, a Plan for the removal of contaminated soils from the project area should soil quality objectives as outlined in Part D, Item 18 not be met during the term of this Licence, which may include but not be limited to, disposal at a licensed hazardous materials disposal facility.
20. The Licensee shall operate and maintain the WWTF and the Landfarm to the satisfaction of an Inspector.
21. The proponent shall ensure that any hazardous materials, including waste oil, receive proper treatment and disposal at an approved treatment facility.

**PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS**

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.
2. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
3. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of water, ice or snow. The Licensee should minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.
4. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty (30) metres from the ordinary high water mark in such a fashion that they do not enter the water.
5. The Licensee shall submit to the Board for approval, within ninety (90) days of the issuance of this Licence, an Operation and Maintenance Manual for the Waste Water Treatment Facility prepared in accordance with the *"Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996"* and adapted for the use of a mechanical sewage treatment facility.
6. The Licensee shall submit to the Board for approval, within ninety (90) days of the issuance of this Licence, an Operation and Maintenance Manual for the Landfarm that should include, but not be limited to the following:
  - i. Environment Canada's recommendations as per letter of April 26, 2007;
  - ii. Engineered design drawings of the facility (stamped by a professional engineer registered in Nunavut);
  - iii. Feasibility of alternative disposal methods and sites;
  - iv. Operation and maintenance procedures for the facility;
  - v. Runoff diversion and management;
  - vi. Soil treatment standards (Soil Quality Remediation Objectives; SQRO's); and
  - vii. Monitoring program for both water and soil.
7. Should the Plan(s) referred to in this Part, not be approved, the Licensee shall make the necessary revisions and resubmit the Plan(s) within thirty (30) days following notification from the Board.
8. The Licensee shall implement the Plans specified in this Part as and when approved by

the Board.

9. The Licensee shall provide to the Board, within ninety (90) days of issuance of this Licence, with respect to the construction of the Bulk Fuel Storage Facilities and the Landfarm facility, all 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 F: CONDITIONS APPLYING TO DRILLING OPERATIONS**

1. The Licensee shall not conduct any land based drilling within thirty (30) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board.
2. The Licensee shall ensure that all drill waste, including water, chips, muds and salts ( $\text{CaCl}_2$ ) in any quantity or concentration from land-based and on-ice drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty (30) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.
3. If artesian flow is encountered, drill holes shall be immediately sealed and permanently capped to prevent induced contamination of groundwater or salinization of surface waters. The Licensee shall report all artesian flow occurrences within the Annual Report, including the location (GPS coordinates) and dates.
4. Where drilling activity has penetrated below the permafrost layer, the NWB requests that the proponent record the depth of permafrost and location of the drill hole to be included within the Annual Report.
5. Drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or are demonstrated to be non-toxic.
6. For “on-ice” drilling where drill additives are not being used, return water released must be nontoxic, and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment, Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100mg/L).
7. The Licensee shall establish water quality conditions prior to and upon completion of any drilling program through lake ice.

**PART G: 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:
  - i. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
  - ii. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
  - iii. 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
  - iv. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met 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 H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING**

1. The Licensee shall submit to the Board for approval, within sixty (60) days of issuance of this Licence, a revised Spill Contingency Plan that is specific to the scope of this Licence and prepared in accordance with the *Spill Contingency Planning and Reporting Regulations* developed under Section 34 of the *Environmental Protection Act*. The Licensee shall update the Plan by referring, but not limiting, to the comments received by interested parties during the review of the application.
2. The Licensee shall, if not approved by the Board, revise the Plan referred to in Part H, Item 1, and resubmit to the Board for approval within thirty (30) days of receiving notification of the Board's decision.
3. The Licensee shall implement the Plan specified in Part H, Item 1 as and when approved by the Board
4. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an Addendum, to be included with the Annual Report,

unless directed otherwise by an Inspector.

5. The Licensee shall ensure that any chemicals, petroleum products or wastes associated with the project do not enter water. All sumps and fuel caches shall be located at a distance of at least thirty (30) metres from the ordinary high water mark of any adjacent water body and inspected on a regular basis.
6. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.
7. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - i. Employ the Spill Contingency Plan;
  - ii. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
  - iii. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

**PART I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING**

1. The Licensee shall submit to the Board for approval, within sixty (60) days of issuance of this Licence, a revised Abandonment and Reclamation Plan that is specific to the scope of this Licence and prepared in accordance with the *Mine Site Reclamation Guidelines for the Northwest Territories, 2006* and consistent with the *INAC Mine Site Reclamation Policy for Nunavut, 2002*. The Licensee shall refer to comments submitted by interested parties as part of the review of the Plan.
2. The Licensee shall, if not approved by the Board, revise the Plan referred to in Part I, Item 1, and resubmit to the Board for approval within thirty (30) days of receiving notification of the Board's decision.
3. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an Addendum to be included with the Annual Report, unless directed otherwise by an Inspector.
4. The Licensee shall complete all restoration work prior to the expiry of this Licence.

5. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
6. When possible to do so, the Licensee shall backfill and restore, to the satisfaction of an Inspector, all sumps to the pre-existing natural contours of the land.
7. The Licensee shall remove from the site infrastructures and site material, including but not limited to, all fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment before the expiry of this Licence.
8. The Licensee shall ensure that all rinse water, used in the cleaning of drums that are crushed for final disposal, meets the effluent requirements of, and is discharged according to Part D, Item 17 or as otherwise approved by the Board.
9. All roads and airstrip, if any, shall be re-graded to match natural contour to reduce erosion.
10. All culverts shall be removed and the drainage opened up to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.
11. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
12. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to the satisfaction of an Inspector. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon approval by an Inspector.
13. Drill holes and disturbed areas will be restored to natural conditions immediately upon completion of the drilling. The reclamation of drill holes must include the removal of any drill casing materials and the capping of holes with a permanent seal.
14. The Licensee may store drill core produced by the appurtenant undertaking in an appropriate manner and location at least thirty (30) metres above the ordinary high water mark of any adjacent water body, where any direct flow into a water body is not possible and no additional impacts are created, or as directed by an Inspector.
15. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.

**PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM**

1. The Licensee shall maintain Monitoring Program Stations at the following locations:

| <b>New Monitoring Program Station Number</b> | <b>Description</b>                                                                                                                        | <b>Status</b>   |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| HOP-1                                        | Raw water supply intake at Windy Lake.                                                                                                    | Active (Volume) |
| HOP-2                                        | WWTF effluent discharge at the surge tank prior to being pumped over the ridge east of the Windy Camp facilities.                         | Active          |
| HOP-3                                        | WWTF effluent at a point of entry into Windy Lake.                                                                                        | Active          |
| HOP-4                                        | Effluent from the Landfarm Treatment Facility pumped to the WWTF surge tank.                                                              | Active          |
| HOP-5                                        | Effluent from the Bulk Fuel Storage Facility located at the Windy Camp, prior to release.                                                 | Active          |
| HOP-6                                        | Effluent from the Bulk Fuel Storage Facility located at the Patch Lake location, prior to release to a location approved by an Inspector. | Active          |

2. Licensee shall sample at Monitoring Program Stations HOP-2 and HOP-3 monthly during discharge. Samples shall be analyzed for the following parameters:

|                                 |                  |
|---------------------------------|------------------|
| Biochemical Oxygen Demand - BOD | Faecal Coliforms |
| Total Suspended Solids          | pH               |
| Oil and Grease (visual)         |                  |

3. The Licensee shall conduct toxicity testing to demonstrate Non-Acute Toxicity of the effluent discharged from the WWTF, at Monitoring Station HOP-3, to be conducted in accordance with the following test procedures and carried out once annually during open water season:
- Acute lethality to Rainbow Trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13); and
  - Acute lethality to the crustacean, *Daphnia magna* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/14).
4. Licensee shall sample at Monitoring Program Stations HOP-4 and HOP-5 monthly

during removal of water from the facilities. Samples shall be analyzed, for the following:

TPH (Total Petroleum Hydrocarbons)  
PAH (Polycyclic Aromatic Hydrocarbons)  
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)

|                 |                  |
|-----------------|------------------|
| Nitrate-Nitrite | Oil and Grease   |
| Total Phenols   | Total Alkalinity |
| Total Hardness  | Calcium          |
| Magnesium       | Potassium        |
| Sodium          | Sulphate         |
| Total Arsenic   | Total Cadmium    |
| Total Copper    | Total Chromium   |
| Total Iron      | Total Lead       |
| Total Mercury   | Total Nickel     |

5. The Licensee shall obtain representative samples of the water column below any ice where required under Part F, Item 7. Monitoring shall include but not be limited to the following:

Total Suspended Solids  
pH  
Electrical Conductivity, and  
Total Trace Metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Sb, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Sr, Tl, Ti, U, V, Zn), and  
Trace Arsenic and Mercury

6. The Licensee shall measure and record, in cubic metres, the daily quantities of water utilized for camp, drilling and for all other purposes.
7. The Licensee shall measure and record, in cubic metres, the daily quantities of effluent discharged at Monitoring Program Station HOP-3 as well as volumes pumped Stations HOP-4, HOP-5 and HOP-6.
8. The Licensee shall measure and record, in cubic metres, the annual quantity of Sludge removed from the WWTF.
9. The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized for all purposes.
10. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with camp operations and drilling operations are deposited.

11. The Licensee shall submit a Quality Assurance/Quality Control Plan, prepared in accordance with the INAC document "*Quality Assurance (QA) and Quality Control (QC) Guidelines for use by Class "B" Licensees in Collecting Representative Water Samples in the Field, 1996*" to an Analyst 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.
12. The Licensee 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.
13. The approved Quality Assurance/Quality Control Plan shall be submitted to the Board for review and implemented as approved by an Analyst.
14. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of Standard Methods for the Examination of Water and Wastewater, or by such other methods approved by the Board.
15. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
16. An Inspector may impose additional monitoring requirements.
17. A Monitoring Program summary report shall be submitted to the Board for review within thirty (30) days following the month being reported. This summary shall include, at a minimum, the monitoring results of Part J, Items 2 through 8 inclusive.
18. The Licensee shall include in the Annual Report required under Part B, Item 2 all data, monitoring results and information required by this Part.