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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **1BR-LTU1419**

June 12, 2014

Michael Molinski,
Environmental Affairs
Transport Canada
P.O. Box 8550
3rd Floor – 344 Edmonton St.
Winnipeg, MB R3C 0P6
Email: michael.molinski@tc.gc.ca

RE: NWB Licence No. 1BR-LTU1419

Dear Mr. Molinski,

Please find attached Licence No. **1BR-LTU1419** issued to the Transport Canada (TC) by the Nunavut Water Board (NWB) 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 (Nunavut Land Claims Agreement or NLCA)*. 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 may be in contravention of the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. 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 amendment; however, a minimum of sixty (60) 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 are acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments received by interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,



Thomas Kabloona
Nunavut Water Board
Chair

TK/kk/ri

Enclosure: Licence No. **1BR-LTU1419**
Comments – AANDC

Cc: Qikiqtani Distribution List

¹ Aboriginal Affairs and Northern Development Canada (AANDC), June 5, 2014.

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DECISION

LICENCE NUMBER: 1BR-LTU1419

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated April 30, 2014 for a renewal of Water Licence made by:

TRANSPORT CANADA

to allow for the disposal of waste during remediation activities at the Iqaluit Airport Project located at Iqaluit within the Qikiqtani Region, Nunavut generally located at the geographical coordinates as follows:

Project Extents:

NW:	Latitude: 63° 45' 25.86" N	Longitude: 68° 33' 00.23" W
NE:	Latitude: 63° 45' 26.63" N	Longitude: 68° 32' 56.59" W
SE:	Latitude: 63° 45' 25.95" N	Longitude: 68° 33' 01.04" W
SW:	Latitude: 63° 45' 25.32" N	Longitude: 68° 33' 07.01" W

DECISION

After having been satisfied that the application was for a location within an area in which there is no Land Use Plan¹ and exempt from the requirement for Screening by the Nunavut Impact Review Board² in accordance with Schedule 12-1 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 (Act)* 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 *Act*, waived the requirement to hold a public hearing, and determined that:

Licence No. 1BR-LTU1419 be issued subject to the terms and conditions contained therein (Motion #: 2014-B1-012).

Signed this 12th day of June 2014 at Gjoa Haven, NU.



Thomas Kabloona
Nunavut Water Board
Chair

TK/kk/ri

¹ NPC email to NWB dated May 4, 2009.

² NIRB Decision dated May 15, 2009.

I. INTRODUCTION

Transport Canada (TC) transferred the Iqaluit Airport to the Government of Northwest Territories (GNWT) in 1995, which has since been transferred to the Government of Nunavut (GN) Airports Division of the Department of Economic Development and Transportation. As a condition of the Arctic “A” transfer agreement of July 1995 between GNWT and TC, the environmental issues existed prior to the airport transfer must be remediated, as well as any items identified by the GNWT within six (6) years after transfer date. For the construction and operation of a land treatment unit (LTU) in order to remediate the apron fuel hydrant contaminated soil at the Iqaluit Airport the TC applied and obtained from the Nunavut Water Board (NWB or Board) on May 6, 2006, the Water Licence No. 1BR-LTU0608. The Licence was subsequently renewed as Licence No. 1BR-LTU1013 on February 13, 2010 with an expiry date set for December 31, 2013 to continue in treating the Petroleum Hydrocarbon (PHC) contaminated soils at the Iqaluit Airport Project located at Iqaluit within the Qikiqtani Region, Nunavut.

The construction of 2 LTU’s was completed in the fall 2006. TC anticipated constructing one large LTU cell on site, however, the topographic conditions and airport operations made this difficult due to restriction related to the runway and the adjacent taxiway and apron. Therefore, TC constructed 2 smaller LTU cells (C & D) adjacent to the previously constructed LTU cells (A & B) that TC will decommission in the near future. Cell C is approximately 90m X 40m and cell D is approximately 55m X 40m. Each LTU is constructed to hold a maximum depth of 1m of material.

The nearest building is the Airport Maintenance Garage approximately 400m to the northeast, the Air Terminal Building is approximately 1000m to the southeast and the nearest drainage channel is located to the airport runway approximately 155m to the southwest of the LTU site. The nearest water body is the ocean located approximately 3km to the southeast. The topography of the site is flat and nearly at sea level. The area surrounding the airport has a gentle slope to the southeast toward the ocean.

The LTU is located at the airport area that requires security clearance to enter the site. Therefore no impacts are anticipated on Community’s public or private water supplies, traditional fishing, hunting and trapping areas, resource harvesting areas, fish spawning areas, archaeological and historic sites.

II. PROCEDURAL HISTORY

The NWB received on April 25, 2014, the following documents, as part of the Renewal Water Licence Application (Application) from TC, in support of the Iqaluit Airport Project:

- Application for Water Licence Renewal;
- Project Summary (English and Inuktitut); and
- Site Location Maps and Photographs.

On May 7, 2014, following a preliminary internal technical review the NWB concluded that the Application met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or Act) and distributed notice of the Application to interested

parties. All parties were invited to make representations to the NWB within thirty (30) days. Prior to the deadline for comments, set for June 7, 2014, submissions were received from Aboriginal Affairs and Northern Development Canada (AANDC) Water Resources Division. AANDC – Water Resources Division provided comments and recommendations aimed at ensuring that any potential adverse effects of the project are minimized.

Based upon the results of the detailed assessment of the Application, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have on the area, the Board has approved the Application and has renewed the Water Licence No. 1BR-LTU1013 as Licence No. 1BR-LTU1419.

III. GENERAL CONSIDERATIONS

Term of Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The applicant requested a five (5) years term for this renewal licence, which the NWB believes is consistent with and appropriate for the type of activities proposed in the application. The Board has therefore granted the five (5) years term that the Licensee requested.

Annual Report

Under the reporting section in the Licence, Part B, Item 1, the Licensee is required to submit, on an annual basis, a report that pertains to water use and the deposition of waste. This information is generally made available to interested persons upon request. In addition, the NWB maintains annual reporting information on its public registry, which can be accessed by through the NWB's ftp site using the following link (username: "public" and password: "registry"): <ftp://nunavutwaterboard.org/1%20PRUC/1%20INDUSTRIAL/1B/1BR%20-%20Remediation/1BR-LTU1013/>.

Waste Disposal Contaminated Soils

The Applicant stated that no waste will be generated on site during the proposed remediation activities.

Iqaluit Airport LTU's are able to treat simultaneously in cells C & D 5800 m³ of PHC contaminated soils. The criteria being used for the remediation of contaminated soils for this site are under the CCME *Canada Wide Standards for Petroleum Hydrocarbon Contaminated Soils Tier 1: Coarse Grain Soil, Industrial Site* in accordance also with the Government of Nunavut *Environmental Guideline for Site Remediation*, (2002).

Conditions have been included under Part D in the Licence to ensure that appropriate measures are developed and implemented for the storage and treatment of PHC contaminated soils.

Effluent Discharge

The Board has decided that in the absence of Nunavut specific guidelines for discharge to groundwater and given the lack of information provided regarding the permafrost and groundwater regime to maintain that discharge will percolate into the groundwater, the CCME

Canadian Water Quality Guidelines for the Protection of Aquatic Life for surface water reception shall be applied to Effluent discharged from the Landfarm in accordance with the Federal Guidelines. As such, the Board has set effluent quality limits in Part D Item 6 of this Licence for pH, oil and grease, lead and benzene, toluene, and ethylbenzene (BTEX), that are consistent with the CCME Guidelines and other licenses for similar undertakings.

Spill Contingency Planning

The Licensee shall implement the Spill Contingency (SC) Plan entitled “Spill Contingency Plan Iqaluit Airport LTU, Nunavut NWB Water Licence: 1BR-LTU1013” dated November 2010 and approved by the Board on December 6, 2010 under Part H, Item 1 of previous licence. The Licensee is required to submit to the Board for review, any revision to the Plans undertaken throughout the life of the project.

Abandonment and Restoration

The Licensee shall implement the Abandonment and Restoration (A&R) Plan entitled “Stand Alone Abandonment and Restoration Plan Iqaluit Airport, Nunavut Water Licence Number: 1BR-LTU1013” revised November 2010 and approved by the Board on December 6, 2010 under Part I, Item 1 of previous licence. The Licensee is required to submit to the Board for review, any revision to the Plans undertaken throughout the life of the project.

Monitoring

In its Operation and Maintenance (O&M) Plan approved by the Board with the issuance of the previous licence, the Applicant proposed to conduct site monitoring twice per year: once during spring freshet in June and once during mid-summer in August-September. The monitoring includes the sampling of three (3) groundwater monitoring wells (1 upgradient and 2 downgradient of LTU) and the sump inside the LTU. The sump will be tested prior to any required discharge and prior to the decommissioning of the facility. The CCME *Canadian Water Quality Guidelines for the Protection of Aquatic Life* for surface water reception shall be applied to Effluent discharged from the Landfarm. The Board has set effluent quality limits in Part D Item 6 of this Licence for pH, oil and grease, lead and BTEX.

Soil sampling program will be conducted at the beginning of each field season to identify the levels of PHC contamination in the soil. The soil criteria used for this site will be under the CCME *Canada Wide Standards for Petroleum Hydrocarbon Contaminated Soils Tier 1: Coarse Grain Soil, Industrial Site* in accordance also with the Government of Nunavut *Environmental Guideline for Site Remediation*, (2002).

All sampling procedures will be in accordance with the standards contained in the CCME *Guidance Manual on Sampling, Analysis and Data Management for Contaminated Sites Volume I & II*.

The Quality Assurance/Quality Control (QA/QC) Plan dated February 2012 and submitted as required under Part J, Item 11 of previous licence has been accepted by the Board on June 25, 2012. Under the renewal Licence the monitoring results are to be provided to the NWB as part of the annual report. This requirement is included under Part J, Item 14 of the Licence.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 1BR-LTU1419

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

TRANSPORT CANADA – ENVIRONMENTAL AFFAIRS PROGRAMS

(Licensee)

3rd FLOOR – 344 EDMONTON ST., P.O. BOX 8550, WINNIPEG, MB R3C 0P6

(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 renewal:

Licence Number/Type: **1BR-LTU1419** TYPE “B”

Water Management Area: **NUNAVUT 53 - FROBISHER BAY WATERSHED**

Location: **IQALUIT AIRPORT PROJECT
QIKIQTANI REGION, NUNAVUT**

Classification: **INDUSTRIAL UNDERTAKING**

Purpose: **DEPOSIT OF WASTE**

Quantity of Water use not
to Exceed: **NO WATER USE AUTHORIZED UNDER THE LICENCE**

Date of Licence Issuance: **JUNE 12, 2014**

Expiry of Licence: **JUNE 11, 2019**

This Licence renewal issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

**Thomas Kabloona,
Nunavut Water Board
Chair**

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the disposal of waste during an undertaking classified as Industrial as per Schedule I of the *Regulations* at the Iqaluit Airport Project, located in Iqaluit within the Qikiqtani Region, Nunavut.

- a. 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
- b. 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;

“**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*;

“**Effluent**” means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond, sewage lagoon, landfarm or a treatment plant;

“**Engineer**” means a professional engineer registered to practice in Nunavut in

accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

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

“High Water Mark” means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

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

“Land Treatment Unit (“LTU”) means the landfarm facility constructed under the previous licence as per drawing No. 06-1344-01 and described in “Transport Canada, Iqaluit, Nunavut Land Treatment Unit, Operation and Maintenance Plan” dated January 1, 2009;

“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 *Nunavut Waters Regulations* sor 2013/669 18th April, 2013;

“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;

“Treatment Objective” means the treatment objective for the Land Treatment Unit which is based on the Canadian Council of Ministers of the Environment (CCME), 2001 *Canada – Wide Standard for Petroleum Hydrocarbon in Soil*, revised January 2008; and as determined by the Government of Nunavut, Environmental Protection Service based on the 2002 *Environmental Guideline for Site Remediation*; See Table No. 1;

“Type B Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and /or diesel fuel and /or gasoline;

“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.

“Water” or “Waters” means waters as defined in section 4 of the *Act*.

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. 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, containing the following information:
 - a. A summary report of waste disposal activities;
 - b. A list of unauthorized discharges and a summary of follow-up actions taken;
 - c. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - d. Any revisions or addendums to approved Plans submitted under the Licence which may require Board approval;
 - e. Quantities and locations of remediated soil being deposited, as required by Part H;
 - f. A summary of all information requested and results of the Monitoring Program; and
 - g. Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

2. 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.
3. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
4. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
5. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
6. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
7. 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:

(a) 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@nwb-oen.ca

(b) Inspector Contact:

Manager of Field Operations, AANDC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

8. 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 (and/or Inuinnaqtun).
9. The Licensee shall ensure that any document(s) or correspondence submitted by the

Licensee to the NWB is received and acknowledged by the Manager of Licensing.

10. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. No water use is authorized under this Licence.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty one (31) 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 approved by the Board in writing.
2. All waste generated under the Licence shall be removed from site and disposed of in an approved waste disposal facility.
3. The Licensee shall provide to the Board documented authorization from the communities prior to any backhauling and disposal of wastes to those communities from the Iqaluit Airport Project.
4. 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.
5. The Licensee shall provide notice to an Inspector at least ten (10) days prior to initiating any discharge from the sump in the Land Treatment Unit. The notice shall include the volume proposed for discharge and results of monitoring under Part J, Item 3.
6. Any discharge from the sump in the Land Treatment Unit to the environment shall meet the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample (µg/L)
pH	6 to 9 (pH units)
Oil and Grease	5000
Lead (dissolved)	1
Benzene	370
Toluene	2
Ethylbenzene	90

7. If the Effluent referred to in Part D, Item 6 does not meet the discharge criteria stipulated in this Licence, it shall be considered hazardous waste and disposed off-site at an

approved facility or as otherwise approved by the board in writing.

8. The discharge location for all treated effluents described in Part D, Item 6 shall be located at a minimum of thirty-one (31) metres from the ordinary High Water Mark of any water body and where direct flow into a water body is not possible and no additional impacts are created.
9. The Licensee shall treat Type B Soil in the Landfarm Facility, to the Treatment Objective and, prior to the removal of any treated soil for future use, confirm with the Government of Nunavut, Environmental Protection Service that the soils have been treated to meet the required Treatment Objective, in a manner in accordance with the Operation and Maintenance (O&M) Plan dated January 1, 2009 and Addendum to the O&M Plan dated July 7, 2010, and any subsequent revisions to the Plan approved by the Board in writing.
10. The Licensee shall direct all treated soil that meets the Treatment Objective detailed in Table No. 1 to industrial or commercial land. Residential/parkland shall only be used as a disposal location if the Licensee demonstrates that the soil meets the additional criteria for such lands.
11. The Licensee shall dispose of all soils containing substances in excess of maximum allowable concentrations, as indicated in Table No.1, by collection, containment and shipment off-site to a licensed disposal facility.

PART E: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS

1. The Licensee shall implement the Operation and Maintenance (O&M) Manual entitled “Transport Canada, Iqaluit, Nunavut Land Treatment Unit, Operation and Maintenance Plan”, dated January 1, 2009 with the Addendum to the O&M Manual, dated July 7, 2010, that were approved and accepted, respectively, by the Board under the previous Licence.
2. The Licensee shall, during the excavation of soils to be treated within the LTU, implement measures prior to, during and following the excavation of soils, to prevent migration of sediments from the site that may impact water.
3. The Licensee shall not mix or blend PHC contaminated soils with non-contaminated soils for the expressed purpose of achieving the Treatment Objective.
4. The Licensee shall implement proper handling, storage and transportation procedures for the management of hazardous materials during clean-up activities.
5. The Licensee shall minimize disturbance to terrain, permafrost and drainage during extraction of granular material, movement of contractor’s equipment and personnel around the site and removal of site debris.

PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing monitoring wells.
2. The Licensee shall not conduct any land based drilling within thirty one (31) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing.
3. The Licensee shall ensure that all drill waste, including chips, muds and salts (CaCl₂) in any quantity or concentration, from land-based drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty one (31) 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.
4. 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.

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:
 - 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. such Modifications are consistent with the NIRB Screening Decision;
 - d. 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
 - e. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met 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 implement the Plan entitled “Spill Contingency Plan Iqaluit Airport LTU”, dated November 2010 that was approved by the Board under the previous Licence.
2. 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.
3. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the project from entering Water. All sumps and fuel caches shall be located at a distance of at least thirty one (31) metres from the ordinary High Water Mark of any adjacent water body and inspected on a regular basis.
4. The Licensee shall conduct any equipment maintenance and servicing 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.
5. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the approved Spill Contingency Plan;
 - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
 - c. 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 implement the Plan entitled “Stand Alone Abandonment and Restoration Plan Iqaluit Airport”, dated November 2010 that was approved by the Board under the previous Licence.
2. The Licensee shall submit to the Board for approval a final Abandonment and Restoration Plan at least six (6) prior to decommissioning the site that shall include details on historic landfarm cells A and B.
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.

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. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, material and equipment prior to the expiry of this Licence.
7. 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.
8. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, January 2002. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.
9. 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 measure and record the volume of all soil from all locations entering the Land Treatment Unit
2. The Licensee shall assess and record the concentration of F1 – F4 fractions in petroleum hydrocarbon contaminated soil, according to the CCME *Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil* that is entering the Land Treatment Unit from all sources and excavations.
3. The Licensee shall maintain Monitoring Program Stations, sampling and analyses as described below at the following locations:

Monitoring Program Station	Location	Parameters⁴	Frequency
LTU-1	Discharge from the sump	See Part D, Item 6	Representative sample prior to each discharge
LTU-MW1	Monitoring well	TPH	Twice per year

4 TPH – Total Petroleum Hydrocarbons

BTEX – Benzene, Toluene, Ethylbenzene, Xylene

HM – Heavy Metals including AL, As, Cd, Co, Cu, Fe, Pb, Mo, Ni, Se, Ag, Ti, Zn

PAH – Polycyclic Aromatic Hydrocarbons

	upgradient of the Land Treatment Unit	BTEX HM PAH	(after freshet and at the end of the treatment season)
LTU-MW2	Monitoring well downgradient of the Land Treatment Unit	TPH BTEX HM PAH	Twice per year (after freshet and at the end of the treatment season)
LTU-MW3	Monitoring well downgradient of the Land Treatment Unit	TPH BTEX HM PAH	Twice per year (after freshet and at the end of the treatment season)

4. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where remediated soil is deposited.
5. The Licensee shall keep accurate records of the date, amounts and final destination of all treated soil removed from the LTU under Part D, Item 10, and provide to an Inspector upon request.
6. The Licensee shall sample prior to discharge at Monitoring Program Station LTU-1, to verify compliance with the effluent quality limits under Part D, Item 6.
7. The Licensee shall sample at Monitoring Program Stations LTU-MW1, MWLTU-2 and LTU-MW3 once annually in the summer, giving consideration to adequate ground thaw and obtaining a representative groundwater sample. Samples shall be analyzed for the following parameters:

pH	Conductivity
Total Suspended Solids	Ammonia Nitrogen
Nitrate – Nitrite	Oil and Grease (visual)
Total Phenols	Sulphate
Total Hardness	Total Alkalinity
Sodium	Potassium
Magnesium	Calcium
Chloride	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel
Total Zinc	Total Phosphorous
Total Aluminum	Total Manganese
Total Cobalt	Total Arsenic
Polychlorinated Biphenyls (PCB)	
Total Petroleum Hydrocarbons (PHC)	

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

8. All sampling procedures will be in accordance with the standards contained in the CCME *Guidance Manual on Sampling, Analysis and Data Management for Contaminated Sites*.
9. 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 in writing.
10. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
11. The Licensee shall implement the Quality Assurance/Quality Control (QA/QC) Plan entitled "Transport Canada Iqaluit Airport Landfarm QA/QC Plan" dated February 2012.
12. The Licensee shall annually review the Quality Assurance/Quality Control Plan in Part J, Item 10 and modify it as necessary. Proposed modifications shall be submitted to the accredited laboratory for approval.
13. Additional monitoring requirements may be requested by an Inspector.
14. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.

Table No. 1. Summary of Tier 1 Levels (mg/kg) for surface soil Remediation Requirements

		Agricultural	Residential/Parkland	Commercial	Industrial
Fraction 1	Coarse	30 ^b	150	300	2800
	Fine	210 (170 ^a)	150	1300	5600
Fraction 2	Coarse	30 ^b	150	300	2800
	Fine	210 (170 ^a)	150	1300	5600
Fraction 3	Coarse	320 (240 ^a)	260	1700	3300
	Fine	320 (170 ^a)	260 (230 ^a)	2500	6600
Fraction 4	Coarse	320 (240 ^a)	260	1700	3300
	Fine	320 (170 ^a)	260 (230 ^a)	2500	6600
Benzene		0.05	0.5	5	5
Toluene		0.1	0.8	0.8	0.8
Ethylbenzene		0.1	1.2	20	20
Xylene		0.1	1	17	20
Total Petroleum Hydrocarbons		-	500	2500	2500
Lead		70	140	260	400
Polychlorinated biphenyl		0.5	5	50	50

Notes: a = Where applicable, for protection of potable groundwater.

b = Assumes contamination near residence.

Data from Canadian Council of Ministers of the Environment (CCME) *Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil*, (2001) Revised January 2008 and the Government of Nunavut *Environmental Guideline for Site Remediation*, (2009).