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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

File No: **1BR-RLF2030/Renewal**

May 19, 2020

Kelly Hunnie  
Transport Canada  
Environmental Affairs – Programs  
3<sup>rd</sup> Floor – 344 Edmonton St  
Winnipeg, Manitoba R3C 0P6  
Email: [Kelly.Hunnie@tc.gc.ca](mailto:Kelly.Hunnie@tc.gc.ca)

**RE: NWB Renewal Licence No: 1BR-RLF2030**

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Dear Ms. Hunnie,

Please find attached Licence No: **1BR-RLF2030** (Licence) issued to Transport Canada by the Nunavut Water Board (NWB or 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 (Nunavut Agreement)*. 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 (3) 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's 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.<sup>1</sup>

Sincerely,

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Lootie Toomasie  
Nunavut Water Board  
Chair

LT/as/rqd

Enclosure: Licence No: **1BR-RLF2030**  
Comments – CIRNA

Cc: Qikiqtani Distribution List

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<sup>1</sup> Crown-Indigenous Relations and Northern Affairs Canada (CIRNA), March 25, 2020

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## DECISION

### LICENCE NUMBER: 1BR-RLF2030

This is the decision of the Nunavut Water Board (NWB or Board) with respect to an application received on February 17, 2020 for the renewal of a Water Licence made by:

### TRANSPORT CANADA

to allow for the use of water and deposit of waste during maintenance, monitoring, and eventual decommissioning of an existing Landfarm Facility located near Resolute Bay within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude:	74° 44' 34.28" N	Longitude:	95° 00' 17.18" W
Latitude:	74° 44' 34.58" N	Longitude:	95° 00' 02.78" W
Latitude:	74° 44' 30.04" N	Longitude:	95° 00' 01.46" W
Latitude:	74° 44' 30.52" N	Longitude:	95° 00' 15.23" W

## DECISION

After having been satisfied that the Application is in conformity with the North Baffin Regional Land Use Plan<sup>2</sup> and subject to a 12.4.4 (a) Screening Decision by the Nunavut Impact Review Board<sup>3</sup> in accordance with Article 12 of the Nunavut Agreement, 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 Nunavut Agreement, 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 Nunavut Agreement and of the Act, waived the requirement to hold a public hearing, and determined that:

**Licence No: 1BR-RLF2030 be issued subject to the terms and conditions contained therein (Motion #: 2020-B1-006)**

Signed this 19<sup>th</sup> day of May, 2020 at Gjoa Haven, NU.

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Lootie Toomasie  
Nunavut Water Board, Chair

LT/as/rqd

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<sup>2</sup> Nunavut Planning Commission (NPC) Confirmation Determination, January 24, 2020

<sup>3</sup> Nunavut Impact Review Board (NIRB) Screening Decision, May 17, 2012

## I. BACKGROUND

Transport Canada (Applicant) carried out demolition and remediation work in 2001/2002 at the former Fire Training Area (FTA) and Above-Ground Storage Tanks (ASTs) area at the Resolute Bay Airport. Approximately 5,800 cubic metres of Petroleum Hydrocarbon (PHC) contaminated soil was excavated (5,500 m<sup>3</sup> from the FTA and 300 m<sup>3</sup> from the former ASTs area). To treat the contaminated soil, a lined Landfarm Facility, consisting of two (2) Land Treatment Units (LTU 1 and LTU 2), was constructed and commissioned.

In 2015, Transport Canada identified that per- and poly-fluoroalkyl substances (PFAS) was also a potential Contaminant of Concern (COC) since the FFTA would have likely used firefighting foam containing PFAS. Sampling for both PHC and PFAS was undertaken and all soil samples exceeded CCME guidelines for one or more PHC parameters and also exceeded interim guidelines for PFAS.

In 2018, Transport Canada commissioned a preliminary quantitative health and ecological risk assessment to help support management decisions for the site. Based on the results of the problem formulation, the report concluded that there were no human or ecological exposure pathways that required further assessment and that potential unacceptable risks are not anticipated for human or ecological receptors at the site.

## II. PROCEDURAL HISTORY

The original Water Licence 1BR-RLF1520 was issued to Transport Canada on August 17, 2020 to allow for use of water up to 5 m<sup>3</sup> per annum and deposit of waste. The licence expires on August 16, 2020. On **February 17, 2020**, Transport Canada submitted a renewal Water Licence Application (Application). The following documents were submitted by the Applicant:

- Renewal application
- NPC Determination - January 24, 2020
- NIRB Determination - June 22, 2012
- NPC Determination - January 24, 2020
- Summary of renewal application (English)
- Summary of renewal application (Inuktitut)
- Preliminary quantitative health and ecological risk assessment

On **February 20, 2020**, the NWB concluded that the Application generally met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or Act) and forwarded notice of the Application to interested parties. All parties were invited to make representations to the NWB within thirty (30) days by **March 20, 2020**. No comments were received on or before the deadline, however, a submission was received from Crown Indigenous Relations and Northern Affairs (CIRNA) on **March 25, 2020**.

The NWB has placed in its Public Registry copies of the Application and all comments received from interveners. This information can be accessed on the NWB's FTP site using the following link:

<ftp://ftp.nwb-oen.ca/registry/1%20INDUSTRIAL/1B/1BR%20-%20Remediation/1BR-RLF2030%20Resolute%20Landfarm/>

### III. GENERAL CONSIDERATIONS

The following sections provide background information relevant to the terms and conditions included in this Licence, in the context of submissions received and/or the Board's rationale.

#### Scope of Undertaking

The scope of this Licence is limited to the maintenance, monitoring, and eventual decommissioning of an existing Landfarm Facility.

#### Term

In accordance with s. 45 of the Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRA or the Act), the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining an appropriate term for a renewal licence, the Board generally takes into consideration several factors including interveners' comments, the Licensee's compliance history, as well as the rationale contained in the Application.

The Licensee requested in its Application, a twenty-five (25) year term for the licence. The intervening parties in their submissions did not comment on the term requested for the renewal licence. However, the Board, consistent with its practice associated with licensing of activities, including land-farming, has decided to renew the licence for a **ten (10) year term**. In so doing, the Board believes and expects that this ten-year term will provide the Licensee with opportunities to design and implement alternative measures to assess or monitor the landfarm facility and consistently abide by the terms and conditions in the Licence over time and provide ongoing compliance record prior to a need for renewal.

#### Annual Reports

Under Part B, Item 1 of the Licence, the Licensee is required to submit Annual Reports for the purpose of ensuring that the NWB has an accurate annual update of activities related to Water use and Waste disposal during each calendar year. This information is maintained on the Public Registry and is available to interested parties upon request. A "Standardized Form for Annual Reporting" is to be used by the Licensee and is available from the NWB file transfer protocol (FTP) site under the Public Registry link at the NWB Website:

<ftp://ftp.nwb-oen.ca/other documents/Standardized Forms/>

#### Water Use

The applicant did not seek authorization to use water under the terms and conditions in the licence. However, the Board has authorized the use of five (5) cubic meters of water per year for sampling

and related purposes, which are considered as active water use. Terms and conditions related to water use are included under Part C, Item 1 in the licence.

### Deposit of Waste

No authorization was sought by the Applicant for the disposal of solid waste and sewage as there is no camp facility associated with the project and the project is located relatively close to the Hamlet of Resolute Bay. Accordingly, no terms and conditions have been included in the licence authorizing the disposal of such wastes. Terms and conditions, however, have been included in the Licence to allow for any leachate collected in a sump associated with the Landfarm Facility to be released to the receiving environment, if it meets the discharge criteria in the licence.

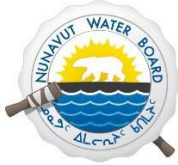
### Monitoring

The applicant has requested to suspend annual groundwater monitoring during this maintenance phase until a suitable alternative can be applied. The reason being the site conditions are such that sufficient groundwater samples to complete the required analysis have rarely been available.

The existing licence required the applicant to sample groundwater from monitoring wells MW-1 to MW-6. In the 2019 Environmental Monitoring Program Report, Stantec reported that MW-4 and MW-6 have heaved and the rest of the wells did not contain required amount of water for collecting samples. Therefore, in lieu of groundwater samples, surface water samples were collected from the water accumulated around the LTUs. Exceedances of toluene, total lead and total aluminum were detected in the surface waters. Stantec has suggested sampling of accumulated surface water around the LTUs to be included in the renewed licence. The NWB has updated the monitoring stations in Part J, Item 2 to include surface runoff water around the LTUs.

### Other Issues

In the Environmental Monitoring Program Report (November 2019), Stantec reported some concerns regarding the integrity of the LTU liners. They inspected the LTUs in July 2019 and observed numerous rips and tears of the liners at both LTU 1 and LTU 2. The report suggested that the applicant needs to assess engineering options for improving the berms to prevent accumulated surface water from overflowing or blowing over the berm and impacting the soils and groundwater outside LTU 1 and LTU 2.



## NUNAVUT WATER BOARD WATER LICENCE

**Licence No. 1BR-RLF2030**

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

(Licensee)

**3<sup>rd</sup> FLOOR, 344 EDMONTON STREET, WINNIPEG, MANITOBA 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-RLF2030 TYPE "B"**

Water Management Area: **BATHURST & CORNWALLIS ISLANDS WATERSHED  
(55)**

Location: **RESOLUTE BAY LANDFARM MAINTENANCE /  
MONITORING / DECOMMISSIONING PROJECT  
QIKIQTANI REGION, NUNAVUT**

Classification: **INDUSTRIAL UNDERTAKING**

Purpose: **USE OF WATER AND DEPOSIT OF WASTE**

Quantity of Water use not  
To Exceed: **FIVE (5) CUBIC METERS PER ANNUM**

Effective Date: **AUGUST 17, 2020**

Expiry of Licence: **AUGUST 16, 2030**

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

**Lootie Toomasie,  
Nunavut Water Board, Chair**



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

### **1. Scope**

This Licence allows for the use of Water and the deposit of Waste for a Municipal undertaking classified as per Schedule 1 of the *Regulations* at the Resolute Bay Landfarm Maintenance/Monitoring/Decommissioning Project, located near Resolute Bay, within the Qikiqtani Region of Nunavut, generally at the following geographical coordinates:

Latitude: 74° 44' 34.28" N	Longitude: 95° 00' 17.18" W
Latitude: 74° 44' 34.58" N	Longitude: 95° 00' 02.78" W
Latitude: 74° 44' 30.04" N	Longitude: 95° 00' 01.46" W
Latitude: 74° 44' 30.52" N	Longitude: 95° 00' 15.23" W

- 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 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, 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.2d* the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

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

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

“**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*;

“**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;

“**Monitoring Program**” means a monitoring program established to collect data on surface water and groundwater quality to assess impacts to the freshwater aquatic environment of an appurtenant undertaking;

“**Nunavut Agreement**” 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/2013-69 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;

**“Treatment Objective”** means the treatment objective for the Land Treatment Unit which is based on the Canadian Council of Ministers of the Environment (CCME) 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 2009 Environmental Guideline for Site Remediation; See Table No. 1;

**“Type B Soil”** means soil contaminated with petroleum 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; this soil does not contain polychlorinated biphenyl (PCB);

**“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 Disposal Facilities”** means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facilities and Solid Waste Disposal Facilities (including Bulky metal area), as described in the previous Application for Water Licence renewal filed by the Applicant on May 27, 2014;

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

### **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 the 31st March of the year following the calendar year being reported, containing the following information:
  - a. A summary report of water use and waste disposal activities;
    - i. Quantity of water used for sampling purposes;
    - ii. Quantity and quality of Effluent discharged from Landfarm;
    - iii. Quantity and characterization of soils placed within the Landfarm for treatment.
  - b. A list of unauthorized discharges and a summary of follow-up actions taken;
  - c. Any revisions to the Spill Contingency Plan, Abandonment and Restoration Plan, and other plans associated with the Licence, as required by Part B, Item 9, submitted in the form of an Addendum;
  - d. Description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
  - e. A summary of all information requested and results of the Monitoring Program;
  - f. Any other details on water use or waste disposal requested by the Board by the 1<sup>st</sup> November of the year being reported.
2. The Licensee shall comply with the Monitoring Program described in this Licence, and any amendments to the Monitoring Program as may be made from time to time, pursuant to the conditions of this Licence.
3. The Licensee shall post signs in the appropriate areas to identify the stations of the Monitoring Program associated with the Landfarm Facility. All signage postings shall be in the Official Languages of Nunavut.
4. 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.
5. 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.
6. The Licensee shall implement suitable methods required for measuring the volumes of soil and water associated with the project as required under Part J, Item 1 and Part J, Item 6, respectively.
7. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

8. 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.
9. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to the Plans are to be submitted in the form of an Addendum to be included with the Annual Report required by Part B, Item 1, complete with a revisions list detailing where significant content changes are made.
10. 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](mailto: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
11. The Licensee shall submit one (1) 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.
12. 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.
13. This Licence is assignable as provided for in Section 44 of the Act.
14. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

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

1.     The Licensee is authorized to use up to five (5) cubic metres of Water annually for monitoring and related purposes.
2.     The use of Water from streams or any Water bodies not identified in Part C, Item 1, is prohibited unless authorized and approved by the Board in writing.
3.     The Licensee shall not remove any material from below the ordinary High Water Mark of any water body unless authorized.
4.     The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
5.     The Licensee shall implement and maintain sediment and erosion control measures prior to and during the operation to prevent entry of sediment and/or dust into Water.

**PART D:      CONDITIONS APPLYING TO WASTE AND WASTE MANAGEMENT**

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 treat Type B soil contained in the Landfarm Facility to meet relevant Treatment Objective, or as otherwise approved by the Board in writing.
4.     The Licensee shall maintain the Landfarm to the satisfaction of the Inspector.
5.     The Licensee shall provide at least ten (10) days' written notice to the Inspector and the Board prior to any planned discharges from the Landfarm Facility. The notice shall include the estimated discharge volume, Effluent quality or results of monitoring under Part D, Item 6, and the proposed location for the discharge.

6. All Effluent discharged from the sump of the Landfarm Facility, at monitoring station RLF-1, shall not exceed the following Effluent quality limits:

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

7. If Effluent from RLF-1 does not meet the Effluent quality limits in Part D, Item 6, it shall be treated to meet such limits, or 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 the Effluent described in Part D, Item 6 shall be situated at a minimum of thirty-one (31) metres from the ordinary High Water Mark of any water body and where direct or indirect flow into a water body is not possible and no additional impacts are created.
9. The Licensee shall dispose of soils containing contaminants in excess of the Treatment Objectives, off site at an approved treatment facility or as otherwise approved by the Board in writing.
10. Licensee shall treat all Petroleum Hydrocarbon Contaminated (PHC) soil associated with the Project at the Landfarm Facility operated by the Licensee. The contaminated soil must be treated to meet appropriate Treatment Objective.
11. The Licensee shall, 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 all legislatively-required treatment objectives.

## **PART E: CONDITIONS APPLYING TO OPERATIONS**

1. The Licensee shall implement the Plan entitled *Resolute Bay, Land Farm Operation and Maintenance Plan*, dated January 2012 that was originally approved by the Board.
2. The Licensee shall, within six (6) months of issuance of this Licence submit to the Board for approval a Landfarm Integrity Assessment and Improvement Report to assess and propose engineering options for improving the berms and prevent accumulated surface water from overflowing or blowing over the berm of Landfarm Facility.

3. The Licensee shall implement appropriate measures prior to, during, and following excavation of soil from the Landfarm Facility, to prevent or minimize impact to water.
4. The Licensee shall not mix or blend PHC contaminated soils with non-contaminated soils for the expressed purpose of achieving the Treatment Objective.
5. The Licensee shall implement proper handling, storage and transportation procedures for the management of hazardous materials during execution of the Project.
6. 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. Drilling is not authorized under this Licence

**PART G: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION**

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 *Resolute Bay Land Farm Treatment Facility, Spill Contingency Plan*, dated January 2012 that was originally approved by the Board.
2. The Licensee shall update and submit for the NWB's review within the next Annual Report the Plan as referred to in Part H, Item 1, addressing the following issues:
  - a. To include updated project details, names of important entities such as CIRNA;
  - b. To update the effective date of the project to reflect the term of the Licence.
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 carryout 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 NWT/NU 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 ABANDONEMENT AND RESTORATION**

1. The Licensee shall implement the Plan entitled *Stand Alone Abandonment and Restoration Plan, Resolute Bay Airport Land Farm, Nunavut*, dated January 2012 that was originally approved by the Board.
2. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
3. 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.

4. The Licensee shall notify the Board of its intention to proceed with final abandonment of undertaking at least six (6) months prior to the planned dates of closure.
5. The Licensee shall backfill and restore, all temporary containment sumps, to the preexisting natural contours of the land.
6. Areas that have been contaminated by hydrocarbons shall be reclaimed to meet objectives as outlined in the Government of Nunavut's *Environmental Guideline for Site Remediation, January 2009* (Revised March 2009). The use of reclaimed soils for the purpose of backfill or general site grading may be carried out only upon consultation with and approval by the Government of Nunavut – Department of Environment and an Inspector.
7. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work, and restored as practically as possible to a pre-disturbed state

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

1. The Licensee shall measure and record the volume of all soil deposited and/or removed from the Landfarm Facility.
2. The Licensee shall maintain the Monitoring Program Stations, and conduct sampling and analysis requirements as described below:

<b>Monitoring Station ID</b>	<b>Description</b>	<b>Frequency</b>	<b>Parameters</b>
RLF-1	Discharge from Landfarm Facility Sump	Prior to discharge	(Volume) Quality in accordance to Parameters in Part D, Item 6 )
SW-1	South (down gradient) of LTU 1	Twice/year (After Freshet and the end of treatment season) and runoff water is observed	(Quality) in accordance with Part J, Item 9
SW-2	North of LTU 1	Twice/year (After Freshet and the end of treatment season) and runoff water is observed	(Quality) in accordance with Part J, Item 9
SW-3	West of LTU 2	Twice/year (After Freshet and the end of treatment season)	(Quality) in accordance with Part J, Item 9

		and runoff water is observed	
SW-4	South (down gradient) of LTU 2	Twice/year (After Freshet and the end of treatment season) and runoff water is observed	(Quality) in accordance with Part J, Item 9

3. 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.
4. The Licensee shall confirm the locations and GPS coordinates for all Monitoring Program Stations referred to in Part J, Item 2 with an Inspector.
5. 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 and/or removed from the Landfarm Facility.
6. The Licensee shall measure and record the volume of water used for all purposes under this licence.
7. The Licensee shall sample and record the volume of all Effluent discharged from the Landfarm Facility at Monitoring Program Station RLF-1.
8. The Licensee shall sample prior to discharge at Monitoring Program Station RLF-1, to confirm compliance with the Effluent quality limits under Part D, Item 6.
9. The Licensee shall sample Monitoring Stations RLF-1, SW-1, SW-2, SW-3 and SW-4 in accordance with frequencies included under Part J, Item 2, giving consideration to adequate ground thaw and obtaining a representative surface runoff water sample. Samples shall be analyzed for the following parameters:

Total Suspended Solids	pH
Total Hardness	Total Alkalinity
Conductivity	Nitrate-Nitrite
Ammonia Nitrogen	Chloride
Oil and Grease	Total Phenols
Calcium	Magnesium
Sodium	Potassium
Chloride	Sulphate
Total Aluminum	Total Arsenic
Total Cadmium	Total Cobalt
Total Copper	Total Iron
Total Lead	Total Molybdenum
Total Nickel	Total Selenium

Total Silver

Total Titanium

Total Zinc

Total Extractable Hydrocarbons (TEH)

Polycyclic Aromatic Hydrocarbons (PAH)

Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

10. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
11. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
12. The Licensee shall implement the Quality Assurance and Quality Control Plan for Resolute Bay Landfarm Facility, Transport Canada, dated January 2016, as accepted by the Board.
13. Additional monitoring requirements may be requested by the 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.
15. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.

## **TABLES**

Table 1 Remediation Requirements

	<b>Soil Texture</b>	<b>Agricultural Land Use</b>	<b>Residential or Parkland Land Use</b>	<b>Commercial Land Use</b>	<b>Industrial Land Use</b>
<b>Fraction 1</b>	Fine	210 (170 <sup>a</sup> )	210 (170 <sup>a</sup> )	320 (170 <sup>a</sup> )	320 (170 <sup>a</sup> )
	Coarse	30 <sup>b</sup>	30 <sup>b</sup>	320 (240 <sup>a</sup> )	320 (240 <sup>a</sup> )
<b>Fraction 2</b>	Fine	150	150	260 (230 <sup>a</sup> )	260 (230 <sup>a</sup> )
	Coarse	150	150	260	260
<b>Fraction 3</b>	Fine	1300	1300	2500	2500
	Coarse	300	300	1700	1700
<b>Fraction 4</b>	Fine	5600	5600	6600	6600
	Coarse	2800	2800	3300	3300
<b>Benzene</b>	Fine	0.0068	0.0068	0.0068	0.0068
	Coarse	0.03	0.03	0.03	0.03
<b>Toluene</b>	Fine	0.08	0.08	0.08	0.08
	Coarse	0.37	0.37	0.37	0.37
<b>Ethylbenzene</b>	Fine	0.018	0.018	0.018	0.018
	Coarse	0.082	0.082	0.082	0.082
<b>Xylene</b>	Fine	2.4	2.4	2.4	2.4
	Coarse	11	11	11	11
<b>Lead</b>	Fine	70	140	260	600
	Coarse				
<b>Polychlorinated Biphenyls</b>	Fine	0.5	1.3	33	33
	Coarse				

Notes: All values are in parts per million (ppm)

a = Where applicable, for protection of potable groundwater

b = Assumes contamination near residence

Data from 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).