



Sincerely,

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Lootie Toomasie  
Nunavut Water Board  
Chair

LT/ak/rqd

Enclosure: Licence No. **1BR-FTA1828**

Cc: Kitikmeot Region Distribution List

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## DECISION

### LICENCE No. 1BR-FTA1828

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated September 7, 2017 for the renewal of a Water Licence made by:

#### TRANSPORT CANADA, PROGRAMS – CONTAMINATED SITES

to allow for the deposit of waste during the remediation activities at the Cambridge Bay Airport – Firefighter Training and Apron Areas Remediation, in the Kitikmeot Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 69° 06' 40" N

Longitude: 105° 09' 40" W

### **DECISION**

After having been satisfied that the Application is for a project proposal that falls outside of an area with an approved land use plan in place, and, as such, a conformity determination not required as determined by the Nunavut Planning Commission (NPC)<sup>1</sup> and that a review of the Project is not required pursuant to paragraph s. 92(1)(a) of the Nunavut Planning and Project Assessment Act (*NuPPAA*) as determined by the Nunavut Impact Review Board (NIRB)<sup>2</sup>, 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* or *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 Number 1BR-FTA1217 be renewed as Licence No. 1BR-FTA1828 subject to the terms and conditions contained therein (Motion #: 2018-B1-008).**

SIGNED this 17<sup>th</sup> day of May, 2018 at Gjoa Haven, NU.

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Lootie Toomasie  
Nunavut Water Board Chair  
LT/ak/rqd

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<sup>1</sup> Nunavut Planning Commission, Conformity Determination 148628, September 5, 2017.

<sup>2</sup> Nunavut Impact Review Board (NIRB) Screening Decision Report 12XN023, July 12, 2012.

## INTRODUCTION

Transport Canada was in charge of the Cambridge Bay airport until 1995 when the airport was transferred under the management of the Government of Northwest Territories. In 1999, the airport became the property of the Government of Nunavut.

Prior to the transfer of ownership, firefighting training activities were held at the airport's dedicated Fire Training Area (FTA). As a result of training activities, the FTA is of potential environmental concern, as the soil in the area is contaminated with petroleum hydrocarbons. The consultant retained by Transport Canada advised soil treatment through landfarming as the most reasonable option. In 2013-2014, a landfarm consisting of two land treatment units (LTUs) was constructed. The LTUs are lined with a 60-mm HDPE geomembrane. In total, 7,800 m<sup>3</sup> of soil were placed into the LTUs. Both are sloped to allow runoff and leachate to collect in the sumps. Re-circulating the collected runoff and leachate over the landfarm is currently the most suitable approach.

The soil in the landfarm is contaminated with petroleum hydrocarbons (PHC) and poly- and perfluoroalkyl substances (PFAS), and there exists no suitable technology for remediation of PFAS-contaminated soil. Therefore, Transport Canada plans to manage the landfarm until such time that remediation work can be done. Planned decommissioning activities include removing the geomembrane liner, filling both LTUs with the treated soil, and disposing the liner at a designated facility.

Transport Canada applied to renew NWB Licence No: 1BR-FTA1217 proposing a ten-year term in order to continue landfarm management.

## I. PROCEDURAL HISTORY

On July 25, 2012, the Nunavut Water Board issued a type "B" Water Licence 1BR-FTA1217 to Transport Canada, Programs – Contaminated Sites to allow for the disposal of waste during the remediation activities at the Cambridge Bay Airport – Firefighter Training and Apron Areas Remediation Project located at Cambridge Bay within the Kitikmeot Region, Nunavut. The Licence expired on October 31, 2017.

On September 7, 2017, a renewal application (the Application) for a type "B" Water Licence was filed with the NWB by Transport Canada.

### A. Requirements of the NWNSRTA and the Nunavut Agreement

On September 5, 2017, the Nunavut Planning Commission (NPC) issued correspondence<sup>3</sup> indicating that the Application is for a project proposal that falls outside the area of an applicable Regional Land Use Plan. In addition, NPC indicated that no screening by the Nunavut Impact Review Board (NIRB) is required, as the scope of the project proposal did not change. Therefore, the previous NIRB screening decision<sup>4</sup> determining that, according to s.

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<sup>3</sup> Nunavut Planning Commission, Conformity Determination 148628, September 5, 2017.

<sup>4</sup> Nunavut Impact Review Board (NIRB) Screening Decision Report 12XN023, July 12, 2012.

12.4.4 (a) of the Nunavut Agreement, the project proposal is exempt from review remains valid. Therefore, NWB initiated the licensing process.

On September 11, 2017, the NWB distributed the Application to interested parties for review. During the review period, comments were provided by Indigenous and Northern Affairs Canada (INAC)<sup>5</sup>. Comments provided by INAC included a request for a clarification on management plans and exceedances in PFAS (in sump water) and PHC (in landfarm soil).

Transport Canada provided the following in support of the Application for a renewal water licence:

- NWB Application for Water Licence Renewal, dated September 6, 2017;
- Executive Summaries in English and Inuktitut, both dated September 6, 2017.

In addition, NWB considered the following documentation previously filed by the Applicant:

- Stand Alone Abandonment and Restoration Plan, dated March, 2012;
- Cambridge Bay Land Treatment Unit Spill Contingency Plan, dated March, 2012;
- Excerpts from the Quality Assurance and Quality Control Methodology for FTA and Apron areas, dated July 13, 2017;
- Maxxam Analytics approval letters for quality control methodology for FTA and Apron areas, dated July 20, 2017;
- Runoff Diversion and Management and Dust Management plan, dated November, 2017;
- Landfarm Operation and Maintenance Plan, dated May 29, 2014.

## **II. GENERAL CONSIDERATIONS**

Transport Canada plans to continue managing the Landfarm until a suitable method for PFAS-contaminated soil is found and the petroleum hydrocarbon contamination levels in soil and groundwater are in compliance with the existing legislation.

Water use is not authorized under the original Licence. This condition will be maintained in the renewal licence, as the Applicant indicated that no modifications would take place that would trigger a water requirement. With respect to waste, the original volume of remediation soil of 11,700 m<sup>3</sup> appeared to be an overestimation. The actual volume of soil placed in both LTUs is approximately 7,800 m<sup>3</sup>. Although the Applicant indicated that no waste was planned to be generated, upon closer examination, it can be found that the geomembrane lining the Landfarm, ought to be disposed of. The Applicant confirmed that, once the location is ready for decommissioning, the waste would be disposed of at an approved facility<sup>6</sup>.

The following is a summary of the methods integral to Landfarm management:

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<sup>5</sup> INAC, Water Resources Division, Re: Indigenous and Northern Affairs Canada's (INAC) Review of Transport Canada's Water Licence #1BR-FTA1217 – Firefighting Training and Apron Areas Remediation Project at the Cambridge Bay Airport, October 11, 2017.

<sup>6</sup> Letter to Assol Kubeisinova, NWB, Re: 1BR-FTA assistance from Jackie Barker, Transport Canada, dated April 5, 2018.

- Treated soils from the Landfarm will be tested and, if compliant to the quality limits set out in the Licence, used as backfill;
- Sump water will be tested and, if found compliant to the quality limits set out in the Licence, discharged to the ground.

As discussed above, there is no method for PFAS-contaminated soil remediation available to Transport Canada at present time. Therefore, it is unlikely that the quality of sump water will satisfy the requirements and be discharged to the ground.

On the basis of the Application, the written materials filed with the Board, and submissions of the parties, the Board has decided to issue a new Type “B” Water Licence No. 1BR-FTA1828 (the Licence) subject to the terms and conditions set out below. The Licence authorizes Transport Canada’s continued deposit of waste for an Industrial Undertaking as defined under Schedule 1 of the Nunavut Waters Regulations, and also contains terms and conditions necessary to protect the environment and provide appropriate safeguards in respect of the deposit of waste in accordance with the Application.

## **A. Scope, Definitions and Enforcement**

### Scope

The Licence allows for the deposit of Waste in support of an Industrial Undertaking.

### Definitions

Several definitions were added to the list of definitions for the Licence to reflect the actual status of the Landfarm.

### Enforcement

To ensure that Licensee complies with the terms and conditions of the Licence, inspectors, designated and empowered by the Minister of Crown-Indigenous Relations and Northern Affairs Canada may inspect or examine works, activities, and undertakings associated with the use of waters and/or the deposit of waste for the purposes of exercising their powers in accordance with the *NWNSRTA*.<sup>7</sup>

### Compliance

Transport Canada should note that compliance with the terms and conditions of this Licence does not necessarily absolve the Licensee from the responsibility to comply with all other applicable legislation, guidelines, and directives.

## **B. General Conditions**

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<sup>7</sup> Sections 85-88 of the *NWNSRTA*.

Part B of the Licence addresses the general terms and conditions that apply to the undertaking, such as annual report submission, protocols for handling documents related to the Licence, posting of signage at sites associated with the undertaking, and more.

**C. Conditions Applying to Security**

No security posting is required, as the Licensee is a government entity.

**D. Conditions Applying to Water Use**

No water use is authorized under this Licence.

**E. Conditions Applying to Waste and Waste Management**

Solid waste produced as a result of the operation of the Landfarm is the geomembrane lining the Landfarm. The Applicant stated that the geomembrane shall be disposed of at an approved facility as part of decommissioning activities.

As for liquid waste, the Applicant indicated that if the effluent is required to be discharged, it must first meet the discharge limits within the *Canadian Council of Ministers of Environment (CCME) Water Quality Guidelines for the Protection of Aquatic Life (Freshwater)*. The Board considered the Applicant's request and the fact that the *Federal Guidelines for Landfarming – Petroleum Hydrocarbon Contaminated Soils* recommend that leachate quality shall be in accordance with *CCME Water Quality Guidelines for the Protection of Aquatic Life* if it is discharged onto federal lands or in accordance with the appropriate provincial guidelines. The Board is also of understanding that the *Government of Nunavut Environmental Guideline for Site Remediation* does not set quality limits for leachate discharge. Consequently, the Board is inclined to grant the Applicant its request. In addition, monitoring shows that there are poly- and perfluoroalkyl substances (PFAS) present in soil and leachate. In Canada, comprehensive guidelines regulating PFAS levels in non-drinking water are non-existent. Therefore, NWB can only lean on the *ECCC Draft Federal Environmental Quality Guidelines for Perfluorooctane Sulfonate (PFOS)* to set a limit.

The Board has approved the Plan entitled “*Landfarm Operation and Maintenance Plan*”, dated May 29, 2014, as well as the supplemental “*Runoff Diversion and Management and Dust Management*” plan, submitted on November 2, 2017 to address the missing information from the “*Landfarm Operation and Maintenance Plan*”. The Licensee shall submit within ninety (90) days from the date of issuance of this Licence, an updated version of the Landfarm Operation and Maintenance Plan that includes:

- a. recirculation of leachate over the appropriate LTU;
- b. regular inspections of Landfarm infrastructure to ensure its integrity and a position responsible for Landfarm infrastructure integrity; and
- c. a procedure for plugging and abandonment of groundwater monitoring wells according to the *Yukon Government Environment Act - Contaminated Sites Regulation - Protocol No. 7 - Groundwater Monitoring Well Installation, Sampling and Decommissioning*.

**F. Conditions Applying to Modifications and Construction**

The Applicant is required to obtain permission from the NWB for modifications that do not



meet the definition of modifications or the criteria of Part F, Item 1 of the Licence. Without written consent from the NWB, the Licensee is not allowed to carry out any modifications. Changes that do not meet the definition of modification under the Licence or the requirements of Part F may be considered amendments to the Licence.

#### **G. Conditions Applying to Drilling**

No drilling is authorized under this Licence.

#### **H. Conditions Applying to Spill Contingency Planning**

The Board has approved the Plan entitled “Spill Contingency Plan”, dated March 2012 that was submitted as additional information with the Application for the original Licence. The Licensee shall submit for review of the Board, within sixty (60) days from the date of issuance of this Licence, an updated version of the Plan, to include the following:

- a. NT-NU spill report;
- b. contour location map;
- c. engineering drawing of the site in its present state.

#### **I. Conditions Applying to Abandonment and Restoration**

The Licensee shall implement the Plan entitled “Stand Alone Abandonment and Restoration Plan Cambridge Bay Airport Land Treatment Unit (LTU), Nunavut” dated March 2012 that was previously approved by the Board. The Licensee shall submit within ninety (90) days from the date of issuance of this Licence, an updated version of the Plan that includes:

- a. a new projected finish date;
- b. sufficient additional information to reflect the current situation at the site;
- c. a procedure for plugging and abandonment of groundwater monitoring wells according to the *Yukon Government Environment Act - Contaminated Sites Regulation - Protocol No. 7 - Groundwater Monitoring Well Installation, Sampling and Decommissioning*;
- d. a map indicating the Landfarm location and surrounding infrastructure;
- e. a schedule for carrying out the Plan.

#### **J. Conditions Applying to Monitoring**

With respect to the monitoring requirements under the Licence, the NWB’s jurisdiction is very broad and the NWB may include conditions in the licence related to monitoring programs to be undertaken.<sup>8</sup>

NWB identified a number of Monitoring Program Stations that already exist at the Landfarm. Nine (9) of these stations are groundwater wells designated for monitoring the Apron LTU and excavation area. Eleven (11) stations are groundwater wells designated for monitoring the FTA LTU and excavation area. In addition, two monitoring stations are located at effluent discharge points for both LTUs. The Licensee is required to sample groundwater in the wells annually. In addition, effluent shall be sampled prior to every discharge. All effluent discharged from the Landfarm shall not exceed the *CCME Water Quality Guidelines for the Protection of Aquatic*

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<sup>8</sup> See s. 70(1)(c) of the NWNSTRA.

*Life (Freshwater) and ECCC Draft Federal Environmental Quality Guidelines for Perfluorooctane Sulfonate (PFOS).*

The Licensee is also required to sample soil in both LTUs twice per year, until analytical results are below acceptable levels as determined under the *CCME Canada-Wide Standard for Petroleum Hydrocarbons in Soil (PHC CWS)*, Tier 1, coarse-grained soil, Industrial site and the *Government of Nunavut Environmental Guideline for Contaminated Site Remediation*.



# NUNAVUT WATER BOARD WATER LICENCE

Licence No. 1BR-FTA1828

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, PROGRAMS – CONTAMINATED SITES**

(Licensee)

344 EDMONTON STREET, WINNIPEG, MANITOBA

(Mailing Address)

Herein after 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-FTA1828 TYPE “B”

Water Management Area: SOUTHERN VICTORIA ISLAND WATERSHED (38)

Location: MUNICIPALITY OF CAMBRIDGE BAY / KITIKMEOT REGION, NUNAVUT

Classification: INDUSTRIAL

Purpose: DEPOSIT OF WASTE

Quantity of Water use not to Exceed: USE OF WATER IS NOT AUTHORIZED

Date of Amendment Issuance: MAY 17, 2018

Expiry of Licence: MAY 16, 2028

This Licence renewal, 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**

1. This Licence allows for the deposit of Waste for an undertaking classified as “Industrial” as per Schedule I of the *Regulations*, at the Cambridge Bay Airport – Firefighter Training and Apron Areas Remediation Project, located in an industrial area within the Municipality of Cambridge Bay, Kitikmeot Region, Nunavut, generally located at:

Latitude: 69° 06’ 40” N      Longitude: 105° 09’ 40” W

2. This Licence is issued subject to conditions contained herein with respect to 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 Act, or other statutes imposing more stringent conditions relating to the quantity, type or manner under which any such Waste may be so deposited, this Licence shall be deemed to be subject to such requirements; and
3. Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with all applicable legislation, guidelines, and directives.

### **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;

“**Apron Land Treatment Unit**” or “**Apron LTU**” is the part of the Landfarm originally constructed to contain and remediate the hydrocarbon-impacted soil excavated from the Apron area of the Cambridge Bay Airport;

“**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 or a treatment facility;

**“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;

**“FTA Land Treatment Unit” or “FTA LTU”** is the part of the Landfarm originally constructed to contain and remediate the hydrocarbon-impacted soil excavated from the FTA area of the Cambridge Bay Airport;

**“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*;

**“Landfarm”** comprises the area and associated infrastructure, including the soil disposal cell and water retention cell, designed to contain and remediate hydrocarbon-impacted soils as described in the application for the water licence received by the Board on September 6, 2017 and as illustrated in drawing no. 22101988-MM-RF-0 signed and stamped by EBA Engineering Consultants Ltd. The Landfarm consists of Apron and FTA Land Treatment Units.

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

**“Minister”** means the Minister of Crown-Indigenous Relations and Northern Affairs Canada (CIRNA);

**“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;

**“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 Landfarm, which is based on the Canadian Council of Ministers of the Environment (CCME) *Canada – Wide Standard for Petroleum Hydrocarbon in Soil*; and as determined by the Government of Nunavut, Environmental Protection Service based on the *Environmental Guideline for Site Remediation*; refer to Table 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.

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

### **3. ENFORCEMENT**

1. Failure to comply with this Licence shall be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*.
2. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*.
3. For the purpose of enforcing the terms and conditions of this Licence with respect to the use of Water and deposit or Discharge of Waste in Waters, Inspectors appointed under the *Act*, hold all powers, privileges, and protections that are conferred upon them by the *Act* or by other applicable laws.

### **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 of all waste disposal activities, including:
    - i. quantity and quality of effluent discharged from Landfarm; and
    - ii. 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 Operation and Maintenance Plan as required by [Part B, Item 5](#), submitted in the form of an Addendum;
  - d. A 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, an analysis and interpretation of the results, and any follow-up measures that may be required; and
  - f. Any other details on 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 install flowmeters or other such devices, or implement suitable methods to the satisfaction of the Inspector for the measuring of Effluent volumes discharged into the receiving environment at Monitoring Program Stations S-1 and S-2 as set out in [Part J, Item 1](#).
4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Submitted plans 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.
5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
6. The Licensee shall post signs in the appropriate areas to identify the stations of the Monitoring Program and to inform the public of the location of the Landfarm. All signage postings shall be in the Official Languages of Nunavut.
7. 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.
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 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:**

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

10. The Licensee shall submit one electronic copy of all reports, studies, and plans to the Board. If possible, the submission shall be done via email to the NWB Manager of Licensing. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuinnaqtun and Inuktitut.
11. 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.
12. This Licence is assignable as provided for in Section 44 of the *Act*.
13. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.
14. Unless otherwise stated, references in the Licence to any specific legislation, policy, guideline or other regulatory requirement is deemed to refer to the regulatory requirement as may be amended or as may be expressly replaced by successor legislation, policy, guidelines or other regulatory requirements after the Licence is approved by the Minister.

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

1. The Licensee is not required to post reclamation security for the activities, works, and



undertakings authorized under this Licence.

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

1. Water use is not authorized under this Licence.
2. The Licensee shall not remove any material from below the ordinary High Water Mark of any water body unless authorized.
3. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
4. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.

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

1. The Licensee shall treat, to the Treatment Objective, Type B Soil in the Landfarm, or as otherwise approved by the Board.
2. The Licensee shall maintain the Landfarm to the satisfaction of the Inspector.
3. The Licensee shall provide at least ten (10) days written notice to the Inspector prior to any planned discharges from the Landfarm. The notice shall include the estimated discharge volume, Effluent quality under Part J, Item 7, a statement on Effluent's compliance to the requirements set out in [Part E, Item 5](#), and the proposed location for the discharge.
4. The Licensee shall implement appropriate measures to minimize erosion during any discharge of Effluent into the receiving environment.
5. All Effluent discharged from the Landfarm at Monitoring Program Stations S-1 and S-2 shall not exceed the *CCME Water Quality Guidelines for the Protection of Aquatic Life (Freshwater)* and *ECCC Draft Federal Environmental Quality Guidelines for Perfluorooctane Sulfonate (PFOS)*.

| 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  |
| Zinc             | 500   |

|                           |     |
|---------------------------|-----|
| Perfluorooctane sulfonate | 6.8 |
|---------------------------|-----|

6. If Effluent does not meet the Effluent quality limits in [Part E, Item 5](#), it shall be treated until it meets the above-referenced 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.
7. The discharge location for all Effluent shall be located 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.
8. 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.
9. 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.
10. The Licensee shall not mix or blend soils for the expressed purpose of attaining the specific limits of the relevant quality criteria.
11. The Licensee shall provide the Board with documented authorization from any community in Nunavut receiving waste related to the activities authorized under this Licence.
12. The Licensee shall implement the Plan entitled “Landfarm Operation and Maintenance Plan”, dated May 29, 2014, as well as the supplemental Plan entitled “Runoff Diversion and Management and Dust Management Plan”, dated November 2017, as approved by the Board. The Licensee shall submit within ninety (90) days from the date of issuance of this Licence, an updated version of Landfarm Operation and Maintenance Plan.

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

1. The Licensee may, without written consent from the Board, carry out Modifications to the Landfarm 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 are consistent with the NPC Land Use Planning Conformity Determination and the NIRB Screening Decision;
  - c. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;

- 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 F, 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 Modifications. These plans and drawings shall be stamped by an Engineer.

**PART G: CONDITIONS APPLYING TO DRILLING**

- 1. Drilling is not authorized under this Licence.

**PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING**

- 1. The Licensee shall implement the Plan entitled “Spill Contingency Plan”, dated March 2012 that was previously approved by the Board and submitted as additional information with the Application.
- 2. The Licensee shall submit for review of the Board, within sixty (60) days from the date of issuance of this Licence, an updated version of the Plan referred to in [Part H, Item 1](#).
- 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. 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 and to the Board, 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.
- 5. The Licensee shall provide secondary containment for fuel, chemical and contaminated water storage as required by applicable standards and acceptable industry practice.

## **PART I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Licensee shall implement the Plan entitled “Stand Alone Abandonment and Restoration Plan Cambridge Bay Airport Land Treatment Unit (LTU), Nunavut” dated March 2012 that was previously approved by the Board and submitted as additional information. The Licensee shall submit within ninety (90) days from the date of issuance of this Licence, an updated version of the Plan.
2. The Licensee shall annually review the approved Plan in [Part I, Item 1](#) and modify the Plan as necessary to reflect changes in personnel, operations and/or technology. Any proposed modifications to the Plan shall be submitted to the Board for approval in writing.
3. The Licensee shall carry out progressive reclamation for any components of the project no longer required for the Licensee’s operations.
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 pre-existing natural contours of the land.
6. 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**

1. The Licensee shall maintain, at a minimum, the following existing Monitoring Program Stations or as otherwise approved by the Board in writing:

| <b>Monitoring Program Station</b> | <b>Description</b>                                   | <b>Frequency</b>             | <b>Parameters</b>   |
|-----------------------------------|--|------------------------------|---|
| S-1                               | Effluent discharged from the Landfarm (FTA LTU)      | Prior to discharge           | Volume in accordance with <a href="#">Part B Item 3</a><br>Quality in accordance with <a href="#">Part J Item 7</a> |
| S-2                               | Effluent discharged from the Landfarm (Apron LTU)    | Prior to discharge           | Volume in accordance with <a href="#">Part B Item 3</a><br>Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-1                            | Monitoring well at the western boundary of Apron LTU | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a>  |
| MW13-2                            | Monitoring well                                      | Once during late             | Quality in accordance   |

|        |  |                              |  |
|--------|--|------------------------------|--|
|        | up-gradient of the Apron LTU                                   | summer-fall                  | with <a href="#">Part J Item 7</a>                       |
| MW13-3 | Monitoring well at the eastern boundary of Apron LTU           | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-4 | Monitoring well down-gradient of the Apron LTU                 | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-5 | Monitoring well down-gradient of the Apron LTU                 | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-6 | Monitoring well up-gradient of the Apron excavation area       | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-7 | Monitoring well down-gradient of the Apron excavation area     | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-8 | Monitoring well up-gradient of the Apron excavation area       | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW13-9 | Monitoring well down-gradient of the Apron excavation area     | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-1 | Monitoring well at the western boundary of the FTA LTU         | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-2 | Monitoring well up-gradient of the Landfarm                    | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-3 | Monitoring well at the eastern boundary of the FTA LTU         | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-4 | Monitoring well up-gradient of the FTA excavation area         | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-5 | Monitoring well within the boundary of the FTA excavation area | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-6 | Monitoring well within the boundary of the FTA excavation area | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-7 | Monitoring well down-gradient of the FTA excavation area       | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-8 | Monitoring well down-gradient of the FTA excavation area       | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-9 | Monitoring well within the boundary of the FTA excavation area | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |

|         |  |                              |  |
|---------|--|------------------------------|--|
| MW15-10 | Monitoring well within the boundary of the FTA excavation area | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |
| MW15-11 | Monitoring well within the boundary of the FTA excavation area | Once during late summer-fall | Quality in accordance with <a href="#">Part J Item 7</a> |

2. The Licensee shall sample soil being treated in the Landfarm twice per year, in the spring-summer following thaw and prior to freeze-up in the fall, for the period of active land treatment to monitor contaminant levels until analytical results are below acceptable levels as determined under the *CCME Canada-Wide Standard for Petroleum Hydrocarbons in Soil (PHC CWS), Tier 1, coarse-grained soil, Industrial site* and the *Government of Nunavut Environmental Guideline for Contaminated Site Remediation*, refer to Table 1 in this Licence. The Licensee shall take at least six (6) representative samples of soil from the Apron LTU and at least six (6) representative samples of soil from the FTA LTU.
3. The Licensee shall confirm the locations and GPS coordinates for all Monitoring Program Stations referred to in [Part J, Item 1](#) with an Inspector.
4. The Licensee shall measure and record the volume of all soil from all locations entering the Landfarm.
5. The Licensee shall record the volume of all Effluent discharged from the Landfarm at Monitoring Program Stations S-1 and S-2.
6. The Licensee shall sample prior to discharge at Monitoring Program Stations S-1 and S-2, to verify compliance with the Effluent quality limits under [Part E, Item 5](#)
7. The Licensee shall sample at Monitoring Program Stations listed in [Part J, Item 1](#). 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 Aluminium        | 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)  
Per- and Polyfluoroalkyl Substances (PFAS)  
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

8. 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.
9. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
10. The Licensee shall implement the Quality Assurance and Quality Control Methodology for FTA and Apron areas, dated July 13, 2017, as accepted by the Board.
11. Additional monitoring requirements may be requested by the Inspector.
12. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.
13. 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**

|                           | Soil Texture | Agricultural Land Use   | Residential/Parkland Land Use | Commercial Land Use     | Industrial Land Use     |
|---------------------------|--------------|-------------------------|-------------------------------|-------------------------|-------------------------|
| Fraction 1                | 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> ) |
| Fraction 2                | Fine         | 150                     | 150                           | 260 (230 <sup>a</sup> ) | 260 (230 <sup>a</sup> ) |
|                           | Coarse       | 150                     | 150                           | 260                     | 260                     |
| Fraction 3                | Fine         | 1300                    | 1300                          | 2500                    | 2500                    |
|                           | Coarse       | 300                     | 300                           | 1700                    | 1700                    |
| Fraction 4                | Fine         | 5600                    | 5600                          | 6600                    | 6600                    |
|                           | Coarse       | 2800                    | 2800                          | 3300                    | 3300                    |
| Benzene                   | Fine         | 0.0068                  | 0.0068                        | 0.0068                  | 0.0068                  |
|                           | Coarse       | 0.03                    | 0.03                          | 0.03                    | 0.03                    |
| Toluene                   | Fine         | 0.08                    | 0.08                          | 0.08                    | 0.08                    |
|                           | Coarse       | 0.37                    | 0.37                          | 0.37                    | 0.37                    |
| Ethylbenzene              | Fine         | 0.018                   | 0.018                         | 0.018                   | 0.018                   |
|                           | Coarse       | 0.082                   | 0.082                         | 0.082                   | 0.082                   |
| Xylene                    | Fine         | 2.4                     | 2.4                           | 2.4                     | 2.4                     |
|                           | Coarse       | 11                      | 11                            | 11                      | 11                      |
| Lead                      | Fine         | 70                      | 140                           | 260                     | 600                     |
|                           | Coarse       |                         |                               |                         |                         |
| Polychlorinated biphenyls | 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).