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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

File No: **3BM-PON2025**

June 10, 2019

David Stockley, CAO  
Municipality of Pond Inlet  
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**RE: NWB Replacement Water Licence No: 3BM-PON2025**

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Dear Mr. Stockley and Mr. Roy:

Please find attached Water Licence No: **3BM-PON2025** issued to the Hamlet of Pond Inlet 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 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 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'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 its technical staff and interested parties 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/dd/rqd

Enclosure: Licence No: 3BM-PON2025  
Comments – CIRNA, ECCC

Cc: Qikiqtani Distribution List

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<sup>1</sup> Environment and Climate Change Canada (ECCC), April 14, 2020; Crown Indigenous Relations and Northern Affairs (CIRNA), April 17, 2020. April 17, 2020.

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## DECISION

### LICENCE NUMBER: 3BM-PON2025

This is the decision of the Nunavut Water Board (NWB) with respect to a complete application received March 11, 2020, for a renewal of a Water Licence made by the:

#### HAMLET OF POND INLET

to allow for the use of water and deposit of waste during municipal activities at the Hamlet of Pond Inlet located within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 72° 41' 57" N      Longitude 77° 57' 33" W

## DECISION

After having been satisfied that the application conforms to the North Baffin Regional Land Use Plan as determined by the Nunavut Planning Commission (NPC)<sup>1</sup>, and exempt from the requirement for screening by the Nunavut Impact Review Board (NIRB) under section 12-1 of the *Nunavut Agreement*<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 (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:

**Replacement Licence No: 3BM-PON2025 be issued subject to the terms and conditions contained therein. (Motion #: 2020-B1-012).**

Signed this 10<sup>th</sup> day of June 2020 at Gjoa Haven, NU.

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Lootie Toomasie  
Nunavut Water Board  
Chair

LT/dd/rqd

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<sup>1</sup> Nunavut Planning Commission (NPC) Conformity Determinations: July 7, 2007; August 5, 2009; June 11, 2015; April 29, 2019.

<sup>2</sup> Nunavut Impact Review Board (NIRB), Exempt from Screening: April 8, 2015.



|                 |                    |                                                                                                                      |
|-----------------|--------------------|----------------------------------------------------------------------------------------------------------------------|
|                 |                    | deposit of Waste.                                                                                                    |
| Amendment No. 1 | September 27, 2007 | Construction and operation of a Landfarm Facility                                                                    |
| 3BM-PON1012     | May 26, 2010       | 67,000 cubic metres of Water annually and the deposit of Waste.                                                      |
| 3BM-PON1520     | June 30, 2015      | 67,000 cubic metres of Water annually prior to 2019, and 75,000 cubic metres in 2019-2020; and the deposit of Waste. |

### III. APPLICATION PROCEDURAL HISTORY

On **March 11, 2020**, the Hamlet of Pond Inlet submitted a renewal water licence application (Application) and pertinent documentation, which included the following:

- Application Cover Letter;
- Executive Summary, English;
- Executive Summary, Inuktitut;
- Application Renewal Form;
- Authorization Letter; and
- Plan for Compliance March 11, 2020.

On **March 16, 2020**, the NWB requested updates to management plans advised the Licensee that management plans previously approved under the Licence were out of date and required additional information to be fully complete and functional. On **March 18, 2020**, the Applicant responded indicating that facilities remain unchanged since the last Licence issuance, and updated management plans would not be part of the application. As the NWB and GN-CGS are in discussion regarding the development of Municipal O&M Plan templates for all applicable facilities in Nunavut communities, and these would be implemented within the 5-year Licence term, the Board decided that the Application could be further processed.

On **March 19, 2019**, the NWB concluded that the Application generally met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRA or Act)* and forwarded notice of the Application to regulators, the council of the municipality most affected by the project, and other interested parties. All parties were invited to make representations to the NWB by April 17, 2020.

On **April 14, 2020**, Environment and Climate Change Canada (ECCC) submitted comments regarding Effluent and leachate quality, monitoring, and updates to management plans. On **April 17, 2020**, Crown-Indigenous Relations and Northern Affairs (CIRNA) submitted comments, regarding effluent and leachate quality, updates to management plans the status of operational facilities. Subsequently, further discussion took place between parties and on, May 8, 2020, the Applicant fully addressed concerns and committed to updating relevant information following the issuance of the Licence.

All information received in support of the Application as well as comments submitted by interested parties can be found on the NWB's FTP site at the following link:

<ftp://ftp.nwb-oen.ca/registry/3%20MUNICIPAL/3B/3BM%20-%20Municipality/3BM-PON1520/2%20ADMIN/3%20SUBMISSIONS/2020/>

Based upon the results of the completed detailed assessment, including consideration of any potential accidents, malfunctions, or cumulative environmental effects that the overall project might have in the area, the Board has approved the application for the renewal of Licence No. 3BM-PON1520 as Licence No: 3BM-PON2025.

#### **IV. GENERAL CONSIDERATIONS**

##### **Compliance and Reporting**

The Board has granted the Applicant with the amended renewal Licence despite the need for the submission of up-to-date management plans for all operational facilities. It is the Board's understanding that Government of Nunavut Community and Government Services (GN-CGS) is currently in the process of developing standardized templates for all facilities for all communities, and that these manuals or plans will be commissioned and implemented before the expiry of this Licence in 2025.

Points identified in previous Inspection reports,<sup>5</sup> outlined a number of issues of non-compliance for the Hamlet of Pond Inlet. In brief and detailed below, the Hamlet of Pond Inlet should address the following in their plan for Licence compliance:

- Improving segregation of hazardous and non-hazardous waste at the Solid Waste Disposal Facilities, including removal and proper storage of hazardous waste drums to a location at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of the nearest water body;
- Report unauthorized discharges of waste to the NWT/NU 24-Hour Spill Line, deploy the Spill Contingency Plan, and submit to the Inspector a detailed report where required;
- Maintain the Sewage Disposal Facility in such a manner as to preserve structural integrity.

The NWB would like to highlight these issues with respect to the *NWNSRTA* in the context of the Licence issued to the Hamlet.

The Licensee submitted as part of its Application, a plan for compliance that highlighted the actions that the Licensee plans to take to address the outstanding issues associated with its Application and/or the undertaking. While the information contained in the plan for compliance helps to provide the NWB with an overview in terms of the Licensee's long-term and short-term goal and objectives in terms of addressing outstanding issues, the information contained in the

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<sup>5</sup> CIRNA Water Licence Inspection Form, Hamlet of Pond Inlet, Joseph Monteith, July 19, 2019, (see also earlier Inspection Reports).

Plan for Compliance is not necessarily absolute or binding. The NWB has, therefore, decided to exclude conditions in this Licence relating to the approval of the Plan for Compliance as was done under the previous Licence. The Licensee is also advised to follow Inspector recommendations and address operational issues raised by the Inspector.

### **Term of the Licence**

In accordance with S. 45 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWSRTA or the Act), the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining an appropriate term of a water licence, the Board considers a number of factors, including the results of CIRNA's annual site inspection and the compliance record of the Applicant. The Licensee has requested a five (5) year term for the renewal licence. The Board agrees and believes that a licence term of five (5) years will allow sufficient time for the Licensee to develop, submit, and implement the management plan updates required under this Licence.

### **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 municipal 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/>

The NWB has also taken this opportunity to review the Annual Reports submitted in recent years, and the following common deficiencies in reporting have been identified:

- incomplete/mislabeled monitoring data in accordance with the Monitoring Program; and
- no interpretation of data or explanation for missing data was provided.

The Annual Report shall include all Monitoring Program results as per the requirements included within Part H ("Conditions Applying to the Monitoring Program") of the Licence. The Board would like to remind the Licensee that the Annual Reporting requirements of the Licence should be adhered to at all times so as to help maintain full compliance with respective terms and conditions in the Licence. The Board strongly recommends that for all subsequent annual submissions the Licensee submit a more systematic Monitoring report, in accordance with Part I, Item 2 of the current Water Licence ensuring that analytical results from the Monitoring Program are organized, labeled properly, and include a brief interpretation of the results and any exceedances.

## Water Use

The Hamlet obtains its potable Water from Water Lake Reservoir, a natural lake now used as the Hamlet's water reservoir, and the adjacent Salmon Creek,<sup>6</sup> located approximately 4.4 kilometres from the community. During the summer months Water is pumped from Salmon Creek for storage at the Water Lake Reservoir. A truck-fill station proximal to the lake is used to load Water on to trucks as well as chlorinate the Water prior to distribution to homes and business within the community. The Hamlet indicated that in order to reduce operations and maintenance expenses, it has plans to supply electricity to the truck-fill station in the near future.

The Licence authorizes the Hamlet to use 75,000 cubic metres of Water per year, as requested by the Applicant and similar to the amount authorized at the conclusion of the previous Licence. In their comments, CIRNA recommended a renewed licence authorize withdrawal of at least 67 000 cubic metres per year, and although current water use is below 50,000 cubic metres per year, the allotted amount will provide room for community growth over the five-year term of the Licence. The maximum daily Water use for the entire term of the Licence is restricted to 299 cubic metres per day, as per the *Nunavut Waters Regulations (Regulations)*. All terms and conditions related to Water use are included under Part C in the Licence.

The Hamlet has constructed an access road to the Salmon River that will include a water crossing with culverts. The Board has included conditions under Part D of the Licence authorizing construction maintenance of the water crossings associated with this Licence.

## Deposit of Waste

### *Sewage*

The Sewage Treatment Facility, currently operated by the Hamlet, consists of a lined, single cell lagoon, a non-operational gravity drainage system constructed in 2005, and a Wetland Treatment Area (WTA). As an alternative to the non-operational gravity drainage system, the Hamlet uses a pump to conduct the decanting process for the lagoon, which generally occurs during the summer period. An inspection of the facility conducted in 2011 by exp Service Inc. found evidence that the lagoon may have been experiencing permafrost degradation and subsidence issues. However, a Dye Test report generated by Arktis Piusitippaa Inc. in 2012 indicated that the integrity of the lagoon was intact. To ensure that continued monitoring of the facility is carried out, the Board has included conditions in the licence requiring the Licensee to inspect all facilities on a regular basis and to address any issues identified. Conditions related to the inspection of facilities associated with the undertaking are included under Part F in the Licence. Conditions related to the Sewage Disposal Facility are included under Part D in the Licence.

As recommended by CIRNA, the Licensee is also required to submit a plan detailing timelines and specifications for replacement of the existing lagoon with the 2020 Annual Report, as per Part F, Item 2 of the Licence.

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<sup>6</sup> Note that in the previous Licence, the water source "Salmon Creek" was incorrectly called "Salmon River." The water course and location of water withdraw remains the same.

Similar to other municipal Water Licences within Nunavut, it is recommended that the Licensee determine the treatment capabilities of the Wetland Treatment Area (WTA). The Hamlet had previously committed to installing monitoring stations and signage within the Wetland Treatment Area, and the NWB requires confirmation and GPS coordinates of these sampling points. Although not strictly part of the Monitoring Program, monitoring the treatment efficiency of the WTA and the establishment of these monitoring points will inform future decision-making. This information should be included in the QA/QC and Monitoring Program Plan to be submitted with the 2020 Annual Report.

### *Solid Waste*

The Solid Waste Disposal Facility operated by the Hamlet is a non-engineered, unfenced facility located next to the new sewage lagoon. The facility accepts various waste types generated by the residents of the Hamlet, manages the Waste accepted by the facility through open-burning, compaction and covering. The Application indicated that *“the bulky waste site is unsorted and may contain a mixture of different types of hazardous materials.”* It was also noted during the review that improvements to landfill management and the control of landfill leachate are needed, and that the Licensee should submit a plan for management of leachate from the Landfill, which has been included under Part F, Item 2, of the Licence. The Hamlet is encouraged to continually improve operations of the facility by better segregating household hazardous waste accepted. The terms and conditions related to the Solid Waste Facility are included under Part D in the Licence.

The Hamlet indicated that it has plans to develop and construct a new solid waste facility in the near future; however, the new facility is not part of the scope of the Application and this Licence. The Hamlet is encouraged to keep the NWB up to date on this matter.

### *Petroleum-Hydrocarbon-Contaminated Soils*

The Landfarm Facility operated by the Hamlet is proximal to the sewage lagoon. The facility was constructed in 2007 to treat hydrocarbon-contaminated soil generated by the community. The Application indicated that the Landfarm is not currently used and that the contaminated soil retained in the Landfarm has been remediated and remains in the Landfarm. Conditions related of the Landfarm Facility have been included under Part D in the Licence, in the case that future use of the Landfarm is required.

If Effluent is required to be discharged, it must first meet the discharge levels within Canadian Council of Ministers of Environment (CCME) *Canadian Water Quality Guidelines for the Protection of Aquatic Life* for surface water reception. The Board has also included sampling of monitoring wells within the Monitoring Program for the Landfarm once it becomes in use again to ensure that there is no impact to the natural environment.

### **Management Plans and Operation Manuals**

The NWB has reviewed the following management plans that were submitted under the previous licence:

- *Solid waste Operations and Maintenance Plan, Hamlet of Pond Inlet, Baffin Region, Nunavut, July 2014;*
- *Quality Assurance/Quality Control Plan (QA & QC Plan), Hamlet of Pond Inlet, Community and Government Services, Government of Nunavut, July 2014;*
- *Hamlet of Pond Inlet Operations and Maintenance Manual, Sewage Lagoon Facility, March 7, 2005;*
- *Operations and Maintenance (O&M) Manual Landfarm Facility, Pond Inlet, Nunavut, January, 2009; and*
- *Spill Contingency Plan, Hamlet of Pond Inlet, 2010.*

The Board has determined, in combination with similar recommendations made by CIRNA and ECCC, that the management plans will require updates to be considered fully functional.

#### *Spill Contingency*

The review of the plan entitled *Spill Contingency Plan, Hamlet of Pond Inlet, 2010*, determined that the plan should include a topographical map with the main infrastructure, water bodies and spill kit locations, as detailed in the *Guideline for Spill Contingency Planning, Indian and Northern Affairs Canada, April 2007*, as well as general administrative updates. The Board, therefore, requires the Licensee to implement the plan under Part F, Item 1 in the Licence. In addition, the Licensee is required to provide an updated plan with the 2020 Annual Report to reflect these changes and any changes in operations or other factors that may impact the functionality of the plan.

#### *Sewage Disposal Facility Operation and Maintenance Manual*

The review of the manual entitled *Hamlet of Pond Inlet Operations and Maintenance Manual, Sewage Lagoon Facility, March 7, 2005*, determined that the manual should be updated to include a sludge management section and any upgrades and repairs, and specifically confirm, which operations and infrastructure are still relevant to the Sewage Disposal Facility. The NWB, therefore, requires the Licensee to implement the plan under Part F, Item 1 in the Licence. In addition, the Licensee is required to provide an updated plan with the 2020 Annual Report in accordance with the “*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996*,” and to reflect these changes and any changes in operations or other factors that may impact the functionality of the plan.

#### *Water Supply Facility Operations and Maintenance Manual*

An Operations and Maintenance Manual was not submitted for the Water Supply Facility, therefore, the NWB has included conditions under Part F, Item 3 requiring the submission of an up-to-date Operations and Maintenance Manual for the potable Water Supply Facility with the 2020 Annual Report.

#### *Solid Waste Facility Operation and Maintenance Manual*

The review of the plan, *Solid Waste Operations and Maintenance Plan, Hamlet of Pond Inlet, Baffin Region, Nunavut, July 2014*, determined that the manual should be updated to reflect current

conditions and include a plan for managing landfill leachate as recommended by both CIRNA and ECCC. The NWB requires the Licensee to implement the plan under Part F, Item 1 in the Licence. The Licensee is required under Part F, Item 2, of the Licence to provide an updated plan with the 2020 Annual Report in accordance with the “*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996,*” and to reflect these changes and any changes in operations or other factors that may impact the functionality of the plan.

#### *QA/QC Plan for Water Quality Management*

The Licensee submitted in 2014 a QA/QC Plan that addresses both water and wastewater issue jointly. The review of the 2014 plan determined the document to be generally functional and acceptable. The Board, therefore, has accepted the Plan under Part H, Item 9 in the Licence. As recommended by ECCC, the Licensee is, however, required to update the plan to include details on the Monitoring Plan under Part F, Item 2, in the Licence, prepared in accordance with the INAC “*Quality Assurance (QA) and Quality Control (QC) Guidelines for use by Class “B” Licensees in Collecting Representative Water Samples in the Field, 1996,*” and on an annual basis to reflect any changes in operations or other factors that may impact the functionality of the plan. The NWB has included a requirement to submit for review with the 2020 Annual Report, under Part H, Item 13, of the Licence, a “Quality Assurance/Quality Control (QA/QC) and Monitoring Program Plan”

#### *Abandonment and Restoration Plan*

Under Part G, Item 1, an Abandonment and Restoration Plan (A&R Plan) is required six months prior to the abandonment of any facility. The Board believes that a template should be developed to standardize this process across all Nunavut communities.

### **Monitoring Program**

Part H of the Licence details the environmental monitoring requirements. Requirements are similar to the previous Licence with a few changes in preparation for the development of standard management plans for Nunavut Communities and the potential development of Northern Wastewater Discharge criteria.

Sampling is required for all discharges from the Sewage Disposal Facility prior to the Wetland Treatment Area (WTA; PON-4) to test for all the parameters shown in Part D Items 3 and 8 at the beginning, middle and near the end of discharge.

The Licensee confirmed in the review of the Application that the groundwater monitoring wells (PON-6 and PON-7) were never installed. The Board has decided to set these Monitoring Sites as “Inactive” because the facility is not actively remediating petroleum hydrocarbon contaminated soils. However, if newly contaminated soils are placed in the Landfarm, the Licensee should consider installing functional groundwater monitoring wells.

If the Landfarm becomes operational again, a soil sampling program shall be conducted at the beginning of each field season to identify the levels of petroleum hydrocarbon (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).

It should also be noted that additional sampling may be required upon request by the Board or the Inspector.



## NUNAVUT WATER BOARD REPLACEMENT WATER LICENCE

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### Water Licence No: 3BM-PON2025

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

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#### HAMLET OF POND INLET

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(Licensee)

P.O BOX 120 POND INLET, NUNAVUT, X0A 0S0

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(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: 3BM-PON2025 TYPE "B"

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Water Management Area: ECLIPSE SOUND WATERSHED (48)

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Location: QIKIQTANI REGION, NUNAVUT

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Classification: MUNICIPAL UNDERTAKING

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Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

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Quantity of Water use not to Exceed: 75,000 CUBIC METRES PER ANNUM OR MAXIMUM OF 299 CUBIC METRES PER DAY

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Licence Effective Date: JUNE 30, 2020

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Licence Expiry Date: JUNE 29, 2025

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

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**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 Hamlet of Pond Inlet in Qikiqtani Region, Nunavut (Latitude: 72° 41' 57" N, Longitude 77° 57' 33" 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;

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

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

“**Board**” means the Nunavut Water Board established under the *Nunavut 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.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

**“Final Discharge Point”** means the point at which the Licensee no longer exerts care and/or control over the quality and/or quantity of the effluent from a treatment process;

**“Freeboard”** means the vertical distance between water line and crest on a dam or dyke's upstream slope;

**“Geotechnical Engineer”** means a professional engineer registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists 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;

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

**“Hazardous Waste”** means waste classified as “hazardous” by Nunavut Territorial or Federal legislation, or as “dangerous goods” under the Transportation of Dangerous Goods Act;

**“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 Facility”** means an area designed to biologically treat petroleum hydrocarbon-impacted soil, as described in the Application for Amendment to a Water Licence filed by the Applicant on June 12th, 2007 and illustrated in the Drawing entitled “Pond Inlet Landfarm Detail: DWG 102 (GN Project #07-7400-1000/May 2007), and described in the Application dated March 11, 2020;

**“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;

**“Old Sewage Lagoon”** means the facility described in section 1.2.1 of the Report entitled Pond Inlet Lagoon Remediation prepared by Ferguson Simek Clark March 28, 2002 - FSC Project No. 2001-0580;

**“Petroleum Hydrocarbon-Impacted Soil”** means soil in which the primary petroleum product present, as determined by laboratory analysis consistent with that described in the *Canada-Wide Standards for Petroleum Hydrocarbons in Soil*, consists of fuel oil and/or diesel fuel and /or gasoline and/or jet fuel;

**“Regulations”** means the *Nunavut Waters Regulations SOR/2013-69 18th April, 2013*;

**“Secondary Containment”** means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles;

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

**“Sewage Disposal Facilities”** comprises the area and engineered lagoon designed to contain Sewage as illustrated in drawing No. 2002-1000-055 and constructed in 2005, and described in the Application dated March 11, 2020;

**“Solid Waste Disposal Facilities”** comprises the area and associated structures designed to contain solid waste as described in the Application and illustrated in Drawing No. 2002-1000-055, and including a Landfarm Facility as referenced in the Application dated March 11, 2020;

**“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 or Sumps”** A structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste;

**“Temporary Sewage Disposal Facility”** comprises the area known locally as “Kitingujaat”, which is currently utilized as a temporary sewage disposal site, as described in the Amendment to Water License NWB3PON9904 approved by the NWB on September 5, 2001;

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

**“Waste”** means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

**“Waste Disposal Facilities”** means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facilities and Solid Waste Disposal Facilities (including Hazardous Waste management area), as described in the Application for Water Licence renewal filed by the Applicant on March 11, 2020;

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

**“Water Supply Facilities”** comprises the area and associated infrastructure at Water Lake Reservoir and Salmon Creek, used for potable water uptake, storage, and treatment, as described in the Application for Water Licence renewal and associated documents filed by the Applicant on March 11, 2020;

**“Wetland Treatment Area (WTA)”** comprises the area of land between the Sewage Disposal Facilities and the Marine Environment, that is saturated as a result of the Sewage lagoon discharge, and functions to help process Sewage.

### **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 31<sup>st</sup> of the year following the calendar year being reported, containing the following information:
  - a. tabular summaries and a brief written interpretation of all data generated under the “Monitoring Program”;
  - b. summary of modifications to the “Monitoring Program” in accordance with Part H, Item 17;
  - c. the monthly and annual quantities in cubic metres of freshwater obtained from all sources;
  - d. the monthly and annual quantities in cubic metres of each and all waste discharged; including the hazardous and non-hazardous waste accepted at the Solid Waste Disposal Facilities;
  - e. a summary of modifications and/or major maintenance work and/or investigations carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;
  - f. a list of unauthorized discharges and summary of follow-up action taken;
  - g. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
  - h. Any updates or revisions for manuals and plans (*i.e., Operations and Maintenance, Abandonment and Restoration, QA/QC, etc.*) as required by changes in operation and/or technology;
  - i. a summary of any studies, reports and plans requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;
  - j. any other details on water use or waste disposal requested by the Board by November 1<sup>st</sup> 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 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.
4. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.

5. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of water volumes as required under Part H, Item 1.
6. The Licensee shall, post the necessary signs, where possible, to identify the stations of the Monitoring Program. All signage postings shall be in the Official Languages of Nunavut, and shall be located and maintained to the satisfaction of an Inspector.
7. The Licensee shall immediately report to the NWT/NU 24-Hour Spill Report Line at (867) 920-8130, any spills of Waste, which are reported to, or observed by the Licensee, within the municipal boundaries or in the areas of the Water Supply or Waste Disposal Facilities.
8. 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/or 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.
9. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
10. 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.
11. 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.
12. 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, CIRNA  
Nunavut District, Nunavut Region  
P.O. Box 100

Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445

13. The Licensee shall submit 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.
14. 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.
15. This Licence is assignable as provided for in Section 44 of the *Act*.

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

1. The Licensee shall obtain Water from the Salmon Creek at Monitoring Program Station PON-1 and from Water Lake Reservoir at Monitoring Program Station PON-1a for all purposes under this Licence.
2. The annual quantity of water use for all purposes under this Licence shall not exceed seventy-five thousand (75,000) cubic metres per year and a maximum of two hundred and ninety-nine (299) cubic metres per day.
3. The Licensee shall maintain the Water Supply Facilities to the satisfaction of the Inspector.
4. The Licensee shall equip all water intake hoses with a screen of appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.
5. The Licensee shall not remove any material from below the ordinary High Water Mark of any water body unless approved by the Board in writing.
6. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
7. Sediment and erosion control measures shall be implemented prior to and maintained as required during Hamlet operations, to prevent entry of sediment into water.
8. The Licensee shall submit, to the Board for approval in writing, the following information at least thirty (30) days prior to the use of Water in sufficient volume that the source Water body may be drawn down: volume of Water required, hydrological overview of the Water body, details of impacts to the Water Body, and proposed mitigation measures.

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

1. The Licensee shall direct all Sewage to the Sewage Disposal Facilities or as otherwise approved by the Board.
2. 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.
3. The Licensee shall provide notice to an Inspector at least ten (10) days prior to initiating any decant of the Sewage Disposal Facilities or the discharge of treated effluent from the Landfarm Facility.
4. All Effluent discharged from the Sewage Disposal Facilities at Monitoring Program Station PON-4 shall meet the following effluent quality limits:

| Parameter              | Maximum Concentration of any Grab |
|------------------------|-----------------------------------|
| PH                     | Between 6 and 9                   |
| BOD <sub>5</sub>       | 120 mg/L                          |
| Total Suspended Solids | 180 mg/L                          |
| Oil and grease         | No visible sheen                  |
| Faecal Coliforms       | 1 x 10 <sup>6</sup> CFU/100 mL    |

5. A Freeboard limit of at least 1.0 metre, or as recommended by a qualified Geotechnical Engineer and as approved by the Board in writing, shall be maintained at all dams, dikes, or structures intended to contain, withhold, divert or retain Water or Waste.
6. The Sewage Disposal Facilities shall be maintained and operated, to the satisfaction of an Inspector in such a manner as to prevent structural failure.
7. The Licensee shall provide to the Board for approval, a Sewage Sludge Management Plan at least sixty (60) days prior to the removal of sludge from the Sewage Disposal Facilities. The Plan shall provide at minimum characterization, chemical composition, anticipated volume of the sludge, and how it will be stored, treated and eventually disposed of.
9. The Licensee shall dispose of and permanently contain all Solid Wastes at the Solid Waste Disposal Facilities or as otherwise approved by the Board in writing.
10. The Licensee shall segregate and store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facilities in a manner as to prevent the deposit of deleterious substances into any water until such a time as proper disposal arrangements are made.
11. The Licensee shall implement measures to control hazardous materials, surface runoff,

and/or leachate from the Solid Waste Disposal Facilities and prevent it from entering water.

12. The Licensee shall direct appropriately-characterized hydrocarbon-impacted soil to the Landfarm Facility.
13. All effluent discharged from the Landfarm Facility at Monitoring Station PON-8 shall meet the following wastewater discharge criteria prior to being released:

| Parameter        | Maximum Allowable Concentration (µg/L) |
|------------------|----------------------------------------|
| pH               | 6 to 9 (pH units)                      |
| Oil and Grease   | 5000                                   |
| Lead (dissolved) | 1                                      |
| Benzene          | 370                                    |
| Toluene          | 2                                      |
| Ethylbenzene     | 90                                     |

14. The Licensee, prior to removal of any treated soil from the Landfarm Facility, shall confirm with the Government of Nunavut Environmental Protection Service that the soils have been treated so as to meet all legislatively-required Soil Quality Remediation Objectives (SQROs).
15. 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.
16. 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.
17. All surface runoff during the construction and operation of the Salmon Creek Crossing, where flow may directly or indirectly enter a Water body, shall not exceed the following Effluent quality limits:

| Parameter              | Maximum Average Concentration (mg/L) | Maximum Concentration of Any Grab Sample (mg/L) |
|------------------------|--------------------------------------|-------------------------------------------------|
| Total Suspended Solids | 50.0                                 | 100.0                                           |

#### **PART E: CONDITIONS APPLYING TO MODIFICATION AND CONSTRUCTION**

1. The Licensee shall submit to the Board for approval for construction drawings stamped

and signed by a qualified Engineer registered in Nunavut sixty (60) days prior to the construction of any dams, dikes or structures intended to contain, withhold, divert or retain water or wastes.

2. 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. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - d. the Board has not rejected the proposed Modifications.
3. The Modifications for which all of the conditions referred to in Part E, Item 2(a) through (d), have not been met, may only be carried out upon written approval from the Board.
4. The Licensee shall, within ninety (90) days of completion of Modification or Construction of facilities and/or infrastructure associated with the Project, submit to the Board a Construction Summary Report along with stamped as-built plans and drawings, providing explanation to reflect any deviations from for construction drawings and taking into account construction and field decisions and how they may affect the performance of engineered facilities.
5. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
6. The Licensee shall implement and maintain sediment and erosion control measures prior to and during activities carried out under this Part, to prevent impacts to water resulting from the release of sediment and to minimize erosion.
7. With respect to earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty-one (31) metres from the ordinary High Water Mark in such a fashion that they do not enter the water.
8. The Licensee shall use material that is free of contaminants for construction, operation, and maintenance activities and that is obtained from approved sources and has been demonstrated not to be potentially acid generating and metal leaching.

**PART F:        CONDITIONS APPLYING TO OPERATION AND MAINTENANCE**

1. The Licensee shall implement the following plans as previously submitted to the Board:
  - a. *Solid waste Operations and Maintenance Plan, Hamlet of Pond Inlet, Baffin Region, Nunavut, July 2014;*
  - b. *Quality Assurance/Quality Control Plan (QA & QC Plan), Hamlet of Pond Inlet, Community and Government Services, Government of Nunavut, July 2014;*
  - c. *Hamlet of Pond Inlet Operations and Maintenance Manual, Sewage Lagoon Facility, March 7, 2005;*
  - d. *Operations and Maintenance (O&M) Manual Landfarm Facility, Pond Inlet, Nunavut, January, 2009; and*
  - e. *Spill Contingency Plan, Hamlet of Pond Inlet, 2010.*
2. The Licensee shall submit with the 2020 Annual Report up-to-date versions of the management plans described in Part F, Item 1, and include the following specific information:
  - a. A plan for the management of leachate at the Solid Waste Facility;
  - b. A site monitoring plan with all the monitoring stations and facilities clearly identified in a topographical map; and
  - c. A plan detailing the timeline and specifications for a new Sewage Treatment Facility that includes replacing the existing sewage lagoon and incorporating the Wetland Treatment Area.
3. The Licensee shall submit to the board for approval with the 2020 Annual Report, an Operations and Maintenance (O&M) Manual for the Water Supply Facilities.
4. If the Plans referred to in Part F, Item 1 are not approved, the Licensee shall make the necessary revisions and resubmit the Plan(s) within thirty (30) days following notification from the Board.
5. The Licensee shall implement the updated Plans referred to in Part F, Item 1, 2, and 3, when approved by the Board.
6. An inspection of all engineered facilities related to the management of water and waste shall be carried by an Engineer (Civil, Municipal or Geotechnical) annually and before commissioning any facility. The Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations.
7. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.
8. The Licensee shall review the Plans referred to in this Part as required by changes in

operation and/or technology and modify the Plans accordingly. Revisions to a Plan are to be submitted in the form of an Addendum to be included with the Annual Report, unless directed otherwise by an Inspector.

9. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a. employ the appropriate contingency measures outlined in the Spill Contingency Plan for the Hamlet of Pond Inlet. Take whatever steps are immediately practicable to protect human life, health and the environment;
  - b. report the incident immediately to the NWT/NU 24-Hour Spill Line at [\(867\) 920-8130](tel:867-920-8130) and to the Inspector at [\(867\) 975-4295](tel:867-975-4295); and
  - c. for each spill occurrence, submit to the Inspector, within thirty (30) days after initially reporting the event, a detailed report that provides the necessary information on the location (including the GPS coordinates), initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and any preventative measures to be implemented.

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

1. The Licensee shall submit to the Board for approval, an Abandonment and Restoration Plan at least six (6) months prior to abandoning any facilities or the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following:
  - a. water intake facilities;
  - b. the water treatment and waste disposal sites and facilities;
  - d. petroleum and chemical storage areas;
  - e. any site affected by waste spills;
  - f. leachate prevention;
  - g. an implementation schedule;
  - h. maps delineating all disturbed areas, and site facilities;
  - i. consideration of altered drainage patterns;
  - j. type and source of cover materials;
  - k. future area use;
  - l. hazardous wastes; and
  - m. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.
2. If the Plan referred to in Part G, Item 1 is not approved, the Licensee shall make the necessary revisions and resubmit the Plan within thirty (30) days following notification from the Board.

3. The Licensee shall implement the plan specified in Part G, Item 1 as and when approved by the Board.
4. The Licensee shall submit to the Board for approval in writing, within six (6) months following the issuance of the Licence, an Abandonment and Restoration Plan for the Old Sewage Lagoon and Temporary Sewage Disposal Facility.
5. Licensee shall complete all restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board.
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 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.
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 H: CONDITIONS APPLYING TO THE MONITORING PROGRAM**

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

| <b>Monitoring Program Station Number</b> | <b>Description</b>                                                                              | <b>Status</b>   |
|------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------|
| PON-1                                    | Raw water supply intake at Salmon Creek.                                                        | Active (Volume) |
| PON-1a                                   | Water withdrawn from the Water Lake Reservoir                                                   | Active (Volume) |
| PON-2                                    | Runoff from the Solid Waste Disposal Facilities.                                                | Active          |
| PON-3                                    | Sewage at truck offload point                                                                   | Active (Volume) |
| PON-4                                    | Final Discharge Point for Effluent from the Sewage Disposal Facility prior to the wetland area. | Active          |
| PON-5                                    | Effluent from the Temporary Sewage Disposal Facility                                            | Active          |
| PON-6                                    | Monitoring well located up –gradient of the Landfarm Facility (not yet installed)               | Inactive        |
| PON-7                                    | Monitoring well located down –gradient of the Landfarm Facility (not yet installed)             | Inactive        |
| PON-8                                    | Discharge from the Landfarm Facility at the controlled point of release                         | Active          |

2. The Licensee shall measure and record in cubic metres, the monthly and annual quantities

of water pumped at Monitoring Program Station PON-1 and when use is directly from Station PON-1a, for all purposes.

3. The Licensee shall measure and record in cubic metres the daily, monthly and annual quantities of raw Sewage offloaded from trucks at Monitoring Program Station PON-3 for all purposes.
4. The Licensee shall sample at Monitoring Program Stations PON-2, PON-4, and PON-5 during periods of annual discharge and observed flows. Samples shall be analyzed for the following parameters:

|                                 |                            |
|---------------------------------|----------------------------|
| Biochemical Oxygen Demand - BOD | Faecal Coliforms           |
| pH                              | Conductivity               |
| Total Suspended Solids          | Oil and Grease (visual)    |
| Nitrate-Nitrite                 | Ammonia Nitrogen           |
| Chloride                        | Sulphate                   |
| Sodium                          | Potassium                  |
| Magnesium                       | Calcium                    |
| Total Hardness                  | Total Alkalinity           |
| Total Phenols                   | Total Manganese            |
| Total Arsenic                   | Total Aluminum             |
| Total Cadmium                   | Total Cobalt               |
| Total Copper                    | Total Chromium             |
| Total Iron                      | Total Lead                 |
| Total Mercury                   | Total Nickel               |
| Total Zinc                      | Total Organic Carbon - TOC |

5. The Licensee shall carry out inspections at Monitoring Program Stations PON-2, PON-4, and PON-5 weekly from May to August, inclusively, to determine Effluent or water flow in order to fulfill the monitoring requirements of Part H, Item 4. A record of inspections shall be retained and made available to an Inspector upon request.
6. The Licensee shall measure and record the volume of all soil, from all locations entering the Landfarm Facility.
7. The Licensee shall assess and record the concentration of petroleum hydrocarbon contaminated soil entering the Landfarm Facility from all sources, as per the CCME *Canada-Wide Standard for Petroleum Hydrocarbons in (PHC) in Soil*.
8. The Licensee shall sample at Monitoring Program Station PON-8 prior to any discharge and for any run-off observed. Samples shall be analyzed for the following parameters:

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

Nitrate-Nitrite  
 Total Phenols  
 Total Hardness  
 Magnesium  
 Sodium  
 Total Arsenic  
 Total Copper  
 Total Iron  
 Total Mercury  
 Total Phenols  
 Total Hardness  
 Magnesium

Ammonia Nitrogen  
 Total Alkalinity  
 Calcium  
 Potassium  
 Sulfate  
 Total Cadmium  
 Total Chromium  
 Total Lead  
 Total Nickel  
 Total Alkalinity  
 Calcium  
 Potassium

9. The Licensee shall install groundwater monitoring wells at the Landfarm Facility: at least one well located upstream of the facility for background data collection and at least one well located downstream of the facility.
10. The Licensee shall, when new petroleum hydrocarbon contaminated material is place in the Landfarm, sample at Monitoring Program Stations PON-6 and PON-7 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:  
  
 TPH (Total Petroleum Hydrocarbons)  
 PAH (Polycyclic Aromatic Hydrocarbons)  
 BTEX (Benzene, Toluene, Ethylbenzene, Xylene)
11. The Licensee shall measure and record the annual quantities of sewage sludge and solids removed from the Sewage Disposal Facilities.
12. Additional monitoring stations, sampling, and analysis may be requested by an Inspector
13. The Licensee shall submit to the Board for review, within the 2020 Annual Report, a updated Quality Assurance/Quality Control (QA/QC) and Monitoring Program Plan that conforms to the guidance document *Quality Assurance (QA) and Quality Control (QC) Guidelines For Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QAQC Plan* INAC (1996). The Plan shall be acceptable to an accredited laboratory and include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under the Licence. The Plan shall include a general site plan with the monitoring stations identified.
14. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.

15. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
16. The Licensee shall include all of the data and information required by the Monitoring Program in the Licensee's Annual Report, as required per Part B, Item 1 or as otherwise requested by an Inspector.
17. Modifications to the Monitoring Program including the Monitoring Program Stations and parameters may be made only upon written approval of the Board.

**Table No. 1. Summary of Surface Soil 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 / Coarse       | 70                           | 140                                     | 260                        | 600                        |
| <b>Polychlorinated Biphenyls</b> | Fine / Coarse       | 0.5                          | 1.3                                     | 33                         | 33                         |

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

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).