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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

File No.: 1BR-CIL1217

August 17, 2012

Government of Nunavut,
Community and Government Services,
Rankin Inlet, Nunavut
C/O Malkiat Aulakh
E-mail: maulakh@gov.nu.ca

Stantec Architecture Ltd.
C/O Arlen Foster, EIT
E-mail: arlen.foster@stantec.com

RE: NWB Licence No. 1BR-CIL1217

Dear Mr. Aulakh and Ms. Foster:

Please find attached Licence No. 1BR-CIL1217 issued to the Government of Nunavut, Community and Government Services 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*. The terms and conditions of the attached Licence related to water use and waste disposal are an integral part of this approval.

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

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment. However, a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing..

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

Sincerely,



Thomas Kabloona
Nunavut Water Board
Chair

TK/kk/pb

Enclosure:

Licence No. **1BR-CIL1217**
Comments:– AANDC, EC

cc: Distribution – Kivalliq

¹ Aboriginal Affairs and Northern Development Canada (AANDC), June 15, 2012; and Environment Canada (EC), June 22, 2012.

DECISION

LICENCE NUMBER 1BR-CIL1217

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated May 11, 2012 for a new Water Licence made by:

GOVERNMENT OF NUNAVUT, COMMUNITY AND GOVERNMENT SERVICES

to allow for the disposal of waste during remediation activities at Chesterfield Inlet Landfarm Project located adjacent to the Chesterfield Inlet Municipal Solid Waste Site at Chesterfield Inlet, approximately 100 km northeast of Rankin Inlet within the Kivalliq Region, Nunavut, generally located at the geographical coordinates as follows:

Project Extents:

NW:	Latitude: 63° 20' 46'' N	Longitude: 90° 45' 12'' W
NE:	Latitude: 63° 20' 46'' N	Longitude: 90° 45' 08'' W
SE:	Latitude: 63° 20' 45'' N	Longitude: 90° 45' 08'' W
SW:	Latitude: 63° 20' 45'' N	Longitude: 90° 45' 12'' W

DECISION

After having been satisfied that the application was in conformity with the Keewatin Regional Land Use Plan² and subject to a 12.4.4(a) Screening Decision by the Nunavut Impact Review Board³ in accordance with Article 12 of the *Nunavut Land Claim Agreement (NLCA)*, the NWB decided that the application could proceed through the regulatory process. In accordance with S.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* and Article 13 of the *NLCA*, public notice of the application was given and interested persons were invited to make representations to the NWB.

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

Licence Number 1BR-CIL1217 be issued subject to the terms and conditions contained therein. (Motion #: 2012-05-L03)

SIGNED this 17th day of August 2012 at Gjoa Haven, NU.



Thomas Kabloona
Nunavut Water Board
Chair

TK/kk/pb

² NPC Conformity Determination dated June 8, 2012.

³ NIRB Screening Decision dated August 13, 2012.

TABLE OF CONTENTS

DECISION	I
I.	BACKGROUND	1
II.	PROCEDURAL HISTORY.....	1
III.	GENERAL CONSIDERATIONS	2
	TERM OF LICENCE.....	2
	ANNUAL REPORT	2
	WASTE DISPOSAL.....	2
	Effluent Discharge	3
	CONSTRUCTION AND OPERATIONS	3
	DRILLING	3
	SPILL CONTINGENCY PLANNING	4
	ABANDONMENT AND RESTORATION	4
	MONITORING	4
WATER LICENCE	6
PART A:	SCOPE, DEFINITIONS AND ENFORCEMENT.....	7
	1. SCOPE	7
	2. DEFINITIONS.....	7
	3. ENFORCEMENT	9
PART B:	GENERAL CONDITIONS.....	9
PART C:	CONDITIONS APPLYING TO WATER USE	11
PART D:	CONDITIONS APPLYING TO WASTE DISPOSAL.....	11
PART E:	CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS	12
PART F:	CONDITIONS APPLYING TO DRILLING OPERATIONS	13
PART G:	CONDITIONS APPLYING TO MODIFICATIONS	14
PART H:	CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING....	14
PART I:	CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION	
	OR TEMPORARY CLOSING.....	15
PART J:	CONDITIONS APPLYING TO THE MONITORING PROGRAM.....	16
	TABLE NO. 1.....	18

I. BACKGROUND

Stantec Architecture Ltd. (Stantec) was retained by the Government of Nunavut, Community and Government Services (GN-CGS) to complete upgrades to the existing Bulk Fuel Facility in Chesterfield Inlet which involves removal and remediation of petroleum contaminated soils.

As part of the Bulk Fuel Facility's upgrade, approximately 150 cubic meters of hydrocarbon contaminated soils must be removed from the site and remediated. Contaminated soils will be remediated in a lined engineered landfarm.

The landfarm will be located adjacent to the existing Chesterfield Inlet Municipal Solid Waste Site and will be accessed from the same road. The site was selected by the Government of Nunavut in consultation with the Hamlet of Chesterfield Inlet. Stantec indicates that there will be no water used at the site, and there will be no effluent. As needed, water that collects in the landfarm will be pumped back onto the soil where it will evaporate.

The application included FSC Architects & Engineers (FSC) *Issued for Tender* drawings signed and stamped by an engineer. The landfarm is being constructed to accommodate 170 m³ of Type B Soil. The landfarm area will be bermed and lined and will occupy an area of 750 m². It would have a capacity of 380 m³. The berm will have a 2:1 slope and will be lined with an impervious HDPE 60 mil textured membrane.

II. PROCEDURAL HISTORY

The NWB received a Water Licence Application from Stantec on behalf of GN-CGS on May 15, 2011 for the deposit and treatment of hydrocarbon impacted soil from the Chesterfield Inlet Bulk Fuel Facility for treatment at the proposed Chesterfield Inlet Landfarm.

The Licence Application (Application) included the following documents:

- Cover letter dated May 11, 2012;
- General Water Licence Application;
- Letter – Landfarm Water Licence Application Summary, English and Inuktitut;
- Supplementary Information for Hydrocarbon-Impacted Soil Storage;
- Spill Contingency Plan for Chesterfield Inlet Landfarm;
- Operation & Maintenance Plan for Chesterfield Inlet Landfarm;
- Abandonment and Restoration Plan for Chesterfield Inlet Landfarm;
- Drawings, Maps, Figures; and
- Letter from CGS authorizing Stantec to act on behalf of CGS.

On May 24, 2012, following a preliminary internal technical review, the NWB concluded that the Application met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or Act) and forwarded notice of the Application to

regulators, council of the municipality most affected by the project and other interested parties. All parties were invited to make representations to the NWB within thirty (30) days.

On or before June 24, 2012, comments were received by Aboriginal Affairs and Northern Development Canada (AANDC), and Environment Canada (EC). No public concern was expressed during the notice period. In consideration of the comments received, the NWB determined that a public hearing would not be required and proceeded with the application process.

On August 13, 2012, the Nunavut Impact Review Board (NIRB) issued a Screening Decision as per Section 12.4.4 of the *Nunavut Land Claim Agreement (NLCA)* stating that the proposal may be processed without a review under Part 5 or 6, and recommended project-specific terms and conditions. These have been taken into consideration within the overall review of the Application.

Based upon the results of the detailed assessment of the Application, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have in the area, the Board has approved the Application and has issued Water Licence 1BR-CIL1217.

III. GENERAL CONSIDERATIONS

TERM OF LICENCE

In accordance with section 45 of the Act, the NWB may issue a licence for a term not exceeding twenty-five (25) years. The Applicant requested a five-year Licence, which the NWB believes is appropriate for the type of remediation activities proposed in the application. The Board has therefore granted the term requested.

ANNUAL REPORT

Under the General Conditions section of the Licence, Part B, Item 1, the Licensee is required to submit to the Board for information, on an annual basis, a report that pertains to the deposition of wastes. The NWB maintains the annual reporting information on its public registry. The information is also made available to interested persons upon request.

WASTE DISPOSAL

The Applicant stated that no waste will be generated on site during the proposed remediation activities. According to the information provided in the Application, the Applicant is proposing that the liner be deposited to local landfill once remediation is completed.

Effluent Discharge

The Applicant indicated that there will be no effluent discharge, and as necessary, water being collected in the landfarm will be pumped back onto the soil retaining cell where it will evaporate. However, the Board has included effluent discharge criteria with the Licence, should the need for discharge arise. 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 decided that in the absence of Nunavut specific guidelines for discharge to groundwater and given the lack of information provided in the Application regarding the permafrost and groundwater regime to maintain that discharge will percolate into the groundwater, the CCME *Canadian Water Quality Guidelines for the Protection of Aquatic Life* (CCME WQG) for surface water reception shall be applied to effluent discharged from the Landfarm in accordance with the guidelines. As such, the Board has set Effluent quality limits in Part D Item 4 of this Licence for pH, oil and grease, benzene, toluene, and ethylbenzene that are consistent with the CCME Guidelines and other licences previously issued for similar undertakings.

CONSTRUCTION AND OPERATIONS

The Application included an Operation and Maintenance (O&M) Plan entitled “*Operation & Maintenance Plan for Chesterfield Inlet Landfarm*” dated May, 2012. The Board has approved the Plan under Part E, Item 1 of the Licence. However, the Applicant is required, within six (6) months of the issuance of the Licence, to submit an Addendum to the Plan for review of the Board, that will include the following information:

- a. Dust controlling measures at the Landfarm;
- b. Details regarding the timing, construction and installation of the groundwater monitoring wells; and
- c. A Quality Assurance/Quality Control Plan approved by an accredited laboratory as required under Part J, Item 11.

The Applicant is required to provide to the Board, within 90 days of completion of the construction of any dams, dykes or structures to contain, withhold, divert or retain water or waste, including facilities or systems for the treatment and disposal of hydrocarbon contaminated soil, all respective design drawings and construction reports, including all as-built drawings, documentation of field decisions that deviate from original plans and any data used to support these decisions. These plans and drawings shall be stamped by an Engineer.

DRILLING

The Licence includes standard conditions under Part F related to drilling operations for the purpose of installing groundwater monitoring wells.

SPILL CONTINGENCY PLANNING

The Board has approved under Part H, Item 1 of the Licence, the Plan entitled “*Spill Contingency Plan for Chesterfield Inlet Landfarm*”, dated April, 2012 that was submitted as additional information with the Application. However, the Applicant is required, within six (6) months of the issuance of the Licence, to submit an Addendum to the Plan that will address AANDC comments.

The Applicant is required under Part B, Item 1 and as per Part B, Item 7, to submit to the Board for review any revision of the Plan.

ABANDONMENT AND RESTORATION

The Board has approved under Part I, Item 1 of the Licence, the Plan entitled “*Abandonment and Restoration Plan for Chesterfield Inlet Landfarm*” dated May, 2012 that was submitted as additional information with the Application. The Applicant is required to submit, under Part B, Item 1 and as per Part B, Item 7 of the Licence, any revisions of the Plan to the Board for review. In addition, conditions have been included under Part I, Item 3 to ensure that the Licensee removes from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, material and equipment prior to the expiry of this Licence.

MONITORING

In its O&M Plan, the Applicant proposed to conduct field testing once a month, during the snow free season, immediately after the contaminated soil is turned.

Soil sampling program will be conducted at the beginning of each field season to identify the levels of PHC contamination in the soil. The soil criteria used for this site will be under the CCME *Canada Wide Standards for Petroleum Hydrocarbon Contaminated Soils Tier 1: Coarse-Fine Grain Soil, Commercial Site* as proposed by the Applicant.

The O&M Plan indicates that any surface water near the site will be checked monthly until freeze up, and if any sheen on the water is apparent samples will be collected and tested for PHC, BTEX and Total Metals. The Board concurs with the proposal. In addition, the Board included a monitoring station for the possible effluent discharge. The CCME WQG for surface water reception shall be applied to effluent discharged from the Landfarm. The Board has set effluent quality limits in Part D Item 4 of this Licence.

The Application does not provide information about the groundwater. EC recommended that the consultant refer to the *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils - Science Applications International Corporation (SAIC Canada), March 2006* as it relates to the future operations of the landfarming project. This document recommends that groundwater on-site be monitored and compared to the appropriate CCME EQG. Therefore the Board included a groundwater monitoring program, and requires that

groundwater monitoring be conducted twice per year: once during spring freshet and once during late summer in August-September, at locations that include least one well up-gradient of the Landfarm and two wells down-gradient of the Landfarm. The monitoring well stations have been included in the Licence under Part J, Item 1.

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

Under Part J, Item 11 of the Licence, the Applicant is required to submit to the Board for review, within six (6) months of the issuance of the Licence, a Quality Assurance/Quality Control (QA/QC) Plan. The Plan must be approved by an accredited laboratory confirming that the plan is acceptable. The monitoring results are to be provided to the NWB as part of the annual report. This requirement is included under Part J, Item 13 of the Licence.



NUNAVUT WATER BOARD WATER LICENCE

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

GOVERNMENT OF NUNAVUT, COMMUNITY AND GOVERNMENT SERVICES
(Licensee)

GN-CGS, RANKIN INLET, NUNAVUT

(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:

Licence Number/Type: **1BR-CIL1217 TYPE "B"**

Water Management Area: NUNAVUT 06

Location: CHESTERFIELD INLET LANDFARM PROJECT
KIVALLIQ REGION, NUNAVUT

Classification: INDUSTRIAL UNDERTAKING

Purpose: DEPOSIT OF WASTE

Quantity of Water use not
to Exceed: NO WATER USE AUTHORIZED

Date of Licence Issuance: AUGUST 17, 2012

Expiry of Licence: OCTOBER 31, 2017

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

Thomas Kabloona,
Nunavut Water Board
Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the disposal of waste for an undertaking classified as Industrial as per Schedule II of the *Regulations* at the Chesterfield Inlet Landfarm Project, located adjacent to Chesterfield Inlet Solid Waste Disposal Facility within the Kivalliq Region, Nunavut.

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

“**Act**” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

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

“**Amendment**” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

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

“**Board**” means the Nunavut Water Board established under the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

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

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

“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 May 11, 2012 and as illustrated in drawings no. 2010-1160-C7 and 2010-1160-C8 signed and stamped by FSC Architects & Engineers.

“Licensee” means the holder of this Licence;

“Modification” means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“Nunavut Land Claims Agreement” (NLCA) means the *“Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada”*, including its preamble and schedules, and any amendments to that agreement made pursuant to it;

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

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

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

“Treatment Objective” means the treatment objective for the Land Treatment Unit which is based on the Canadian Council of Ministers of the Environment (CCME) *Canada – Wide Standard for Petroleum Hydrocarbon in Soil*, revised January 2008; and as determined by the Government of Nunavut, Environmental Protection Service based on the 2009 *Environmental Guideline for Site Remediation*; See Table No. 1;

“Type B Soil” means soil contaminated with petroleum hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis

consists of fuel oil and /or diesel fuel and /or gasoline; this soil does not contain heavy metals, glycols and heavy oils.

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

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

3. Enforcement

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the appurtenant undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:
 - a. A summary 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 7, 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 comply with the Monitoring Program described in this Licence, and any amendments to the Monitoring Program as may be made from time to time, pursuant to the conditions of this Licence.
3. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.
4. 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.
5. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
6. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
7. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to the Plans are to be submitted in the form of an Addendum to be included with the Annual Report required by Part B, Item 1, complete with a revisions list detailing where significant content changes are made.
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@nunavutwaterboard.org

(b) Inspector Contact:
Manager of Field Operations, INAC
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 (1) paper copy and one (1) electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
11. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
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.

PART C: CONDITIONS APPLYING TO WATER USE

1. No water use is authorized under this Licence.
2. The Licensee shall not remove any material from below the ordinary high water mark of any water body.
3. The Licensee shall not conduct any activity that will cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
4. The Licensee shall implement and maintain sediment and erosion control measures prior to and during the operation to prevent entry of sediment and/or dust into Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

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 discharges from the Landfarm. The notice shall include the estimated discharge volume, Effluent quality or results of monitoring under Part J, Item 6, and the proposed location for the discharge.

4. All Effluent discharged from the Landfarm at monitoring station CIL-1, shall not exceed the following Effluent quality limits:

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

5. If effluent does not meet the effluent quality limits in Part D, Item 4, 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.
6. The discharge location for all Effluents described in Part D Item 4 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.
7. The Licensee shall dispose of soils containing contaminants in excess of the Treatment Objectives off site at an approved treatment facility.
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.

PART E: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS

1. The Board has approved the Plan entitled “*Operation & Maintenance Plan for Chesterfield Inlet Landfarm*” dated May, 2012.
2. The Licensee shall, within six (6) months of the issuance of the Licence, submit to the Board for review an Addendum to the Plan approved under Part E, Item 1 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*”. that shall include or address the following items:
 - a. Dust controlling measures at the Landfarm;
 - b. Details regarding the construction and installation of the groundwater monitoring wells, locations and methods of sampling; and
 - c. A Quality Assurance/Quality Control Plan approved by an accredited laboratory as required under Part J, Item 11.

3. The Licensee shall provide to the Board, within ninety (90) days of completion of the construction of any dams, dykes or structures to contain, withhold, divert or retain water or waste, including facilities or systems for the treatment and disposal of hydrocarbon contaminated soil, all respective design drawings and construction reports, including all as-built drawings, documentation of field decisions that deviate from original plans and any data used to support these decisions. These plans and drawings shall be stamped by an Engineer.
4. The Licensee shall, during the excavation of soils to be treated within the Landfarm, implement measures prior to, during and following the excavation of soils, to prevent migration of sediments from the site that may impact water.
5. The Licensee shall not mix or blend PHC contaminated soils with non-contaminated soils for the expressed purpose of achieving the Treatment Objective.
6. The Licensee shall implement proper handling, storage and transportation procedures for the management of hazardous materials during clean-up activities.
7. The Licensee shall minimize disturbance to terrain, permafrost and drainage during extraction of granular material, movement of contractor's equipment and personnel around the site and removal of site debris.

PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing the groundwater monitoring wells and other instruments related to monitoring.
2. The Licensee shall not conduct any land-based drilling within thirty one (31) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing.
3. The Licensee shall ensure that all drill waste, including water, chips, muds and salts (CaCl_2) in any quantity or concentration, from land-based drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.
4. If artesian flow is encountered, drill holes shall be immediately sealed and permanently capped to prevent induced contamination of groundwater or salinization of surface waters. The Licensee shall report all artesian flow occurrences within the Annual Report, including the location (GPS coordinates) and dates.
5. The Licensee shall, where drilling activity has penetrated below the permafrost layer,

record the depth of permafrost and location of the drill hole for inclusion in the annual report required by Part B, Item 1.

PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Waste Disposal Facility provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. such Modifications are consistent with the NIRB Screening Decision
 - d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - e. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the Plan entitled “*Spill Contingency Plan for Chesterfield Inlet Landfarm*”, dated April, 2012 that was submitted as additional information with the Application.
2. The Licensee shall, within six (6) months of the issuance of the Licence, submit to the Board for review, an Addendum to the Plan approved under Part H, Item 1 that will address the AANDC concerns expressed and submitted to the NWB during the file review.
3. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the project do not enter water. All sumps and fuel caches shall be located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body and inspected on a regular basis.
4. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip

pans) to manage motor fluids and other waste and contain potential spills.

5. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the Spill Contingency Plan;
 - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the INAC Manager of Field Operations at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

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

1. The Plan entitled “*Abandonment and Restoration Plan for Chesterfield Inlet Landfarm*” dated May, 2012 has been approved by the Board.
2. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee’s operations.
3. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, material and equipment prior to the expiry of this Licence.
4. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
5. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut’s Environmental Guideline for Site Remediation, January 2009. 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.
6. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.
7. The Licensee shall complete all restoration work prior to the expiry of this Licence.

PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain the Monitoring Program Stations, sampling and analysis requirements as described in this section, at the following locations:

Monitoring Program Station	Description	Frequency	Parameters
CIL-1	Any apparent seepage or effluent discharged from the Landfarm	Monthly prior to freeze-up	Volume in accordance with Part J Item 5 Quality in accordance with Part J Item 6
CIL-2	Monitoring well up-gradient of the Landfarm	Once during spring freshet, and once during late summer	Quality in accordance with Part J, Item 7
CIL-3	Monitoring well down-gradient of the Landfarm	Once during spring freshet, and once during late summer	Quality in accordance with Part J, Item 7
CIL-4	Monitoring well down-gradient of the Landfarm	Once during spring freshet, and once during late summer	Quality in accordance with Part J, Item 7

2. The Licensee shall confirm the locations and GPS coordinates for all discharges identified and all Monitoring Program Stations referred to in Part H, Item 1 with an Inspector.
3. The Licensee shall measure and record the volume of all soil from all locations entering the Landfarm.
4. The Licensee shall assess and record the concentration of BTEX and F1 – F4 fractions in petroleum hydrocarbon contaminated soil, according to the CCME *Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil* that is entering the Landfarm from the Chesterfield Inlet Bulk Fuel Facility.
5. The Licensee shall record the volume of all Effluent discharged from the Landfarm at Monitoring Program Station CIL-1.
6. The Licensee shall sample prior to discharge at Monitoring Program Station CIL-1, to verify compliance with the Effluent quality limits under Part D, Item 4.
7. The Licensee shall sample at Monitoring Program Stations CIL-1, CIL-2, CIL-3 and CIL-4. Samples shall be analyzed for the following parameters:

Total Suspended Solids
Total Hardness

pH
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)	
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	

8. 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 indicate acceptable levels as determined under the CCME Canada Wide Standards for Petroleum Hydrocarbon Contaminated Soils Tier 1, Coarse-Fine grain soil and meeting the Treatment Objective.
9. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
10. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
11. The Licensee shall, within six (6) months following issuance of the Licence, submit to the Board a Quality Assurance/Quality Control (QA/QC) Plan for inclusion with the O&M Plan required under Part E, Item 2. The Plan shall include up-to-date sampling methods to all applicable standards and acceptable to an accredited laboratory as required by Part J, Item 10. The submission shall include a covering letter from the accredited laboratory, confirming acceptance of the Plan for analyses to be performed under this Licence.
12. Additional monitoring requirements may be requested by the Inspector.
13. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.
14. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.

Table No. 1

Remediation Requirements

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

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).