



## **NIRB Application for Screening #125677**

### **Baker Lake Landfarm**

**Application Type:** New

**Project Type:** Site Cleanup/Remediation

**Application Date:** 3/28/2022 11:01:57 AM

**Period of operation:** from 0001-01-01 to 0001-01-01

**Proposed Authorization:** from 0001-01-01 to 0001-01-01

**Project Proponent:** Sulaimon Ayilara  
Petroleum Products Division  
PO Box 590, Rankin Inlet, NU X0C 0G0  
Rankin Inlet, NU Nunavut X0C 0G0  
Canada  
Phone Number:: 8676458444, Fax Number::

## DETAILS

### Non-technical project proposal description

English: The proposed site for the landfarm is in Latitude 64.315, Longitude -96.020912 and (UTM) Zone 15 (Lot 1, Block 55, Plan 3512) at the back of PPD existing Oil Facility, away from the Hamlet of Baker Lake environmental pollution. The landfarm will be designed to hold 5000 CU.M. of contaminated soil for a maximum period of 4 years and decommission thereafter within the five years period allotted.

French: Le site proposé pour la ferme est à la latitude 64.315, longitude -96.020912 et (UTM) zone 15 (lot 1, bloc 55, plan 3512) à l'arrière de l'installation pétrolière existante de PPD, loin de la pollution environnementale du hameau de Baker Lake. Le landfarm sera conçu pour contenir 5000 CU.M. des sols contaminés pendant une période maximale de 4 ans et déclassement par la suite dans le délai de cinq ans imparti.

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## Personnel

Personnel on site: 10

Days on site: 30

Total Person days: 300

Operations Phase: from 2022-08-31 to 2026-08-31

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Baker lake Landfarm	Site Cleanup/Remediation	Commissioners	Propose landfarm will be at back of Existing PPD Oil Facility in Baker Lake where all contaminated soil will be remediated for environmental protection against hydrocarbon.	The location is not an archeological site, no history of physical remains of past human activities.	Site is protected and away from the Hamlet of Baker Lake environmental pollution and hazard.

## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Baker Lake	Richard Aksawnee	Mayor of the Baker lake Hamlet	2021-07-08

## Authorizations

Indicate the areas in which the project is located:

Kivalliq

### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Water Board	Water License	Applied, Decision Pending	2022-02-24	
Other	Nunavut Planning Commission	Applied, Decision Pending	2022-02-24	

### Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	Flights into Baker Lake by personel	
Water	By sealift (NEAS)	
Land	Move materials to site	

### Project accomodation types

Community

Other,

## Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Loader	2	N/A	For excavating gravel for the landfarm construction.
Excavator	1	N/A	For moving gravel
Dump truck	1	N/A	To move soil into landfarm
ZoomBoom	1	N/A	To move heavy materials to site

### Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	1	200	200	Liters	200
Contaminated soil	hazardous	2	3000	6000	Cubic Meters	3000

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
200	All contaminated water will be treated with our water treatment plant already on the Baker Lake site.	All water will be discharge after meeting all discharge criteria as per Environment Canada and Nunavut Water Act before discharge after treatment.

# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Landfarm	Hazardous	6000	Soil remediation inside the landfarm	Addition of fertilizer to impacted soils for remediation process.
Landfarm	Hazardous	6000	Fertilizer will be added into soil for treatment. Estimated 4tons of fertilizer will be use for treatment.	All gravel will be supply by Baker Lake Construction Limited.Gravel types are Class A, 3/4 sizes,

### Environmental Impacts:

ENVIRONMENTAL CONSIDERATIONS - PPD have a working water treatment plant on site of Baker Lake and all impacted water generated from the contaminated area around the landfarm will be treated and proper discharge criteria before release to the environment. Materials are in place to appropriately contain all contaminated water from leaching the landfarm which include the diversion of water and leachate to a suitable lined retention pond where it can be recycled over the landfarm materials to maintain moisture content. It should be noted that PPD initiated this control system during summer operations.

# **Additional Information**

**SECTION A1: Project Info**

**SECTION A2: Allweather Road**

**SECTION A3: Winter Road**

**SECTION B1: Project Info**

**SECTION B2: Exploration Activity**

**SECTION B3: Geosciences**

**SECTION B4: Drilling**

**SECTION B5: Stripping**

**SECTION B6: Underground Activity**

**SECTION B7: Waste Rock**

**SECTION B8: Stockpiles**

**SECTION B9: Mine Development**

**SECTION B10: Geology**

**SECTION B11: Mine**

**SECTION B12: Mill**

**SECTION C1: Pits**

**SECTION D1: Facility**

**SECTION D2: Facility Construction**

**SECTION D3: Facility Operation**

**SECTION D4: Vessel Use**

**SECTION E1: Offshore Survey**

**SECTION E2: Nearshore Survey**

**SECTION E3: Vessel Use**

## **SECTION F1: Site Cleanup**

## **SECTION G1: Well Authorization**

## **SECTION G2: Onland Exploration**

## **SECTION G3: Offshore Exploration**

## **SECTION G4: Rig**

## **SECTION H1: Vessel Use**

## **SECTION H2: Disposal At Sea**

## **SECTION I1: Municipal Development**

### **Description of Existing Environment: Physical Environment**

PPD Tank Farm Baker Lake, NU with Location GPS - (Lat./Long) = Latitude 64.315, Longitude -96.020912

### **Description of Existing Environment: Biological Environment**

Landfarm will be constructed with a strong HDPE liner engineered with gravel and fence gate around for human and wildlife interference protection.

### **Description of Existing Environment: Socio-economic Environment**

Existing PPD Oil facility presently provides fuel (Diesel and gasoline) to the Baker Lake community for energy to homes and offices. Soil contamination during gasoline spill of 2021 must be remediated inside the landfarm and thereby became necessary.

### **Miscellaneous Project Information**

Baker Lake Landfarm Construction Material, Equipment All material needed includes – liner HDPE, Geotextile cloth for underneath the liner. All equipment needed includes – Loader, Excavator, Zoom Boom, Dump truck and Packer. Where to get gravel to build this landfarm? If so, how are you going to get the material to the site; Answer - All gravel will be supply by Baker Lake Construction Limited in the Hamlet. They are al readily available in the community and will be supply by the local contractor Baker Lake Construction Limited. List all the heavy equipment you will be using for this project; Answer – Heavy equipment needed includes Loader, Excavator, Zoom Boom, Dump truck and Packer. Materials to be used to build the landfarm can be filled in the Material Use for example: Answer - All material needed includes liner HDPE, Geotextile cloth for underneath the liner. •Types of gravel and how much approximately - Answer - Class A gravel type, ¾ size and approximately 5000 cubic meters of gravel to be use. •List all materials to construct the lined landfarm; - Answer - All material needed includes liner HDPE, Geotextile cloth for underneath the liner. •Fence for the land farm; - Answer - Yes, the landfarm will be fence round to avoid wildlife and unauthorized person inside the landfarm. •Fertilizer is going to be used, how much are you going to be using approximately -Answer - Fertilizer usage is presently on sealift with NEAS and we will use estimated 4 tons of fertilizer.

### **Identification of Impacts and Proposed Mitigation Measures**

Baker Lake Landfarm requires the appropriate safeguards for the protection of human health and fence will be built around it. The potential for uncontrolled emissions, such as volatile organic compounds (VOCs), leachates and odours and any other adverse effects from treatment, needs to be considered on a site-specific basis according to the nature of the contamination and the conditions of the site. The landfarm will be located 2.5km from the Hamlet of Baker Lake, therefore no emissions reaching the general population. All operational procedures including Personal Protective Equipment (PPE) and methodology are outlined within the Operation and Maintenance Plan associated with this



landfarm. If properly operated every year, the risk of emissions affecting the general population or landfarm personnel is significantly decreased (EPA 2014).

### **Cumulative Effects**

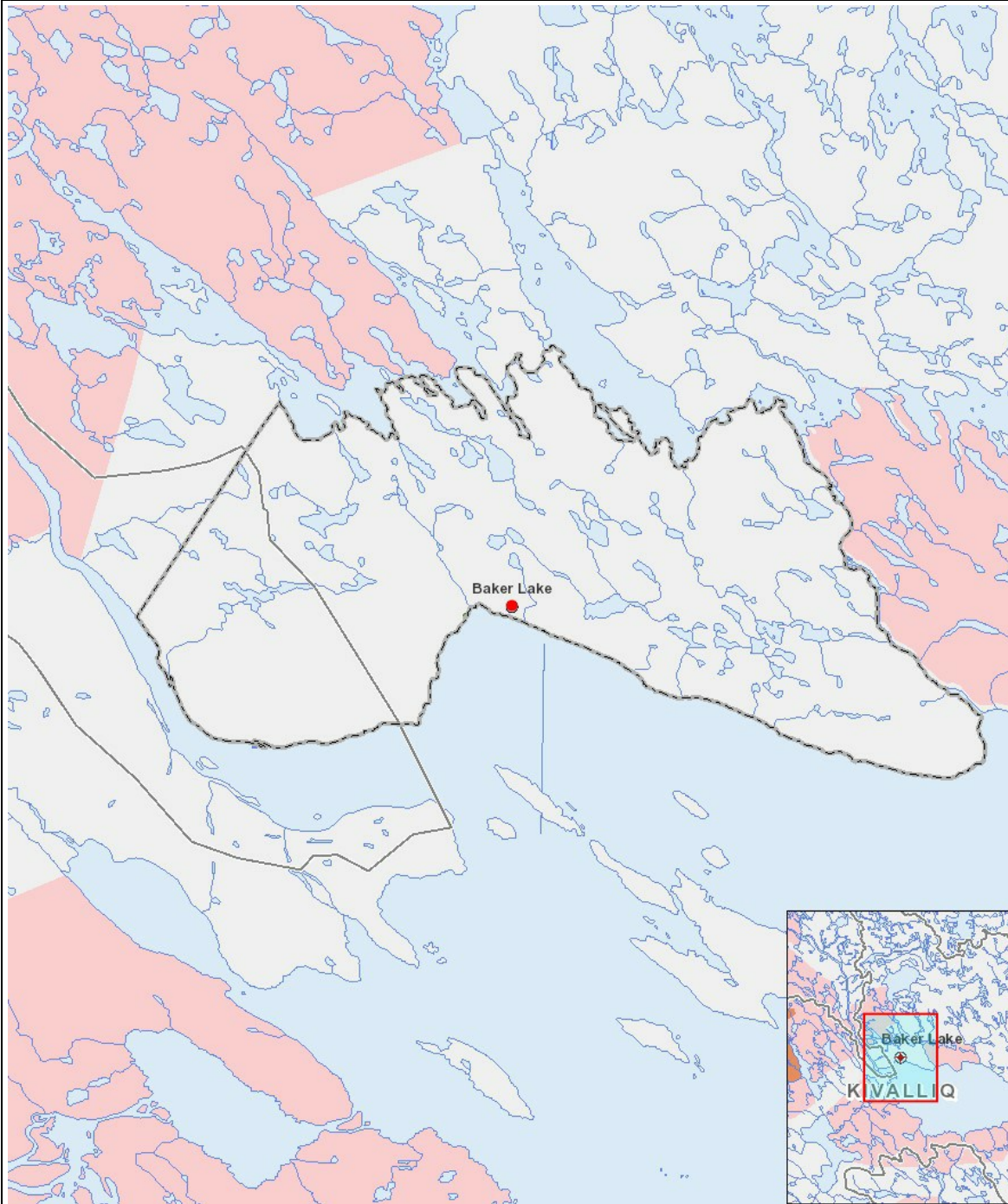
# Impacts

## Identification of Environmental Impacts

	PHYSICAL																								
	Designated environmental areas																								
	Ground stability																								
	Permafrost																								
	Hydrology / Limnology																								
	Water quality																								
	Climate conditions																								
	Eskers and other unique or fragile landscapes																								
	Surface and bedrock geology																								
	Sediment and soil quality																								
	Tidal processes and bathymetry																								
	Air quality																								
	Noise levels																								
	BIOLOGICAL																								
	Vegetation																								
	Wildlife, including habitat and migration patterns																								
	Birds, including habitat and migration patterns																								
	Aquatic species, incl. habitat and migration/spawning																								
	Wildlife protected areas																								
	SOCIO - ECONOMIC																								
	Archaeological and cultural historic sites																								
	Employment																								
	Community wellness																								
	Community infrastructure																								
	Human health																								
Construction																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	
Operation																									
Site Cleanup/Remediation		M	P	U	-	P	U	U	U	U	U	P	U		P	M	M	M	P		N	U	P	P	P
Decommissioning																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

## Project Location



## List of Project Geometries

1	point	Baker lake Landfarm
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