Petroleum Products Division,

Department of Community & Government Services,

Government of Nunavut

SPILL CONTINGENCY PLAN

BAKER LAKE PROPOSED LANDFARM

In accordance to the Consolidation of Spill Contingency Planning and Reporting Regulations R-068-93, Section 3 and 4 (1)(2) a,b,c,d,e,f,g,h,I, and j which states that:

A spill contingency plan for a facility must contain the following information:

a) the name, address and job title of the owner or person in charge, management or control;

Name and mailing address of owner - Petroleum Products Division, Government of Nunavut,
PO Box 590, Rankin Inlet, NU X0C 0G0

(b) the name, job title and 24-hour telephone number for the persons responsible for activating the spill contingency plan;

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(c) a description of the facility including the location, size and storage capacity;

Name of Facility operator – Petroleum Products Division, Government of Nunavut.

Proposed location of landfarm - Baker Lake, NU - Latitude 646550.447, Longitude – 7135564.12

Storage capacity – 40 X 80 meter with 5000 cubic metre of contaminated soil capacity.

(d) a description of the type and amount of contaminants normally stored at the location described in paragraph (c);

The Petroleum Products Division (PPD) supplies fuel products diesel, gasoline, Jet-A, Naptha to all vehicles, homes, offices, hospitals for energy power. The fuel product spill due to many factors which are beyond control due to weather, damaged valves and piping and many more.

The proposed 5000 cubic meter facility of impacted soil landfarm will serve as environment protection against hydrocarbon which is bad to human health and soil remediation facility.

(e) a site map of the location described in paragraph (c);

(f) the steps to be taken to report, contain, clean up and dispose of contaminants in the case of a spill;

In prevention of spill inside the landfarm, PPD will:

- The landfarm will be designed to prevent seepage as per drawing. The berm is was 1.5 to 2meter slope and is lined with an impervious HDPE 60 mil textured membrane on either side of the liner which will be 40 m X 80 m in length and width.
- There is a solid membrane which protect the liner from contacting the native ground that could have sharp edges, which in turn could cause wear and tearing of the liner.
- Equipment are all protected from contacting the liner over the lift of sand by the geo-textile membrane with further gravel on top of that which ensure containment of the contaminates to avoid spill out of the landfarm.

- Water monitoring wells have been designed into landfarm plan which will help to monitored wells to ensure no contamination of the local groundwater.

Reporting spill;

Spill Contingency Plan identifies lines of authority and responsibility, established proper reporting and communication procedures and described an action plan to be implemented in the event of a spill. All the information necessary to effectively control and clean up a spill.

- Stop source of spill.
- Clean up the spill.
- Write a spill report or call spill number for reporting a spill on the 24-Hour Spill Report Line by calling (867) 920-8130.

(g) the means by which the spill contingency plan is activated;

- Communication of spill plan.
- Training of employee.
- Prompt response to spill.

(h) a description of the training provided to employees to respond to a spill;

Training includes –

- First aid training.
- Transportation of dangerous goods training.
- Spill response training.

(i) an inventory of and the location of response and clean-up equipment available to implement the spill contingency plan;

Spill inventory is maintained to ensure spill is cleanup as soon it happen to minimize environmental degradation.

- 2 Spill drum of 55 gallon
- 20 5”x10’ oil only boom
- 50 – oil only pads
- 1 – oil only rolls (150’)
- 10 – green nitrile gloves (pairs)
- 5 – splash goggles
- 5 – Tyvek suits
- 5 – yellow Hazmat disposal bags
- 4 – 24” x 24” x 4’ yellow berm
- 6 Aggressors Men’s Insulated Rubber Boots (various sizes)

- 12 Disposable coveralls (various sizes)
- Heavy duty garbage bags, 50 pack
- 5 Safety Glasses; clear anti-fog lens
- 5 Chemical Resistant gloves, orange PVC coated, gauntlet cuff
- 5 Thermal Insulated high performance work gloves
- 2 packs of hand sanitizing wipes (20/box)
- 5 Spading Forks
- 2 Clear Plastic Sheeting 6mm 40ftx100ft
- Dispenser Box Wipes
- 4 Fiberglass Rakes
- 5 Bow rakes
- 5 Square Point Shovel with long handle
- Safety First Aid Kit for 6-15 persons
- First Aid Kit 1-5 persons

(j) the date the contingency plan was prepared.

The contingency plan was prepared on July 28, 2022

SOIL QUALITY REMEDIATION OBJECTIVES

The objective of landfarm is to remediate contaminated soil through addition of fertilizer which aid revitalization of the hydrocarbon in the soil. Soil sample procedure will be obtained to ensure parameters of BTEX, F1 to F4 are meet against levels of petroleum hydrocarbons in soil as a minimum, based on the GN and CCME Guidelines.

TABLES

Table 1 Remediation Requirements

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

Notes: All values are in parts per million (ppm)
a = Where applicable, for protection of potable groundwater
b = Assumes contamination near residence

Data from CCME *Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil,* (2001) Revised January 2008 and the Government of Nunavut *Environmental Guideline for Site remediation* (2009).

SITE MONITORING PROGRAM

Soil and Water samples are taken yearly, before the snow season, immediately after the contaminated soil is turned. This is a good indicator of the progress of the remediation. All samples are taken on a 10 by 10-meter grid. Piezometers will be checked yearly until freeze up. Any water collected in any piezometer are tested for:

- PHC
- BTEX, F1 to F4
- Total Metals

During construction of the landfarm, background groundwater parameters were collected and tested for reference. QA/QC programs will be implemented soon as part of our monitoring program.