

NORTHQUEST LTD
FUEL SPILL CONTINGENCY PLAN
FOR EXPLORATION CAMP AND DRILL SITES
PISTOL BAY AREA
NUNAVUT

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PREAMBLE

This Fuel Spill Contingency Plan is effective from the date of issuance of all water licences and land use permits currently being applied for by Northquest Ltd on its Pistol Bay property located 15 km north of Whale Cove, Nunavut, until the expiry of said licences and permits.

The Fuel Spill Contingency Plan has been prepared for internal company use and distributed to NWB for approval as part of Northquest Ltd's Water Licence application.

1.0 INTRODUCTION

The purpose of Northquest Ltd.'s Fuel Spill Contingency Plan is to provide a plan of action for any spill event during the Company's exploration program in the Pistol Bay area of Nunavut. This Plan provides the protocol for responding to spills (or potential spills) that will minimize health and safety hazards, environmental damage and clean-up costs as well as defining responsibilities of response personnel. This Fuel Spill Contingency Plan details the sites that operations will be conducted upon, describes the response organizations, action plans, reporting procedures and training exercises in place.

2.0 SITE INFORMATION

2.1. **Campsite** The campsite is located at 62 21 05.2N, 92 45 19.7W

Capacity: 13 – 25 people

Structures: Eleven x 14' x 16' Weatherhaven sleep tents heated with propane
 One 14 x 32' plywood kitchen heated with propane
 One 14' x 16' plywood coreshack heated with propane
 One 14' x 16' Weatherhaven dry heated with propane
 One 14' x 16' Weatherhaven core cutting tent
 One 14' x 16' Weatherhaven storage tent
 One 14' x 20' Weatherhaven office tent heated with propane
 One 8' x 8' plywood generator shack
 Two plywood outhouses
 One heli-pad
 One fuel cache stored in four "Insta berms" equipped with water drains
 Spill response equipment located beside fuel berms and heli-pad

Machinery One Ford F250 pick up
 Four 500 cc Honda ATV's
 Two 650 cc Ski Doo snowmobiles
 One 7.5 kW diesel generator
 One 15 kW gasoline generator
 One 50 cc Honda water pump
 One A Star B2 helicopter
 One D1 Discovery hydraulic diamond drill
 Two D2 Discovery diamond drills
 Two diesel water pumps for diamond drills

2.2. **Camp and Drill Sites**

Drilling will occur at the Bazooka and Vickers targets, shown on the attached map titled "Property Configuration"

Campsite: Jet A, diesel fuel, and gasoline to be stored in 45 gal (205 litre) drums stored in portable "Insta Berms" that are outfitted with filtered water drains. Currently, 50 drums of Jet A and 20 drums of diesel fuel are stored. It is planned that an additional 190 drums of Jet A, 200 drums of diesel fuel and 10 drums of gasoline will be purchased for use during 2015.

These will be located a minimum of 31 metres from the normal high water mark and in such a manner that no fuel can enter any such water body.

Drill Sites: Up to 3 drums of diesel fuel and 10 gallons of drill additives to be stored on each drill pad. These will be continuously renewed during the drilling program.

2.3. Effective Date of Plan

June 25, 2015 is the effective date of the plan.

2.4. Background Information on the Camp Site

The site is located on a wave-modified, flat-topped esker that was once used as part of an ATV trail network. The Hamlet of Whale Cove recently completed a new gravel-topped road system that allows two-wheel drive vehicles to travel from Whale Cove to the mouth of the Wilson River. The Hamlet also refurbished the existing road which extends to the Pistol Bay campsite. This allows Northquest personnel to travel by pick-up to Whale Cove, the Whale Cove airport and to the Vickers drill target. However, a helicopter is still the primary mode of transport for the project.

3.0 RESPONSE ORGANIZATION

Camp Manager – responsible for checking fuel drum conditions and evidence of leakage daily, assuring drip trays are in place and not overflowing; keeping spill kits and absorbent mats in good repair and accessible. If spill or likelihood of a spill occurs the Technician will immediately report to the **Project Supervisor**.

Pilots and Drill Shift Boss to report spills or potential spills to the **Project Supervisor**.

Project Supervisor will report any spill to the NWT 24-Hour Spill Report Line and initiate clean-up. Project Supervisor will request additional aid from external sources if deemed necessary.

If one or more of these key personnel are absent from the site an alternative person will be named as either Camp Manager or Project Supervisor for the interim.

Terry Woods or Jon North will be responsible for activating the spill contingency plan.

4.0 REPORTING PROCEDURE

Communication in the way of two-way radios will be set-up in the event that if a spill occurs outside of camp at either the drill rig or external fuel cache it can be immediately reported to the Project Supervisor.

All spill kits located at all sources of fuel will have contact information for the NWT Spill Report Line prominently displayed.

A listing of the NWT 24 Hour Spill Report Line as well as other government contacts and company officials will be displayed adjacent to the satellite phone in camp. (See Reporting Procedure and Contacts below).

SPILL REPORTING PROCEDURE

Fill, out "SPILL REPORT" as completely as possible before making the report.
Report IMMEDIATELY to Yellowknife using the 24-hour Spill Report Line.

**24-HOUR SPILL REPORT LINE (867) 920-8130
AND TO
DIAND WATER RESOURCES INSPECTOR (867) 975-4298**

NOTE: Telephone calls can be made collect by informing the Operator that you wish to report a spill.

RCMP communications may be used if other means are not available.

Additional Information or Assistance:

Regulatory Bodies:

Government of Northwest Territories
Pollution Control Division
Yellowknife

Phone: (867) 873-7654

Department of Indian Affairs and
Northern Development
Yellowknife

Phone: (867) 920-8240

Environment Canada (Jim Noble)
24 Hour Pager
Yellowknife

Phone: (867) 975-4644
Phone: (867) 920-5131
Phone: (867) 873-8185

Environment Canada
Iqaluit

Phone: (867) 975-4639
Emergency Pager: (867) 920-5153

Environment Canada Enforcement Officer
(Iqaluit)

Phone; (867) 975-4644

Nunavut Water Board

Phone: (867) 360-6338
Fax: (867) 360-6369

GN-Doe Environmental Protection –Rob Eno

Phone (867) 975-7729

Environmental Protection
Government of Nunavut

Fax: (867) 975-5981

Indian and Northern Affairs Canada
Water Resources Manager
Nunavut Regional Office

Phone: (867) 975-4550
Fax: (867) 975-4585

Indian and Northern Affairs Canada
Land Administration Minister
Nunavut Regional Office

Phone: (867) 975-4280
Fax: (867) 975-4286

Department of Fisheries and Oceans
Nunavut Regional Office
Manager Pollution Control and Air Quality

Phone: (867) 979-8000
Fax: (867) 979-8039
Phone: (867) 975-5907

RCMP Detachment
Whale Cove

Phone: (867) 896-0123
or (867) 896-1111

Keewatin Air Ambulance

Phone: (867) 645-4455

Local Contractor- Panika and Sons (Whale Cove)

Phone: (867) 896-9038

Local Contractor – M&T Ent. (Rankin Inlet)

Phone: (867) 645-2778

A detailed report on each occurrence must also be filled out with the DIAND Water Resources Inspector no later than 30 days after initially reporting the event. The Spill Report Form is attached as Appendix I.

5.0 INITIAL ACTION

- 1.0 Stay alert and consider safety first. Identify the source of leak or spill and the type of product.
- 2.0 Assess the hazards to the persons in the vicinity of the spill.
- 3.0 Isolate or remove any potential ignition source.
- 4.0 Control danger to human life if possible.
- 5.0 Assess whether the spill can be readily stopped or brought under control.
- 6.0 If safe (and possible) try to stop the flow.
- 7.0 Report the spill to the Project Supervisor and to the NWT 24-hour Spill Report Line (867) 920-8130.
- 8.0 Initiate or resume clean-up.

6.0 ACTION PLANS

The following responses are recommended for fuel spills in differing environments. Depending on the location and size of the exploration program some of the equipment mentioned in the responses listed below will obviously not be located on site but could be transported to the spill if deemed necessary. The most likely scenario for fuel spills in this type of exploration program would include: leaking drums, hydraulic line malfunction and re-fueling operations. It is not anticipated that a spill of more than 45 gallons will occur as no fuel container on-site will exceed this capacity.

6.1 Spills on Land (gravel, rock, soil and vegetation)

Trench or ditch to intercept or contain flow of fuel or petroleum products on land where feasible (loose sand, gravel and surface layers of organic materials are amenable to trenching/ditching-trenching in rocky substrates is typically impractical and impossible).

Construct a soil berm downslope of the spill. Use of synthetic, impervious sheeting can also be used to act as a barrier.

Where available, recover spills through manual or mechanical means including shovels, heavy equipment and pumps.

Absorb petroleum residue with synthetic sorbent pad materials.

Recover spilled and contaminated material, including soil and vegetation.

Transport contaminated material to approved disposal or recovery site. Equipment used will depend on the magnitude and location of the spill.

Land based disposal is only authorized with the approval of government authorities.

6.2 Spills on Snow

Trench or ditch to intercept or contain flow of fuel or petroleum products on snow, where feasible (ice, snow, loose sand, gravel and surface layers of organic materials as amenable to trench/ditching; trenching in solid, frozen ground or rocky substrates is typically impractical and impossible).

Compact snow around the outside perimeter of the spill area.

Construct a dike or dam out of snow, either manually with shovels or with heavy equipment such as graders or dozers where available.

If feasible, use synthetic lines to provide an impervious barrier at the spill site.

Locate the low point of the spill area and clear channels in the snow, directed away from waterways, to allow non-absorbed material to flow into the low point.

Once collected in the low area, option include shoveling spilled material into containers, picking up with mobile heavy equipment, pumping liquid into tanker trucks or using vacuum truck to pick up material.

Where safe, disposal can be done through in-situ combustion with approval from government and safety consultants.

Transport contaminated material to approved disposal site. Equipment used will depend on the magnitude and location of the spill.

6.3 Spills on Ice

Contain material spill using methods described above for snow, if feasible and/or mechanical recovery with heavy equipment.

Prevent fuel/petroleum products from penetrating ice and entering watercourses.

Remove contaminated material, including snow/ice as soon as possible.

Containment of fuel/petroleum products under ice surface is difficult given the ice thickness and winter conditions. However, if the materials get under ice, determine area where the fuel/petroleum product is located.

Drill holes through ice using ice auger to locate fuel/petroleum product.

Once detected, cut slits in the ice using chain saws and remove ice blocks.

Fuel /petroleum products collected in ice slots or holes can be picked up via suction hoses connected to portable pump, vacuum truck or standby tanker. Care should be taken to prevent the end of the suction hose clogging up by snow, ice or debris.

Fuel/petroleum products that have collected in ice slots may be disposed of by in-situ burning if sufficient holes are drilled in ice. Once all the holes are drilled, the oil which collects in the holes may be ignited. Consult with fire/safety consultants and government authorities to obtain approval.

6.4 Spills on Water

Contain spills on open water immediately to restrict the size and extent of the spill

Fuel/petroleum products which float on water may be contained through the use of booms, absorbent materials, skimming and the erection of culverts.

Deploy containment booms to minimize spill area, although effectiveness of booms may be limited by wind, waves and other factors.

Use sorbent booms to slowly encircle and absorb spilled material. These absorbent are hydrophobic (absorb and repel water).

Once booms are secured, use skimmers to draw in hydrocarbons and minimal amounts of water. Skimmed material can be pumped through hoses to empty fuel tanks/drums.

Culverts permit water flow while capturing and collecting fuel along the surface with absorbent materials.

Chemical methods including dispersants, emulsion – treating agents and shoreline cleaning will be considered.

6.5 Spills Due to Accidental Load Release

The loss of external loads of fuel, oil or chemicals from the helicopter requires an immediate response.

- 1) Obtain GPS co-ordinates of the location and contact base camp. Include quantity and type of load loss.
- 2) Base camp will contact the 24-Hour Spill Line and receive instructions on follow up procedures.
- 3) Administer the appropriate procedure for spills on Land, Water, Snow or Ice

NOTE:

1. **Material Safety Data Sheets** for all hazardous materials involved in this project are listed in Appendix II. These MSDS sheets are for all drilling mud, polymers and greases as well as for calcium chloride, diesel, Jet B, propane and gasoline.
2. In-situ combustion is a disposal method available for fuels and petroleum products. In-situ burning can be initiated by using a large size portable propane torch (tiger torch) to ignite the fuel/petroleum products. Highly flammable products such as gasoline or alcohol, or combustible material such as wood, may be used to promote ignition of the spilled product. The objective is to raise the temperature for sustained combustion of the spilled product.

Precautions need to be taken to ensure safety of personnel. Also, spilled product should be confined to control burning. These include areas where the spilled material has pooled naturally or been contained via dikes, trenches, depressions or ice slots. Prior to any attempts at in-situ burning, consultation with experts and approval by government authorities are required.

- 3.
4. Chemical response methods are also available and may include the use of dispersants, emulsions-treating agents, visco-elastic agents, herding agents, solidifiers, and shoreline cleaning agents.
5. Biological response methods include nutrient enrichment and natural microbe seeding.
6. Site remediation will be completed as per the advice of government authorities.

7.0 RESOURCE INVENTORY

Resources available on site:

Trenching/digging equipment in the form of picks and shovels.

Pumps

Impervious sheeting (tarps)

Plastic bags, buckets, empty drums for collection of contaminated material.

2 Spill Kits containing:

4 – oil sorbent booms (5" x 10')

100 – oil sorbent sheets (16.5" x 20" x 3/8")

1 – drain cover (36" x 36" x 1/16")

1 – 1lb plugging compound

2 – pair Nitrile gloves

2 – pair Safety goggles

10 – disposable bags (24" x 48")

8.0 TRAINING/EXERCISE

All contract personnel will be briefed and given a copy of the Fuel Spill Contingency Plan before field operations begin. Mock spill exercises will be conducted early in the program to ensure response criteria, communication and reporting requirements are met and fully understood.