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CANADA

LEEWARD CAPITAL CORP.

FUEL SPILL CONTINGENCY PLAN

PISTOL LAKE PROJECT, NU

Prepared by:
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PREAMBLE

This Fuel Spill Contingency Plan is effective from the date of issuance of the water licence and land use permit associated with the Pistol Lake Project in the Kitikmeot Region of Nunavut, until the expiry of said licences and permits.

The Fuel Spill Contingency Plan has been prepared for internal company use and distributed to regulators for approval as part of Leeward Capital Corp.'s Pistol Lake, Land Use and Water Licence permits.

1.0 INTRODUCTION

The purpose of the Leeward Capital's (the Company) Pistol Lake Fuel Spill Contingency Plan is to provide a plan of action for any spill event during the Company's exploration program in the Kitikmeot Region 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.

The Fuel Spill Contingency Plan will;

- *Promote the safe and careful use of potentially hazardous materials;*
- *Promote the safe and effective recovery of spilled potentially hazardous materials;*
- *Minimize the environmental impacts of spills to snow, ice, water or land;*
- *Identify roles, responsibilities and reporting procedures for spill events;*
- *Provide readily accessible emergency information to clean-up crews, management and government agencies, and;*
- *Comply with federal and territorial regulations and guidelines pertaining to the preparation of contingency plans and notification requirements in the event of an emergency or spill.*

2.0 SITE INFORMATION

2.1. Campsite

The Pistol Lake Project camp is a temporary 16 person camp located on Inuit Owned Land (subsurface) at 67°02'54.42"N, 108°47'23.30"W

Capacity: 16 people

Structures
Five 14 x 16 Weatherport sleeping tents
One 14 x 16 Kitchen Tent
One 14 x 16 Dry tent
One 16 x 20 Core Shack
One 14 x 16 Office tent
One 14 x 16 Core Cutting Shack*
One 14 x 16 Generator Shack (plywood structure)
One incinerator shack if needed (plywood structure)
One Toilet room (plywood structure)
One insulated pump shack (plywood structure)
One insulated heat shack for drill

Equipment: Camp
One A-Star BK Helicopter
One 12 kw generator
One 50 cc Honda electric pump
One dual chambered incinerator
Twelve diesel tent heaters

One propane kitchen stove/oven
Two freezers
One electric kitchen refrigerator
One washer/dryer
Two Pacto toilets
One rock saw and small gasoline powered generator (equipment pair)
Spill response equipment located beside fuel caches/heli-pad and drills

Equipment: Drill
One Boyles model 56 core drill with 20' mast,
One Hermon Nelson type heater for drill shack
One 9 w generator
One pressure pump
Fluid and mixing tanks
One water filter to remove cuttings from water return
One electric submersible pump
Two inline water heaters

2.2. Campsite and Fuel Caches

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. 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. Less than 19 drums will be stored in each fuel cache.

Two fuel caches will be located at helipad next to camp, & one small cache at the drill site.

2.3. Effective Date of Plan

The Plan is effective concurrent with all licences and permits for the Project.

2.4. Background Information on the Camp Site

The campsite is located at (67°02'54.42"N, 108°47'23.30"W). The terrain is generally rocky without an abundance of vegetation.

3.0 PETROLEUM AND CHEMICAL STORAGE

Fuel type	*Purpose*	*Size*	*Quantity*	*Total*
Jet A	*Helicopter use*	*205 litre drums*	*90*	*90*
Diesel	*Generator*	*205 litre drums*	*130 + 40*	*170*
propane	*Heater*	*100 lb bottles*	*4 + 15*	*19*
Engine oil	*Generator and Heli, Drill*	*20 Litre pails* *4 Litre jugs*	*8* *32*	*40*
AMC 1300 polymer biodegradable drilling mud	*To go in the drillhole*	*20 Litre pails*	*79*	*79*
Gasoline		*205 litre drums*	*2*	*2*
Calcium chloride		*20 kg containers*	*600*	*600*
Bio hydraulic oil	*Drill use*	*20 Litre pails*	*32*	*32*

All fuels for exploration purposes (Jet A, gasoline and diesel) are stored in 205 litre (45 gal) metal drums. Propane is stored in standard 100lb propane tanks. Material Safety Data Sheets (MSDS) for these and other petroleum-based products used in the program are in Appendix B.

Fuel caches will be located at the drill pad and will be in accordance with CSA approved methods of storage of drummed product. Spill kits will be located at each temporary remote fuel cache, the drill and at the helicopter pad and fuel will be stored in Insta-berms.

Fuel cache inspections will occur on a regular basis for leaks, damaged or punctured drums.
Empty fuel drums will be backhauled to Yellowknife for disposal. A Waste Manifest will accompany all shipments.

3.1 Petroleum Transfer Method

Manual, electric engine powered pumps, along with the appropriate filtration devices, may be used for the transfer of petroleum products from their storage drums to their end use fuel tanks. Spill kits will be at all petroleum transfer stations.

4.0 RISK ASSESSMENT AND MITIGATION OF RISKS

The following is a list of sources:

- Drummed Products: Leaks or ruptures may occur or bung caps may be loose. This includes Jet fuel, diesel, waste fuel and waste oil.
- Fuel cylinders: Propane leaks may occur at the valves.
- Equipment: Helicopter and fixed wing aircraft, generator, pumps.

Incidents involving leaking or dripping fuels and oils may occur due to malfunctions, impact damage, and lack of regular maintenance, improper storage or faulty operation. Regular inspection and maintenance in accordance with recognized and accepted standard practices at all fuel caches, reduces the risks associated with the categories listed above.

4.1 RESPONSIBILITIES

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 to report spills or potential spills to the **Project Supervisor.**

Project Supervisor will report any spill to the NWT/Nunavut 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.

Project Supervisor –TBD
Camp manager TBD

5.0 RESPONDING TO FAILURES AND SPILLS

In the case of any spill or environmental emergency, it is necessary to react in the most immediate, safe and environmentally responsible manner. No spill or incident is so minor that it can be ignored and every spill must be reported.

5.1 BASIC STEPS

The basic steps of the response plan are as follows:

1. Ensure the safety of all persons at all times.
2. Identify and find the spill substance and its source, and, if possible, stop the process or shut off the source.
3. Inform the immediate supervisor or his or her designate at once, so that he/she may take appropriate action. Appropriate action includes the notification of a government official, if required; Spill Report forms are included at the back of this plan.
4. Contain the spill or environmental hazard, as per its nature, and as per the advice of CIRNAC Water Resources Inspector as required.
5. Implement any necessary cleanup or remedial action.

5.2 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 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/NU Spill Report Line prominently displayed.

A listing of the NWT/NU 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).

Immediately notify the Leeward Capital head office T: 403-710-6328 and report to the 24 Hour Spill Line at (867) 920-8130 (Fax: 867-873-6924), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Land Use Resource Management Officer (867) 982-4306 and KIA Land Use Inspector (867) 982-3310 ext. 223

1. A Spill Report Form (Appendix C) is filled out as completely as possible before or after contacting the 24 Hour Spill Line.

5.3 EMERGENCY CONTACT LIST

CONTACT	CONTACT NUMBER (Tel / Cell)
Project Supervisor James W. Davis	403-710-6328
Leeward Capital Corp. office	403-710-6328
Camp Manager	TBD
24 Hour Emergency Spill Line phone / fax	(867) 920-8130, (867) 873-6924
Kitikmeot Inuit Association Land Use Inspector	(867) 982-3310 ext. 223
CIRNAC Water Resources Inspector	(867) 975 4295
Kugluktuk Health Centre (24 hr phone line)	(867) 982-4531
Kugluktuk RCMP; Office Hours / Emergency	(867) 982-0123 / (867) 982-1111

Keewatin Air Ambulance	(867) 645-4455
Discovery Mining Services	(867) 920-4600
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Land Use Resource Management Officer	(867) 982-4306

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

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 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.

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 booms 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.

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 B. These MSDS sheets are for diesel, Jet A, propane, drilling mud and oil.

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. 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.

4. Biological response methods include nutrient enrichment and natural microbe seeding.

5. 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.
4 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

Leeward Capital Corp. is aware that without practice no Spill Contingency Plan has value.

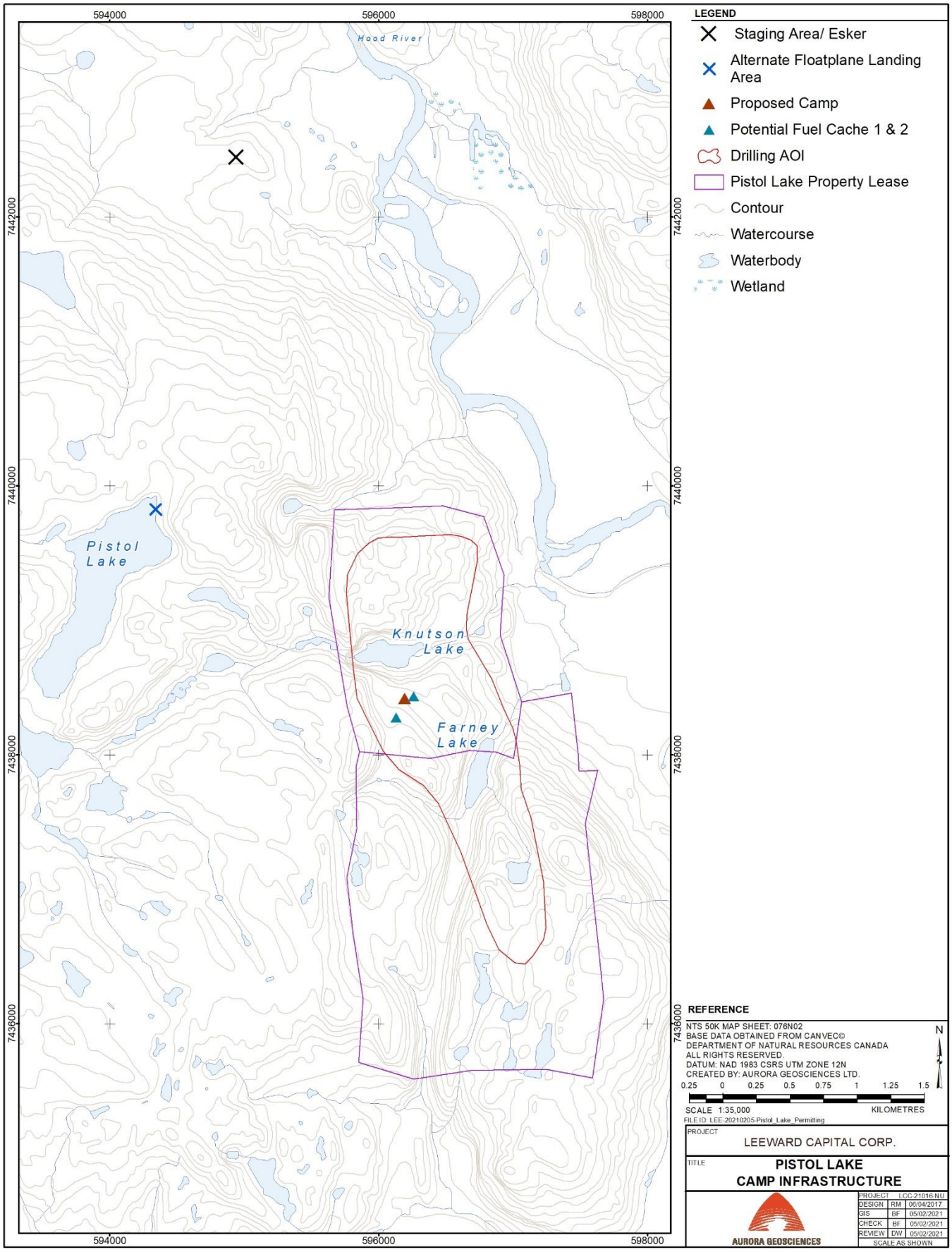
At least one practice drill will be held each season to give all employees and contractors a chance to practice emergency response skills. Each practice will be evaluated and a report prepared with the objective of learning where gaps and deficiencies exist, and in what areas more practice is required. Response criteria, communication and reporting requirements will be discussed to ensure everyone fully understands them.

APPENDICES

A = PROJECT MAP

B = MSDS SHEETS

C = SPILL FORM


LEGEND
Staging Area/ Esker
Alternate Floatplane Landing Area
Proposed Camp
Potential Fuel Cache 1 & 2
Drilling AOI
Pistol Lake Property Lease
Contour
Watercourse
Waterbody
Wetland
Hood River
Pistol Lake
Knutson Lake
Farney Lake
594000
596000
598000
7442000
7440000
7438000
7436000
REFERENCE
NTS 50K MAP SHEET: 076N02
BASE DATA OBTAINED FROM CANVEC©
DEPARTMENT OF NATURAL RESOURCES CANADA
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DATUM: NAD 1983 CSRS UTM ZONE 12N
CREATED BY: AURORA GEOSCIENCES LTD.
N
0.25 0 0.25 0.5 0.75 1 1.25 1.5
SCALE 1:35,000
KILOMETRES
FILE ID: LEE-20210205-Pistol_Lake_Permitting
PROJECT
LEEWARD CAPITAL CORP.
TITLE
PISTOL LAKE
CAMP INFRASTRUCTURE
AURORA GEOSCIENCES
PROJECT LCC-21016-NU
DESIGN RM 06/04/2017
GIS BF 05/02/2021
CHECK BF 05/02/2021
REVIEW DW 05/02/2021
SCALE AS SHOWN