



**COMMANDER  
RESOURCES LTD.**

**FUEL SPILL CONTINGENCY PLAN**

**FOR THE STORM PROJECT**

**NUNAVUT, CANADA**

**June, 2012**

**PREAMBLE:**

This Fuel Spill Contingency Plan applies to exploration programs to be conducted by Commander Resources Ltd. in northern Somerset Island, Nunavut.

Copies and updates of this Plan may be obtained by writing to:

Eric W. Norton  
President  
Commander Resources Ltd.  
11<sup>th</sup> Floor, 1111 Melville Street  
Vancouver, B.C.  
Canada V6E 3V6

## 1.0 INTRODUCTION

The purpose of Commander Resources Ltd.'s Fuel Spill Contingency Plan is to provide a plan of action for any spill event during the Company's exploration programs in the northern area of Somerset Island, Nunavut. This Plan provides the protocols for responding to spills (or potential spills) that minimizes health and safety hazards, environmental damage and clean-up costs as well as defining responsibilities of response personnel.

The area of exploration is 112 kilometres south of Resolute within NTS maps 058C / 10, 11, 12, 13, and 14.

The duration of exploration programs is typically April to September. Work could involve mobile skid-mounted drilling on ice in the spring and helicopter supported drilling, mapping, sampling, prospecting and ground geophysical programs during the summer months.

Once the exploration program being conducted from the Storm base camp commences fuel and hazardous materials will be stored at a proposed fuel cache adjacent to the proposed camp.

### Storm Fuel Cache

205 litre steel drum Fuel Cache	All JET A, diesel and gasoline fuel is stored in 205 litre steel drums. Quantities of up to 125 drums of JET A, 1 drum of gasoline and 100 drums of diesel will be located a minimum of 31 metres from normal high water mark and in such a manner that no fuel can enter any such water body. All fuel caches with 205 litre steel drums will have secondary containment in the form of Arctic Insta Berms that are provided by Raymac Environmental Services Inc.
100 lb Propane Cylinder Cache	Propane will be stored in a separate secured storage area a minimum of 31 metres from any adjacent structure.

## 2.0 RESPONSE ORGANIZATION

**Project Supervisor** - will report any spill to the Yellowknife 24-Hour Spill Report Line and initiate cleanup. Project Supervisor will request additional aid from external sources if deemed necessary. Responsible for checking fuel drum conditions and evidence of leakage daily, keeping spill kits and absorbent mats in good repair and accessible.

Project Supervisor:

Stephen Potts, VP of Exploration

Phone: (604) 584-5254 (office)

24 Hour Emergency Contact for Commander Resources Ltd.

Eric W. Norton, President & CEO

Phone: (604) 484-4077 (office), (778) 996-2350 (mobile)

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

### **3.0 INITIAL ACTION**

1. Stay alert and consider safety first. Identify the source of leak or spill and the type of product.
2. Assess the hazards to persons in the vicinity of the spill.
3. Isolate or remove any potential ignition source.
4. Control danger to human life if possible.
5. Assess whether the spill can be readily stopped or brought under control.
6. If safe (and possible) try to stop the flow.
7. Initiate or resume clean up.
8. Report the spill to the Project Supervisor and to the Yellowknife 24-hour Spill Report line at (867) 920-8130.

### **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, external fuel cache, or while unloading from an aircraft it can be immediately reported to the Project Supervisor.

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

A listing of the Yellowknife 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 provided below)

### **SPILL REPORTING PROCEDURE**

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

**24-HOUR SPILL REPORT LINE (867) 920-8130**

**AND TO**

**AANDC MANAGER OF FIELD OPERATIONS (NUNAVUT) (867) 975-4295**

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:**

Environment Canada, Yellowknife  
24 Hour Duty Officer  
Phone: (867) 766-3737

Qikiqtani Inuit Association, Iqaluit  
Lands and Resources Officer  
Phone: (867) 979-5391

Environment Canada (Emergency)  
Yellowknife  
Phone: (867) 669-4725

Nunavut Tunngavik Inc.  
Cambridge Bay, NU  
Phone: (867) 983-5600  
Fax: (867) 983-5624

Fisheries and Oceans Canada  
Marine Environmental Emergency  
Phone: (709) 772-2083  
Toll Free: 1-800-563-9089

On Site Project Manager  
Stephen Potts, VP of Exploration  
Phone: (604) 584-5254 (office)

Nunavut Water Board  
Phone: (867) 360-6338  
Fax: (867) 360-6369

Commander Resources Ltd.  
Phone: (604) 685-5254  
Eric W. Norton, President  
Office: (604) 484-4077  
Mobile: (778) 996-2350

NU Department of Environment, Iqaluit  
Phone: (867) 975-7700  
Fax: (867) 975-4594

Medivac (Yellowknife)  
Phone: (867) 669-4115

\* The phone numbers for the satellite phone systems are assigned when the camps are opened for the annual work program. Therefore, these numbers change annually. Once the numbers are assigned an updated fuel spill contingency plan will be submitted to the permitting agencies.

A detailed report on each occurrence must also be filed with the AANDC Manager of Field Operations no later than 30 days after initially reporting the event.

## 5.0 ACTION PLAN

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.

### *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.

### *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 a graders and dozers where available.
- If feasible, use synthetic liners 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, options 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.

### *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 slots 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.

### *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 culvers.
- 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.

### NOTE:

1. 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 area 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.

2. 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.
3. Biological response methods include nutrient enrichment and natural microbe seeding.
4. Site remediation will be completed as per the advice of government authorities.

## **6.0 RESOURCE INVENTORY**

Resources available on site:

- Trenching/digging equipment in the form of picks and shovels.
- Absorbent material (pads)
- Pumps
- Impervious sheeting (tarps)
- Plastic bags, buckets, empty drums for collection of contaminated material.

## **7.0 TRAINING/EXERCISE**

COMMANDER Resources Ltd. is an established mining exploration company and has explored for minerals in every major mining province and territory for over ten years. The Company's record of compliance with regulations and environmental management is excellent. All contract personnel will be briefed and given a copy of the Fuel Spill Contingency Plan before field operations begin.

## **8.0 SPILL KITS**

Each spill kit at the Storm site consists of the following:

- 1 - 205 litre, 16 gauge open top drum with bolting ring and gasket
- 1 package of 10 disposable 5 mil polyethylene bags
- 1 shovel
- 4 - 5" x 10" booms
- 10 lb bag of particulate
- 1 bail 17' x 19' sorbent sheets (100 sheets per bail)
- 2 PVC oil resistant gloves
- 2 respirators
- 2 pairs of splash protective goggles
- 2 splash protective rain suits

## 9.0 Fuel Inventory

### Storm Fuel Cache

205 litre steel drum Fuel Cache	All JET A, diesel and gasoline fuel is stored in 205 litre steel drums. Quantities of up to 125 drums of JET A, 1 drum of gasoline, and 100 drums of diesel will be located a minimum of 31 metres from normal high water marks and in such a manner that no fuel can enter any such water body. All fuel caches with 205 litre steel drums will have secondary containment in the form of berms.
100 lb Propane Cylinder Cache	Propane will be stored in a separate secured storage area a minimum of 31 metres from any adjacent structure.

#### NOTE:

1. Daily visual inspections will be conducted to check for leaks or damage to the fuel storage containers.
2. Any accumulated contact water in the secondary fuel containment structure will first be subject to analytical testing for hydrocarbons. Should the water fail to meet the NWB standard parameter for discharge (maximum 15 mg/L oil and grease), it will be treated as necessary with sorbent sheets to remove any fuel film from the surface of the water. The remaining water will then be passed through a hydrocarbon separating filter into a clean containment vessel for further testing. At such a time that the NWB's discharge criteria have been met, the treated water will be discharged at an appropriate site. AANDC Water Resources Officers will be consulted prior to any discharge.
3. Refueling will not take place below the normal high water mark of any water body and in such a manner that no fuel can enter such a water body. Drip pans will be used during refueling in order to help prevent fuel spillage.

## **APPENDIX A**

### **NU-NT Spill Report Form**



Canada

# NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR		REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
	OCCURRENCE DATE: MONTH – DAY – YEAR		OCCURRENCE TIME			
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)		
	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION				REGION <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE			LONGITUDE		
	DEGREES	MINUTES	SECONDS	DEGREES	MINUTES	SECONDS
F	RESPONSIBLE PARTY OR VESSEL NAME		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION			
	ANY CONTRACTOR INVOLVED		CONTRACTOR ADDRESS OR OFFICE LOCATION			
H	PRODUCT SPILLED		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
I	SPILL SOURCE		SPILL CAUSE		AREA OF CONTAMINATION IN SQUARE METRES	
	FACTORS AFFECTING SPILL OR RECOVERY		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS					
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE	
	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE	

## REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER
		STATION OPERATOR		YELLOWKNIFE, NT	(867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

## Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically and e-mailed as an attachment to [spills@gov.nt.ca](mailto:spills@gov.nt.ca). Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call to the spill line. Forms can also be printed and faxed to the spill line at 867-873-6924. Spills can still be phoned in by calling collect at 867-920-8130.

<b>A. Report Date/Time</b>	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. <b>Please do not fill in the Report Number:</b> the spill line will assign a number after the spill is reported.
<b>B. Occurrence Date/Time</b>	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
<b>C. Land Use Permit Number /Water Licence Number</b>	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
<b>D. Geographic Place Name</b>	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations – outside of human habitations – identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. <b>You must include the geographic coordinates</b> (Refer to Section E).
<b>E. Geographic Coordinates</b>	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
<b>F. Responsible Party Or Vessel Name</b>	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. <b>Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.</b>
<b>G. Contractor involved?</b>	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
<b>H. Product Spilled</b>	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
<b>I. Spill Source</b>	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overfill, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m <sup>2</sup> )
<b>J. Factors Affecting Spill</b>	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or environment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
<b>K. Additional Information</b>	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg. "Page 1 of 2", "Page 2 of 2" etc. <b>Please number the pages to ensure that recipients can be certain that they received all pertinent documents.</b> If only the spill report form was filled out, number the form as "Page 1 of 1".
<b>L. Reported to Spill Line by</b>	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
<b>M. Alternate Contact</b>	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
<b>N. Report Line Use Only</b>	<b>Leave Blank.</b> This box is for the <b>Spill Line's use only.</b>