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**CANARC RESOURCE CORP.  
HARD CASH PROJECT  
FUEL SPILL CONTINGENCY PLAN**

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## **Table of Contents**

|  | Page |
|--|------|
| Preamble                                   | 3    |
| 1.0 Introduction                           | 4    |
| 2.0 Facilities                             | 5    |
| 2.1 Camp                                   | 5    |
| 2.2 Drill Sites                            | 5    |
| 2.3 Fuel Caches                            | 5    |
| 2.3 Effective Date of the Plan             | 5    |
| 3.0 Petroleum & Chemical Storage           | 5    |
| 3.1 Petroleum Transfer Method              | 6    |
| 4.0 Risk Assessment and Mitigation of Risk | 6    |
| 4.1 Responsibilities                       | 7    |
| 5.0 Responding to Failures and Spills      | 7    |
| 5.1 Basic Steps                            | 7    |
| 5.2 Reporting Procedure                    | 8    |
| 5.3 Emergency Contact List                 | 8    |
| 6.0 Action Plans                           | 9    |
| 6.1 Spills on Land                         | 9    |
| 6.2 Spills on Snow                         | 9    |
| 6.3 Spills on Ice                          | 10   |
| 6.4 Spills on Water                        | 10   |
| 6.5 Spills Due to Accidental Load Release  | 11   |
| 7.0 Resource Inventory                     | 12   |
| 8.0 Training/Exercise                      | 13   |

## **PREAMBLE**

This Fuel Spill Contingency Plan is effective from the date of issuance of all licences and permits currently being applied for by Canarc Resource Corp. for its Hard Cash Project 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 Canarc's Land Use and Water Licence permits.

## 1.0 INTRODUCTION

This Spill Contingency Plan (the Plan) has been specifically prepared for Canarc Resource Corp. (Cararc)'s Hard Cash Project. A copy of the Plan will be kept at the site of the land use operation and all personnel will be made aware of its contents.

The Hard Cash property, consisting of Claims RLN 2-4 (K14328-30) covering 2090 hectares on Crown Land, is located in the Ennadai Greenstone Belt in SW Nunavut on the shores of Ennadai Lake. The property is 405 km from Arviat, Nunavut, 310 km NE of Stony Rapids, Saskatchewan and is accessible by float plane or helicopter. There is an all-weather gravel airstrip at Ennadai Lake Lodge which is owned by Arctic Haven, 35 kms west of the property.

The land use activity associated with the Plan is early stage exploration and possibly drilling between early June and mid-August 2019. The program is expected to take place in two stages. Stage One will take approximately two weeks and will include geological mapping, rock and soil sampling and prospecting by a four-person crew. Stage Two will involve a small exploration diamond drilling program consisting of six holes totalling 1200 meters. It will be about three to four weeks in duration, involving a crew of eight employees and contractors. All activities will be based out of the Arctic Haven Wilderness Lodge at Ennadai Lake and will be helicopter supported.

The purpose of Canarc's Fuel Spill Contingency Plan is to provide a plan of action for any spill event during the Company's exploration program in the Kivalliq 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 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 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 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 Facilities

### 2.1. Camp

The Hard Cash Project will not have a stand-alone camp at this time, but will rather work out of the Arctic Haven Wilderness Lodge at Ennadai Lake.

### 2.2. Drill Sites

Canarc is proposing that in Phase 2 of the Project, to undertake a small exploration diamond drilling program consisting of approximately six drill holes, totaling approximately 1200 meters of drilling. Diesel fuel will be located at the drill sites for use by the drill. They will be stored in secondary containment and no more than 4 drums at a time will be at the drill. Empty barrels will be flown back to the Lodge for transport south for proper disposal. Spill kits will be located at the drill sites and the crew(s) will be trained in how to use them properly.

### 2.3. Fuel Caches

Three drill fuel caches and one helicopter (Jet A) fuel cache, to enable efficient refueling of the helicopter, will be located close to the project site and within the property at pre-determined locations. A maximum of 19 fuel drums will be located at sites identified on the attached map (Attachment A). They will be stored in secondary containment. Empty barrels will be flown back to the Lodge for transport south for proper disposal. Spill kits will be located at the fuel caches and the crew(s) will be trained in how to use them properly.

### 2.4 Effective Date of Plan

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

## 3.0 PETROLEUM AND CHEMICAL STORAGE

*All fuels required for use in the exploration program*

| <i>Fuel type</i> | <i>Purpose</i>  | <i>Size</i>           | <i>Total</i>                   |
|------------------|---|-----------------------|--------------------------------|
| <i>Jet A</i>     | <i>Helicopter use</i>                                 | <i>205 litre drum</i> | <i>10 on site, 36 at lodge</i> |
| <i>gasoline</i>  | <i>Core saw and electricity at core shack</i>         | <i>205-litre drum</i> | <i>3 on site</i>               |
| <i>Diesel</i>    | <i>Powers drill, drill pumps, heat for core shack</i> | <i>205-litre drum</i> | <i>51 on site</i>              |

|                    |                                      |                      |                         |
|--------------------|--------------------------------------|----------------------|-------------------------|
| <i>oil</i>         | <i>Drill</i>                         | <i>5-gal buckets</i> | <i>4 on site</i>        |
| <i>Lubricants</i>  | <i>Drill: lubricates drill steel</i> | <i>5-gal buckets</i> | <i>Up to 12 on site</i> |
| <i>“Bentonite”</i> | <i>Drill: additional lubricant</i>   | <i>20 kg bags</i>    | <i>Up to 10 on site</i> |

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

*Temporary remote fuel caches will be located at locations indicated on the attached map (Attachment A) 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 and fuel will be stored in Instabermes.*

*Fuel cache inspections will occur on a regular basis for leaks, damaged or punctured drums.*

*Empty fuel drums will be backhauled to Yellowknife, NWT, Stony Rapids, SK or Points North, SK for steam cleaning and disposal. A Waste Manifest will accompany all shipments.*

### **3.1 Petroleum Transfer Method**

*Both manual and 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 of spilled fuel:*

- Drummed Products: Leaks or ruptures may occur, bung caps may be loose. This includes Jet fuel, diesel, waste fuel and waste oil.*
- Vehicles and Equipment: Helicopter, drill and drill pump.*

*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

**Project Supervisor** – 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. The 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.

**Project/Drill crew:** If spill or likelihood of a spill occurs the employee/contractor will immediately report to the **Project Supervisor**

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

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

The project supervisor will be the project geologist on site during the drilling phase of the program, and the crew boss for Phase 1 activities. Actual personnel to be determined.

## 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 the 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 at an external fuel cache, drill or pump site, 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).

1. *Immediately notify the Canarc head office T: (604) 685-9700 and report to the 24 Hour Spill Line at (867) 920-8130 (Fax: 867-873-6924), CIRNAC Land Use Resource Management Officer (867) 645-2830.*
2. *A Spill Report Form (Appendix B) is to be filled out as completely as possible before or after contacting the 24 Hour Spill Line.*

## 5.3 EMERGENCY CONTACT LIST

**Table 2: Emergency Contact List – Spill Reporting and Response**

| CONTACT  | CONTACT NUMBER (Tel / Cell)    |
|--|--------------------------------|
| Project Supervisor   | TBD                            |
| Canarc Resource Corp                                       | (604) 685-9700                 |
| 24 Hour Emergency Spill Line phone / fax                   | (867) 920-8130, (867) 873-6924 |
| CIRNAC Land Use Resource Management Officer (Rankin Inlet) | (867) 645-2830                 |
| CIRNAC Water Resources Inspector                           | (867) 645-2830                 |
| Arviat RCMP: Office Hours / Emergency                      | 867-857-0123                   |
| Stony Rapids RCMP:   | 306-439-2185                   |
| Arviat Health Centre:                                      | 867-857-3100                   |



|                             |              |
|-----------------------------|--------------|
| Stony Rapids Health Centre: | 306-439-2200 |
| Discovery Mining Services   | 867-920-4600 |

**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 B.**

## **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 205 litres (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 material 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, 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.

### 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 B. These MSDS sheets are for all drilling mud, polymers and greases as well as for calcium chloride, diesel, Jet B, 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. 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.

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**

*Canarc Resources Corp is aware that without practice no Contingency Plan has value.*

*At least one practice drill will be held per 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.*

PowerPoint Slide Show - [Fuel cache locations Hard Cash] - PowerPoint

Cache 1: 60° 57' 8" N, 101° 30' 10" W

Cache 2: 60° 56' 50" N, 101° 31' 0" W

Cache 3: 60° 56' 29" N, 101° 31' 34" W

Core shack: 60° 57' 7" N, 101° 30' 03" W

Heli-fuel cache: 60° 57' 3" N, 101° 30' 08" W

Hardcash

Drill fuel cache locations  
2019 Hard Cash Project  
Canarc Resource Corp

Google Earth

Image Landsat / Copernicus

Slide 1 of 2

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PowerPoint Slide Show - [Fuel cache locations Hard Cash] - PowerPoint

Arviat

Hard Cash

Ennadai Lake Lodge

Nueltin Lake

Stony Rapids

Churchill

Wollaston Lake

Regional Location Map  
Southwest Nunavut

0 100  
km

Google Earth

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Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
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Slide 2 of 2

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