Spill Containment Plans

NOGHA ENT. LTD.

100% DENE OWNED

Gravel Quarry KM 518, Highway 1

Prepared By:

Nogha Enterprises Limited Management

January 1, 2018

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1.0 INTRODUCTION

The following is a Spill Containment Plan actions to be initiated, when required, by staff of the Nogha Enterprises Limited, in relation to the gravel Quarrying Operations project located at Km 518 on Highway #1. The Spill Containment Plan will be reviewed with all workers as part of their orientation before commencing work. The project/scope of work will be to develop a gravel quarry pit located at Km 518, Hwy #1, approximately 50.0 kilometres northwest of Fort Simpson, NWT.

The gravel quarry is an existing quarry and is a multi-user pit. The proposed quarry area from the DOT highway easement is approximately 2,000 metres along an existing access road south east of center line. The quarry site is located on a ridge approximately 30 metres in height. The proposed area will be 100 metres in length and 40 metres in width with a combined area of 0.4 hectares.

The site has been cleared previously. The grubbing/stripping excavated materials will be stock piled adjacent the perimeters of the outside edges for future pit restoration; upon completion of the quarrying operation. No camp or fuel storage tanks will be utilized for the duration of the permit.

Refueling of the heavy equipment on site i.e. Loaders, Crawler Cats, etc. will be carried out by Noghas staff utilizing pickup trucks equipped with tidy tanks (500 lt capacity). A spill plan has been generated for this project and will be implemented when it commences. It provides detailed background information on the handling of hazardous wastes. It details the operational requirements to ensure that the facility is maintained in an environmentally responsible manner, and outlines the environmental monitoring and reporting required by the regulatory agencies.

This document is submitted to the Mackenzie Valley Land and Water Board as a requirement of the LUP licence permit.

1.1 Company Office:

Mailing Address:
Attn: Ria Letcher, General Manager
Nogha Enterprises Limited
PO Box 410
Fort Simpson, NT
XOE ONO
Telephone: 867-695-3533
Fax: 867-695-2119

Site Name and Coordinates

KM 518 Highway 1, Quarry Coordinates:

1. N62°02.500' W122°01.538' (Northwest Point)
2. N62°02.493' W122°01.424' (Northeast Point)
3. N62°02.445' W122°01.530' (Southwest Point)
4. N62°02.440' W122°01.416' (Southeast Point)

1.2 This Spill Containment Plan will become effective upon the (MLWB) approval.

1.3 Last Revisions to the Spill Containment Plan

- The Spill Containment Plan is current to January 1, 2018.

1.4 Purpose and Scope

The purpose and scope for this Spill Containment Plan Is to outline the procedures for the appropriate response, notification, duties and responsibilities of employees and key personnel in the event of a spill of hazardous materials at the quarry development or on the highway haul route.

A suitable response Is necessary to minimize the potential adverse health effects on humans, the environmental damage and cleanup costs that may result if proper procedures are not established and followed.

List of Hazardous Materials On-site

Listed hazardous materials that will be stored on-site. Potentially hazardous materials that will be used for the project are:

- Diesel: 250 liters
- Gasoline: 250 liters
- Hydraulic Oil: N/A
- Lube Oil: N/A

The above listed materials will be transported from the Village of Fort Simpson, NT. General safety data sheets have been attached with this Spill Containment Plan.

Fuel will not be stored on site.

2.0 SPILL CONTAINMENT PLAN

The primary goal is to avoid spills or the unnecessary release of materials. All personnel shall have an environmental orientation prior to starting work. This will Include a review of this Spill Containment Plan (SCP}.

In the unlikely event of a spill or release of materials, quick response is the objective. The SCP defines the responsibilities of site personnel and the required procedures for a quick response by emphasizing the need to reduce the safety hazards and minimize the impact on the environment.

2.1 Preliminary Requirements

- A copy of this Spill Containment Plan is available on site during all field operations;
- Materials Safety Data Sheets (MSDS) for each hazardous chemical will be available during field operations;
- All vehicle/equipment will be equipped with spill kits and shovels. Spill Kits, at a minimum, will include absorbent pads or equivalent, shovels, and a means for containment of contaminated materials (e.g. impermeable tarps, barrels); and suitable communication equipment and all emergency numbers will be available prior to commencement of all field activities.

2.2 Initial Response

In the event of a spill or a release of materials, the first person on the scene will;

- Cut off the source of the spill if possible;
- Immediately obtain the assistance of others and begin to assess and contain the spill;
- If possible, without further assistance, control danger to human life (i.e. remove ignition sources);
- Identify the material spilled, assess Material Safety Data Sheets (MSDS) information and implement appropriate safety procedures, based on the nature of the hazard;
- Assess the hazards to personnel near the spill. Evacuate people depending on the degree and nature of the hazard.

- Notify the NWT 24 Hour Spill Report Line (867)-920-8130, then the DOT primary contact (Appendix B}.
- Gather information on the status and the nature of the situation.

When notified of a spill, the Field Supervisor, or person in charge of the emergency response measures shall immediately ensure that;

- Action is taken to control danger to human life;
- An on- site safety supervisor is designated,
- If a spill exceeds any of the threshold quantities, the person in charge of the emergency response measures will complete the Northwest Territories (NT) Spill Report Form and then immediately report the spill to;

NWT 24 Hour Spill Report Line (867)-920-8130

Note: For fuel or hydraulic spills this threshold limit Is 100 liters.

- The local R.C.M.P. shall be notified if a risk to the public exists.
- The necessary equipment and personnel shall be mobilized, and measures implemented to stop the source of the spill and commence clean up.

2.3 General Spill Containment Procedures

The following is a list of general containment procedures. Refer to Appendix A for more detailed information on containment and clean up procedures and materials for spills on land, muskeg, water, and ice or snow.

- Identify the contaminant, stop the source of the spill, and when safe, immediately implement containment measures to limit the spread of the spill and to minimize the Impacts to the environment.
- If spill source is a leaking fuel, pump tanker dry (into appropriate containers or another tanker.)

• A shallow depression will be excavated, or a surface berm constructed in the path of the flowing product to stop and contain the flow. If feasible, without unduly delaying containment efforts, stripping will be salvaged and stored separately during excavations.
• Absorbent materials will be utilized to contain and recover spilled material
• Heavily contaminate soil and vegetation. as well as used absorbent material, will be disposed of at an approved hazardous waste treatment facility.
• Traffic will be minimized on and around contaminated areas
• Attempts will be made to restrict the movements of wildlife near the area affected by the spill.
• Remediation and final clean-up will be conducted until the spill and immediate location has been completely reclaimed to an equivalent capability prior to the incident

2.4 Spills Adjacent to or into a Water Body

• Berms or trenches will be constructed to contain spilled products from entering a water body,
• Spilled materials will be recovered as quickly as possible.
• If spilled material enters an open water body, booms, skimmers and absorbent pads will be deployed, if feasible, to contain and recover the spill material.
• If spilled material is released onto a frozen water body, snow and absorbent pads will be used to contain and clean up the spill. A backhoe, or similar equipment, will remove all materials to prevent future release into the water body,
• Contaminated areas, including downstream shorelines {non-frozen conditions), will be clean up in consultation with spill response specialists and the appropriate government agencies.
• If spilled materials enter a frozen water body through or under the ice to flowing or standing water, auguring will be conducted to determine the extent of the spill plume. If feasible, a vacuum truck will be brought to the site to skim off the contaminants. As well, the appropriate regulatory agencies will be contacted, and a post-break-up monitoring and reclamation plan will be implemented to determine the extent of the impacts of the spill on the water body and its banks.

2.5 Spot Spills

• The GNWT, Environment and Natural Resources, (867) 873-7654, is to be contacted soon after a spot spill to determine appropriate methods to remove or restore contaminated soils. Since impacts from small spills can generally be minimized if immediate action is taken, all small spot spills will be cleaned up immediately.
• Activities in the immediate vicinity will be suspended until the Department of Transportation or an Inspector from GNWT, Environment and Natural Resources grants permission to resume.
• Heavily contaminated soil and vegetation, and/or removed contaminated materials will be incinerated, if safe to do so, or disposed of at an approved waste facility. (Village of Fort Simpson Land fill will accept wastes).
• Locations where spot spills have occurred will be flagged and the location GPS coordinates recorded by the Person-in-Charge of the spill. Flags will be removed once reporting is complete.
• The Person-in-Charge of the spill will document and report all details pertaining to the incident.

2.6 Spill Reporting

The size, type, and/or location of the spill will determine how the spill is reported.

A. The spill exceeds the threshold quantity.

The Northwest Territories (NT) Spill Report Form is to be completed (see attached form in Appendix D}; then immediately report the spill to: NT 24 Hour Spill Report Line (867)-920-8130

B. The spill, regardless of quantity, is near or into a water body, is near or into a designated sensitive environment or sensitive wildlife habitat, poses imminent threat to human health or safety, poses imminent threat to a listed species at risk or its critical habitat, or is uncontrollable.

The NT Spill Report Form is to be completed then immediately report the spill to:

NT 24 Hour Spill Report Line (867)-920-8130

3.0 RESOURCE INVENTORY

All vehicles and equipment will be equipped with a spill kit that at minimum, includes the following:

- Absorbent material (i.e. 10 pads. 2 socks or equivalent);
- Disposal container (tarpaulin, pail, barrel);
- Safety gloves and goggles; and
- Shovel.

All fuel and services vehicle will carry a spill kit that includes the following:

- A minimum of 10 kg of absorbent materials (i.e. 200 pads, 12 socks, 10 pillows, or equivalent);
- Absorbent booms:
- Disposal container (tarpaulin, pails, barrel);
- Safety gloves and goggles; and
- Shovel.

Extra spill kits will be stored in the on-site heated generator equipped office unit.

4.0 TRAINING

All Nogha Enterprises Limited employees participate in a site-specific orientation program that includes WHMIS, Transportation of Dangerous Goods (TDG) and spill prevention information and safe working procedures for the handing of spills and spill cleanup.

Nogha Enterprises Limited will ensure that all staff and contractors operating at the site receive adequate training on spills procedures as outlined in this Spill Containment Plan. Specific training on how to use spill kits and correct disposal requirements for contaminated material will be completed prior to commencement of operations.

In addition, morning tailgate meetings will regularly discuss spill Containment requirements.

Appendix A - Clean Up Procedures and Materials

SPILLS ON LAND

Spills on land should be contained as close to the source as possible, If safety allows. Every effort should be made to ensure that a spill does not reach water, where its containment and recovery are much more difficult end the potential environmental Impacts are much greater. Containment can be achieved using the following methods:

EARTH BERM/Trench

If possible, locale the berm/trench sufficiently down slope of the release point to complete Its construction before the spill arrives. Dig the trench along a natural drainage contour, approximately 0.6 m deep with a relatively flat bottom. The excavated material can then be combined with other available material to build the berm. This method prevents the spilled material from migrating further from the spill location, creating a type of sump from which the spilled material can be removed.

SAND BAG BERM/Trench

Sand bags can be used where available or if the earth ls too hard or frozen and cannot be excavated or compacted. A plastic sheet or liner can be used to seal the trench by weaving It between layers of bags. Bags should then be anchored with gravel or rocks.

SPILLS ON MUSKEG

Muskeg Is generally poorly drained, wet and spongy. Internal drainage Is usually slow and the depth of peat over mineral soil varies greatly. Muskeg Is also highly acidic and low in nutrients, making biodegradation very slow, even during the summer months.

It Is recommended that small spills in muskeg be mixed with peat moss and allowed to degrade during the summer months since more damage can be done by attempting cleanup using mechanical removal methods.

In the event of a small spill, It Is Important to weigh the advantages of cleanup versus the potential negative Impacts on the terrain. Both personnel and equipment in wet or sensitive areas can cause considerable damage. In many cases, the best solution may be to add nutrients to the contaminated area and monitor the site to ensure that the spill does not migrate to an adjacent sensitive area. In all cases appropriate environmental advisors and Regulatory Authorities should be consulted.

SPILLS IN OR ON WATER

Containing spills on water Is often difficult because oil quickly spreads. In turbulent water, oil and chemicals are likely to mix into the water column, making recovery extremely difficult. For these reasons, it is important that If the spill reaches water that containment be attempted Immediately and as close to the source as possible, and that the spill be prevented from reaching moving water. For example, spills in lakes must be contained before spilled materials reach outlet streams or rivers.

In flowing streams, oil travels at the same speed as the surface current on larger rivers or in open lake areas, slicks are also transported at 3.5% of the wind speed. Although a comparatively small effect, it can be an Important factor if the wind Is at right angles to the water flow and If the water surface Is

extensive. The wind can force the spill to the sides of the river where flows are slower or to the shore of a lake. Long reaches of the river may become contaminated although containment and recovery might also be possible.

In smaller streams, the wind will have less impact and the slick speed can be easily estimated. Placing a small stick in the middle of the stream and determining the length of time required to travel a given distance, typically 10 m.

CONTAINMENT STRATEGIES:

The best possible strategy for containment on or in water will depend on a number of factors:

- Speed the slick Is travelling.
- Location of possible containment sites.
- Availability of personnel and equipment.
- Location of sensitive areas.
- safety of operations.

Spills on water can be contained by using floating booms/socks or by constructing a temporary berm or Inverted weir. The objective is to build a barrier against which the (normally floating) oil will pool while allowing the underflow of water.

BOOMS/STICKS:

On slow-moving waters end in takes, the use of booms/socks can be an effective means of containing spills. Note that absorbent booms or pads should only be used in water If they are of the 11" variety. Universal absorbents (booms end pads), if used, will become soaked with water and sink to the bottom of the waterway, causing an additional source of contamination. If universal materials are used care needs to be taken that they are removed from the water as soon as they begin to sink, or cleanup efforts may result In additional contamination of the waterway.

SPILLS ON ICE OR SNOW

Oil can remain relatively fresh under snow and Ice for several months or more after a spill.

Evaporation rates will be high when oil ls ultimately exposed to the atmosphere except In very low temperatures. Oil can also move up and down small hills (several meters high) due to the capillary action of the snow.

CONTAINMENT

Snow and Ice can be used to create berms to keep spills from spreading. In frozen rivers angled slots about 1 meter wide or holes can be cut In the Ice, where safety permits, to allow possible spill recovery. The oil will rise into the openings where It will concentrate and be available for recovery using skimmers or pumps.

DISPOSAL:

Oil spills in snow and Ice can sometimes be burned If the spill can be Isolated from the source. Although there Is generally a reduced near hazard, proper attention to the safety or operations is still required. If

burning Is not effective, recovered contaminated material will need to be collected and transported lo a designated disposal/treatment facility. (Closest facility Fort Simpson will be used

RECOVERY:

When large volumes of oil have been contained either through natural or mechanical containment, it will be necessary to remove or recover the accumulated oil. This will generally occur in excavated trenches or adjacent to berms or natural barriers, end occasionally in slow running streams or quiet ponds.

Vacuum trucks are Ideal at cleanup sites accessible by road and where a large volume of oil has pooled that Is generally free of water. The truck must be positioned at a safe distance so that there Is no possibility of fire or explosion.

Appendix B – NOGHA Emergency Contact Lists

Off-site resources for assistance in the event of a spill are listed below. Assistance from outside the community may not be able to reach the site until at least the next business day.

- **Noghas Main Office: ..... (867)695-3533**
    - **General Manager:** Ria Letcher
    - **Highways Equipment:** Steven Vandal
    - **Finance:** Jean Lafferty-Gargan
    - **Receptionist:** Wanda Grossetete
- NWT 24-Hour spill line ..... (867) 920-8130
- GNWT Environmental Protection Division ..... (867) 873-7654
- ENR Inspector ..... (867)695-7450
- AANDC Northwest Territories Region ..... (867) 669-2440
- Environment Canada (Emergency) Yellowknife ..... (867) 669-4725
- GNWT Environmental Health Officer ..... (867) 669-8979
- RCMP (Fort Simpson) ..... (867) 695-1111
- Stanton Territorial Health Authority ..... (867) 669-4111
- Dehcho Health & Social Services Authority ..... (867) 695-3815
- Medivac (Yellowknife) ..... (867) 669-4115
- Great Slave Helicopters (Fort Simpson) ..... (867) 695-2326
- Trinity Helicopters (Yellowknife) ..... (867) 669-7031
- Air Tindi (Fort Simpson) ..... (867) 695-2683
- Air Tindi (Yellowknife) .....(867) 669-8218 or 669-8200

Reportable Quantities for NWT Spills

Note: L = litre; kg = kilogram; PCB = Polychlorinated Biphenyls; ppm = parts per million

Substance	Reportable Quantity	TDG Class
Explosives	Any amount	1.0
Compressed gas (toxic/corrosive)		2.3/2.4
Infectious substances		6.2
Sewage and Wastewater (unless otherwise authorized)		6.2
Radioactive materials		7.0
Unknown substance		None
Compressed gas (Flammable)	Any amount of gas from containers with a capacity grater than 100L	2.1
Compressed gas (Non-corrosive, non-flammable)		2.2
Flammable liquid	≥100 L	3.1/3.2/3.3
Flammable solid	≥ 25 kg	4.1
Substances liable to spontaneous combustion		4.2
Water reactant substances		4.3
Oxidizing substances	≥ 50 L or 50 kg	5.1
Organic peroxides	≥1 L or 1 kg	5.2
Environmentally hazardous substances intended for disposal		9.0

Substance	Reportable Quantity	TDG Class
Toxic substances	≥ 5 L or 5 kg	6.1
Corrosive substances Miscellaneous products, substances or organisms		8.0 9.0
PCB mixtures of 5 or more ppm	≥ 0.5 L or 0.5 kg	9.0
Other contaminants--for example, crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater.	≥ 100 L or 100 kg	None
Sour natural gas (i.e., contains H_2S) Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more	None
Flammable liquid Vehicle fluid	≥ 20 L When released on a frozen water body that is being used as a working surface	3.1/3.2/3.3 None
Reported releases or potential releases of any size that: • are near or in an open water body; • are near or in a designated sensitive environment or habitat; • Pose an imminent threat to human health or safety; or • Pose an imminent threat to a listed species at risk or its critical habitat		

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: MM DD YY	Report Time:	☐ Original Spill Report **OR** ☐ Update #_____to the Original Spill Report	**Report Number:**
B	Occurrence Date: MM DD YY	Occurrence Time:		
C	Land Use Permit Number (if applicable):		Water Licence Number (if applicable):	
D	Geographic Place Name or Distance and Direction from the Named Location:		Region: ☐ NT ☐ Nunavut ☐ Adjacent Jurisdiction or Ocean	
E	Latitude: _____ Degrees _____Minutes _____Seconds		Longitude: _____ Degrees _____Minutes _____Seconds	
F	Responsible Party or Vessel Name:	Responsible Party Address or Office Location:		
G	Any Contractor Involved:	Contractor Address or Office Location:		
H	Product Spilled: ☐ Potential Spill	Quantity in Litres, Kilograms or Cubic Metres:	U.N. Number:	
I	Spill Source:	Spill Cause:	Area of Contamination in Square Metres:	
J	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:
M	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:

Lead Agency: ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ AANDC ☐ NEB ☐ Other: _____	Significance: ☐ Minor ☐ Major ☐ Unknown	File Status: ☐ Open ☐ Closed

Agency:	**Contact Name:**	**Contact Time:**	**Remarks:**
Lead Agency:			
First Support Agency:			
Second Support Agency:			
Third Support Agency:			