

# **SPILL CONTINGENCY PLAN**

**JEAN MARIE RIVER FIRST NATION**

**LAND USE PERMIT**

**TIMBER CUTTING LICENCE #FA005332**

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## **JEAN MARIE RIVER FIRST NATION**

### **LAND USE PERMIT**

#### **TIMBER CUTTING LICENCE #FA005332**

#### **BACKGROUND**

The purpose of this LUP is to enable the Jean Marie River First Nation (JMRFN) economic development from its forest resources.

The Jean Marie River First Nation has been involved with milling timber since the 1930s. Both the Community and the Government of the Northwest Territories (GNWT) are committed to supporting sustainable levels of timber harvesting to provide timber for lumber products and jobs in the community.

The GNWT is supportive of developing a forest industry that creates economic investment opportunities, provides long-term employment to local communities and enhances environmental stewardship and sustainability of regional forests. JMRFN now possess a mill site, sawmill equipment, and support equipment, that is ready to be commissioned.

#### **INTRODUCTION:**

Jean Marie River First Nation (JMRFN) is applying for this Land Use Permit, to enable Timber Cutting License #005332 to be issued by the GNWT Environment and Natural Resources (ENR) – Dehcho Region, in order to log timber to support the JMRDC sawmill project, and the economic development of Jean Marie River First Nation.

The harvesting operations are planned to occur over a 5-year period.

#### **a & b: Emergency Spill Contact Information:**

##### **Internal Contact List:**

Senior Administrative Officer: Office: 867-809-2000. Cell: 587-343-1124. Misty Ireland.

The SAO will be the internal person to direct the spill response on the Timber Cutting Licence. The SAO may designate responsible personnel; and will outline the spill response expectations of any Contractors on site.

On-site-Supervisor: Logging Contractor. TBD. JMRDC: TBD.

##### **External Contact List:**

24 hour Spill Report Line. 867-920-8130. E-mail: [spills@gov.nt.ca](mailto:spills@gov.nt.ca)

Lands Office. 867-695-2626. Dehcho Region, Ft Simpson.

RCMP. 867-695-1111. Ft Simpson.

Jean Marie River Health Center. 867-809-2900

### **c. Description of Facilities and Equipment**

The LUP is to enable road construction, timber harvesting, and reclamation activities on the Timber Cutting License (see Figure 2 map).

There is no fuel storage facility located on this site. Diesel fuel will be stored in pick-up trucks for the daily consumption of the heavy equipment on site. Gasoline, acetylene and oxygen tanks and welding torches, propane tanks, oils, lubricants, and glycols will be stored in either the pick-up trucks, or a secured trailer, to support the timber harvesting activities.

The equipment required for the timber harvest operations would consist of a Feller Buncher, a D6 crawler tractor, a 240 hydraulic hoe, a rubber-tired skidder, a Front End Loader, logging truck and trailer, pick up trucks, a heavy pick up truck and trailer, powersaws, and possibly an enclosed secure trailer.

The heavy equipment will not all be on site at the same time. There may be up to 4 machines operating simultaneously, due to some overlap amongst the harvesting phases (of tree falling, road construction, skidding, merchandizing trees, and loading). However, when the tree felling phase is completed, generally two only pieces of equipment will be operating at the same time. This reduces the volume of fuel required to be on site at any given time, and reduces the risk of spills from each machine as well. A more detailed explanation follows:

- The Feller Buncher will be on site to fall out the roads and landings; therefore, it and the road construction machine will be present together. After the Feller Buncher finishes falling the trees, it leaves the site.
- After roads and landings are felled and built with the crawler tractor, or hydraulic hoe, they may remain at site for occasional use only; but will essentially be idle.
- The skidder may begin only after the first two landings are built (per WSCC Regs, can't have two activities simultaneously on the same landing). Tree falling and road construction will be completed before the skidding is completed; after which, there will be only the skidder and loader working on site. After the trees are all skidded to the landings, the skidder leaves the site, and only the log loading equipment remains.
- Either the hydraulic hoe or the Front End Loader will be used to handle the logs. One of them will be present from when the tree skidding begins, and also when the logs are hauled from the site.
- During deactivation or reclamation activities, the crawler tractor and/or the hydraulic hoe will be on the site. All other equipment will be gone.
- Log hauling equipment and crew transportation vehicles are self-sufficient for fuel, and do not use on-site fuel sources.

## d. Contaminants Present in Harvesting Activities

Table 1 lists the type and amount of contaminants that are commonly located on site.

Table 1: List of Contaminants on Site

Product Type	Storage Containers	Normally On-site	Maximum On-site	Storage Location
Diesel	450L Slip-on Tank	900L	1800L	Pick-up truck
2 cycle oil	4L jugs	4 L (1 jugs)	8L (2 jugs)	Pick-up truck, or secured trailer.
Acetylene//Oxygen	50 kg cylinders	100 kg	100 kg	Pick-up truck
Gasoline	20L jugs	40L (2 jugs)	60L (3 jugs)	Pick-up truck, or secured trailer.
Lubricating Oils & Grease	20L Pails, 4L jugs, tubes	100L	200L	Pickup truck, or secured trailer.
Antifreeze (glycol)	4L Jugs	20L (5 jugs)	40L	Pick-up truck, or secured trailer.
Propane	10-45kg tanks	10 kg (1 tank)	55 kg (2 tanks)	Pick-up truck, or secured trailer.

### d.1 Fuel and Hazardous Materials Management

The following procedures aim to reduce the risk of spills and leaks of hazardous materials and petroleum products. Some of the practices for storing and handling fuel and hazardous materials are outlined below.

### d.2 Storing Fuel and Hazardous Materials

No diesel fuel is stored on the site. All fuel and hazardous materials are stored in pick-up trucks, or a secured trailer, for use on the site for daily consumption. Twenty liter pails of lubricating oils and 4 liter jugs of glycol for maintenance support of the equipment may be stored either in pick up trucks, or a secured trailer on site. No machine maintenance will be conducted on site, other than routine items; such as daily greasing, or fluid replacement.

### d.3 Methods of Fuel Transfer

- Transfer fuel using an electric GPI nozzle pump with automatic shut off, hooked directly to the slip-on tank (that is secured on pick-ups).
- Spill kits are available with all equipment and tanks.
- The person conducting the transfer shall supervise it at all times, in the event of an automatic shut-off failure.
- All re-fueling will be conducted from a road or a landing on the site.
- During non-winter conditions, will not fill equipment right up, in order to allow for fuel expansion with rising temperatures during the day.

#### d.4 Handling Fuel and Hazardous Materials

- a) Handle fuel and hazardous materials with care to avoid spills; particularly during fuel transfers.
- b) Stock pick up trucks with adequate spill-response supplies.
- c) Keep fuel tanks and jugs sealed to prevent them from leaking.
- d) Routinely inspect storage containers, valves and conveyance lines for leaks; maintain an inspection record and note occurrences of and responses to leaks or spills.

#### e. Map

The site map is attached (Figure 2). It indicates the operations will be on flat or gently sloping terrain. The closest a harvesting boundary is allowed to a stream classified as a medium sized river is 60 m. Jean Marie River is the nearest water body and it is a medium sized river, which flows into the Mackenzie River, about 12 km downstream from the LUP.

The closest harvesting boundary is on a flat bench about 70-80 m from the river. No fuel transfers occur off a road, and the nearest road is 300 m away. Most of the boundaries and roads are nowhere near the river.

### Response Organization

#### f.1 Potential Discharge Events:

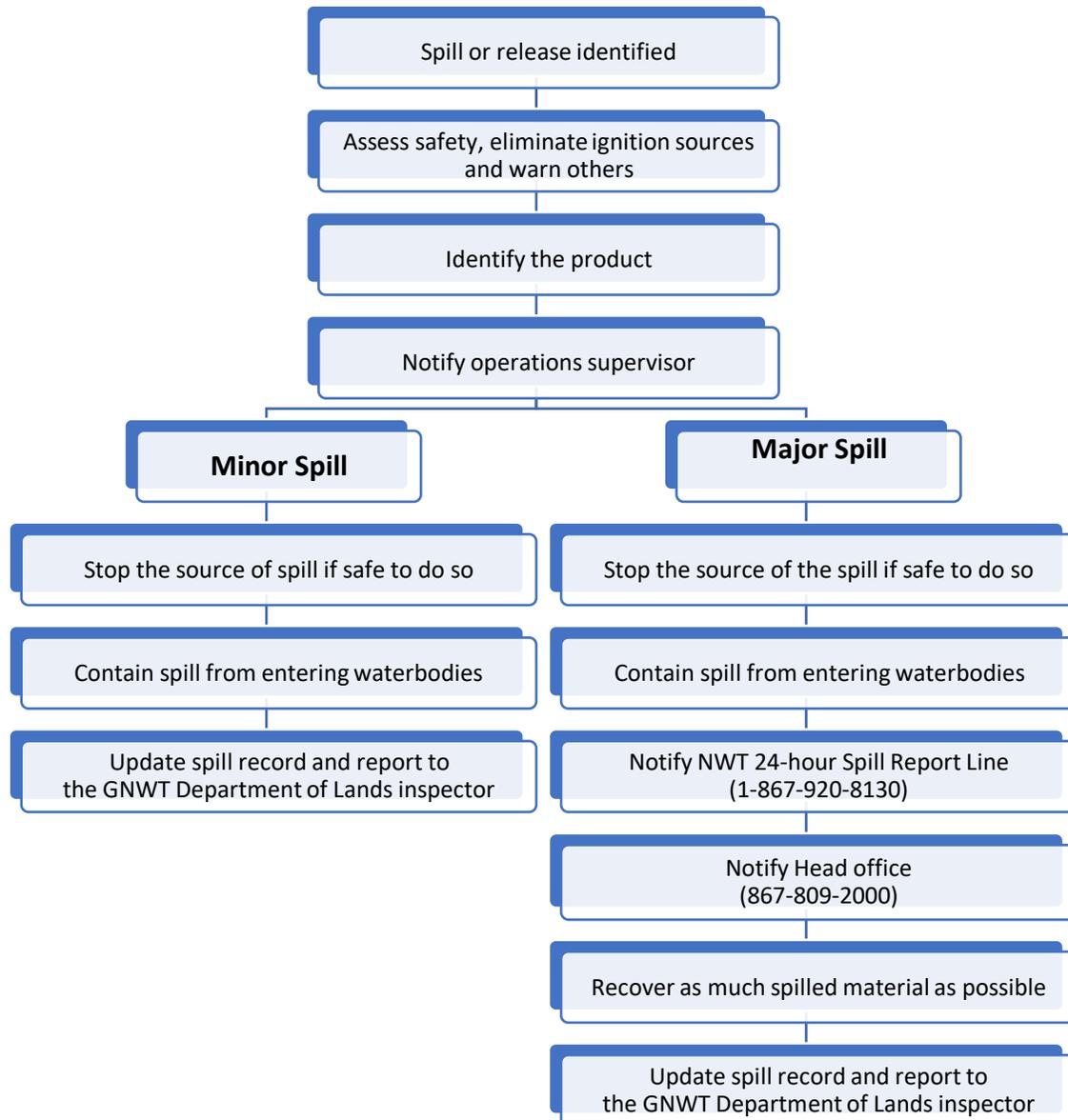
Potential discharge events associated with each product type are described in Table 2.

Table 2: List of Product Types and Potential Discharge Events

Product Type	Description	Potential Discharge Event
Fuel and Lubricants	All petroleum-based fuel solutions (diesel, gasoline, oils, propane)	1. Spillage during transportation 2. Over-pumping of fuel 3. Leak in pumping system or machinery
Glycol	Antifreeze	4. Leak from container, drum or tank 5. Punctured drum or tank (inside/outside containment)
Pressurized Gases	Acetylene, oxygen	6. Everything leaking/punctured (very unlikely)

#### f.2 Spill Response Action Plan

The flow chart in Figure 1, describes the basic process for responding to a spill event.



**Figure 1: Spill Response Flowchart**

### f.3 Spill Response Procedures

In the event of a spill, apply the following procedures for containing and controlling a spill:

- a) determine what will be affected by the spill;
- b) assess speed and direction of spill and cause of movement (wind, slope, water);
- c) determine best location for containing the spill;
- d) develop a contingency plan in case the spill worsens beyond control or the weather or topography impedes containment;
- e) keep a log of all information received and actions taken during the incident.

Specific methods for spill containment are described in Table 3.

**Table 3. Spill Containment Methods**

<b>Type</b>	<b>Technique</b>	<b>Description</b>
Land	Containment	Spills to land involve rock, gravel, soil and/or vegetation and are generally less serious than spills on water since contaminated soil can be more easily recovered. Generally, spills on land occur during the late spring, summer or early fall when snow loading is minimal. Spills to land should be dealt with promptly to prevent offsite migration and ensure that remediation meets applicable soil quality guidelines.
	Dykes	Dykes can be created using the soil surrounding a spill. These dykes are constructed around the perimeter or downslope of the spill. A dyke needs to be built to a size that contains the maximum quantity of fuel that might reach it. A plastic tarp can be placed at the base of the dyke so that fuel can pool up and be subsequently removed with sorbent material or pumped into barrels or a tank. If the spill migrates slowly a dyke may not be necessary, and sorbents can be used to soak up fuels before they migrate away from the source of the spill.
	Trenches	Dig trenches to contain spills as long as the top layer of soil is thawed. Shovels pickaxes, or heavy equipment can be used to dig trenches, depending on the size of trench required. Liquid can then be recovered using a pump or sorbent materials.
Ice	Containment	Spills on ice are generally the easiest spills to contain due to the predominantly impermeable nature of the ice. For small spills, sorbent materials are used to soak up spilled liquid. Any remaining contaminated ice/slush can be scraped and shovelled into plastic bags or barrels. Nevertheless, all possible attempts should be made to prevent spills from entering ice-covered waters as no easy method exists to contain and recover spilled material if it seeps under ice.
	Dykes	Dykes can be used to contain fuel spills on ice. Create a barrier or berm to contain the spill by mounding and compacting snow downslope from the spill. If the spill is fairly large, place a plastic tarp so that the spill can pool at the base of the dyke. The collected fuel/snow mixture can then be shovelled into barrels or bags, or collected using sorbent materials.
	Trenches	For significant spills on ice, trenches can be cut into the ice surrounding and/or downslope of the spill so that fuel can pool in the trench. It can then be pumped into barrels, collected with sorbent materials, or mixed with snow and shovelled into barrels or bags.
	Burning	In-situ burning can only be undertaken with the approval of the GNWT Department of Lands Inspector.
Snow	Containment	As a natural sorbent, spilled material on snow can be recovered. Generally, a small spill on snow can be easily cleaned up by raking and shovelling the contaminated snow into plastic bags or empty barrels.
	Dykes	Dykes can be used to contain fuel spills on snow. Create a barrier or berm by mounding and compacting snow down slope from the spill, thus helping to contain the spill. If the quantity of spill is fairly large, place a plastic tarp so that the spill can pool at the base of the dyke. The collected fuel/snow mixture can then be shovelled into barrels or bags, or collected using sorbent materials.
Water	Containment	Spills on water such as rivers, streams or lakes, are the most serious types of spills as they are difficult to contain and can negatively impact water quality and aquatic life. Only attempt to contain and remove spills after vapours have dissipated. Use containment booms to concentrate spills and recover fuel floating on the water surface. Clean up the contained slick using a skimmer and dispose of sorbent pads into plastic bags or empty barrels.
	Barriers/Weirs	In some situations, barriers or weirs made of netting, fence material or plywood can be installed across the width of a stream (angled to the current) with sorbent material placed at the base to absorb spilled fuel. Once it is saturated, replace and dispose of the sorbent material into plastic bags or empty barrels.

## f.4 Reporting a Spill

A spill is immediately reportable when a released substance is likely to be an imminent environmental or human health hazard, or it meets or exceeds the volumes outlined in Table 4. The Transportation of Dangerous Goods (TDG) classes were used to itemize substance types. Contaminants not described as a TDG are included as “Other contaminants” (e.g., lube oil).

**Table 4: Reportable spill quantities**

TDG Class	Substance	Major Spill Quantities* – Report Immediately
2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity greater than 100 L
2.2	Compressed gas (non-corrosive, non-flammable)	
3.1	Flammable liquids	>100 L
3.2		
3.3		
4.1	Flammable solids	>25 kg
4.2	Spontaneously combustible solids	
4.3		
5.1	Oxidizing substances	>50 L or 50 kg
9.2	Miscellaneous products or substances excluding PCB mixtures	
6.1	Poisonous substances	>5 L or 5 kg
8	Corrosive substances	
9.3	Dangerous wastes	
None	Other contaminants (e.g., waste or spent chemicals, used or waste oil, vehicle fluids, hydraulic oils, etc.)	>100 L or 100 kg

*\*Note: spill quantities less than those identified are considered minor spills; if unknown, treat as a major spill*

Note, that in these logging operations it is unlikely to have a major spill, considering the use of:

- fuel transfer tanks with shut off nozzles,
- the limited toxicity of hazardous materials used,
- containers of most of these materials are typically small volumes (e.g.; 20 liter pails, 4 liter jugs).

There will no equipment maintenance; such as, oil changes on site; and there will be no Used waste oil, or used oil filters. With the exception of glycol, TDG Classes 4.2, 5.1, 9.2, 6.1, 8, and 9.3 are not common on logging operations, and are not expected to be on this logging site.

Compressed gases (acetylene, oxygen) escapement could result from an occasional welding activity, required for unexpected equipment maintenance; or from the occasional use of propane tanks, to warm equipment up. Most tanks contain less than 100 liters of gas, and they are stored in pick up trucks. In addition, welding gas bottles storage, handling, and transportation is specifically regulated.

The biggest risk of a Major Spill may occur from a ruptured hydraulic line on the crawler tractor, hydraulic hoe, or Feller Buncher. These machines commonly have pressure sensitive detection systems and shut down procedures that minimize hydraulic oil loss.

Anyone who identifies a major spill shall immediately contact – even if all the required information is not available - the 24-Hour Spill Report Line by calling (867) 920-8130. This

service will inform all government agencies and determine which agency will lead the response for each incident. The requirement to report includes incidents when the volume of spilled material is close to the reportable quantity or when there is uncertainty whether the spilled material is classified as a contaminant.

In addition, all releases of harmful substances, regardless of quantity, must be reported to the 24-Hour Spill Report Line if the release 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.

Figure 3 indicates there is a “Spill Report”, that must be submitted to follow up on any spill that has been reported to the Spill Response telephone number. This form is available on-line.

### **f.5 Spill Clean-up**

Clean-up is the removal of the contaminant from the environment. Regardless of the size of the spill, clean-up any spill and notify any member of the public who may be affected by the incident.

In most cases, spill cleanups are initiated at the far end of the spill and contained moving towards the center of the spill. Use sorbent socks and pads for small spill clean-ups. A vacuum truck or pump with attached fuel transfer hose can suction spills from leaking containers or large accumulations on land or ice, and direct these larger quantities into empty drums. Hand tools such as cans, shovels, and rakes can be effective for small spills or hard to reach areas. If necessary, heavy equipment available on site may be utilized.

### **f.6 Disposal of Spill Clean up Materials**

Disposal is treatment of the contaminant such that it is no longer a threat to the environment. Used sorbent materials are placed in plastic bags for future disposal. All materials mentioned in this section are available in the spill kits located on site. Following clean up, any tools or equipment used will be properly washed and decontaminated, or replaced if this is not possible.

For most of the containment procedures outlined, spilled petroleum products and materials used for containment will be placed into empty waste oil containers and sealed for proper disposal at the registered disposal facility, or as directed by the Lands Inspector.

### **h. Training**

Jean Marie River First Nation and the logging Contractor are responsible to train their respective site workers for spill contingency and reporting. These procedures will be reviewed with all site workers prior to the beginning of the activities, and when there are changes of equipment and site personnel. This is expected to ensure all understand commitments and necessary precautions related to equipment that is on site. This would include the storing, handling and transporting of petroleum products, and other hazardous substances, as well as, the steps to be undertaken to in the event of a spill. All site workers are shown where the spill equipment is stored and are trained in using this equipment for responding to spills.

**i. Inventory of Spill Clean up Equipment:**

Standard spill kits will be available on site, per Table 5. Contractors will keep standard spill kits on site, in good working order. A copy of the Spill Contingency Plan will be kept with the Spill Kits.

**Table 5: Spill Kit Contents**

<b>Spill Kit</b>	<b>Personal Protective Equipment</b>	<b>Absorbent Material</b>	<b>Other</b>
20L Pail	2 pair of nitrile gloves 2 pair plastic safety goggles	15 hydrocarbon pads 2 absorbent socks (3"x48")	1 plug and dyke 3 heavy duty disposal bags 1 spill clean-up instruction sheet
205L Drum	2 pair of nitrile gloves 2 pair plastic safety goggles	100 hydrocarbon pads 10 absorbent socks (3"x48")	1 plug and dyke (1 lb jar) 8 heavy duty disposal bags 1 spill clean-up instruction sheet Neoprene storm drain cover

**Figure 2: LUP Application Map**

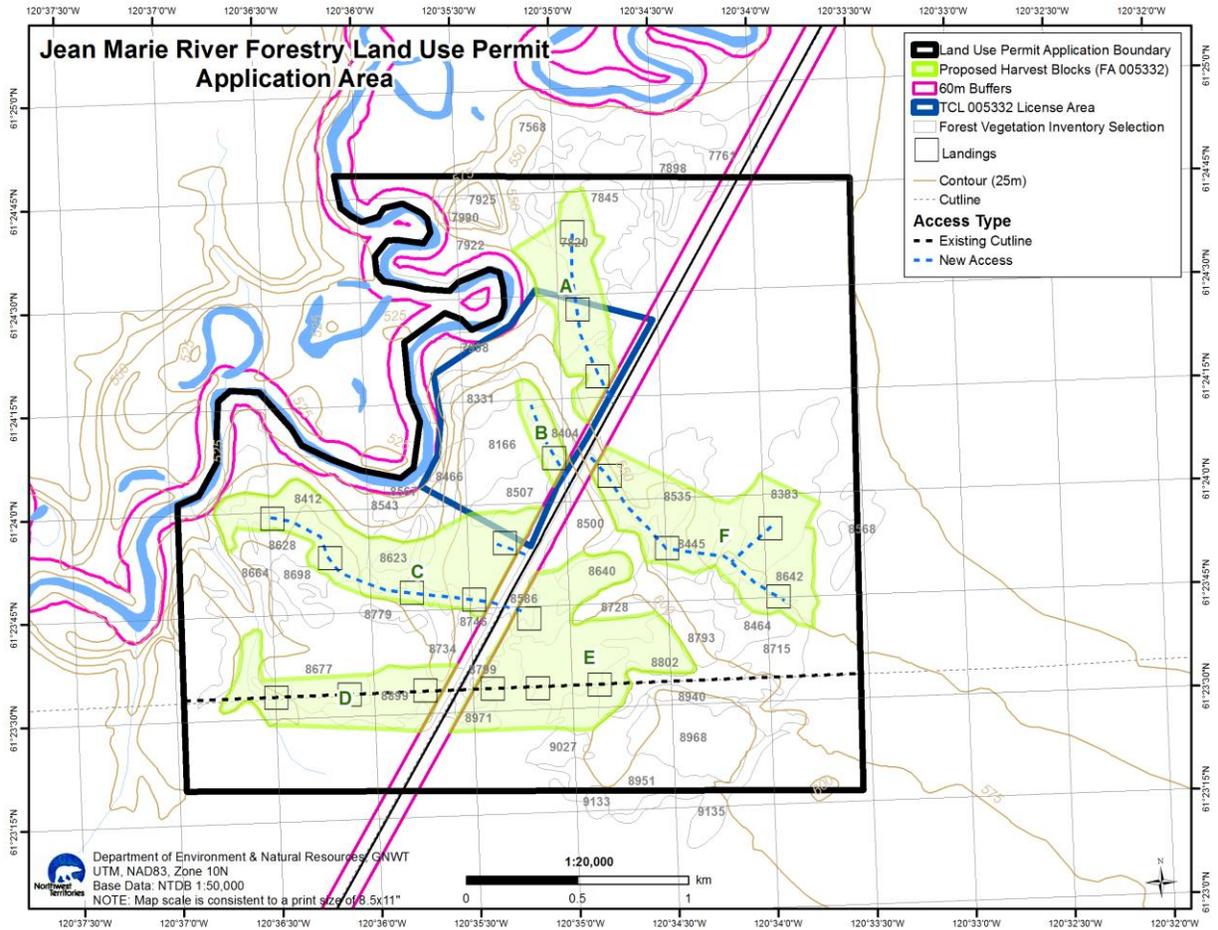


Figure 3: Spill Report Form (partial)



# 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 #	REPORT NUMBER -
	B	OCCURRENCE DATE: MONTH – DAY – YEAR		
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 <input type="checkbox"/> NT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION	
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		
	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	