Spill Contingency Plan
Iqaluit Airport LTU, Nunavut
NWB Water License Number: 1BR-LTU1013

Prepared By:
Transport Canada

Revised
November 2010

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i Preamble

This spill contingency plan has been developed based on the above noted Nunavut Water Board License requirements Section H Part 1 – 6 for the Land Treatment Unit at the Iqaluit Airport, Nunavut. The plan itemizes Section H Part 1 in the following narrative. The spill response plan also has been developed based on the following documents and guidelines attached for ease of reference and will accompany the spill response plan as a working document on site at all times:

1) *Environmental Protection Act*, Spill Contingency Planning and Reporting Regulations R-068-93, Government of Northwest Territories, 1990.
2) Contingency Planning and Spill Reporting in Nunavut, A Guide to the New Regulations
3) Guidelines for Spill Contingency Planning, Water Resources Division Indian and Northern Affairs Canada, 2007.
4) NT-NU Spill Report Form
5) Water License Number: 1BR-LTU1013

There is no storage of any petroleum products or hazardous materials at this site. The only concern for the Spill Contingency Plan is for heavy equipment working at the site for delivering contaminated soil to the facility or equipment used during tilling/fertilizing and maintaining the site. Heavy equipment may include a backhoe and 6 – yard dump truck. Heavy equipment operators are required to have their equipment properly maintained without any leaks. No refuelling of equipment is allowed on site. Operators are required to have 1 (one) 50 gallon spill kit with them at all times while on site. Operators will also have the spill plan containing contacts and procedures for emergencies such as hospitals, fire department, police and territorial governmental department; environmental spills **24-hour reporting phone number (867) 920-8130**. Should a release of fuel from the equipment occur, the contractor is required to make use of the 50 gallon spill kit on site. All spills are required to be reported regardless of volume to the Spill Inspector at (867) 975-4295. The location of the LTU's are demonstrated in Appendix I.

1.0) Introduction and Project Details

i) Company Details

Transport Canada has been issued a license by the Nunavut Water Board to operate the LTU at the Iqaluit Airport, Nunavut. Contact information:

Project Manager
Transport Canada
Prairie and Northern Region

Darryl Pederson, Superintendent Contaminated Sites
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

24-Hour Spill Reporting:	**(867) 920-8130**
INAC's Spill Inspector:	**(867) 975-4295**
Ambulance:	**(867) 979-4422**
Fire Department:	**(867) 979-4422**
Hospital Emergency Room:	**(867) 979-4422**
Police Department:	**(867) 979-1111**

ii) **Effective Date of Plan**

Effective date for of spill contingency plan is October 27, 2010.

iii) **Last Revisions to Plan**

Last revisions to the spill contingency plan is October 27, 2010

iv) **Distribution of Plan**

Distribution of the plan has been sent to NWB for distribution and comments to other federal, territorial governments.

v) **Purpose and Scope of Plan**

The purpose of this plan is to outline response actions for potential spills of appropriate sizes including worst case scenario. The plan identifies key responsibilities in the event of a spill, as well as equipment and other recourses available to respond to a spill. As previously mentioned, no storage tanks and hazardous materials are stored on site. No refuelling equipment is allowed on site. The scope of the plan, therefore, addresses the equipment on site potentially releasing fuel. This includes a backhoe and dump truck. The source of potential spills would result from a piece of equipment leaking or tipping over. A second potential of a spill may involve the release of contaminated soil outside the LTU if a piece of equipment rolled over.

vi) **Environmental Policy**

Transport Canada must adhere to all federal legislation and territorial requirements.

vii) Project Description

The maintenance will take place once per year consisting of mechanically turn the soil in both cells. Tilling will be completed using an excavator with a toothless bucket. The soil will be turned over, broken up and mixed to maximize bio-degradation. Once the tilling of the soil is completed, the twelve (12) composite soil samples from the LTU measuring 90m X 40m and eight (8) composite soil samples from the LTU measuring 55m X 40m. Water samples from each of the three (3) monitoring wells will be submitted to a certified laboratory for analysis. Fertilizer will be added to the LTU cells in the appropriate amounts as recommended by the manufacturer to achieve the target ratio for the specific volume of soil in the LTU to speed bio-degradation. The fertilizer used will have a content consisting of a carbon:nitrogen:phosphorus (C:N:P) ratio between 100:10:1 to 100:1:0.5.

viii) Site Description

The LTU is located at the Iqaluit Airport 63 degrees 45' 26.99"N 68 degrees 32' 59.72"W. The 2 LTUs are approximately 55m X 45m and 90m X 40m. The construction of the LTUs were initiated and completed in the fall of 2006. TC anticipated constructing one large LTU cell on site, however the topographic conditions and airport operations made this difficult due to restriction related to the runway and the adjacent taxiway and apron. Therefore, TC constructed two smaller LTU cells (C & D) adjacent to the previously constructed LTU cells (A & B) that will be decommissioned in the near future. Cell D is approximately 55m X 40m and cell C is approximately 90m X 40m. Both cells were constructed to the same specifications as described in the water license application and as the engineered drawing indicates. Appendix I contains figures demonstrating the location of LTUs.

In addition, a geofabric was placed overtop of the liner material as extra protection from tears and punctures from rocks, branches and equipment. Clean remediated soil from cell B was used as ballast material for both cells since no contaminated soil was placed in cell C and D in 2006. TC anticipated remedial works at the airport for future years that would require the use of the LTU. Each LTU is constructed to hold a maximum depth of 1m of material. Therefore, cell D has the potential capacity of 2200m^3 and cell C has the potential capacity of 3600 m^3. The nearest building is the Airport Maintenance Garage approximately 400m to the northeast, the Air Terminal Building approximately 1000m to the southeast and the nearest drainage channel is located adjacent to the airport runway approximately 155m to the southwest of the LTU site. The nearest water body is the Ocean

located approximately 3.0 km to the southeast. The topography of the site is flat and nearly at sea level. The area surrounding the airport has a gentle slope to the southeast toward the ocean. Appendix I identifies the location of the site and their proximity to nearby infrastructure, water bodies, ponds, streams, drainage channels and site contours.

The LTU is located in a developed area at the Iqaluit airport that requires security clearance to enter the site since it is located airside. Therefore, it does not impact communities, traditional use areas (hunting and trapping camps), sensitive areas, parks, game preserves, resource harvesting areas, fish spawning areas, waterfowl habitat, animal migration routs, beaches, archaeological and historic sites, public or private water supplies.

ix) List of Hazardous Material on Site

No hazardous materials are stored on site.

x) Existing Preventative Measures (Secondary Containment /Fuel Handling)

No hazardous materials are on site and no fuel storage tanks on site. In addition, no refuelling is allowed on site. Therefore, no secondary containment and fuel handling preventative measures are required.

xi) Additional Copies – How to Obtain

Several copies of the plan are kept on-site with the contractor and the Transport Canada Project Offifer while on site.

Contact Transport Canada at:

Project Manager
Transport Canada
Prairie and Northern Region
Darryl Pederson, Superintendent Contaminated Sites
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

xii) Process for Staff Response to Media and Public

The process for enquiries is to contact Transport Canada Communications at:

Glyniss Hutchings
Communications
Transport Canada
344 Edmonton Street
Winnipeg, Manitoba
R3C 0P6
(204) 984-2256

2.0) Action Plan

i) Potential Spill Size/Impacts/Procedures/Reporting/Restoration

- Potential spill sizes would likely not exceed 50 gallons of diesel fuel. This is based on the size of fuel tanks in a dump truck or a rubber tire backhoe. The potential of a piece of equipment to tip over would be the source of the fuel. Should this occur in the LTU the spill would be contained in the LTU. If the spill occurs outside the LTU, the area would be small due to the limited amount of fuel stored in the equipment.

  The procedure for initial action is to ensure the safety of the operator and safe extraction and remove all source of ignition. Once this is complete, the equipment will need to be assessed if fuel is leaking and take appropriate action to prevent and stop all fuel leaking. Once this is completed the spill can be assessed and the spill response kit may be used to absorb any free product. If fuel entered into the soil, this may be removed and placed into the LTU. The contractor on site will be required to enact and respond to the spill. If the spill kit absorbent pad/socks are used, they may be placed back into the spill kit container for later disposal at a licensed facility in Iqaluit.

  Spill reporting consists of completing the attached NT-NU Spill Report form in Appendix II and submitting it to Government of Nunavut. Reporting should also consist of contacting the INAC's Manager of Field Operations pursuant to Schedule B of the Spill Contingency Planning and Reporting Regulations at (867) 975-4295 or by fax at (867) 979-6445. Spill reporting will be the responsibility of the contractor working on site.

- The second form of spill may result due to contaminated soil spilled outside the LTU. In the event of a spill of contaminated soil, the soil will be collected and placed into the LTU. In the event of a spill, the following procedures should be considered:

a. First consider and then remove or minimize any hazards to human life, health, safety or the environment.
b. Take necessary steps to initially contain or prevent the spread of the spill.
c. Try to identify and stop the source of the spill or leak.
d. Collect liquids through the use of such equipment as absorbent pads.
e. Immediately, collect and transport any contaminated soil resulting from the spill to the LTU for treatment.
f. Send for help if required.
g. Report the spill to the INAC Spill Inspector and complet the NT-NU Spill Report Form (attached).
h. Complete the collection and disposal of contaminated materials as per direction from the regulatory agencies and applicable regulations.

The facility has monitoring wells to identify if there is any contamination leaking from the facility. The wells are tested once per year at a minimum. If fuel is identified in a well the following steps will be implemented:

- Sample the well and identify the contamination from a certified lab
- Identify the location where the potential contamination is originating
- The likely location will be from the LTU, therefore, limit the search to the area nearest to the monitoring well
- Sample soil outside the facility to identify the direction of the source of contamination
- Inspect the liner for any rips and tears
- Remove the contaminate soil from the LTU up gradient from the well. The soil can be placed further back in the LTU or if required place in the adjacent LTU. Inspect the liner for any rips and tears. Continue until the source can be identified. In the event of a tear in the liner, a proper weld/patch will be completed according to the manufacture specifications.
- If contaminated soil is identified outside the facility, remove and place into the LTU and backfill the excavation with clean fill material.
- Continue to sample monitoring wells 2-3 times per year to ensure the source of contamination has been eliminated

If the sump area is full of water and is required to be removed due to a wet season, the following steps are in place:

- Test the water to ensure the water may be discharged as per the requirements in the water license issued by NWB

- If the water does not meet the required discharge levels the water will need to be treated with in a oil water separator. The system will operate to treat the water prior to discharge. The water will be treated then sampled and sent to a certified lab to ensure it meets the discharge requirements under the water license. Only if it meets this requirement may it be discharged.
- If a oil water separator is not sufficient to treat the water, the water will be pumped into 205L drums and sent to a approved and certified facility to treat the contaminated water.
- Any discharge from the sump in the LTU to the environment must meet the following Effluent quality limits as described in the water license Section D Part 4:

Parameter	**Maximum Concentration of any Grab Sample (ug/L)**
PH	6 to 9 (pH units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100
Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	1
Mercury (dissolved)	0.6
Nickel (dissolved)	200
PCB (dissolved)	1000
Phenols	20
Zinc (total)	500
Benzene	370
Toluene	2
Ethylbenzene	90

3.0) Resource Inventory

A 50-gallon spill kit will be on site at a designated location adjacent to the work area. The 50 – gallon universal sorbent spill kit is an appropriate size due to the volumes of fuel in the equipment. The contents of the spill kit include:

a. 10 socks
b. 100 pads
c. 8 pillows
d. 1 drain cover
e. 1 caution tape
f. 2 pairs nitrile gloves
g. 2 pairs safety goggles
h. 2 protective coveralls
i. 10 disposable bags
j. 1 instruction book

In addition, earth moving equipment located at the site may be required to clean the small spill such as:

1) Small backhoe
2) Dump truck

4.0) Training Program

All individuals entering the site are required to participate in an orientation session. The session includes responding to a spill and the steps involved including proper use of the spill kit, contact information and how to fill out the proper spill report sheet (attached). During the session, all locations of the spill plan and spill kits are provided and a copy of the spill plan will remain with the contractor and operators. All contractors are required to have basic first aid training as well as WHIMS training prior to working on site.

APPENDIX I

FIGURES

Figure 1: Location of LTU at Iqaluit Airport, Nunavut Scale 1:10,000

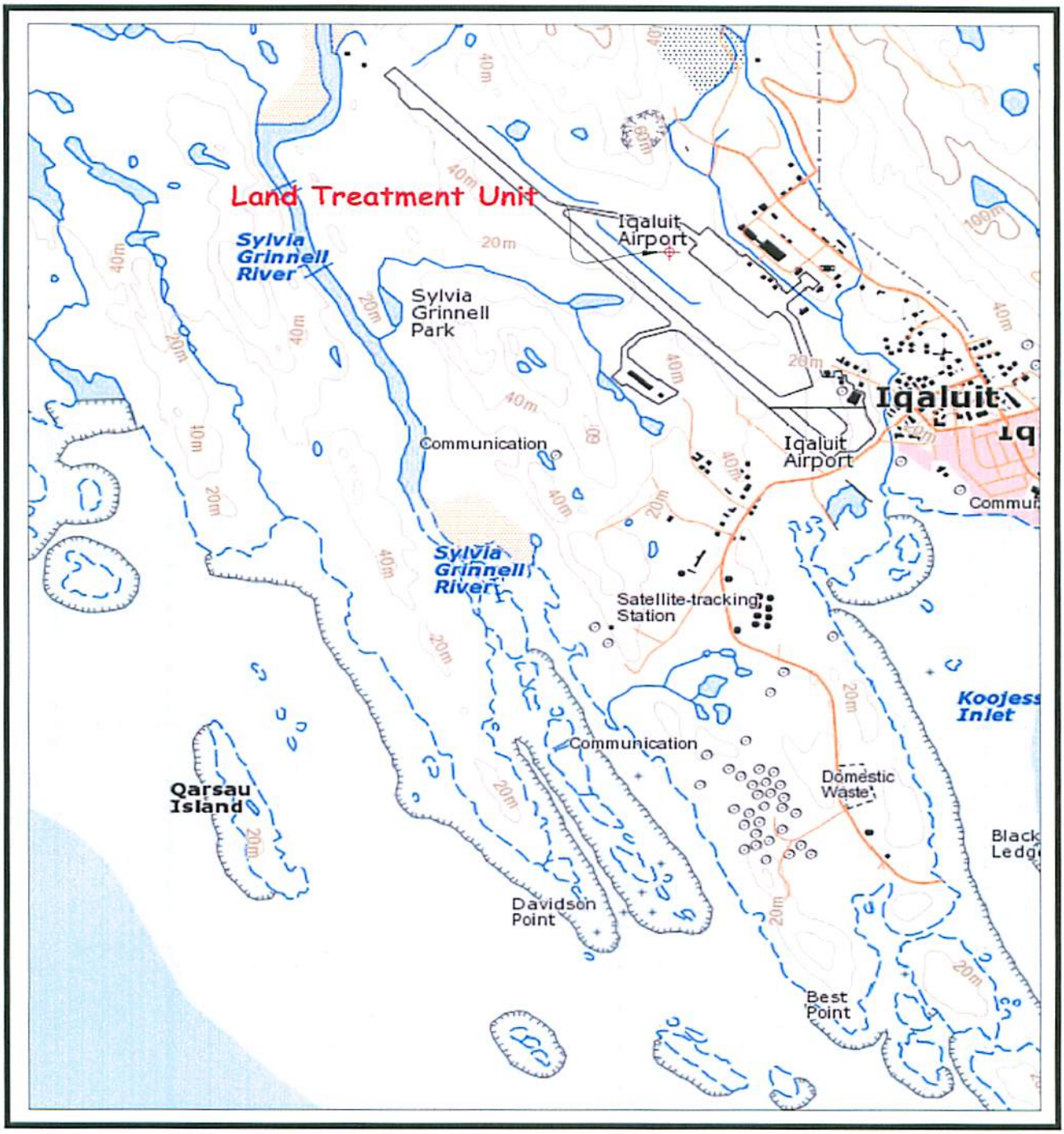
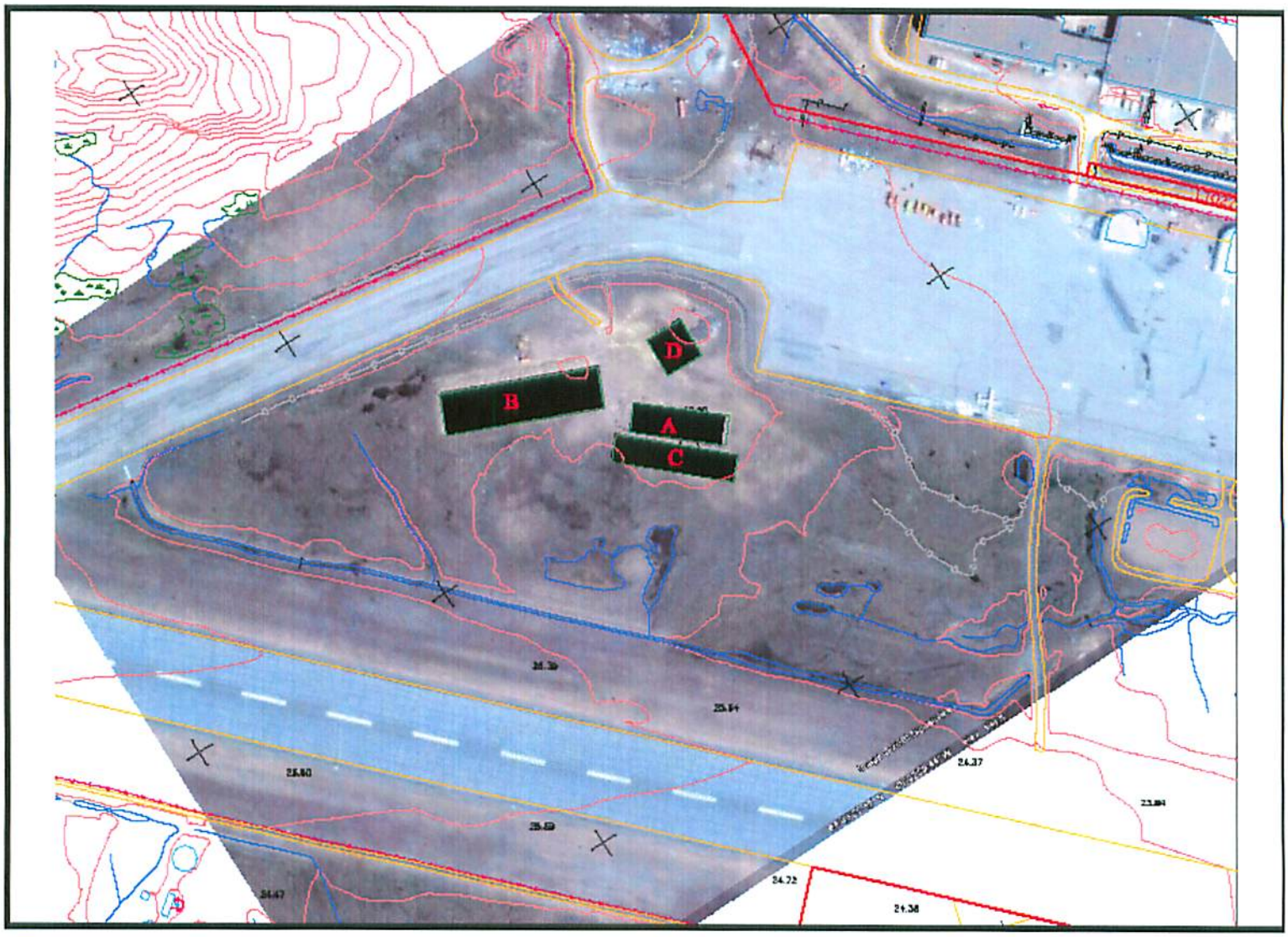


Figure 2: Location of LTU at Iqaluit Airport, Nunavut Scale 1:2000



Note: LTU A and B are historic to be decommissioned. LTU C and D constructed in 2006 under NWB license # 1BR-LTU1013

Appendix II

NT-NU Spill Report Form

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	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # TO THE ORIGINAL SPILL REPORT	

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 ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR
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	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
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 Station operator	EMPLOYER	LOCATION CALLED Yellowknife, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC

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			