

**CASP's spill contingency plan for "The Provenance of Clastic Sediments in the Sverdrup Basin,
Canadian Arctic Islands" (3BC-PRO).**

DATE ORIGINAL SUBMITTED: February 2010

DATE AMENDED: 5TH November, 2010

24 hr Emergency Contact: CASP Office: +44 1223 760700

CAMP Satellite telephone: +8816 5144 2221 or +8816 5144 2260 (valid between 21st June and 30th July 2010)

CASP will notify NWB of any changes or further amendments to the submitted plan.

Please note that NO FUEL CACHES ARE ASSOCIATED WITH THIS WORK and that the camp site are temporary (tents only) with no permanent structures erected.

CASP LICENCE covers the water for domestic camp use from minor rivers. The total water usage should be no more than 5 cubic metres / day. NB the average water usage estimate by a CASP camp is 25 litres/ day.

CASP will have two temporary field camps at:

(1) Blind Fiord 78.25°N, 85.50°W (estimated). Due to the steep terrain and lack of running water at planned site, the base camp was positioned at 78.19377°N, 85.2404°W

(2) Troid Fiord 78.70°N 84.45°W (estimated). Due lack of running water at planned site, the base camp was positioned at 78.6797°N, 84.40732°W

These campsites are temporary (no permanent structures) and comprise 1 small cook tent and 4 single person sleeping tents (see attached photograph). On exit from the field no structure or waste remains. As these are small camps (max 4 people), only small amounts of fuel (60 litres maximum in total) will be stored or used at these camps. The types of fuel used will be: (1) kerosene (Jet-A1, stored in 4 litre Jerry Cans or 1 litre SIGG Fuel Bottles for use with a stove), and (2) methylated spirits (stored in 1litre SIGG Fuel Bottles). The cans and bottles containing the fuel will themselves be stored in sealed plastic sample boxes, further protecting the fuel from any chance of spillage.

Owing to the way in which the fuel will be stored and used there are only three ways in which a possible spill may occur:

- 1) Fuel cans/bottles leaks during storage, and the spilled fuel is held inside the plastic sample box
- 2) Fuel is spilled whilst decanting from a 4 litre Jerry can to a 1litre SIGG Fuel Bottle
- 3) A SIGG Fuel Bottle leaks whilst being moved to the cooking area

This document outlines the organisation and plan for a response, and reporting procedures, following the unlikely event of a spill.

Response Organisation

The team consists of 4 people. Owing to the small size of the team and the small quantities of fuel being stored or used, everyone on the team will take responsibility for dealing with any spills that occur.

Everyone on the team will be fully aware of the procedure to follow once a spill has been identified. The first person on site will:

- 1) Ensure their safety and the safety of other people in the area
- 2) Assess the spill situation
- 3) Contact the rest of the team to notify them of the spill
- 4) Begin dealing with the spill

Initial Response

Owing to the way that the fuel will be stored and used, the volume of fuel spilled is highly unlikely to exceed 4 litres, and is far more likely to be less than 1litre. However, the same procedure will be followed regardless of the scale of the spill.

If possible, and safety permits, the flow of fuel will be stopped. All ignition sources will be removed from the area. If fuel is spilled within the plastic sample boxes, it will be decanted into another bottle. Sorbent cloths will be used to soak up any excess fuel or fuel spilled outside of the plastic boxes. Any cleanup supplies or contaminated materials (including soils, snow/ice, clothing) will be stored in a labeled and sealed plastic box. Any boxes of contaminated materials will be stored in a well ventilated area away from incompatible materials.

Reporting Procedure

In the event of a spill, a spill report form (included) will be filled out as completely as possible.

The spill will be reported to the NWT 24 Hour Spill Line at (867) 920-8130 and the water Inspector at (867) 975-4295 as soon as possible, to report the spill and provide initial incident details. A copy of the spill report will be faxed to the NWT Spill Line at (867) 873-6924 on return from the field.

Spill Kit

In the event of a spill, we will have a spill kit available at camp (stored in a labeled container within the camp cook tent with the first aid kit and emergency supplies) to help us deal with the situation. This will include:

- 2 PVC oil resistant gloves
- 1 package of sorbent cloths
- 2 packages of disposable sorbent tissue paper
- 1 spare sealable plastic box for containment of contaminated materials

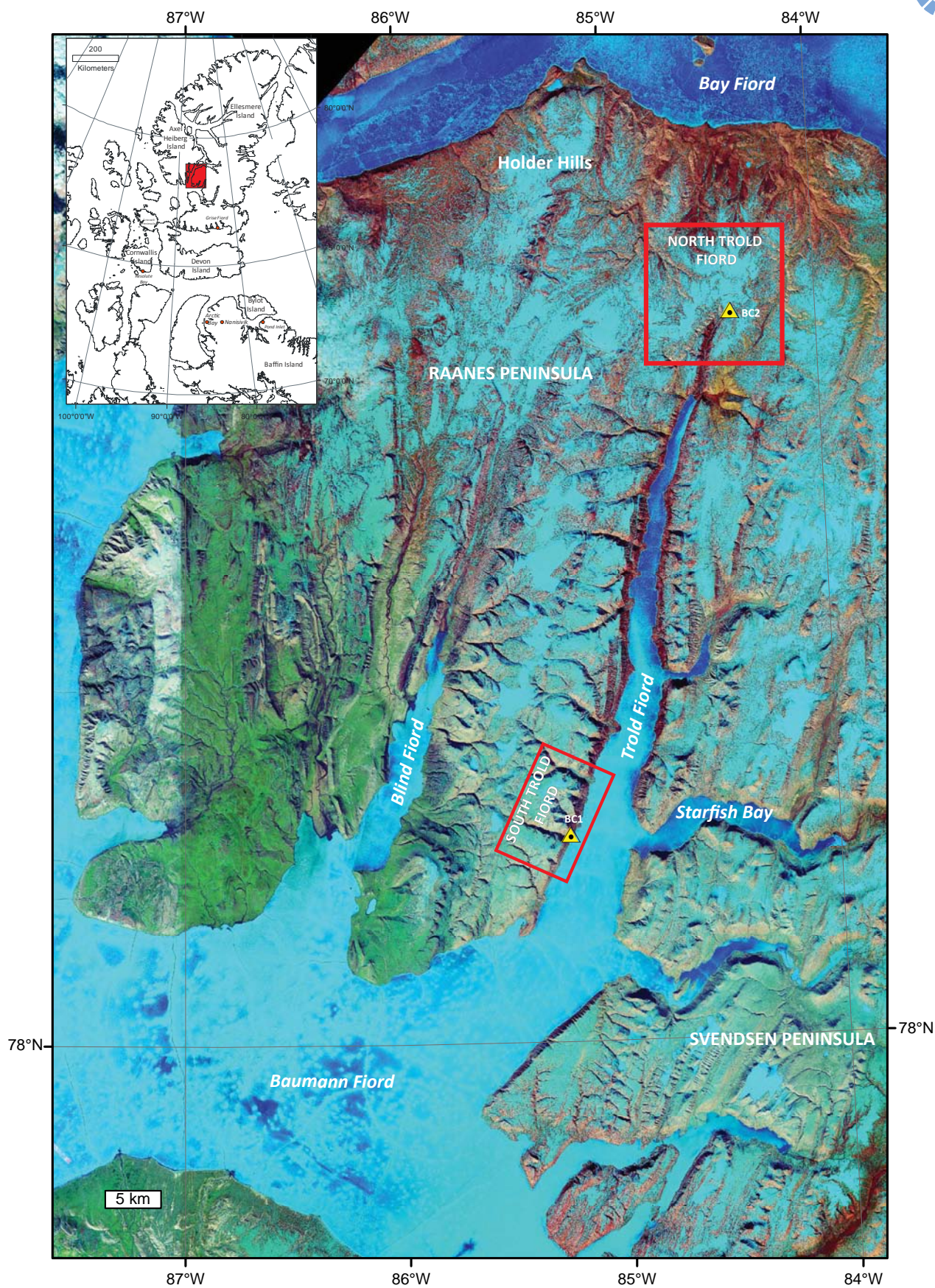
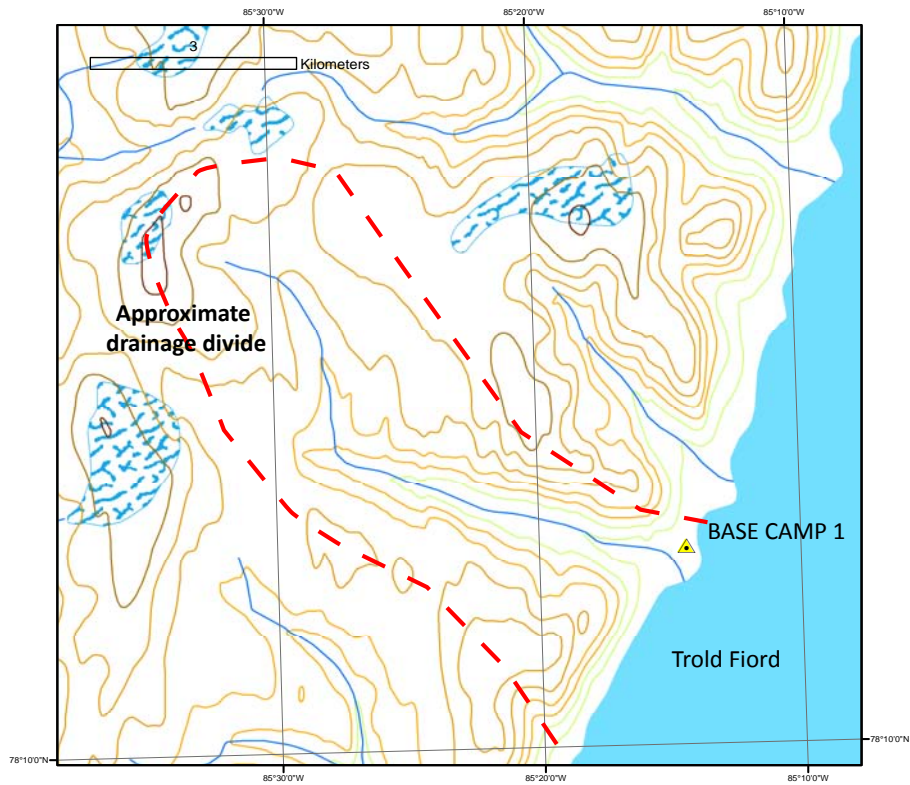


Figure 1. Landsat image of the Raanes Peninsula showing the extent of the field areas (red boxes). The inset map shows the location of the field area (red filled box) within the eastern Canadian Arctic.

CAMP 1



CAMP 2

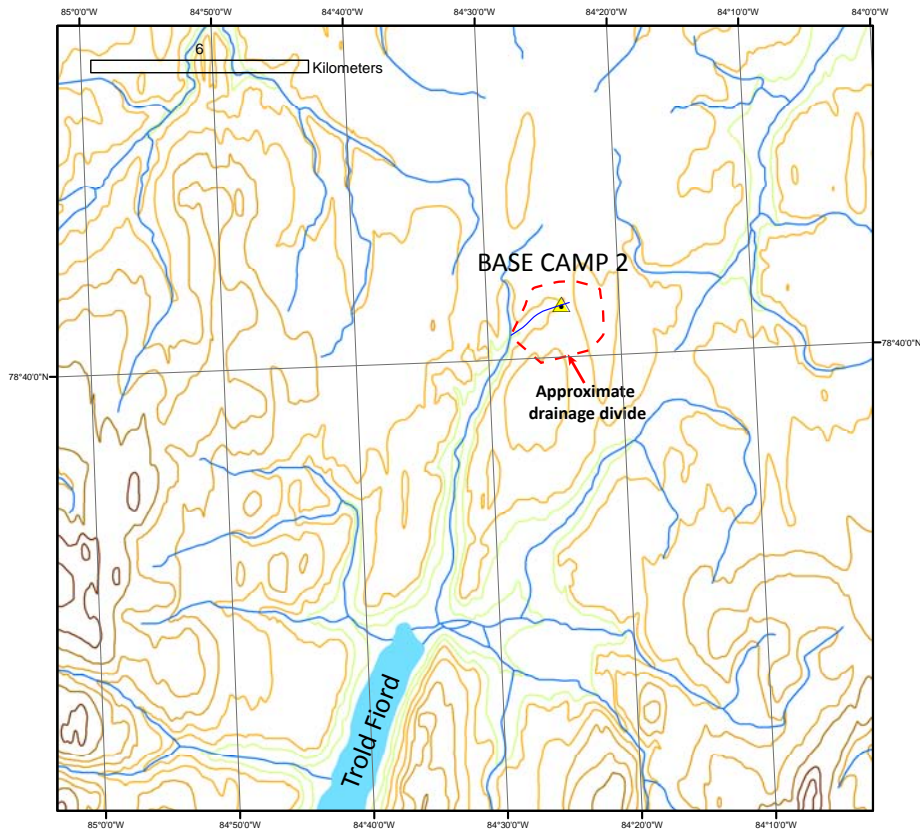


Figure 2. Location of CASP's 2010 camp sites on the Raanes Peninsula, Ellesmere Island. The extent of the drainage divide for each water source utilised for domestic water supply to the small camps are shown by a dashed red line. Contour lines are shown at 100m intervals. Maps were downloaded from the National Topographic Data Base via Geogratis (<http://geogratis.cgdi.gc.ca/geogratis/en/whatsnes.html>)



Figure 3. Images from BASE CAMP 2. Top photograph shows the CASP sleeping tents (1 person tents) and bottom photo shows the cook tent. Note that there is at least 100 m between the sleeping and cooking areas to avoid attracting wildlife (complying with Environment Canada regulations).

Additional recommendations from Environment Canada:

The Species at Risk Act (SARA) came into full effect on June 1st 2004. CASP will ensure compliance with the guidelines and recommendations set out in the act and adhere to advice provided by Environment Canada.

Assessment by Environment Canada identifies the following species at risk which may be encountered (see table below).

Ivory Gull
Peary Caribou
Porsild's Bryum
Red Knot (islandic subspecies)
Polar Bear
Wolverine (Western Population)

CASP staff will take measures to avoid or lessen impact on the listed species. CASP camps will be designed and located in areas where disturbance and/or attraction is minimised.

Environment Canada recommendations:

- Species at Risk that could be encountered or affected by the project should be identified and any potential adverse effects of the project to the species, its habitat, and/or its residence noted. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the Species at Risk registry at www.sararegistry.gc.ca for information on specific species.
- If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat and/or its residence.
- Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.

- For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
- Mitigation and monitoring measures must be taken in a way that is consistent with applicable recovery strategies and action/management plans.
- Ivory Gulls are medium-sized gulls that can be identified by their pure white plumage and black legs. Ivory Gull nest in colonies on windswept plateaus, ice-choked islands, or on steep cliffs of mountains protruding from glaciers. Ivory Gulls nest on Ellesmere Island, although the proposed project is not near any known Ivory Gull nesting colonies. It is possible that Ivory Gull colonies exist in the High Arctic that have not yet been noted. If inland groups of gulls are encountered that could be nesting Ivory Gulls, these areas should be avoided to prevent disturbance and observations reported to the Canadian
- All mitigation measures identified by the proponent, and the additional measures suggested herein should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada recommends that all field staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice/training on how to implement these measures.
- Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the Migratory Birds Convention Act, Migratory Birds Regulations, and the Species at Risk Act. The proponent must ensure they remain in compliance during all phases and in all undertakings to the project



ARCHAEOLOGICAL AND PALAEOONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

BACKGROUND

Archaeology

As stated in Article 33 of the Nunavut Land Claims Agreement:

The archaeological record of the Inuit of Nunavut is a record of Inuit use and occupancy of lands and resources through time. The evidence associated with their use and occupancy represents a cultural, historical and ethnographic heritage of Inuit society and, as such, Government recognizes that Inuit have a special relationship with such evidence, which shall be expressed in terms of special rights and responsibilities. [33.2.1]

The archaeological record of Nunavut is of spiritual, cultural, religious and educational importance to Inuit. Accordingly, the identification, protection and conservation of archaeological sites and specimens and the interpretation of the archaeological record is of primary importance to Inuit and their involvement is both desirable and necessary. [33.2.2]

In recognition of the cultural, spiritual and religious importance of certain areas in Nunavut to Inuit, Inuit have special rights and interests in these areas as defined by Article 33 of the Nunavut Land Claims Agreement. [33.2.5]

Palaeontology

Under the Nunavut Act¹, the federal government can make regulations for the protection, care and preservation of palaeontological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*², it is illegal to alter or disturb any palaeontological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

¹ s. 51(1)

² P.C. 2001-1111 14 June, 2001

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

- (a) natural casts
- (b) preserved tracks, coprolites and plant remains; and
- (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.

Terms and Conditions

- 1) The permittee shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 2) The permittee shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 3) The permittee shall immediately contact the Department of Culture, Language, Elders and Youth (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035 should an archaeological site or specimen, or a palaeontological site or fossil be encountered or disturbed by any land use activity.
- 4) The permittee shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation, until permitted to proceed with the authorization of the Department of Culture, Language, Elders and Youth, Government of Nunavut.
- 5) The permittee shall follow the direction of the Department of Culture, Language, Elders and Youth and DIAND in restoring disturbed archaeological or palaeontological sites to an acceptable condition.
- 6) The permittee shall provide all information requested by the Department of Culture, Language, Elders and Youth concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 7) The permittee shall make best efforts to ensure that all persons working under authority of the permit are aware of these conditions concerning archaeological sites and artifacts, and palaeontological sites and fossils.
- 8) The permittee shall avoid the known archaeological and/or palaeontological sites listed in Attachment 1.

9) The permittee shall have an archaeologist or palaeontologist perform the following functions, as required by the Department of Culture, Language, Elders and Youth:

- a) survey
- b) inventory and documentation of the archaeological or palaeontological resources of the land use area
- c) assessment of potential for damage to archaeological or palaeontological sites
- d) mitigation
- e) marking boundaries of archaeological or palaeontological sites
- f) site restoration

The Department of Culture, Language, Elders and Youth shall authorize by way of a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit, all procedures subsumed under the above operations.



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					