Spill Contingency Plan
Former Iqaluit Vehicle Dump and Community Landfill Remediation Project,
Iqaluit Airport, Iqaluit, Nunavut

Prepared By: Transport Canada
March 2011

(Revised February 2017 by Arcadis Canada Inc.)

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Preamble

This spill contingency plan has been developed based on the requirements to submit a water license application to the Nunavut Water Board. The spill response plan has been developed based on the following documents and guidelines and will accompany the Health and Safety 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

There is no storage of any petroleum products or hazardous materials at this site. The spill plan has been developed for the following potential spills that could occur during the implementation of the Former Iqaluit Vehicle Dump and Community Landfill Remediation Project, Iqaluit Airport, Iqaluit, Nunavut:

- Heavy equipment working at the site. Heavy equipment may include a backhoe, dump truck, grater, bulldozer, crane, packer, and loader. Heavy equipment operators are required to have their equipment properly maintained without any leaks. No refuelling of equipment is allowed on site. Refuelling will only be allowed in a staging area away from the project location. The use of drip pans will be mandatory when refuelling vehicles;
- Equipment spilling fuel if a rollover is encountered, and;
- The potential of encountering materials such as fuels (gas/diesel), oil, antifreeze and batteries when removing derelict vehicles and debris at the site.

Operators are required to have 2 (two) 50 gallon spill kits on site with them at all times. 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.

1) Introduction and Project Details

i) Company Details

Transport Canada has applied for a water license to the Nunavut Water Board to remediate the landfill/vehicle dump site at the Iqaluit Airport, Nunavut.

Contact information:

Project Manager
Transport Canada
Technical and Environmental Services
Jackie Barker, Environmental Officer
344 Edmonton Street,
Winnipeg, Manitoba R3B 2L4
(204) 983-4042
jackie.barker@tc.gc.ca

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
Qikiqtani General Hospital:	(867) 975-8600
Police Department (RCMP):	(867) 979-1111

ii) Effective Date of Plan

Effective date for of spill contingency plan is May 1, 2017

iii) Last Revisions to Plan

The plan was revised in February 2017 in preparation for the remediation project implementation scheduled for the spring, summer and fall 2017. The February 2017 revisions included:

- Verification of applicable regulation and guidance
- Verification of remediation project scope
- Verification of emergency numbers and routes
- Update of project contacts and schedule
- Added response organization chart
- Remove the reference to the land treatment plan (LTU) in the Action Plan section because the 2017 remediation project does not include a LTU at the site

Last revisions to the spill contingency plan will be required when a contractor is awarded the remediation contract.

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 any sizes, including worst case scenario. The plan identifies key responsibilities in the event of a spill, as well as equipment and other resources 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 other than at a staging area away from the work site. The scope of the plan, therefore, addresses the equipment on site potentially releasing fuel. This includes a backhoe, grater, loader, bulldozer, crane and dump truck and the removal of abandoned vehicles. The source of potential spills could result from the following:

- Equipment leaking;
- Equipment roll over;
- Refuelling at designating staging area;
- Encounter batteries, fuels (gas/diesel) and antifreeze when removing derelict vehicles and debris.

vi) Environmental Policy

This project is managed by Transport Canada and must adhere to all federal legislation and territorial requirements.

Upon award of the remediation contract, the selected remedial contractor will update the spill contingency plan and as relevant, will indicate herein its company environmental policy.

vii) Site Description

The Iqaluit Former Vehicle Dump and Community Landfill (the site) is situated approximately 1.7 km southwest of the City of Iqaluit, Nunavut. Universal Transverse Mercator (UTM) co-ordinates taken from the center of the site are E521904.94, N7067812.69. The former dump and landfill occupies a total area of approximately 7.25 ha (72,500 m2), which includes the up-gradient debris area and the lower area bordering the Sylvia Grinnell River. Only the top section of the site is accessible by road.

The site is adjacent to the Sylvia Grinnell Territorial Park protected area and is within the administrative boundaries of Iqaluit as shown on Schedule A of the 2016 Draft Nunavut Land Use Plan issued by the Nunavut Planning Commission.

The area was used as a military and municipal landfill starting in the late 1950's and early 1960's. The United States Air Force (USAF) used the site from 1955 to 1963 as a metal dump for vehicles, truck bodies, barrels and scrap metal. The site was believed to be used for the disposal of small quantities of municipal waste from the City of Iqaluit in the 1960's. A few examples of municipal wastes disposed of at the site include food cans and bottles, kitchen appliances, bicycles, tires, wooden pallets, animal remains, water heaters and toys.

The site was reportedly abandoned in the 1970s. Upon closure of the site, it is believed that a cap consisting of granular material was placed on top and on the face of the landfill site to cover much of the debris.

More recently, a community-wide recycling initiative resulted in the removal of much of the vehicular debris at the site in 2011. Environmental and physical conditions observed at the site in 2008, 2009 and 2016 by Arcadis Canada Inc. (formerly Franz Environmental Inc.) indicated the presence of discrete environmental impacts to soils, sediments and surface water associated with the up-gradient waste deposit, the vehicle dump, and the main land filling activities. The site assessments concluded that the buried and exposed debris imparts a slow release of contaminants into the environment. Some debris appear to have acted as isolated and discrete sources of metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons and, to a much lesser degree, polychlorinated biphenyls, volatile organic compounds and pesticides. Other issues reported at the site include the potential instability of the main landfill and the potential presence of debris containing hazardous materials (e.g., lead-amended paint, asbestos, unknown liquids, and batteries).

viii) Project Description

Transport Canada proposes to implement a remediation project at the site to address the environmental and physical impacts associated with the historical waste disposal.

The following activities will occur onsite to support the remediation project:

- Removal of on-site debris, with or without comingling impacted soils. Debris will be disposed of at the on-site landfill or packaged for south shipment, depending on the waste stream.
- Targeted hot spot removal of contaminant impacted soils/sediments. The sediments/soils will be disposed of at the on-site landfill, the Iqaluit land treatment unit, or packaged for south shipment, depending on the nature of the impact. The sediments might require drying prior to disposal.
- Possible construction of a rip-rap structure (as required) in the drainage feature subject to soil/sediments hot spot removal to act as a passive treatment system to further enhance the natural recovery of the remaining downstream sediment and surface water impacts.
- Engineering decommissioning of the on-site landfill.
- Building of a road access from the top of escarpment to the lower area in preparation of the physical removal of debris, impacted sediments and soils.
- Implementation of mitigation measures for fugitive air emissions, sediment release control, surface water control and any other requirements of licenses and permits associated with the project.
- Perform final capping, contouring, and revegetation of the site, including closing the access road and blending it into the natural environment.
- Monitor the performance of the remedial works in terms of physical stability, erosion, revegetation and attenuation of contaminants in soils, sediments, and surface water.

The contract documents for the former Iqaluit Vehicle Dump and Community Landfill Remediation Project will require the contractor to clean-up and remediate the area in which

their activities took place. Following the completion of remediation activities, all vehicles and equipment, remaining fuel, and supplies will be removed from the site by the contractor.

The remediation project is scheduled to be implemented between May 2017 and September 2017. The physical remediation will take place between May and September 2017 and will be followed by a 3-year post-remediation monitoring program.

ix) List of Hazardous Materials Stored on Site

No hazardous material will be stored on site in relation to this project.

The selected contractor will be responsible for operating the required equipment. At the time of contract award, the selected contractor will be required to update the spill contingency plan with specifics of its refuelling operation (i.e., type, location and volume of fuel and other hazardous material used onsite).

x) Existing preventive measures

The remedial contractor as a minimum will be asked to implement the following preventive measures:

- Refueling at the staging area, away from the remediation site.
- No refuelling allowed on site other than the designated staging area.
- Secondary containment (e.g., drip pans) will be required when refuelling.

xi) Additional Copies – How to Obtain

Several copies of the plan will be kept on-site with the contractor and the Transport Canada Project Officer, while on site.

For additional copies, contact Transport Canada at:

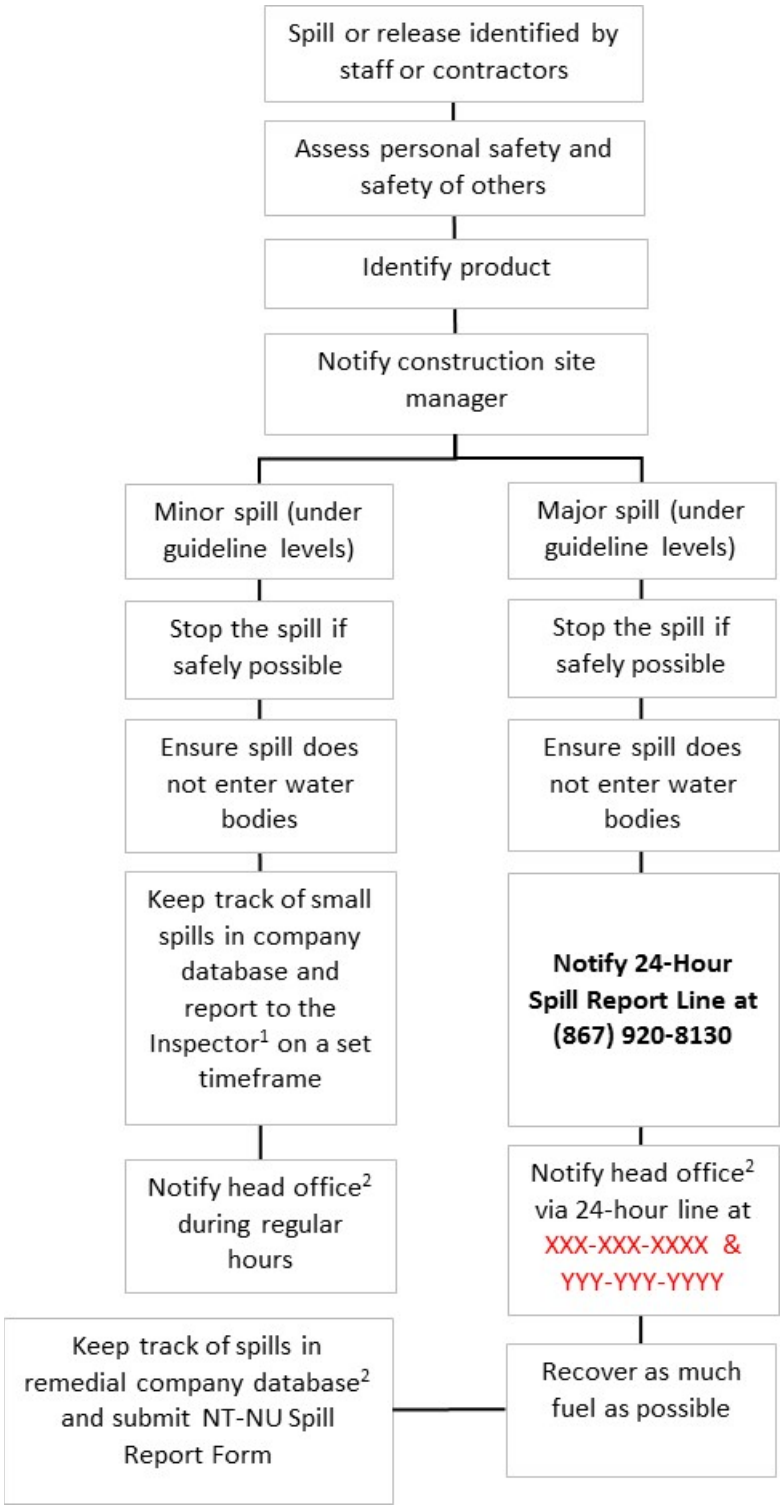
Project Manager
Transport Canada
Technical and Environmental Services
Jackie Barker, Environmental Officer
344 Edmonton Street,
Winnipeg, Manitoba R3B 2L4
(204) 983-4042
jackie.barker@tc.gc.ca

xii) Process for staff response to media and public enquiries

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

Media.tc.gc.ca
1-613-993-0055

2) Response Organization



1. INAC's Spill Inspector: (867) 975-4295
2. Transport Canada Project Manager and the remedial contractor's company head office

3) Action Plan

Potential Spill Size and Source	Potential Environmental Impacts of Spill	Procedures
Potential spill from derelict vehicles at the site. Potential spill sizes would likely not exceed 50 gallons of diesel/gas or antifreeze. This is based on the size of fuel tanks in equipment and derelict vehicles at the site. The potential of a piece of equipment to tip over would also be a source of the fuel, the area would be small due to the limited amount of fuel stored in the equipment.	Soil and surface water impact.	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 complete 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 second form of spills may result from removing the derelict vehicles. Potential spill sizes would likely not exceed 50 gallons of diesel/gas or antifreeze. The stockpile of vehicles create an unsafe condition to remove any fluid that may remain within them. Therefore, once the vehicles can be removed, they can be placed in a safe location to be inspected for fluids.	Soil and surface water impact.	
The third form of spills may result from the refuelling of the remediation equipment.	Soil and surface water impact.	The selected contractor will be responsible for operating the required equipment. At the time of contract award, the selected contractor will be required to update the spill contingency plan with specifics of its refuelling operation (i.e., type, location and volume of fuel and other hazardous material used onsite). The remedial contractor as a minimum will be asked to implement the following preventive measures: • Refueling at the staging area, away from the remediation site. • No refuelling allowed on site other than the designated staging area. • Secondary containment (e.g., drip pans) will be required when refuelling.

4) Resource Inventory

Transport Canada has identified the need for the following resources to be at the site during the project implementation.

Two (2) 50-gallon spill kits 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
1. 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

Upon contractor award, the selected remedial contractor will review the spill contingency plan and might add resources as relevant.

5) Training Program

All individuals entering the site will be 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 will be provided and a copy of the spill plan will remain with the contractor and operators. All contractors will be required to have basic first aid training as well as WHIMS training prior to working on site.

6) Figures

Figure 1: Site Location Map (1: 50,000)

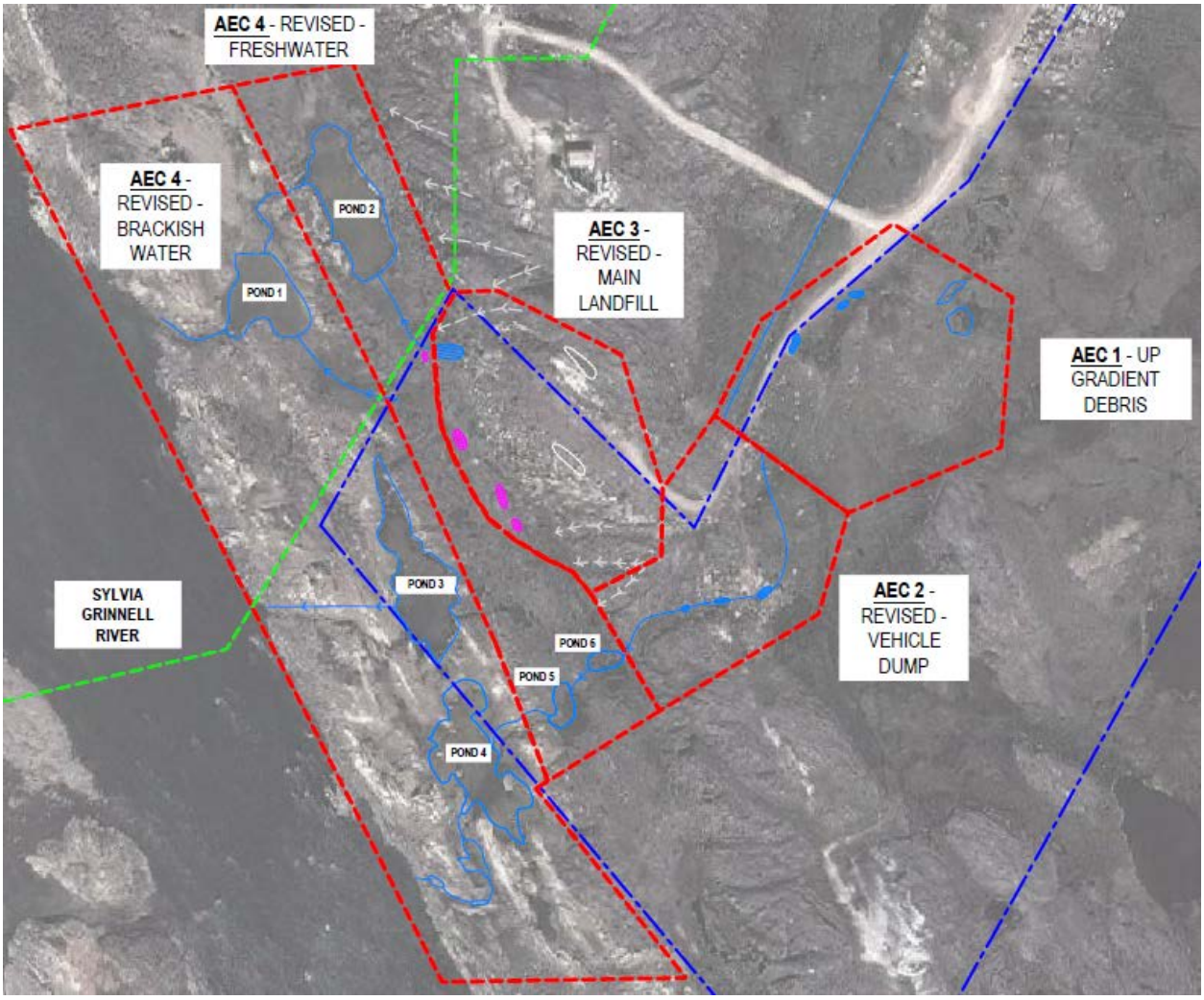
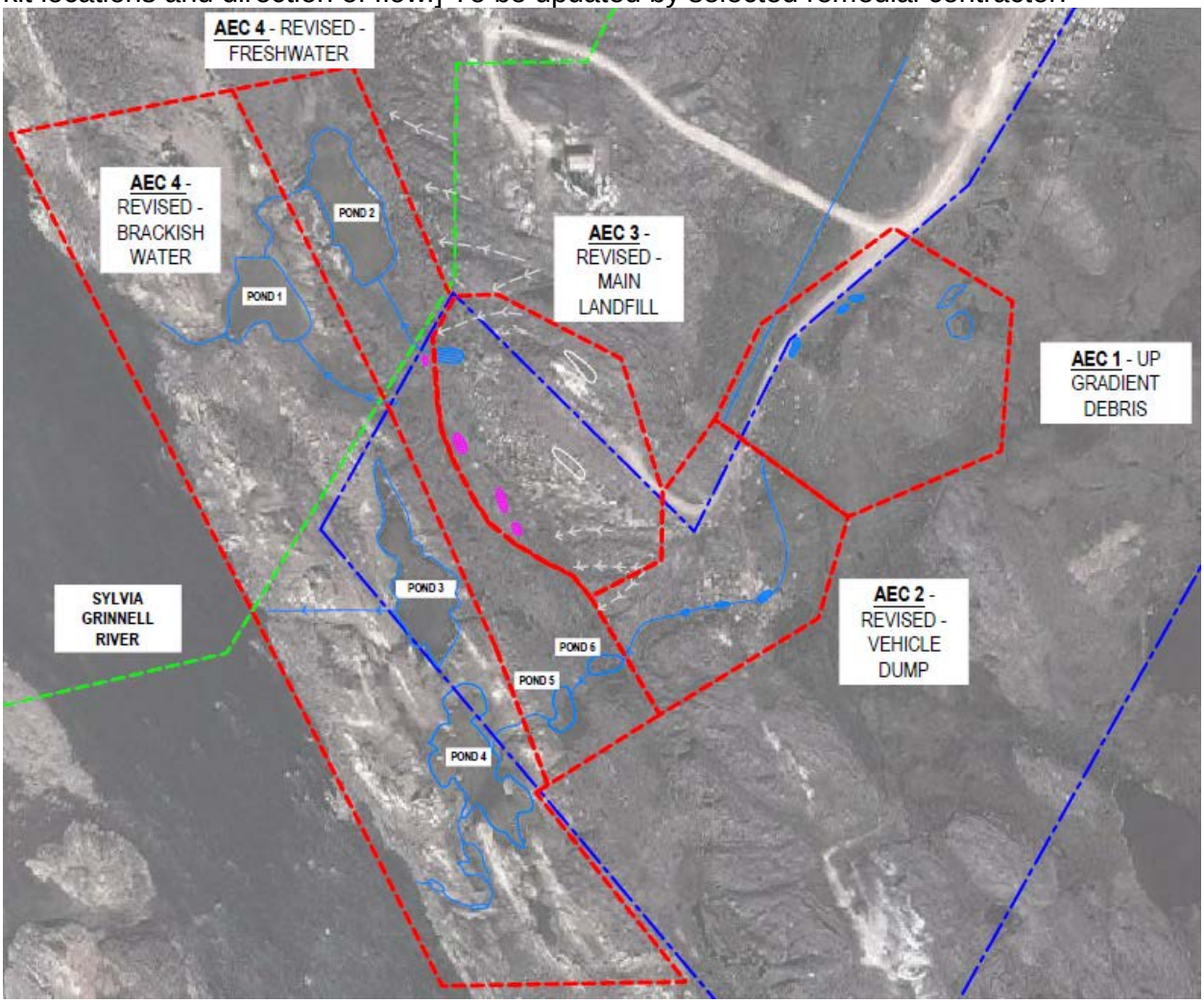


Figure 2: Sketch of site plan

[Site plan should include buildings, roads, water bodies, hazardous material locations, spill kit locations and direction of flow.] To be updated by selected remedial contractor.



Appendix A: Material Safety Data Sheets (MSDS) for hazardous materials stored on site

To be provided by the selected remedial contractor.

Appendix B: NWT Spill Report Form

Follow this link to access on line form:
http://www.enr.gov.nt.ca/sites/default/files/128-spill_report_form_e_fillable_1.pdf

Appendix C: Immediately Reportable Spill Quantities for NWT

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
Toxic substances	≥ 5 L or 5 kg	6.1
Corrosive substances		8.0
Miscellaneous products, substances or organisms		9.0
PCB mixtures of 5 or more ppm	≥ 0.5 L or 0.5 kg	9.0

Substance	Reportable Quantity	TDG Class
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	Any amount	None