FINAL

Spill Contingency Plan

Municipality of Igloolik, Nunavut

Prepared for:
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Version History

Date	Details
September 2020	Initial Release
February 2021	Incorporated CIRNAC comments

1 Introduction and Project Details

This spill contingency plan (SCP) has been prepared by Exp Services Inc. (EXP) for the Municipality of Igloolik (Municipality), Nunavut to demonstrate the Municipality's capabilities to address potential spills that may affect public health and safety, and the environment.

This SCP applies to the Municipality's wastewater treatment facility (sewage lagoon system), solid waste disposal facility, and water management facilities. Additional details on specific solid waste related spills are contained in the landfill operations and maintenance manual.

Figure 1 in Appendix A shows the location of Igloolik on a map of Nunavut. Photos 1 through 3 show Municipality's water supply, wastewater treatment and solid waste disposal facility, respectively.

Photo 1: Water Supply

Photo 2: Wastewater Treatment Facility

Photo 3: Solid Waste Disposal Facility

1.1 Purpose

The purpose of the SCP is to address the proper responses to the anticipated types of spills that may occur during the routine operation and maintenance activities of the Municipality's facilities associated with wastewater treatment and disposal (sewage lagoon system), water supply and treatment, and solid waste disposal. The SCP is structured to protect public health and safety and to protect the local environment.

A site plan of the town showing the relative location of the Municipality's facilities is included in Figure 2 in Appendix A.

Situations may arise during the site operations that are beyond the scope of the safety procedures stated in this document. In such a situation, it may be necessary to stop on-site work until a revised procedure or SCP is prepared to reflect the changing conditions.

It is recommended that all persons who are directly involved with community water and sanitation operations or who have responsibilities associated with community water and sanitation operations read the SCP.

1.2 Regulatory

The SCP includes a review of appropriate government acts and regulations, the identification of anticipated spill scenarios, spill contingency procedures and general health, safety and emergency contingency requirements necessary when conducting activities that may require contact with the subsurface materials. The SCP does not replace any Health & Safety protocols and procedures already established by the Municipality but is intended to be complimentary to existing protocols.

1.3 Communication

The contact list and their phone numbers are provided in Table 1.

Table 1: Contact List

Title	Email	Phone Number
Interim CAO (Jean-Marie Ipkangnak)	financedirector@igloolik.ca	(867) 934-8830
Public Works Director & Foreman (Donald Ittusardjut)	publicworksdirector@igloolik.ca	(867) 934-8830
Water Plant Operator (Steve Sarpinak & Derek Aqqiaruq)	waterplant@igloolik.ca	(867) 934-8830
Fire Chief (Juluis Kappianaq)	officemanager@igloolik.ca	(867) 934-8888
Chief Administrative Officer (CAO)		(867) 934-8940
Baffin Regional Director		(867) 897-3601
Municipal Planning Engineer (Bhabesh Roy, P.Eng.)	broy@gov.nu.ca	(867) 899-7314
Spill Contact: Emergency Spill Hotline (24-hour line)		(867) 920-8130
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Inspector		(867) 975-4295
GN Pond Inlet Regional Office		(867) 899-7314
GN Emergency Measures Officer		(888) 624-4043
Igloolik Health Centre		(867) 934-2100
RCMP Igloolik		(867) 934-0123
Environment Canada Emergency Iqaluit		(867) 975-4644
GN Environment Health Office		(867) 473-2676
Canadian North (First Air) Air Cargo		+1 (800) 267-1247

2 Site Description

2.1 Project Location

The Municipality is geographically situated on Igloolik Island in the Foxe Basin close to Melville Peninsula, at 69°23' N latitude and 81°46' W longitude. Figure 1 in Appendix A shows the location of Igloolik on a map of Nunavut.

2.2 Climate

The average annual rainfall in Iqloolik is 102.5 mm and the average annual snowfall is 183.1 cm (RWDI, 2008). Temperatures in the summer range between plus 1.6°C and plus 7°C and in winter between minus 19.5°C and minus 30°C. It is generally quite windy with an average wind speed of 14.4 km/h. Igloolik is in the area of continuous permafrost with the depth of seasonal thaw of approximately 1 m below the ground surface. Table 2 summarizes the seasonal climatic conditions as extracted from the Canadian Normals published and posted by Environment Canada.

Table 2: Average Monthly Precipitation and Air Temperatures

Month	Precipitation (mm)	Average Maximum Temperature (°C)	Average Minimum Temperature (°C)
January	12.8	-27.4	-34.3
February	9.7	-27.9	-34.7
March	14.7	-24.1	-31.6
April	16.3	-15.0	-23.2
May	20.5	-4.6	-11.7
June	19.2	4.7	-0.7
July	27.9	11.3	3.8
August	43.0	8.0	2.2
September	31.0	1.8	-1.9
October	32.1	-5.8	-10.7
November	31.1	-15.6	-22.3
December	16.7	-22.3	-29.2

2.3 Population Projections

The population projections for the Municipality are based upon Baffin Community Projections as published by the Nunavut Bureau of Statistics, June 24, 2010. The Nunavut Bureau of Statistics population projections provide projected populations of the Nunavut communities to the year 2036. Table 3 summarizes the population projections to the year 2036.

Table 3: Population Projections

Planning Year	Year	Population	Planning Year	Year	Population
	2014	1760	10	2026	2098
	2015	1784	11	2027	2129
0	2016	1811	12	2028	2161
1	**2017**	**1839**	13	2029	2193
2	2018	1867	**14**	**2030**	**2226**
3	2019	1894	15	2031	2260
4	2020	1922	16	2032	2294
5	2021	1949	17	2033	2329
6	2022	1976	18	2034	2364
7	2023	2005	19	2035	2397
8	2024	2035	**20**	**2036**	**2431**
9	2025	2067			

2.4 Facilities Description

The various facilities associated with water supply and treatment, wastewater treatment and disposal (sewage lagoon system), and solid waste disposal are reasonably close to the community. The location of the facilities is shown in Figure 2 in Appendix A.

Water Treatment Plant / Truck Fill. The Municipality operates a Water Treatment Plant / Truck Fill Station to supply potable drinking water to the community. The WTP process is cartridge filtration followed by chlorine disinfection. Raw water is pumped from South Lake through water supply line to the water reservoir for over-winter storage. The WTP/ Truckfill Station draws water from the water reservoir for treatment and transfers the treated water into water trucks at the truck fill station for distribution into the community. The WTP/Truckfill is located at the water reservoir about 2.0 km southwest of the community, 0.5 km southwest of the airport and 1.6 km northeast of the South Lake.

Sewage Lagoons. The Municipality operates a sewage lagoon system for treatment of sewage generated in the community. The sewage lagoon system operates as a facultative retention lagoon with impermeable berms. The lagoon comprises three independent cells which are decanted once a year over a period in the summer. The sewage lagoon system is located approximately 1.3 km north of the community and adjacent to the Municipality's landfill. The size and storage capacity of each sewage lagoon is shown in Table 4.

Table 4: Dimensions and Active Volume of the Cells at the Sewage Lagoons

Cell	Length (m)	Width (m)	Base Area (m^2)	Active Volume (m^3)
Cell A	293	120	35,160	53,220
Cell B	250	83	20,750	35,500
Cell C	203	86	17,458	35,500

Solid Waste Disposal. The Municipality operates a landfill for the disposal of municipal solid waste generated in the community. The landfill operates as a sanitary landfill with some diversion of hazardous waste and of municipal solid waste and bulky waste. The municipal solid waste is periodically compacted and covered. The landfill is located approximately 1.3 km north of the community and adjacent to the sewage lagoon system.

3 Regulations

With respect to spills, the Environmental Protection Act (R-068-93) requires that all SCPs include:

- The name, address and job title of the owner or person in charge, management or control of the facility;
- The name, job title and 24-hour telephone number for the person(s) responsible for activating the SCP;
- A description of the facility, including the location, size, and storage capacity;
- A description of the type and amount of contaminants normally stored at the facility;
- A site map of the location;
- The steps to be taken to report, contain, clean up and dispose of contaminants in the case of a spill;
- The means by which the SCP is activated;
- A description of the training provided to employees to respond to a spill;
- An inventory of and the location of response and clean-up equipment available to implement the SCP; and,
- The date the SCP was prepared.

4 Contacts and Regulatory Authorities

Table 5 includes the contact information for the persons responsible. The persons listed below should be contacted in the event of a spill.

Table 5: Contacts

Name	Job Title	Email	24-Hour Telephone #
Jean-Marie Ipkangnak	Interim CAO	financedirector@igloolik.ca	(867) 934-8830
Donald Ittusardjut	Public Works Director & Foreman	publicworksdirector@igloolik.ca	(867) 934-8830
Steve Sarpinak & Derek Aqqiaruq	Water Plant Operator	waterplant@igloolik.ca	(867) 934-8830
Juluis Kappianaq	Fire Chief	officemanager@igloolik.ca	(867) 934-8888

In each instance that a spill is identified, the Emergency Spill Hotline and the CIRNAC Water Resources Inspector shall be contacted as soon as possible. A NT-NU Spill Report Form (see Appendix C) should also be completed and faxed to the Emergency Spill Hotline (24-hour line). The necessity to contact the other agencies will be contingent upon direction from the Emergency Spill Hotline (24-hour line).

Emergency Spill Hotline (24-hour line): Phone: (867) 920-8130, Fax (867) 873-6924

CIRNAC Water Resources Inspector: Phone: (867) 975-4295

Municipal Planning Engineer: Phone: (867)-899-7314; cell (867)899 1345; E mail: broy@gov.nu.ca

In addition to the local contacts described above, Table 6 summarizes the additional regulatory authorities that have a vested interest in the event of a spill.

Table 6: Additional Agencies

Agency Name	Regulation	24-Hour Telephone #
Nunavut Water Board	Nunavut Waters and Surface Right Tribunal Act	(867) 360-6338
GN-Emergency Measures Officer		888-624-4043
Nunavut Impact Review Board	Nunavut Land Claims Agreement Act	(866) 233-3033
Environment Canada	Canadian Environmental Protection Act, 1999	(867) 975-4464
Transport Canada (Coast Guard)	Transportation of Dangerous Goods Act	(867) 979-5269
Department of Fisheries and Oceans	Fisheries Act	(867) 645-2871

6 Potential Contaminants and Spill Scenarios

6.1 List of Hazardous Materials

The WTP uses a physical filtration process (20-micron and 5-micron cartridge filters) and one chemical for the water treatment processes. Diesel fuel is also used for the standby power generator. The liquid chlorine is fed into the treatment unit by dosing pumps from tanks located in the process area. The spare chlorine chemical is stored in the chemical storage room.

The primary potential spill contaminants at the sewage lagoon site is the raw sewage. Other materials (potential contaminants) that are anticipated to be present on the site include gasoline, diesel fuel, hydraulic oil, motor oil and other lubricants, antifreeze and coolants from sewage delivery trucks, the decant pumps and any heavy equipment in used on the site for maintenance purposes.

Typical household hazardous waste which can be expected to be stored at the landfill includes:

- Cleaning products (oven cleaners, drain cleaners, bleach)
- Paints and solvents (oil-based paints, thinners, paint stripper)
- Automotive products (antifreeze, motor oil, car batteries, brake fluid, transmission fluid)
- Pesticides
- Small propane tanks & cylinders
- Miscellaneous hazardous materials (household batteries, photographic chemicals, pharmaceuticals, aerosol sprays)

6.2 Spill Scenarios

Potential spill scenarios are dependent on the types and volumes of materials that are being used on the sites and the activities being carried out. For the purpose of this SCP, spill sizes are described as small (<10 litres), medium (>10 litres and <100 litres) or large (>100 litres).

Spills may be the result of any of the following occurrences:

- Spills during transfer of liquids (sewage);
- Leaks or ruptures of vehicular fuel or hydraulic oil storage tanks;
- Valve or line failure in systems on vehicles or operating equipment;
- Heat expansion due to overfilling;
- Vehicular accidents; and/or,
- Vandalism.

7 Existing Preventative Measures

All hazardous materials arrive by road as needed through the year. They are unloaded and placed in the chemical storage area.

Plant operators conduct daily visual inspection for leaks or damage.

7.1 Additional Copies

Several copies of the plan are kept on-site at all times at the WTP/Truckfill, the municipal garage and the Municipality's office. Additional copies can be requested by contacting the Municipality administration office at phone number and address presented in Section 1.

7.2 Process for Staff Response to Media and Public Enquiries

All media enquiries will be directed to the Chief Administrative Officer. If a reporter or member of the public arrives unexpectedly to the site, the official in charge of responding the questions will be the Chief Administrative Officer.

8 Response Organization

8.1 Flow Chart of Response Organization

The flow chart depicted in Figure 3 in Appendix A shows the response organization for minor and major spills.

A major spill is defined as a release of a substance that is likely to be in imminent environmental or human health hazard or exceeds the volumes outlined in Appendix B. Any spill less than these quantities is considered a minor spill and does not need to be reported immediately; however, these minor spills should be documented and reported at a pre-determined reported interval.

9 Action Plan

9.1 Potential Impacts of Spill

Sodium Hypochlorite

Sodium Hypochlorite can cause several adverse health effects, including skin, eye and respiratory system irritation or burns. If ingested in significant amounts, this chemical can cause a wide range of symptoms, from nausea to death. Sodium Hypochlorite can cause dangerous reactions with some chemicals, and therefore should not be allowed to mix with other chemicals. Sodium Hypochlorite is highly toxic to freshwater fish and invertebrates. Necrosis and chlorosis and leaf abscission have been noted when applied to plants.

Diesel Fuel

Diesel fuel eye contact may cause a mild eye irritation, and skin contact can cause moderate to severe irritation and produce drying and cracking skin. Vapour inhalation may cause nausea, headaches, vomiting, dizziness, and fatigue and continued exposure may ultimately cause death. A diesel fuel spill may potentially contaminate water supplies and damage the local ecosystems. Diesel is one of the most acutely toxic oil types; fish, and invertebrates, that come in direct contact may be killed.

9.2 Procedures

9.2.1 Chemical Spills

The WTP at the Municipality uses and Sodium Hypochlorite (12% sln) to treat the water. This solution is stored and applied in the WTP and diesel fuel is stored outside the WTP. Possible Sodium Hypochlorite spills range from a small leak or spillage during normal operation, to a major spill caused by damage to a drum.

Hazardous waste leachate is considered a chemical spill.

9.2.1.1 Procedures for Initial Actions

In the event of a chemical spill, the following measures should be taken immediately:

- Evacuate unnecessary personnel.
- Ventilate area of leak or spill (opening all doors and windows).
- Wear personal protective equipment (gloves, safety glasses, impervious material long-sleeved shirt/coat).
- If available wear respirator/self-contained breathing apparatus (SCBA), especially for large spills.
- Remove all other chemicals from the area if safe to do so.
- For small spills, dilute with water, mop or wipe up and place in proper container.
- For large spills, contain by diking (soil/dry sand/kitty litter), absorb with inert material (soil/dry sand/kitty litter) and place in chemical waste container.

- After mopping up chemical, wash area well with soap and water, mopping into spill container and not to the ground.
- Do not use combustible material! (i.e. sawdust or cardboard).
- Contain runoff from spill clean-up.
- Notify the Northwest Territories/Nunavut twenty-four (24) hour spill reporting centre at (867) 920-8130 and receive disposal information.

9.2.1.2 Follow-up Actions

After the spill has been cleaned up, other reporting, disposal, and follow-up activities may be required. The following measures should be taken if applicable.

- Dispose of chemical, inert absorbent material, and mop-up water as directed by Spill Reporting Line personnel.
- Arrange for repair or replacement of chemical containers, pipelines and equipment, if damaged or leaking
- Submit a detailed report on the occurrence to an CIRNAC Inspector, within thirty (30) days of reporting the event.

9.2.1.3 Spill Kit

A spill kit should be on-hand in the WTP in the event of a chemical spill. The kit should include:

- Heavy-duty gloves
- Safety glasses
- Mop/wringer/spill squeegee
- Shovel/broom/dustpan
- Chemical spill container with sealable lid
- Sand/kitty litter (absorbent, none-flammable material).

9.2.2 Petroleum Product Spills

Petroleum products have many operational uses in the Municipality's water and sanitation systems and used petroleum product drums or other containers end up at the Municipality's solid waste disposal facility. Petroleum product spills range from minor spills during operations such as gas tank filling, to constant leakage from pipelines in need of repair, to major spills causing large contaminated soil/water issues.

Depending on the location of the spill, a petroleum product spill may result in contaminated soil, snow, ice or water. The contaminated material must be cleaned up and removed for disposal along with the spilled petroleum product.

9.2.2.1 Procedures for Initial Actions

In the event of a petroleum product spill, the following measures should be taken immediately:

- Shut off ignition sources, if safe to do so.
- Identify the spilled material and locate the source.
- Stop the spill at the source, if safe to do so.
- Take actions to contain/clean up spilled material.
- Record relevant information for reporting: this includes quantity of material spilled, product type, location, date, weather, and other relevant information.
- Notify the Northwest Territories/Nunavut twenty-four (24) hour spill reporting centre at (867) 920-8130 and receive disposal information.

9.2.2.2 Follow-up Action

After the initial clean-up and reporting procedures, other activities may be required such as reporting and disposal. The following measures should be taken if applicable:

- Dispose of soil as directed by twenty-four (24) hour Spill reporting Line personnel or an CIRNAC Inspector.
- Arrange for repair or replacement of petroleum product containers, pipelines and equipment, if damaged or leaking.
- Submit a detailed report on the occurrence to an CIRNAC Inspector, within thirty (30) days of reporting the event.
- For large spills, install wells to monitor the groundwater for signs of contamination as explained in the Subsurface Monitoring Plan (Earth Tech, 2008). Determine the level of final clean-up in consultation with an CIRNAC inspector.

9.2.2.3 Spill Kit

A spill kit should be on-hand in the event of a petroleum product spill. The spill kit should include:

- Heavy-duty gloves
- Safety glasses
- Shovel/bucket
- Petroleum product spill container with sealable lid
- Inert (non-flammable), absorbent material (sand, kitty litter).

9.2.3 Spill Reporting Procedures

Report spill immediately to Municipality manager, who will determine if spill is to be reported to the Emergency Spill Hotline (24-hour line) at 867 920 8130.

A spill kit is located in the mechanical garage. Additional spill kits are located in the WTP.

Each spill kit, as well as the office and Municipality manager, will have copies of the NT-NU Spill Report Form to be filled out (see Appendix C). Fill out and fax or email the NT-NU Spill Report Form to the staff of the Emergency Spill Hotline (24-hour line). Also fax or email the filled-out NT-NU Spill Report Form to the head office (see contact list).

Organization	Phone number
Emergency Spill Hotline (24-hour line) Phone	867 920 8130
Emergency Spill Hotline (24-hour line) Fax	867 873 6924
Emergency Spill Hotline (24-hour line) Email	spills@gov.nt.ca
Municipality Office	867 934 8830
Government of Nunavut Regional Office	867 899 7314

9.2.4 Procedures for Containing the Spill

9.2.4.1 Containment of Spills on Land

Spills on land include spills on rock, gravel, soil and/or vegetation. It is important to note that soil is a natural sorbent, thus spills on soil are generally less serious than spills on water as contaminated soil can be more easily recovered. Generally, spills on land occur during the late spring, summer or fall when snow cover is at a minimum. It is important that all measures be undertaken to avoid spills reaching open water bodies.

Dykes

Dykes can be created using soil surrounding a spill on land. These dykes are constructed around the perimeter or down slope of the spilled fuel. A dyke needs to be built up to a size that will ensure containment of the maximum quantity of fuel that may reach it. A plastic tarp can be placed on and at the base of the dyke such that fuel can pool up and subsequently be removed with sorbent materials or by pump into barrels or bags. If the spill is migrating very 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

Trenches can be dug out to contain spills if the top layer of soil is thawed. Shovels, pick, axes or a loader can be used depending on the size of trench required. It is recommended that the trench be dug to the bedrock or permafrost, which will then provide containment layer for the spilled fuel. Fuel can then be recovered using a pump or sorbent materials.

9.2.4.2 Containment of Spills on Water

Spills on water such as rivers, streams or lakes are the most serious types of spills as they can negatively impact water quality and aquatic life. All measures need to be undertaken to contain spills on open water.

Booms

Booms are commonly used to recover fuel floating on the surface of lakes or slow-moving streams. They are released from the shore of a water body to create a circle around the spill. If the spill is away from the shoreline a boat will need to be used to reach the spill, then the boom can be set out. More than one boom may be used at once. Booms may also be used in streams and should be set out at an angle to the current. Booms are designed to float and have sorbent materials built into them to absorb fuels at the edge of the boom. Fuel contained within the circle of the boom will need to be recovered using sorbent materials or pumps and placed into barrels or bags for disposal.

Weirs

Weirs can be used to contain spills in streams and to prevent further migration downstream. Plywood or other materials found on site can be placed into and across the width of the stream, such that water can still flow under the weir. Spilled fuel will float on the water surface and be contained at the foot of the weir. It can then be removed using sorbents, booms or pumps and placed into barrels or plastic bags.

Barriers

In some situations, barriers made of netting or fence material can be installed across a stream, and sorbent materials placed at the base to absorb spilled fuel. Sorbents will need to be replaced as soon as they are saturated. Water will be allowed to flow through.

Note that in some cases, it may be appropriate to burn fuel or to let volatile fuels such as gasoline evaporate after containment on the water surface. This should only be undertaken in consultation with, and after approval from the CIRNAC or lead agency Inspector.

9.2.4.3 Containment of Spills on Ice

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 fuel. Remaining contaminated ice/ slush can be scraped and shoveled into a plastic bag or barrel. However, all possible attempts should be made to prevent spills from entering ice covered waters as no easy method exists for containment and recovery of spills if they seep under ice.

Dykes

Dykes can be used to contain fuel spills on ice. By collecting surrounding snow, compacting it and mounding it to form a dyke down slope of the spill, a barrier is created thus helping to contain the spill. If the quantity of spill is large, a plastic tarp can be placed over the dyke such that the spill pools

at the base of the dyke. The collected fuel can then be pumped into barrels or collected with sorbent materials.

Trenches

For significant spills on ice, trenches can be cut into the ice surrounding and/or down slope of the spill such that fuel can pool in the trench. It can then be removed via pump into barrels, collected with sorbent materials, or mixed with snow and shoveled into barrels or bags.

Burning

Burning should only be considered if other approaches are not feasible and is only to be undertaken with the permission of the CIRNAC or lead agency Inspector.

9.2.4.4 Containment of Spills on Snow

Snow is a natural sorbent, thus as with spills on soil, spilled fuel can be more easily recovered. Generally, small spills on snow can be easily cleaned up by raking and shoveling the contaminated snow into plastic bags or empty barrels and storing these at an approved location.

Dykes

Dykes can be used to contain fuel spills on snow. By compacting snow down slope from the spill, and mounding it to form a dyke, a barrier or berm is created thus helping to contain the spill. If the quantity of spill is large, a plastic tarp can be placed over the dyke such that the spill pools at the base of the dyke. The collected fuel/snow mixture can then be shoveled into barrels or bags or collected with sorbent materials.

9.2.4.5 Worst Case Scenarios

Dealing with spilled fuel which exceeds the freeboard of a dyke or barrier would present a possible worst-case scenario. To contain the overflow, a trench or collection pit would have to be created downstream of the spill to contain the overflow.

Another worst-case scenario would be an excessive spill on water may be difficult to contain with the booms present at the site. In this case, an emergency response mobile unit would have to be called in to deal with the spill using appropriate equipment

9.2.5 Procedures for Transferring, Storing, and Managing Spill-related Wastes

In most cases, spill cleanups are initiated at the far end of the spill and contained moving toward the center of the spill. Sorbent socks and pads are generally used for small spill cleanup. A 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 are also very effective for small spills or hard to reach areas. Heavy equipment can be used if deemed necessary and given space and time constraints.

Used sorbent materials are to be placed in plastic bags for future disposal. All materials mentioned in this section are available in the spill kits located at WTP. 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 spilled petroleum products and materials used for containment will be placed into empty waste oil containers and sealed for proper disposal at an approved disposal facility.

9.2.6 Procedures for Restoring Affected Areas

Once a spill of reportable size has been contained, the Municipality will consult with the CIRNAC or lead agency Inspector assigned to the file to determine the level of cleanup required. The

Inspector may require a site-specific study to ensure appropriate clean up levels are met. Criteria that may be considered include natural biodegradation of oil, replacement of soil and revegetation.

9.2.7 Procedures for Disposal Method for Temporarily Contained Spill Material

Treatment and disposal of contaminated material will be completed in consultation with the regulatory agencies and may include techniques and technologies for stabilization, remediation, destruction and long-term containment.

9.2.8 Additional Spill Delineation Monitoring

As a result of a large spill in which not all of the spilled material can be readily recovered as described above, additional delineation in the form of a subsurface investigation (i.e., test pits, boreholes, and monitoring wells) may be required to determine the lateral and vertical extents of the impacts to the subsurface soil and/or groundwater. The additional delineation/monitoring information will be used to develop an appropriate remediation plan. In such cases, a qualified environmental consultant should be retained to provide advice with respect to how to proceed with the additional assessment.

10 Spill Kit Locations

Equipment for spills, including spill kits is in the Hamlet garage, as reported by the Municipality. The Hamlet garage location and its photo are included in Photo 4 as observed on Google. The Municipality explains that the present equipment for spills is what the Municipality needs currently.

Additional spill kits are located in the Water Treatment Plant / Truck Fill Station.

The spill kit, except for the shovel, can be contained within the 205 L drum which should be sealed securely to protect the contents. The drum should also be accessible without the use of tools (i.e., bolt ring only finger tight). The bolt ring should be inspected regularly to ensure that it turns freely and lubricated if it does not. At least one spill kit should be clearly identified and readily available during any maintenance work undertaken.

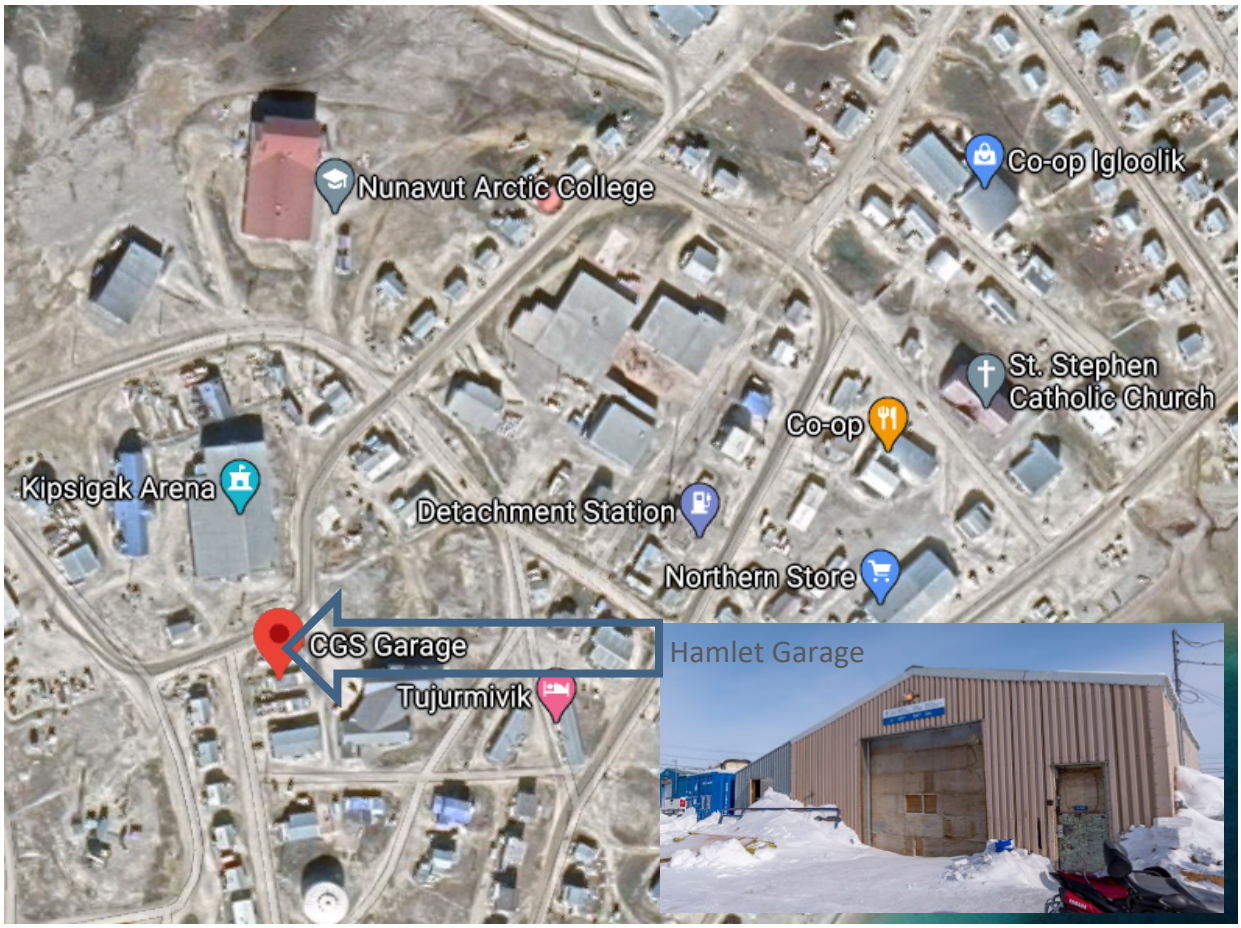


Photo 4: Maintenance Garage Location and Photo (Google, retrieved November 18, 2020).

11 Standard Spill Kit Requirements

The following section presents the recommended minimum requirements for the content and number of spill kits that should be present.

11.1 Spill Kit

Each spill kit should be inspected regularly to ensure that it contains, as a minimum, the following:

- 1 – 205 L, open top steel drum with a lid, bolting ring and gasket;
- 1 spark proof shovel;
- 1 package of 10 disposable 5 mil polyethylene bags (approx. 65 cm x 100 cm);
- 2 – 12.5 cm (approx. 5”) x 3 m (approx. 10’) sorbent (oil-absorbing) booms;
- kg bag of sorbent particulate;
- 1 bail of 50 cm x 50 cm (approx.) sorbent sheet (100 Sheets/bail);
- 1 – 5 m x 5 m approx. plastic tarp;
- 2 pairs of oil resistant gloves; and,
- 2 pairs of splash protective goggles.

11.2 Additional Spill Contingency Supplies

In addition to the materials contained in the spill kits, an inventory of the following supplies should be available for use if required:

- 2 – 205 litre, open top steel drum with a lid, bolting ring and gasket;
- 1 spark proof shovels;
- 2 packages of 10 disposable 5 mil polyethylene bags (approx. 65 cm x 100 cm);
- 2 – 12.5 cm x 3 m sorbent (oil-absorbing) booms;
- 5 – 10 kg bags of sorbent particulate;
- 5 bails of 50 cm x 50 cm (approx.) sorbent sheet (100 Sheets/bail);
- 2 pairs of oil resistant gloves; and,
- 2 pairs of splash protective goggles.

12 Resource Inventory

12.1 On-site Resources

The following telephone numbers will contact local resources in the Municipality.

Municipality Office (867) 934-8830

Royal Canadian Mounted Police (RCMP) Igloolik General Inquiries (867) 934-0123

Emergency Only (867) 934-1111

Fire Emergency (867) 934-8888

Igloolik Health Centre (867) 934-2100

12.2 Off-site Resources

The off-site contacts listed below could reach the community within several hours. However, realistically government officials would not be able to reach the site until the next business day, depending on the severity of the spill.

Emergency Spill Hotline (24-hour line) (867) 920-8130

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Inspector (867) 975-4295

Environment and Climate Change Canada (Emergency) Yellowknife (867) 920-8130

GN-Community Government Services - Pond Inlet Regional Office (867) 899-7314

GN Department of Environment (867) 975-7700

GN Regional Environmental Health Officer for Igloolik (867) 473-2676

Royal Canadian Mounted Police (RCMP) Iqaluit General Inquiries (867) 979-0123

13 Training Program

Municipality operations personnel should have up-to-date spill training, so they are prepared in the event of a chemical, fuel or waste spill. This training will at least include on-the-job training and may include formal spill training courses and on-site spill training exercises (mock spills). Municipality personnel may receive formal spill response training from the Department of Environment, Government of Nunavut.

If the Municipality brings contractors on-site to make modifications to the water and waste facilities, the contractors should be made aware of procedures to be followed in the event of a spill.

Workplace Hazardous Materials Information System (WHMIS) training should be given to employees. WHMIS training is legally required in Canada for all employees who are exposed/likely will be exposed to a hazardous material at the workplace.

13.1 Outline of Training Program

The employee and contractor training program was developed by the manager of environmental health and safety and has been disseminated by the municipal foreman. The following are key steps in the program:

- All individuals entering the site are required to participate in an orientation session.
- During this session, all locations of the spill plan and spill kits are provided on a map in hard copy.
- An overview of the plan is provided by the municipal foreman leading the orientation session.
- Specific training sessions, including mock spill exercises, are scheduled for individuals directly involved in handling hazardous materials to ensure they know all steps to be undertaken in handling these materials, as well as the steps involved in the event of a spill, including the proper use of spill kits.
- All employees and contractors are required to have their basic first aid training, as well as WHMIS training, before working on the site
- Supervisors are required to have advanced level first aid training, as well as transport of dangerous goods training

13.2 Training Schedule and Record Keeping

A spreadsheet is kept by the Chief Administrative Officer and Municipality office indicating the training undertaken and expire dates of specific training e.g. first aid. It is regularly updated

14 General Safety Practices and Site Rules

The following is a list of site rules that should be followed to maintain safe working conditions during a spill response:

1. Eating, drinking, chewing gum and smoking are prohibited in contaminated or potentially contaminated areas, or where the possibility for the transfer of contamination exists.
2. Personnel who have worked on-site shall wash their hands and face thoroughly with soap and water and remove themselves from the spill area prior to eating, drinking or smoking.
3. All field crew workers should be aware of potentially dangerous situations that they should avoid (i.e. the presence of strong, irritating or nauseating odours). Field crew workers should also be familiar with the physical characteristics of the site including:
    - wind direction in relation to areas of known contamination
    - accessibility to equipment and vehicles
    - communications
    - site access

15 Closure

This SCP has been prepared for the Municipality of Igloolik as part of the operation and maintenance of the Municipality's facilities associated with wastewater treatment and disposal (sewage lagoon system), water supply and treatment, and solid waste disposal. It does not replace, nor is intended to replace, the general provision of the applicable Federal and Territorial statutes regarding workplace safety or any protocols previously established by the Municipality. Instead, it may be used to augment any existing plans.

Appendix A – Figures

Figure 1 –
Igloolik on Nunavut Map

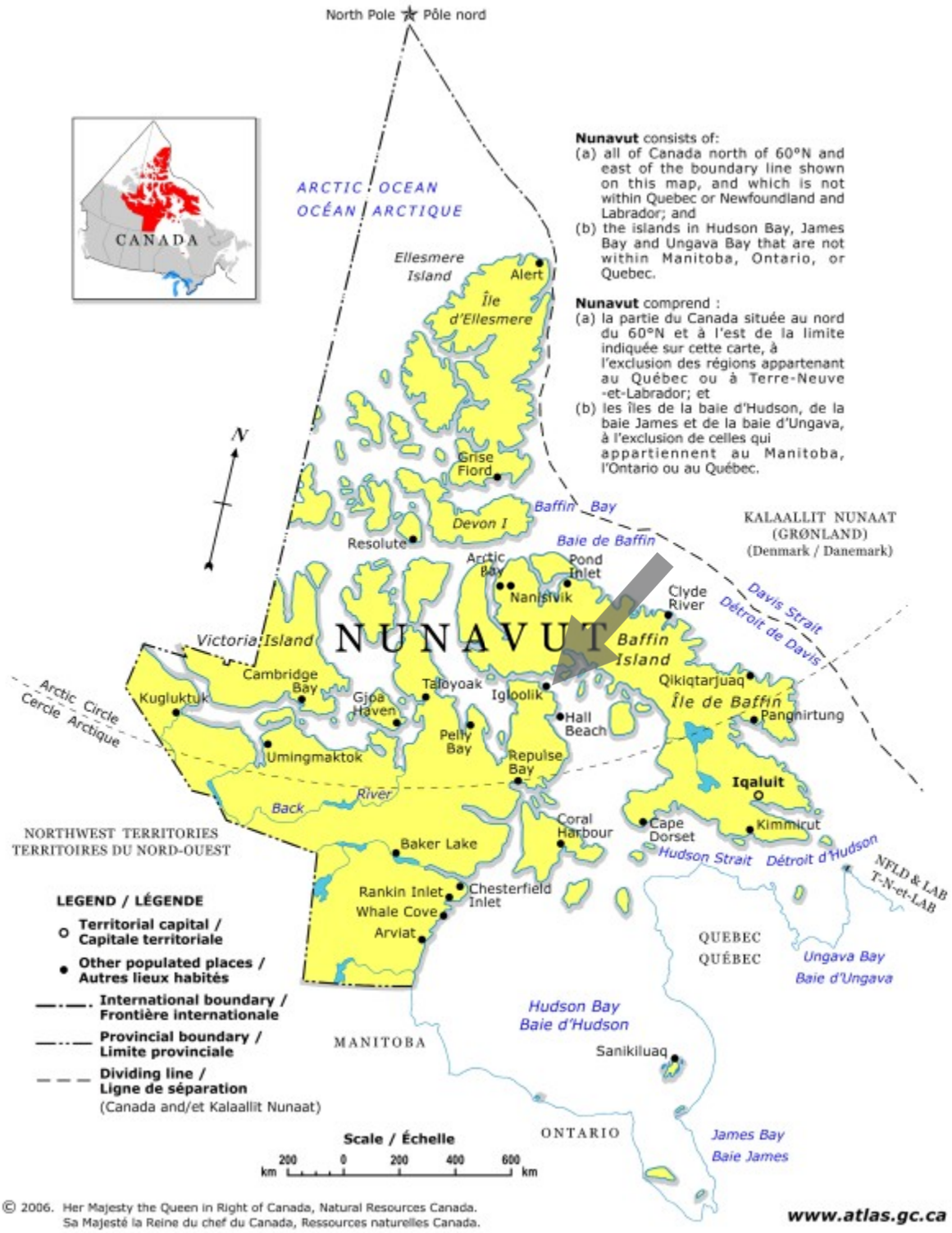
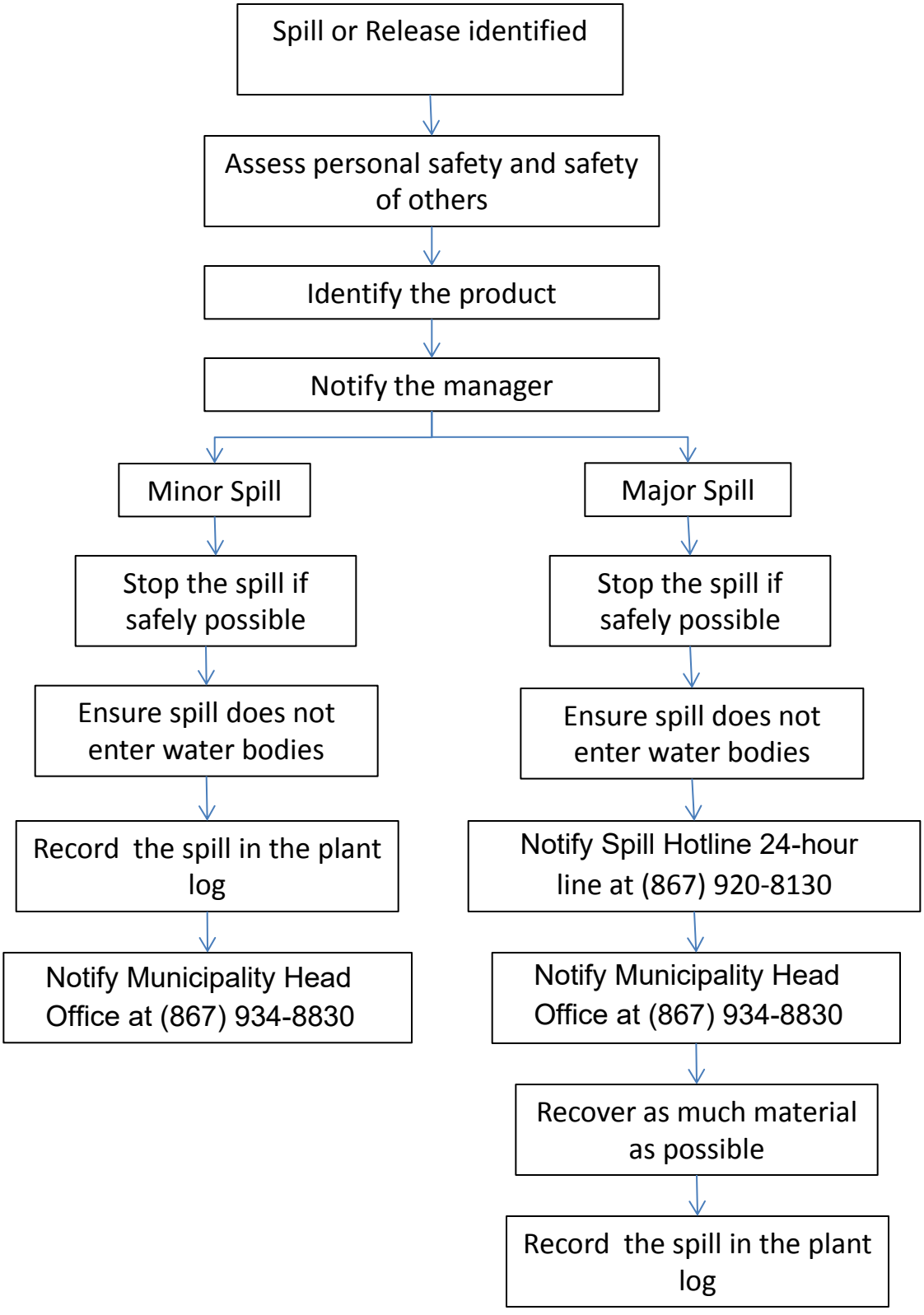


Figure 1: Igloolik on Nunavut Map

Figure 2 –
Location of Facilities

Figure 2: Location of Facilities

Figure 3 –
Response Organization



Municipality of Igloolik, NU
Spill Contingency Plan
Figure 3. Response Organization

Appendix B –
Immediately Reportable Spills

APPENDIX B – Immediately Reportable Spill Quantities

TDG Class	Substance for NWT 24 Hour Spill Line	Immediately Reportable Quantities
1 2.3 2.4 6.2 7 None	Explosives Compressed gas (toxic) Compressed gas (corrosive) Infectious substances Radioactive Unknown substance	Any amount
2.1 2.2	Compressed gas (flammable) Compressed gas (non-corrosive non-flammable)	Any amount of gas from containers with a capacity greater than 100 L
3.1 3.2 3.3	Flammable liquids	> 100 L
4.1 4.2 4.3	Flammable solids Spontaneously combustible solids Water reactant	> 25 kg
5.1 9.1	Oxidizing substances Miscellaneous products or substances excluding PCB mixtures	> 50 L or 50 kg
5.2 9.2	Organic peroxides Environmentally hazardous	> 1 L or 1 kg
6.1 8 9.3	Poisonous substances Corrosive substances Dangerous wastes	> 5 L or 5 kg
9.1	PCB mixtures of 5 or more ppm	> 0.5 L or 0.5 kg
None	Other contaminants (e.g. crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, waste water, etc.)	> 100 L or 100 kg
None	Sour natural gas (i.e. contains H2S) Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more

In addition, all releases of harmful substances, regardless of quantity, are to be reported to the NWT spill 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.

Appendix C –
Spill Report Documentation

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 ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER ____-_____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME		

C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ 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	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			

Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically and e-mailed as an attachment to spills@gov.nt.ca. Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call to the spill line. Forms can also be printed and faxed to the spill line at 867-873-6924. Spills can still be phoned in by calling collect at 867-920-8130.

A. Report Date/Time	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. **Please do not fill in the Report Number**: the spill line will assign a number after the spill is reported.
B. Occurrence Date/Time	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
C. Land Use Permit Number /Water Licence Number	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
D. Geographic Place Name	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations – outside of human habitations – identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. **You must include the geographic coordinates** (Refer to Section E).
E. Geographic Coordinates	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
F. Responsible Party Or Vessel Name	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. **Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.**
G. Contractor involved?	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
H. Product Spilled	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
I. Spill Source	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overfill, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m^2)
J. Factors Affecting Spill	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or environment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
K. Additional Information	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg. "Page 1 of 2", "Page 2 of 2" etc. **Please number the pages to ensure that recipients can be certain that they received all pertinent documents.** If only the spill report form was filled out, number the form as "Page 1 of 1".
L. Reported to Spill Line by	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
M. Alternate Contact	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
N. Report Line Use Only	**Leave Blank**. This box is for the **Spill Line's use only**.