Spill Contingency Plan

Environmental Site Assessment (ESA) Activities – Five Lots

Hay River, NT

Prepared for: Mackenzie Valley Land and Water Board

Prepared by: GNWT-INF DTS

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APPENDICES

1 INTRODUCTION AND PROJECT DETAILS

Government of the Northwest Territories, Department of Infrastructure (GNWT-INF) has prepared this Spill Contingency Plan for Environmental Site Assessment (ESA) activities that will be conducted at five (5) subject properties located in Hay River, Northwest Territories. The plan demonstrates that GNWT-INF has appropriate response capabilities and measures in place to effectively address potential spills during the drilling program.

1.1 Company Name, Location and Mailing Address

Government of the Northwest Territories
Department of Infrastructure – South Slave Region
201-76 Capital Drive
B&R Rowe Building, 2nd Floor
Hay River, NT X0E 1G2

Main Contact: Aileen Stevens, Senior Technical Officer
Telephone: (867) 767-9048 ext. 32066
Email: aileen_stevens@gov.nt.ca

Alternate Contact: Shawn Hamilton, Project Officer
Telephone: (867) 876-1617
Email: shawn_hamilton@gov.nt.ca

1.2 Effective Date of Spill Contingency Plan

September 1, 2024 to November 1, 2025

1.3 Purpose and Scope

The purpose of this plan is to outline response actions for potential spills of any size, including a worse-case scenario for the GNWT and contractors at the project site. The plan identifies key response personnel and their roles and responsibilities in the event of a spill, as well as the equipment and other resources available to respond to a spill. It details spill response procedures that will minimize potential health and safety hazards, environmental damage, and clean-up efforts. The plan has been prepared to ensure quick access to all the information required in responding to a spill.

The document has been developed for the project and is a component of the Mackenzie Valley Land and Water Board Land Use Permit (LUP) process. The document is in accordance with the Guidelines for Spill Contingency Planning prepared by Indian and Northern Affairs Canada (INAC) (2007) and the Spill Contingency Planning and Reporting Regulations issued under the NWT *Environmental Protection Act*.

1.4 Environmental Procedures

The GNWT is committed to the concept of sustainable development and protection of the environment and human health. GNWT's environmental, health and safety procedures are to:

- Protect employees, the public and the environment
- Fully comply with all applicable legislation, regulations, and authorizations
- Work proactively with federal, territorial and Aboriginal governments, other relevant organizations, and the general public, on all aspects of environmental protection.
- Anticipate future spill control requirements and make provision for them
- Keep employees, contractors, Inspectors, Land and Water Boards, appropriate governments (Aboriginal, federal and territorial), and the public informed of any changes at the site or with project activities.

The plan will be presented to all staff during their on-site orientation sessions. All employees, consultants and contractors will be aware of the locations of the plan on site in Hay River and in the office in Yellowknife. During the orientation meeting, employees will review the Spill Contingency Plan and the steps to be undertaken in the event of a spill. All employees and contractors will be shown where spill kits are stored, told of their contents and will be trained in using the site-specific spill equipment and responding to site specific spills.

1.5 Project Description

The project will consist of borehole drilling in support of Environmental Site Assessment (ESA) activities, to characterize soil quality and install groundwater monitor wells for groundwater evaluation.

Heavy equipment (i.e., drilling track rig) will be required to support necessary sampling at various locations within the property boundaries. Activities will include:

- Drilling activities to advance boreholes in the soil to 6.0 mbgs;
- Collection of soil samples;
- Installation typical groundwater monitoring wells (i.e., following ASTM D5092 Standard Practice for Design and Installation of Groundwater Monitoring Wells);
- Development and sampling of groundwater wells.

Activities will take place starting September 2024. It is expected that a maximum of 50 boreholes may be advanced, with up to 25 groundwater wells installed in select boreholes. Drilling activities will be localized to the subject sites. *Precise number and locations of boreholes will be established in collaboration with the successful proponent.* The closest well expected to be drilled adjacent to the Hay River is approximately 10 meters up gradient, given the property boundaries relative to the river's edge.

Equipment used on site is expected to be a track mounted drill and a support vehicle (e.g., service truck) with a refueling apparatus.

Drilling activities will be conducted during daylight hours, between 8:30 and 6 pm daily. Drilling activities are anticipated to have minimal impact on sediment and erosion migration. Riparian areas will not be affected, and no vegetation will be removed for access. Sediment and erosion controls will include packing down any disturbed soil, which will be returned to original grade.

Excess soil generated from drilling activities will be collected in soil bags and removed from site. The soil will be tested prior to acceptance at a nearby waste disposal facility (i.e., Town of Hay River Solid Waste Management Facility) or shipped to a registered facility as necessary. Purged groundwater and rinse water from the estimated 25 monitoring well locations will be retained until analytical results are received, informing overland disposal or off-site disposal by a third-party waste disposal company (estimated one drum). While it is assumed that the waste generated will not be considered hazardous waste, any material exceeding facility acceptance criteria will be contained and shipped to an appropriate facility for disposal.

1.6 Site Description

The Site, located in the Town of Hay River, consists of five lots. The lots are Commissioner's Land Reserved to INF (Lot 2112, Plan 4413); and Town of Hay River properties (Lot 1, Block G, Plan 39; Lot 2, Block G, Plan 39; Lot 3, Block G, Plan 39 and Lot 7, Block F, Plan 39). These are bordered by the Hay River Hwy and 100 Avenue to the north, and water lot leases on the Hay River to the south. The sites have a cumulative footprint of approximately 2.6 hectares.

1.7 Hazardous Materials Stored on Site

Table 1 presents a list of anticipated potential hazardous materials on-site, the type of storage container, the average and maximum quantities stored, and their storage location.

Table 1. List of hazardous materials stored on-site, type of storage container, the normal and maximum storage quantities, and storage locations

Material	Storage container	Average on-site*	Maximum on-site	Storage location and uses
Diesel	Fuel Storage container mounted on support truck	200 L	450 L	Mounted on support truck. Used to re-fuel drill rig.
Gasoline	2 Jerry cans	25 Litres each	50 L	2 Jerry cans on support truck.
Oil and Grease	25 L container	1 L	1 L	Disposal container stored on support Vehicle or in pre-established site location, marked;
Impacted soil from drill cuttings	1 m^3 soil bags and or equivalent volume in closed containers	5 m^3	5 m^3	Soil bags and/or closed bins will be used to store impacted drill cuttings. Disposal methods will be determined based on results of laboratory analysis.
Impacted groundwater from well development	205 L drum	205 L	205 L	Drums will be used to store groundwater from well development. Disposal methods will be determined based on results of laboratory analysis.

*Quantities are subject to change depending on the quantities disposed of at the solid waste facility.

1.8 Preventive Measures

Along with the preventative measures outlined below, adequate training of all staff and contractors is paramount. Site specific spill prevention and spill response measures are to be discussed as part of the health and safety meetings to be held at the beginning of each field day.

Spill kits will be located wherever fuel is stored or used on site. See Section 3 for details on spill kit contents.

- Truck and equipment inspections should be performed on a regular basis;
- Leak checks should be performed for motorized vehicles and other equipment on a regular basis throughout the term of the installation activities;
- Spill containment equipment should be inspected prior to use and regularly thereafter;
- Secondary containment measures should be in place at required locations;
- Personal protective equipment (PPE) should be worn at all times when handling hazardous materials.
- MSDS should be readily available for all hazardous materials present on-site;
- Spill kits should be readily available for fuel/oil spills; and
- Inspection checklists should be prepared and followed by appropriate personnel.

1.9 Additional Copies

Several copies of the plan are to be kept on site at all times. A copy is also to be held at the office in Yellowknife, Hay River and with the Mackenzie Valley Land and Water Board. Additional copies of the plan can be obtained by contacting GNWT directly at the phone number or email presented in Section 1.

1.10 Process for staff response to media and public inquiries

The GNWT has established procedures for dealing with media and public inquiries. All inquiries are to be directed to the GNWT main contact:

Main Contact: Aileen Stevens, Senior Technical Officer – Environmental
Telephone: (867) 767-9048 ext. 32066
Email: aileen_stevens@gov.nt.ca

If a reporter or member of the public arrives at the site unexpectedly, the official in charge of responding to their questions will be the site supervisor or acting site supervisor. The site manager is to direct all questions and communication to the GNWT main contact, as above.

2 RESPONSE ORGANIZATION

The flow chart depicted below identifies the response organization and when applicable their alternates, as well as the chain of command for responding to a spill. The duties of various response personnel are summarized, and contact information is provided in **Section 4.2** (including 24-hour phone numbers).

An immediately reportable spill is defined as a release of a substance that is likely to be an imminent human health or environmental hazard. It will be reported to the NT 24-Hour Spill Report Line at 867- 920-8130. Any spills less than these quantities do not need to be reported immediately to the spill reporting line. Rather, these minor spills will be tracked and documented by the GNWT and submitted to the appropriate authority either immediately upon request or at a pre-determined reporting interval. If there is any doubt that the quantity spilled exceeds reportable levels, the spill will be reported to the NT 24-Hour Spill Report Line.

In the event of a spill that endangers human life, cell phones will be used to contact emergency response personnel. The spill will be immediately reported by personnel to the GNWT, and the NT 24-Hour Spill Report Line.

2.1 Potential Spill Sizes and Sources

In **Table 2**, a list of potential discharge events, with associated discharge volumes and directions is presented for the primary hazardous materials present on site. The most likely discharge volume is indicated and the spill clean-up procedures will focus on spills of this quantity. A worst-case scenario is also presented. Specific discharge rates are not indicated for each fuel type as these would vary based on the source of leak or puncture.

Table 2: List of hazardous materials, potential discharge events, potential discharge volumes (worst case scenario in brackets) and direction of potential discharge

Material (sources)	Potential Discharge Event	Discharge Volume (worst case)	Direction of Potential Discharge
Diesel and Gasoline fuel	1. Over pumping of fuel from support truck into drill. 2. Leaking from drill or support truck.	Likely under 1L (Diesel Max 450 L) (Gasoline Max 50 L) Likely under 1L (Diesel Max 450 L) (Gasoline Max 50 L)	Based on local topography, it is likely that petroleum hydrocarbons discharged into the environment would pool in low lying areas in the vicinity of the machine
Hydraulic Fluid (drill)	1. Hydraulic lines leaking/breaking	Likely under 1L (Max < 50 L)	Based on local topography, it is likely that petroleum hydrocarbons discharged into the environment would pool in low lying areas in the vicinity of the drill.

2.2 Potential environmental impacts of spill (include worst case scenario)

Diesel Fuel

Environmental impacts: Diesel may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Runoff into water bodies must be avoided.

Worst case scenario: Diesel from drill rig or support truck leaks or spills during re-fueling and contents seep into surrounding soil and water bodies. This could cause illness or death to aquatic life and indirectly affect wildlife feeding from the land or water.

Waste Oil and Miscellaneous Oils/Greases

Environmental impacts: Waste oils may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Runoff into water bodies must be avoided.

Worst case scenario: Drill rig hydraulic lines break and contents seep into surrounding soil and water bodies. This could cause illness or death to aquatic life and indirectly affect wildlife feeding from the land and water.

2.3 Procedures for Initial Action

1. Be alert and consider your personal safety first.
2. Assess the hazard to persons in the vicinity of the spill and where possible take action to control danger to human life (ensure safety of everyone).
3. Assess the situation and make arrangements for first aid and removal of injured personnel.
4. Take the necessary action where possible to secure the site to protect human safety.
5. Assess spill hazards and risks.
6. Identify the material or products involved in the spill.
7. If applicable and only if it is safe to do so, remove or shut off all ignition sources.
8. If safe, try to take the appropriate action to stop the spill (e.g., patch leaking hole, create a ditch to stop flow etc.).
9. Use the contents of the nearest spill kit to aid in stopping the spill if it is safe to do so.
10. Take all necessary action (if safe to do so) to contain or prevent the spread of the spilled contents (e.g., use contents of spill kits to place sorbent material on the spill, or use shovel to dig dike to contain spill. Methods will vary depending on the nature of the spill).
11. Gather information on the status of the situation.
12. Regardless of the spill volume, contact the GNWT Project Manager
13. As soon as possible and if required, contact the NT 24-Hour Spill Report Line at 867-920-8130.
14. If required, complete a spill report form (**Appendix A**).

2.4 Procedures for Containing and Controlling the Spill (e.g on land and water)

If safe to do so, follow these steps:

- First, initiate spill containment by first determining what will be affected by the spill.
- Second, assess speed and direction of spill and cause of movement (water, wind and slope).
- Third, determine best location for containing spill, avoiding any water bodies.
- Have a contingency plan ready in case the spill worsens beyond control or if the weather or topography impedes containment.

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. In the event of a spill, any person who finds it should report this to the Site Supervisor.

1. The Site Supervisor should, upon notification, determine the source, the extent and size of the spill. The Site Supervisor is responsible for taking the appropriate action and alert the necessary people.
2. Use the reporting procedures to notify the proper authorities.
3. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from cleanup activities.
4. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a spill. (Dispose of gloves and wash rubber boots and safety goggles when leaving spill site.)
5. Assess speed and direction of spill.
6. Determine best location for containing spill.
7. In all cases of liquid spills, the initial containment step is to prevent further dispersion. This is done with cut-off ditches and dyking with soil as needed around the spill utilizing mobile heavy equipment. If necessary, absorbents (e.g., Zorbal, Hazorb Pillows, peat moss, sawdust) or gelling agents (e.g., Chemgel) should be spread to prevent further spread or seepage.
8. 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. Fuels that pool up can be removed with sorbent materials or by pump (be sure to use a proper hose and pump rated for the specific contaminant) into barrels. 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.
9. If you cannot build a dyke, trenches can be dug out to contain spills as long as 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 (be sure to use a proper hose and pump rated for the specific contaminant) or sorbent materials. Once the soil has been removed, it should be replaced with clean soil to avoid slumping.

2.4.2 Containment of Spill on Open Water

Drilling activities will not be occurring on water; however, this section is applicable if a release were to occur from activities in proximity to 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.

For spills in open water, containment procedures will vary depending on whether the material floats or

sinks, and whether the water is flowing or standing.

1. In the event of a spill, any person who found it should report this to the Site Supervisor.
2. The Site Supervisor should, upon notification, determine the source, the extent and size of the spill. Therefore, the Site Supervisor is responsible to take the appropriate action and use the reporting procedures to notify the proper authorities.

3. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from cleanup activities.
4. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a spill. (Dispose of gloves and wash rubber boots and safety goggles when leaving spill site.)
5. Assess speed and direction of spill.
6. Determine best location for containing spill.
7. For floating materials, a surface boom shall be deployed. Booms are commonly used to recover fuel floating on the surface of a lake 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 and 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 some 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 (be sure to use a proper hose and pump rated for the specific type of contaminant) and placed into barrels for disposal. If a boom cannot be installed, weirs may be constructed, especially in shallow areas.
8. 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 (be sure to use a proper hose and pump rated for the specific contaminant) and placed into barrels.
9. The Site Supervisor will have to judge whether the impact of the spill will be most reduced by carrying out a containment procedure or by immediately attempting to remove any contaminant from the water. This will depend on the equipment available and how long it will take for additional equipment to arrive. Removed contaminants should be placed on an impermeable contained surface (example poly liner in a depression) or an overpack drum to prevent further seepage.

2.4.3 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 that may be difficult to contain with the booms present at the site. In this case, an emergency response mobile

unit would need to be called in to deal with the spill using appropriate equipment.

2.4.4 Fire or Explosion

1. In all cases, the first step is to clear people from the surrounding area. Particular care must be taken to prevent inhalation of vapors that are products of combustion.
2. When fire is associated with a spill of hazardous material, the local fire department must be the first responder to fire and explosion occurrence in all cases.
3. The fire department will take all the necessary measures to extinguish the fire.
4. If necessary, the fire department will construct dykes down slope from liquid spills, to minimize spreading of fire and contain unburned fluid. Foam, CO_2 or water will then be used as appropriate for the fire.

2.5 Procedures for Transferring, Storing, and Managing Spill-Related Wastes

In most cases, spill clean-ups are initiated at the far end of the spill and contained moving toward the source of the spill. Sorbent socks and pads are generally used for small spill clean-up. 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. Be sure to use a proper hose and pump rated for the specific fuel/contaminant. 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 appropriate and necessary, and given space and time constraints.

Used sorbent materials are to be placed in barrels for future disposal. Materials mentioned in this section are to be available in the spill kits that will be located at each site. Following clean-up, any tools or equipment used will be properly washed and decontaminated, or replaced if this is not possible.

For most of the containment procedures outlined in **Section 3.4**, spilled petroleum products and materials used for containment will need to be placed into containers such as empty waste oil/fuel containers and sealed for proper disposal at an approved disposal facility.

2.6 Procedures for Restoring Affected Areas, Providing Inspectors with Status Updates and Clean-up Completion

Once a spill of reportable size has been contained, the GNWT will consult with the appropriate regulatory authorities to determine the level of clean-up required. The Regulator 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 re-vegetation.

3.0 RESOURCE INVENTORY

3.1 On-Site Resources

A spill kit is to be available on site. The proposed content of the spill kit is described below. Onsite contact information is provided in Table 3.

Table 3: On-Site Contact Information

Organization	Location/Contact	Number
Aileen Stevens	Yellowknife, NT	867-767-9048 ext. 32066
Contractor TBD		

Spill Kits

The following outlines the recommended minimum requirements for contents of spill kits to be used during the project; the Contractor is responsible to supply the spill kits. Each spill kit will be regularly inspected to ensure it always contains the following, at a minimum (in part from INAC 2007):

- 1 – 205 L open top steel drum with lid, bolting ring and gasket (spill kit container)
- 10 disposable large 5 mil polyethylene bags (dimensions 65 cm x 100 cm) with ties
- 4 – 12.5 cm x 3 m (5 in. X 10 ft.) sorbent booms
- 10 kg bag of sorbent particulate
- 100 sheets (1 bail) of 50 cm x 50 cm sorbent sheets
- 2 large (5 m x 5 m) plastic tarps
- 1 roll duct tape
- 1 utility knife
- 1 field notebook and pencil
- 1 rake
- 1 pick-axe
- 3 spark-proof shovels
- 4 Tyvex® splash suits
- 4 pairs chemical resistant gloves
- 4 pairs of splash protective goggles
- Instruction binder, including Spill Contingency Plan

The entire spill kit contents, with the exception of the spark-proof shovels, can be stored within the 205 L steel drum. The drum will be sealed securely to protect the spill kit contents, though should always be accessible without the use of tools (i.e., finger tight bolt ring). The drum's bolt ring should be inspected regularly during inspections to ensure it turns freely and is lubricated.

Extra spill response materials should also be available for use, in addition to the spill kit contents. All spill kits will be located in an open and easily identifiable area for efficient use in spill circumstances.

3.2 Off-site Resources

Table 4. Off-site resource information

Organization	Location/Contact	Number
NWT – 24 Hour Spill Report Line	Department of Environment and Climate Change, Government of the Northwest Territories	867-920-8130*
ECCC Environmental Enforcement	Environment and Climate Change Canada (ECCC)	867-446-0926
ECCC National Environmental Emergencies Centre (NEEC)	Environment and Climate Change Canada (ECCC)	1-866-283-2333
Contractor TBD		
Town: Hay River	Town Office:	(867) 874-6522
Regional Health Centre: Hay River	Hay River Regional Health Centre	(867) 874-8000
RCMP	Emergency Number	(867)-874-1111
Indigenous and Northern Affairs (INAC) NWT Region	Regional Office	(867) 669-2500
Environment Canada	Emergency (Yellowknife)	(867) 669-4725
GNWT Environmental Health Office	Yellowknife	(867) 669-8979

4.0 TRAINING PROGRAM

An orientation session will be held prior to beginning work on site. This session will review:

- The location of the Spill Contingency Plan
- An overview of the Spill Contingency Plan
- The hazards of any materials stored-on site (none expected)
- The location of spill kits on site, spill kit contents, and their use
- Procedure for containing spills
- Muster points
- Off-site resources

5.0 REFERENCES

Government of Northwest Territories. Hazardous Materials Spills, Reporting Spills. Retrieved June 2021, from https://www.enr.gov.nt.ca/en/services/preventing-and-managing-spills

Water Resources Division Indian and Northern Affairs Canada. (2007). *Guidelines for Spill Contingency Planning*. Date modified: 2013-04-03, from https://publications.gc.ca/site/eng/9.699490/publication.html

Appendix A

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 • Email: spills@gov.nt.ca

REPORT LINE USE ONLY

A	Report Date: MM DD YY	Report Time:	☐ Original Spill Report **OR** ☐ Update # _____ to the Original Spill Report	**Report Number:**
B	Occurrence Date: MM DD YY	Occurrence Time:		
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: ☐ NT ☐ 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: ☐ Potential Spill	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:	Employer:	Location Called:	Report Line Number:

Lead Agency: ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ AANDC ☐ NEB ☐ Other: _____

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:			

Appendix B

MSDS

SAFETY DATA SHEET

DIESEL FUEL

SDS Number: 000003000395

Version: 7.1 Revision Date: 2024/05/06 Print Date: 2024/05/07

SECTION 1. IDENTIFICATION

Product name	:	DIESEL FUEL
Product code	:	11798, 12016, 11958, 11796, 11771, 11770, 11769, 11768, 11767, 11766, 11612, 11560, 11558, 11555, 11437, 11302, 10979, 10978, 10977, 10976, 10975, 10974, 10973, 10972, 10971, 10970, 10969, 10968, 10966, 10965, 10964, 10786, 10785, 10784, 10783, 10690, 10689, 10687, 10636, 10635, 10626, 10621, 10616, 10610, 10601, 10600, 10598, 10595, 10427, 10041
Other means of identification	:	Seasonal Diesel, #2 Diesel, #1 Diesel, #2 Heating Oil, #1 Heating Oil, OSX, D50, Arctic Diesel, Farm Diesel, Marine Diesel, Low Sulphur Diesel, LSD, Ultra Low Sulphur Diesel, ULSD, Mining Diesel, Naval Distillate, Dyed Diesel, Marked Diesel, Coloured Diesel, Furnace special, Biodiesel blend (BX where X is representative of volume %), Renewable Diesel blend (RX where X is represent ative of volume %). Diesel Low Cloud (LC), Marine Gas Oil, Marine Gas Oil Dyed.

Manufacturer or supplier's details

Company name of supplier Address	:	Petro-Canada P.O. Box 2844, 150 - 6th Avenue South-West Calgary, Alberta T2P 3E3 Canada, Telephone: 1-866-786-2671
Emergency telephone	:	CHEMTREC: 1-800-424-9300 (toll free) or +1 703-527-3887; Suncor Energy: +1 403-296-3000

Recommended use of the chemical and restrictions on use

Recommended use	:	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining diesels, marine diesels, marine diesel oil, marine gas oil and naval distillates may have a higher flash point requirement.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids	:	Category 3
Acute toxicity (Inhalation)	:	Category 4
Skin irritation	:	Category 2
Eye irritation	:	Category 2B
Carcinogenicity	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 2 (Liver, thymus, Bone)
Aspiration hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H315 + H320 Causes skin and eye irritation.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Fuels, diesel; Gasoil — unspecified	Fuels, diesel; Gasoil — unspecified	68334-30-5	25 - 100
Alkanes, C10-20-branched and linear	Alkanes, C10-20-branched and linear	928771-01-1	<= 75
Fatty acids, C14-18	Fatty acids,	129756-24-7	<= 20

and C14-18-unsatd., Me esters	C14-18 and C14-18-unsatd., Me esters		

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move to fresh air. Artificial respiration and/or oxygen may be necessary. Seek medical advice.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Seek medical advice.
In case of eye contact	:	Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
If swallowed	:	Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Seek medical advice.
Most important symptoms and effects, both acute and delayed	:	Harmful if inhaled. Respiratory, skin and eye irritation; nausea; cancer.
Indication of immediate medical attention and special treatment needed, if necessary	:	Treat symptomatically. For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Water fog. Foam
Unsuitable extinguishing media	:	Do NOT use water jet.
Specific hazards during fire fighting	:	Cool closed containers exposed to fire with water spray.

Hazardous combustion products	:	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), smoke and irritating vapours as products of incomplete combustion.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	For personal protection see section 8. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Non-sparking tools should be used. Ensure adequate ventilation. Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Avoid contact with skin, eyes and clothing. Do not ingest. Keep away from heat and sources of ignition. Keep container closed when not in use.
Conditions for safe storage	:	Store in original container. Containers which are opened must be carefully resealed and

kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labeled containers.
To maintain product quality, do not store in heat or direct sunlight.
Ensure the storage containers are grounded/bonded.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Fuels, diesel; Gasoil — unspecified	68334-30-5	TWA	100 mg/m³ (total hydrocarbons)	CA AB OEL
		TWA (inhalable fraction and vapour)	100 mg/m³ (total hydrocarbons)	CA BC OEL
		TWAEV (inhalable fraction and vapour)	100 mg/m³ (total hydrocarbons)	CA QC OEL
		TWA (Inhalable fraction and vapor)	100 mg/m³ (total hydrocarbons)	ACGIH

Engineering measures : Adequate ventilation to ensure that Occupational Exposure Limits are not exceeded.
Use only in well-ventilated areas.
Ensure that eyewash station and safety shower are proximal to the work-station location.

Personal protective equipment

Respiratory protection : Concentration in air determines protection needed.
Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Filter type : organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection

Material	:	neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Wear safety glasses with side shields or goggles. Wear face-shield if splashing hazard is likely. Chemical splash goggles and a full-face shield should be worn when handling this material.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Protective measures	:	Wash contaminated clothing before re-use.
Hygiene measures	:	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Bright oily liquid.
Color	:	Clear to yellow (This product may be dyed red for taxation purposes)
Odor	:	Mild petroleum oil like.
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling	:	150 - 371 °C

range		
Flash point	:	> 40 °C Method: closed cup Marine Gas Oil/Naval Distillate: 60°C min Mining Diesel: 52°C min All other Diesel fuels: 40°C min
Evaporation rate	:	No data available
Flammability (solid, gas)	:	not applicable
Upper explosion limit / Upper flammability limit	:	6 %(V)
Lower explosion limit / Lower flammability limit	:	0.7 %(V)
Vapor pressure	:	7.5 mmHg (20 °C)
Relative vapor density	:	4.5
Relative density	:	0.8 - 0.88
Density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	204 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	1.3 - 4.1 cSt (40 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable at normal ambient temperature and pressure.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac-	:	Hazardous polymerization does not occur.

tions

Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Reactive with oxidising agents and acids.
Hazardous decomposition products	:	May release COx, NOx, SOx, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Harmful if inhaled.

Product:

Acute oral toxicity	:	Remarks: Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Acute toxicity estimate: 11 mg/L Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Remarks: Based on available data, the classification criteria are not met.

Components:

Fuels, diesel; Gasoil — unspecified:

Acute oral toxicity	:	LD50 (Rat): 7,500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 4.1 mg/l Exposure time: 4 h Test atmosphere: vapor
Acute dermal toxicity	:	LD50 (Mouse): 24,500 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes eye irritation.

Respiratory or skin sensitization

Skin sensitization
Based on available data, the classification criteria are not met.

Respiratory sensitization
Based on available data, the classification criteria are not met.

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae/aquatic plants	:	Remarks: No data available
Toxicity to microorganisms	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labeled prior to recycling or disposal. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.
Contaminated packaging	:	Contact local or business unit authorities for guidance on disposal of product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 1202
Proper shipping name	:	Diesel fuel
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366

IMDG-Code

UN number	:	UN 1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

TDG

UN number	:	UN 1202

Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
ERG Code	:	128
Marine pollutant	:	yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

NPRI Components : Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified
naphthalene
1,2,4-trimethylbenzene
toluene
propan-2-ol
methanol

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour time weighted average
CA AB OEL / TWA	:	8-hour time weighted average
CA BC OEL / TWA	:	8-hour time weighted average
CA QC OEL / TWAEV	:	Time-weighted average exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for

Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 2024/05/06

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

CA / EN

Appendix C

Map

Government of
Northwest Territories

DESIGNED BY:		SURVEY BY:	
DRAWN BY:	A.J.	APPROVED BY:	K.J.
SCALE:	1:3,000 ON 11 x 17	DATE:	JULY 2024
PROJECT NO.		FIGURE NO.	1 OF 1

TITLE:
ENVIRONMENTAL SITE ASSESSMENT ACTIVITIES
5 LOTS, HAY RIVER, NT
SUBJECT PROPERTIES

FILE NAME: 109-2412.dwg