



**FUEL MANAGEMENT AND SPILL CONTINGENCY PLAN**

**Comaplex Minerals Corp**

**MELIADINE WEST PROJECT**

**COMAPLEX MINERALS CORP.  
DEC 2004**

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## **A - INTRODUCTION**

### **PURPOSE**

This Fuel Management and Spill Contingency Plan is designed to promote environmental awareness and safety, as well as facilitate the efficient cleanup of spills as the result of transportation incidents while in transit between Rankin Inlet and the Comaplex Minerals Corp. (CMF) exploration site at Meliadine Lake involving the following substances:

- P-50 Diesel
- Jet A turbo fuel
- Hydraulic Oil
- Lube Oil
- Waste Oil
- Propane
- other materials hazardous to the safety of personnel and the environment

Principal objectives of the Spill Contingency Plan are:

1. To provide readily accessible emergency information to cleanup crews, Meliadine project personnel, KIA, and government agencies in the event of a spill.
2. To comply with federal and territorial regulations pertaining to the preparation of contingency plans and notification requirements.
3. To promote the safe and effective recovery of spilled materials.
4. To minimize the environmental impacts of spills to water and/or land.
5. To facilitate the management of wastes according to environmental legislation.

### **SCOPE**

This Plan addresses the organization of the Meliadine West Gold Project spill response and related emergency measures. Alerting and notification procedures and cleanup strategies are outlined along with the duties and responsibilities of key spill response personnel. Emergency contacts are listed for CMF, CMF contractors, local government agencies, and the NWT Power Corporation in Rankin Inlet. Emergency response equipment is listed that is available immediately (should a spill occur) from local freighting contractors, such as M & T Enterprises and the NWT Power Corporation in Rankin Inlet.

More information in support of this Transportation Spill Contingency Plan and ensuing spill response actions, is provided in the following appendices:

- Appendix A contains summaries of physical / chemical properties and emergency response measures for hydrocarbon substances to be transported to the Meliadine exploration camp.
- Appendix B contains an up-to-date inventory of spill response equipment and kits available at various locations.
- Appendix C contains NWT Spill Report Forms that are to be used to report spills.
- Appendix D contains a fuel storage monitoring plan.
- Appendix E contains a list of basic components of a Fuel Spill Response Kit

CMF will be contracting out the delivery of fuel and lubricants to the exploration site. The contractors will be trained for spill response and have spill kits that complement this Transportation Spill Contingency Plan. In the event of a spill the contractor is expected to implement a spill response immediately with CMF's plan serving as a back-up.

#### **SITE DESCRIPTION**

The winter transportation route for the CMF Meliadine West Gold Project begins at Rankin Inlet and ends at the exploration site (Figure 1, Figure 2). The route includes a short distance of municipal road, sea ice on Hudson Bay, tundra and freshwater ice belonging to the Kivalliq Inuit Association and the lake ice of Meliadine Lake under federal jurisdiction. The Project Site is located at latitude 63° 01' 30" N latitude and 92° 10' 20" West longitude. The haul route distance from Rankin Inlet to the Meliadine Project exploration camp is 28 km.

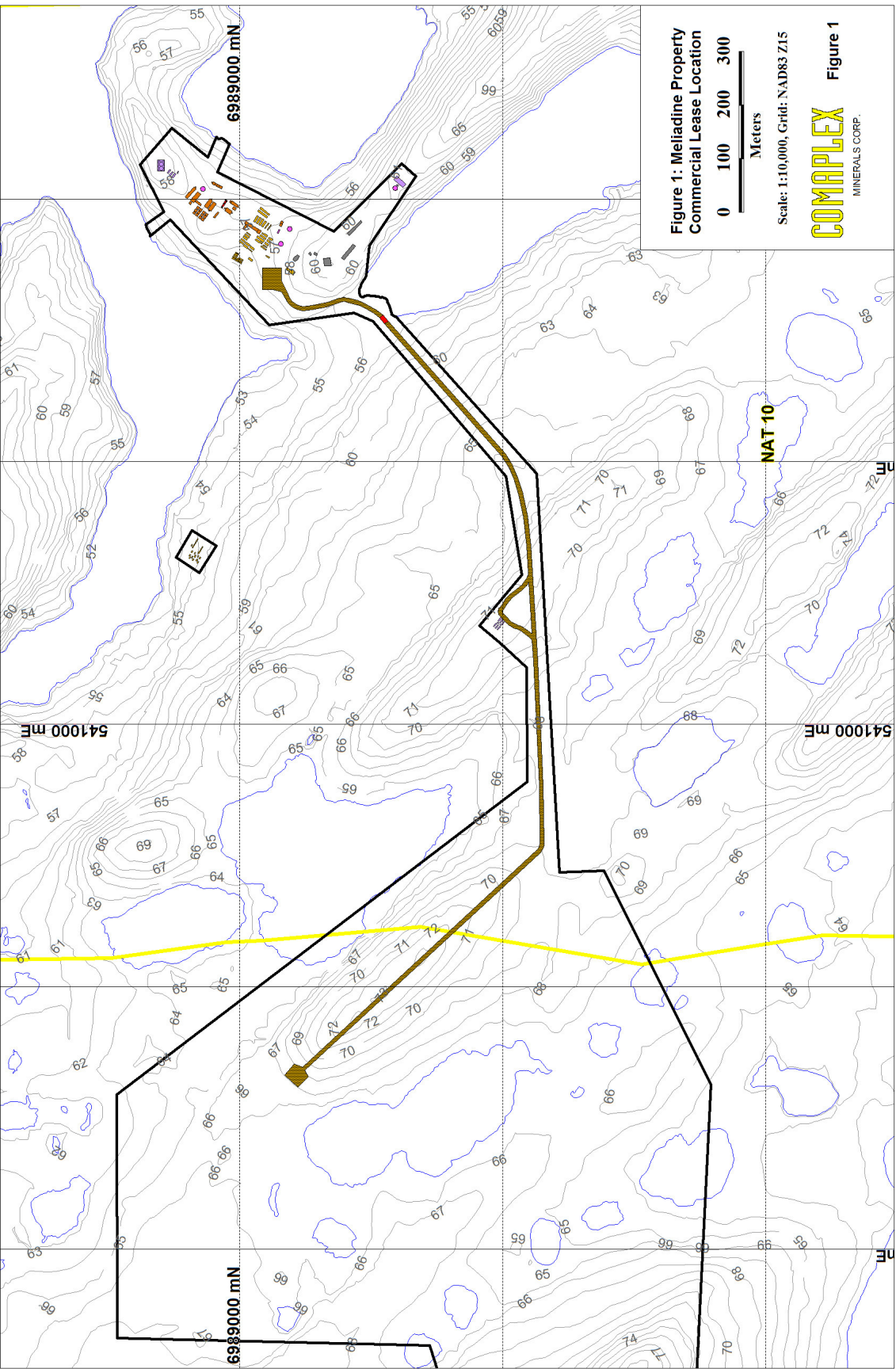


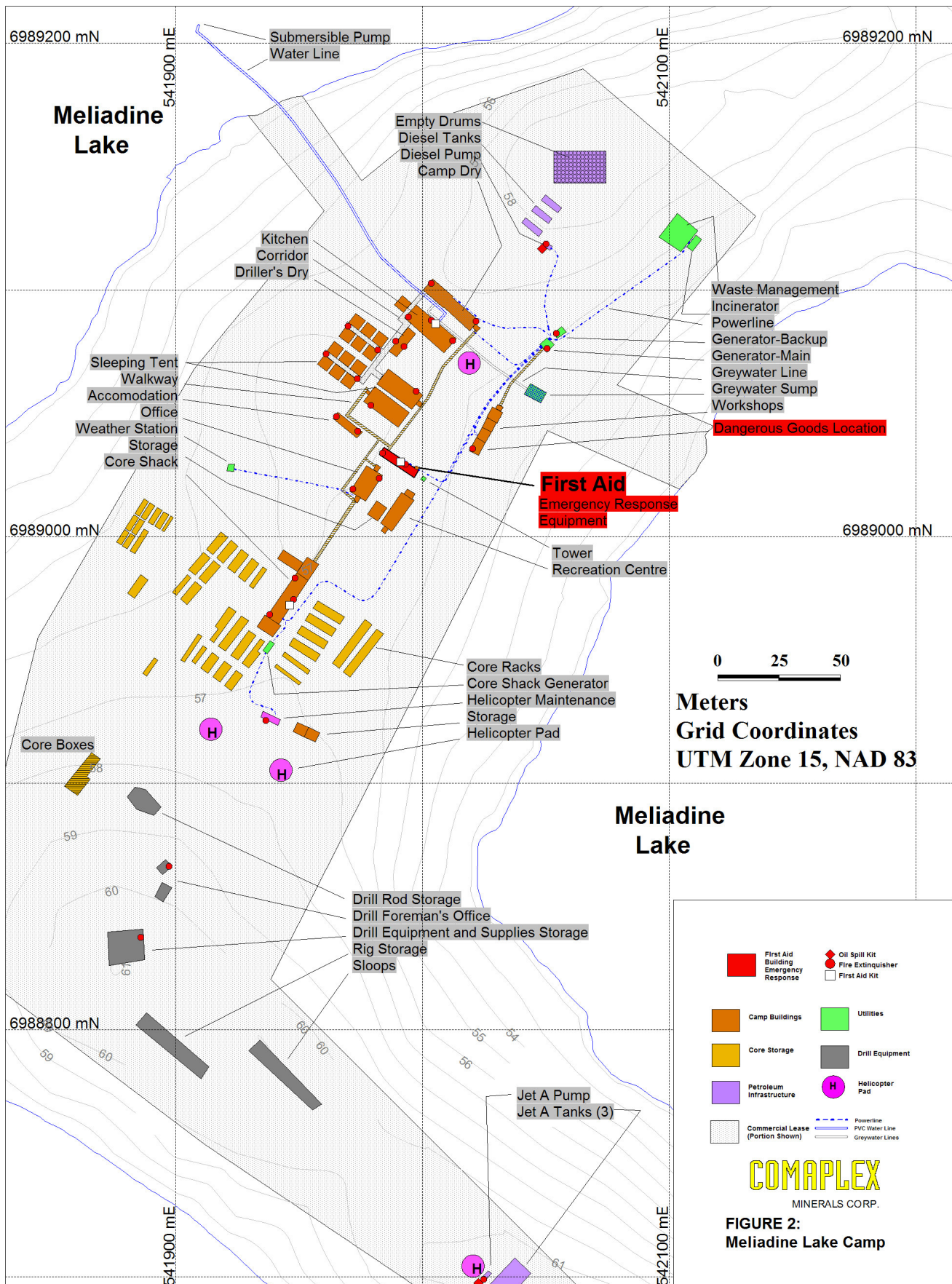
Figure 1: Meliadine Property  
Commercial Lease Location

0 100 200 300  
Meters

Scale: 1:10,000, Grid: NAD83 Z15

**COMPLEX**  
MINERALS CORP.

Figure 1



## **B: SPILL ACTION PLAN RESPONSE SEQUENCE**

### **1. REPORT ALL SPILLS TO:**

Exploration camp manager  
Senior project geologist on site

**Ph./Fax 867 645 3308 or Ph 403 265 2846**  
**Ph./Fax 867 645 3308 or Ph 403 265 2846**

**The reporting requirement applies to all spills: on land, on water and on ice.**

**The reporting requirement applies equally to all substances covered by this contingency plan; fuels, hydraulic oil, lubricants, and waste oil.**

All reports by telephone must be followed with a fax of the completed report form (see Appendix C) to the number indicated on the reporting form.

Reporting and notification described below must be made by the first observer of the spill or the observer's superior immediately upon the spill being under control, or on failure to gain control of the situation.

### **2. ALERT CMF Personnel:**

**SPILL OBSERVER**

- ° IMMEDIATE SUPERVISOR or Meliadine Camp manager
- ° Meliadine Project Manager
- ° Contractors (clean up)

### **3. NOTIFY AGENCIES:**

24 HOUR NWT SPILL REPORT LINE PHONE	1 867 920 8130
	FAX 1 867 873 6924
KIVALLIQ INUIT ASSOCIATION	1 867 645 2810
DIAND - Rankin Inlet	1 867 645 2831
Iqaluit	1 867 979 4405
Environment Canada - Yellowknife	1 867 920 6060
Fisheries and Oceans Rankin Inlet	1 867 645 2871
EMO - Rankin Inlet	1 867 645 5042
	(645 3789 after work hours)

### **4. RECORD THE FACTS** Use Spill Report Form from Appendix C

<b>NOTE: If the On-Scene Coordinator is not available when a spill is detected then the spill must be reported directly to NWT 24-hour spill report line without delay.</b>
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## **C: INITIAL SPILL RESPONSE PRIORITIES**

### **SAFETY FIRST**

#### **I. RESPOND QUICKLY**

- 1 Identify the spilled material.
- 2 Ensure safety of yourself and others.
- 3 Shut off ignition sources - NO SMOKING.
- 4 Attend to Injured.
- 5 Assess the severity of the spill.
- 6 Call for assistance.
- 7 Project Manager mobilizes Emergency Response Team.
- 8 Keep unnecessary people out of the area.
- 9 Wear impervious clothing, goggles, gloves.
- 10 Approach spill from upwind **IF SAFE TO DO SO**.
- 11 Stop product flow if possible.
- 12 Contain and recover spill as soon as possible.

#### **II. RESPOND SAFELY**

- 1 Do not contain gasoline or av gas if vapors might ignite.
- 2 Allow gasoline or av gas spills to evaporate.
- 3 See Appendix A - Product Guides for further information.

#### **111. OBTAIN AND REPORT SPILL DETAILS**

NWT Spill Report Forms are in Appendix C of this spill contingency and response plan.



**DIESEL - P 50 - SPILL RESPONSE ACTIONS**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- **ELIMINATE IGNITION SOURCES**
- **STOP SOURCE OF DIESEL IF SAFE TO DO SO**

**ON LAND**

- Do not flush into ditches or drainage systems.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave in place to degrade, if practical.

**ON SNOW & ICE**

- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with sorbent pads and/or snow.
- Use ice augers and pump to recover diesel under ice.
- Slots in ice can be cut over slow moving water to contain oil.
- Burn accumulated diesel from the surface using Tiger Torches if feasible and safe to do so.

**ON MUSKEG**

- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled diesel with pumps and skimmers.
- Flush with low pressure water to herd diesel to collection point.
- Burn only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and excavation.

**ON WATER**

- Contain spill as close to release point as possible.
- Use spill containment boom to concentrate slicks for recovery.
- On small spills, use sorbent pads to pick up contained oil.
- On larger spills, use skimmer on contained slicks.
- Do not deploy personnel and equipment onto mudflats or into wetlands

**RIVERS & STREAMS**

- Prevent entry into water, if possible, by building berm or trench.
- Intercept moving slicks in quiet areas using (sorbent) booms.
- Do not use sorbent booms/pads in fast currents and turbulent water.

**STORAGE / TRANSFER**

- Store closed, labeled containers outside away from flammable items.
- Electrically ground containers and vehicles during transfer.

**DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult camp manager on disposal procedures.

**HYDRAULIC OIL SPILL RESPONSE ACTIONS**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**

- **ELIMINATE IGNITION SOURCES**
- **STOP SOURCE OF HYDRAULIC OIL IF SAFE TO DO SO**

**ON LAND**

- Do not flush into ditches or drainage systems.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave to degrade if feasible to do so.

**ON SNOW & ICE**

- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with sorbent pads and/or snow.
- Use ice augers and pump when feasible to recover oil under ice.
- Burning hydraulic oil will not likely be feasible.
- Mechanical removal (scraping) can be tried.

**ON MUSKEG**

- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled oil with pumps and skimmers.
- Flush with low pressure water to herd oil to collection point.
- Minimize damage caused by equipment and excavation.
- Burning is not likely possible.

**ON WATER**

- Contain spill as close to release point as possible.
- Use spill containment boom to concentrate slicks for recovery.
- On small spills, use sorbent pads to pick up contained oil.
- On larger spills, obtain and use skimmer on contained slicks.
- Do not deploy personnel and equipment on mudflats or wetlands.
- Remove contained oil with sorbent pads and/or skimmer.

**RIVERS & STREAMS**

- Prevent entry into water, if possible, by building berm or trench.
- Intercept moving slicks in quiet areas using (sorbent) booms.
- Do not use sorbent booms/pads in fast currents and turbulent water.

**STORAGE / TRANSFER**

- Store closed, labeled containers outside away from flammable items.
- Drums are likely to be used for containing collected hydraulic oil.

**DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult on camp manager on disposal procedures..

**LUBE OIL SPILL RESPONSE ACTIONS**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**

- **ELIMINATE IGNITION SOURCES**
- **STOP SOURCE OF LUBE OIL IF SAFE TO DO SO**

**ON LAND**

- Do not flush into ditches or drainage systems.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave to degrade if feasible to do so.

**ON SNOW & ICE**

- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with sorbent pads and/or snow.
- Burning is unlikely to be possible.
- Use ice augers and pump when feasible to recover oil under ice.

**ON MUSKEG**

- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled oil with pumps and skimmers.
- Flush with low pressure water to herd oil to collection point.
- Burning is not likely to be possible.
- Minimize damage caused by equipment and excavation.

**ON WATER**

- Contain spill as close to release point as possible.
- Use spill containment boom to concentrate slicks for recovery.
- On small spills, use sorbent pads to pick up contained oil.
- On larger spills, obtain and use skimmer on contained slicks.
- Do not deploy personnel and equipment on mudflats or wetlands.
- Remove contained oil with sorbent pads and/or skimmer.

**RIVERS & STREAMS**

- Prevent entry into water, if possible, by building berm or trench.
- Intercept moving slicks in quiet areas using (sorbent) booms.
- Do not use sorbent booms/pads in fast currents and turbulent water.

**STORAGE / TRANSFER**

- Store closed, labeled containers outside away from flammable items.
- Electrically ground containers and vehicles during transfer.

**DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult camp manager on disposal procedures.

**WASTE OIL SPILL RESPONSE ACTIONS**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**

- **ELIMINATE IGNITION SOURCES**
- **STOP SOURCE OF WASTE OIL IF SAFE TO DO SO**

**ON LAND**

- Do not flush into ditches or drainage systems.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave to degrade if feasible to do so.

**ON SNOW & ICE**

- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with sorbent pads and/or snow.
- Burning is unlikely to be possible.
- Use ice augers and pump when feasible to recover oil under ice.

**ON MUSKEG**

- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled oil with pumps and skimmers.
- Flush with low pressure water to herd oil to collection point.
- Burning is not likely to be possible.
- Minimize damage caused by equipment and excavation.

**ON WATER**

- Contain spill as close to release point as possible.
- Use spill containment boom to concentrate slicks for recovery.
- On small spills, use sorbent pads to pick up contained oil.
- On larger spills, obtain and use skimmer on contained slicks.
- Do not deploy personnel and equipment on mudflats or wetlands.
- Remove contained oil with sorbent pads and/or skimmer.

**RIVERS & STREAMS**

- Prevent entry into water, if possible, by building berm or trench. & Streams
- Intercept moving slicks in quiet areas using (sorbent) booms.
- Do not use sorbent booms/pads in fast currents and turbulent water.

**STORAGE / TRANSFER**

- Store closed, labeled containers outside away from flammable items.
- Electrically ground containers and vehicles during transfer.

**DISPOSAL**

- Segregate waste types
- Place contaminated materials into marked containers.
- Whenever possible suitable waste oils collected at the site will be disposed of by incineration.
- Consult camp manager on disposal procedures.

**GASOLINE SPILL RESPONSE ACTIONS**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**

**GASOLINE FORMS VAPOURS THAT CAN IGNITE AND EXPLODE NO SMOKING**

- **ELIMINATE IGNITION SOURCES**
- **STOP SOURCE OF GASOLINE IF SAFE TO DO SO**

**ON LAND**

- Block entry into waterways by diking with earth, snow or other barrier(s).
- Do not contain spill if there is any chance of igniting vapors.
- On shop floors and in work/depot yards, apply particulate sorbents.
- On tundra use peat moss and leave to degrade if feasible to do so.

**ON SNOW & ICE**

- Block entry into waterways by diking with snow or other barrier.
- Do not contain spill if there is any chance of igniting vapors.
- In work/depot yards, apply particulate sorbents.

**ON MUSKEG**

- Remove pooled gasoline with pumps, if safe to do so.
- Do not deploy personnel and equipment on marsh or vegetation.
- Low pressure flushing can be tried to disperse small spills.
- Burn CAREFULLY only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and digging.

**ON WATER**

- Contain or remove spills ONLY AFTER VAPOURS DISSIPATE.
- Use booms to protect water intakes.
- Skimming can be tried once light ends evaporate.

**STORAGE / TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.
- Electrically ground containers and vehicles during transfer.

**DISPOSAL**

- Segregate waste types, if necessary.
- Place contaminated materials into marked containers.
- Consult camp manager on transportation and disposal requirements.

**JET A (AVIATION FUEL) SPILL RESPONSE ACTIONS**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**  
**AV GAS FORMS VAPOURS THAT CAN IGNITE AND EXPLODE**  
**NO SMOKING**

- **ELIMINATE IGNITION SOURCES**
- **STOP SOURCE OF JET A IF SAFE TO DO SO**

**ON LAND**

- Block entry into waterways by diking with earth, snow or other barrier(s).
- Do not contain spill if there is any chance of igniting vapors.
- On shop floors and in work/depot yards, apply particulate sorbents.
- On tundra use peat moss and leave to degrade if feasible to do so.

**ON SNOW & ICE**

- Block entry into waterways by diking with snow or other barrier.
- Do not contain spill if there is any chance of igniting vapors.
- In work/depot yards, apply particulate sorbents.

**ON MUSKEG**

- Remove pooled av gas with pumps, if safe to do so.
- Do not deploy personnel and equipment on marsh or vegetation.
- Low pressure flushing can be tried to disperse small spills.
- Burn CAREFULLY only in localized areas, e.g., trenches, piles or windrows .
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and digging.

**ON WATER**

- Contain or remove spills ONLY AFTER VAPOURS DISSIPATE.
- Use booms to protect water intakes.
- Skimming can be tried once light ends evaporate.

**STORAGE / TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.
- Electrically ground containers and vehicles during transfer.

**DISPOSAL**

- Segregate waste types, if necessary.
- Place contaminated materials into marked containers.
- Consult camp manager on transportation and disposal procedures.

**PROPANE RESPONSE ACTIONS**  
**GAS STORED IN CYLINDERS THAT EXPLODE WHEN IGNITED!**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**

**KEEP ALL VEHICLES INCLUDING SNOWMOBILES AWAY FROM ACCIDENT AREA**

Refer to Product Guide in Appendix A for:  
Physical/Chemical Properties  
Response to Fires  
First Aid

- Vapors cannot be contained when released.
- Water spray can be used to knock down vapors if there is NO chance of ignition.
- Small fires can be extinguished with dry chemical or CO.
- Personnel should withdraw immediately from area unless a small leak is stopped immediately after it has been detected.
- If tanks are damaged, gas should be allowed to disperse and no attempt at recovery should be made.
- Personnel should avoid touching release point on containers since frost quickly forms.
- Stay clear of tank ends.

**ACETYLENE RESPONSE ACTIONS**  
**GAS STORED IN CYLINDERS THAT EXPLODE WHEN IGNITED!**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS**  
**KEEP ALL VEHICLES INCLUDING SNOWMOBILES AWAY FROM ACCIDENT AREA**

Refer to Product Guide in Appendix A for:

Physical/Chemical Properties

Response to Fires

First Aid

- Vapors cannot be contained when released.
- Water spray can be used to knock down vapors if there is NO chance of ignition.
- Small fires can be extinguished with dry chemical or CO.
- Personnel should withdraw immediately from area unless a small leak is stopped immediately after it has been detected.
- If tanks are damaged, gas should be allowed to disperse and no attempt at recovery should be made.
- Personnel should avoid touching release point on containers since frost quickly forms.
- Stay clear of tank ends.



## **D: SPILL RESPONSE CONTACTS**

<b>Comaplex Minerals Corp., Meliadine Project</b>			
<b>TITLE</b>	<b>NAME</b>	<b>OFFICE</b>	<b>FAX</b>
<b>On-Scene Coordinators</b>			
Manager	Al Armitage	1403 750 2570	1 403 232 1421
Spill Cleanup Supervisors Meliadine Camp			
	Al Armitage	1 867 645 3308	
	Sandy Barham	1 867 645 3308	
Comaplex Office	Mark Balog	1 403 750 2560 1 403 288 9355(H) <b>1 403 620 1432 (24hr cell)</b>	1 403 232 1421
Environmental Coordinator	Ben Hubert	1 403 256 0017 1 403 256 7114 (H)	1403 256 1228
<b>CONTRACTORS</b>			
M & T Enterprises Ltd.	Rankin Inlet	1 867 645 2778	1 867 645 2590
<b>OTHERS</b>			
Nunavut Power Corp.	Rankin Inlet	1 867 645 5300	1 867 645 2487.

## **EXTERNAL CONTACTS**

**CONTACT THE FOLLOWING NUMBER IMMEDIATELY:**

<b>1. GOVERNMENT 24-HOUR SPILL REPORT LINE</b>	PH. (867) 920-8130 FAX (867) 873-6924
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## **OTHER CONTACTS: PHONE**

### **KIVALLIQ INUIT ASSOCIATION - LAND MANAGEMENT**

Tongola Sandy – president	1 867 645 2810
Luis Manzo - land use manager	1 867 645 2810

**EMO            1 867 645 5042**  
**(645 3789 after working hours)**

### **GOVERNMENT OF CANADA**

RCMP - Rankin Inlet	1 867 645 2822
DIAND - Rankin Inlet - Henry Kablalik	1 867 645 2831
Environmental Protection, Environment Canada	1 867 920 6060
Magnus Bourque, Hazardous Materials Officer	1 867 669 4729
Dave Tilden, Hazardous Materials Specialist	1 867 669 4728
Fisheries & Oceans:            Rankin Inlet	1 867 645 2871

	Iqaluit	1 867 979 6274
<b>LOCAL TRANSPORTATION</b>		
Helicopters		
CUSTOM HELICOPTERS	Staff House	1 867 645 3885
	Hanger	1 867 645 3939
Air Lines - Scheduled		
	First Air - Dispatch	1 867 873 8021
	Calm Air	1 867 645 2900
	Kivalliq Air	1 877 855 1500
	Skyward	1 867 645 3200
Taxi	Kowmuk's Taxi	1 867 645 3034
Neighboring Sites	Nunavut Power Corp.- Rankin Inlet	1 867 645 5300
<b>EQUIPMENT SUPPLIERS</b>		
Frontier Mining, Yellowknife (spill kits etc)		1 867 920 7617
Acklands – Yellowknife (spill kits etc)		1 867 873 4100

## **E: DUTIES AND RESPONSIBILITIES**

The roles and responsibilities of CMF personnel, contractors, and Government are described on the following pages.

### **CMF and CONTRACTOR PERSONNEL**

Spill Observer - anyone on haul route or at fuel cache at any time

- Assess the initial severity of the spill and safety concerns.
- Report all spills to Meliadine Camp manager immediately.
- Determine the source of the spill and stop or contain it, if possible.
- Participate in spill response as member of cleanup crew.

#### **On-Scene Coordinator (OSC) - CMF Meliadine Camp Manager**

- Immediately reports the spill to NWT 24-Hour Spill Report Line at (403) 920-8130.
- Records the time of the report, source of information and details on location, size, type of spill as well as any other information available on the spill report form.
- Oversees the cleanup operation until it is satisfactorily completed.
- Together with the Spill Cleanup Supervisor, decides if additional equipment is required to contain and clean up spills.
- Notifies government agencies, CMF Site Manager, Camp Project Manager and Environmental Coordinator on spill details.
- Oversees completion and distribution of Spill Report. Ensures investigation identifies measures to prevent similar spills in future.
- Ensures Response Team is adequately trained in spill response.
- Organizes training courses for spill response teams.

#### **Spill Clean Up Supervisors**

- Supervise spill cleanup crew.
- Assist in initial and ongoing response efforts.
- With work crew, take initial action to seal off the source and contain spill.
- Continue actions until relieved or supplemented by other Supervisor.
- Decide with On-Scene Coordinator if mobilization of additional equipment from Spill Response Organization or Contractor is warranted.
- Assess whether burning is a viable clean up measure; consult with regulatory authorities at spill site.

#### **Spill Cleanup Crew (Emergency Response Team)**

- conduct cleanup of spills under direction of Spill Cleanup Supervisor(s).
- Deploy booms, sorbents and other equipment and materials as required.
- Take appropriate response measures.
- Continue cleanup as directed by Spill Cleanup Supervisor until relieved.

**Project Manager, Meliadine West Gold Project**

- Responsible for all communication with the media.
- Ensures that all press releases are accurate and in accordance with company policy.
- Makes financial decisions on major expenses during large spill response.
- Initiates Mutual Aid Agreements if proper response requires outside assistance.

**Environmental Coordinator**

- Provides cleanup advice to the On-Scene Coordinator and Spill Cleanup Supervisor.
- Assists the Project Manager in the preparation of press releases.
- Develops safe and effective spill management and prevention practices.
- Provides advice to the Spill Cleanup Supervisor of storage and disposal options.
- Updates and distributes Contingency Plan.
- Ensures that there is follow up reports prepared on the spill event, clean up and environmental impacts.

## **F: EXTERNAL RESOURCES - contractors and consultants**

### **CMF Fuel Haul Contractors**

- Ensure that their best effort is made to maintain spill equipment which shall be available and be applied to a spill incident on site when required.
- Initiates cleanup in the absence of CMF personnel, however caused.
- Reports all spills immediately to the CMF On-Scene Coordinator (OSC) or Camp Manager
- Responsible for the training of their personnel on spill response.
- Develops and maintains company specific contingency plans for the CMF Meliadine West Gold Project which conforms to this CMF Spill Contingency Plan and related policies.

### **Environmental Consultants**

- Provide advice to CMF on spill response strategies, counter measure technologies, impact assessments and post spill monitoring and site rehabilitation.

### **Neighbouring Operations**

- Supply spill response equipment, materials and manpower, as required, when requested to do so.

## **EXTERNAL RESOURCES - Kivalliq Inuit Association and Nunavut Water Board**

### **KIA**

The Meliadine West Gold exploration program is carried out on Inuit Owned Land administered and managed by the KIA. It has issued land use permits to CMF for the exploration activities. Inspectors from KIA routinely inspect land use sites for compliance to terms and conditions of permits. While KIA receives data from spills reported to the NWT Spill Line, it is expected that all spills on Inuit Owned Land be reported directly to KIA. The same form as used for the Spill Line may be used for reporting to KIA.

### **Nunavut Water Board**

The Nunavut Water Board issues water licenses under the Nunavut Land Claims Agreement. Conditions of the water license usually include the authorized limits of water use, sources of water use, effluent discharge limits, monitoring and reporting requirements. As well, licenses are expected to require that Spill Contingency Plans be submitted for approval. Enforcement of the provisions of the water license is carried out by Inspectors from the Water Resources Division (Department of Indian and Northern Affairs). Periodic inspections are conducted by water license inspectors.

## **EXTERNAL RESOURCES - GOVERNMENT**

### **Department of Indian and Northern Affairs (DIAND)**

The Northern Affairs program of DIAND administers the Territorial Lands Act and Regulations. Through this legislation land use permits are issued. One of the conditions of land use permits is the requirement to report all spills to a 24 hour government run report line (403-920-8130). Land Use Permits may also address matters of environmental conservation and protection including waste disposal, sources of borrow materials, open pit mining, road alignments, land reclamation and

closure requirements. Enforcement of the provisions of the land use permits is carried out by the Operations Division of DIAND through Resource Management Officers located at the District Offices.

Inspection of CMF project activities located on Crown Land by Resource Management Officers is conducted periodically.

**Environment Canada (EC)**

The Environmental Protection and Conservation Service of Environment Canada administers the Canadian Environmental Protection Act (CEPA) and Section 36 of the Fisheries Act. For the latter this specifies that unless authorized by regulation, any effluents discharged into fish bearing water must be non-toxic. Environment Canada officials have in the past laid charges in the NWT under the Fisheries Act for spills of oil and other hazardous material.

EC is responsible for providing environmental advice to federal and territorial government agencies and for the preservation and enhancement of environmental quality.

**Department of Fisheries and Oceans (DFO)**

The Department of Fisheries and Oceans (DFO) administers the habitat protection provisions of the Fisheries Act. This includes provisions for prohibiting the blocking of fish passageways and the destruction of fish habitat. DFO operates under a Habitat Management Policy whereby the objective is to achieve a net gain of fish habitat within the NWT. On occasion DFO Inspectors visit spill sites to investigate possible impacts to fish habitat.

## **G: REFERENCES**

BHP Diamonds Inc. Transportation Spill Contingency Plan. January 1997.

Department of Transportation. Environmental Guidelines for the Construction, Maintenance and Closure of Winter Roads in the Northwest Territories. Prepared by Stanley Associates Engineering Ltd. 1993.

Northwest Territories Water Board. Guidelines for Contingency Planning. 1987.

WMC International Ltd., Emergency Management System Plan, August 2001.

## **ACKNOWLEDGMENTS**

CMF gratefully acknowledges the use of the WMC International Ltd's Emergency Management System Plan that is based fundamentally on BHP Diamonds Inc. Transportation Spill Contingency Plan.

## **APPENDIX A**

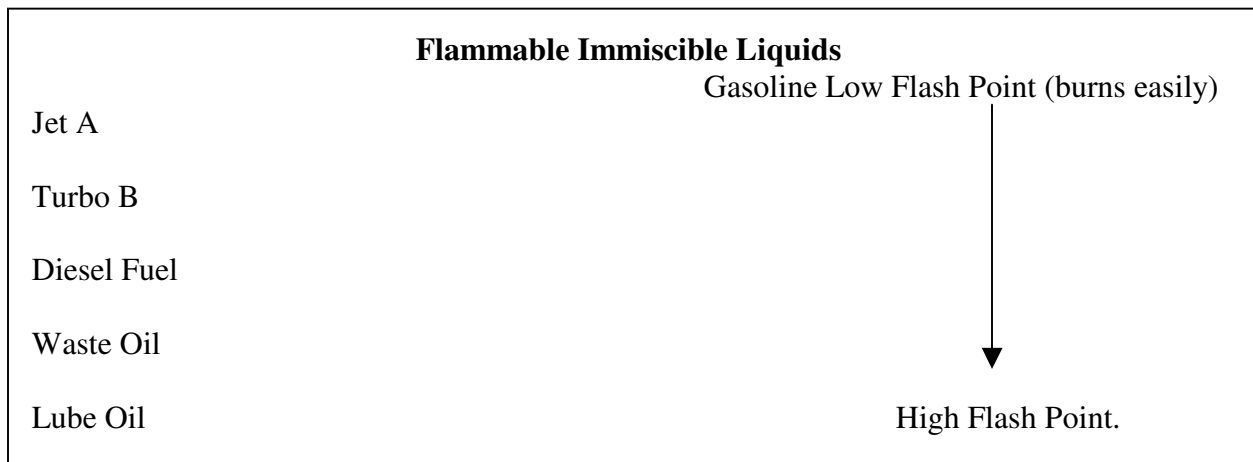
### **PRODUCT GUIDES**

The materials included in this Plan can generally be divided into two categories:

- flammable immiscible liquids
- flammable compressed gases

#### **1 Flammable Immiscible Liquids**

These substances are all hydrocarbon-based and will ignite under certain conditions. Gasoline and aviation fuel pose the greatest fire (and safety) hazard and usually cannot be recovered when spilled on water. The remaining materials generally do not pose a hazard at ambient temperatures. They are all insoluble, float unless mixed into the water column and can be recovered when safety allows.





# **DIESEL**

## **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Clear, yellow or red

ODOUR: Petroleum

SOLUBILITY: Insoluble

VAPOUR

DENSITY: Will sink to ground levels

FLASH POINT: 40EC (minimum)

POUR POINT: -50 to -6EC

VISCOSITY: Not viscous

SPECIFIC

GRAVITY: Floats on water (0.8 - 0.9)

## **SAFETY MEASURES**

### **WARNINGS**

- Vapors are heavier than air and form easily at high temperatures.
- Empty containers can contain explosive vapors.
- Toxic gases form upon combustion.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapors can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile, Viton and PVC are suitable materials (**DO NOT USE NATURAL RUBBER or NEOPRENE.**)
- Wear full-face organic vapor cartridge respirator where oxygen is adequate, otherwise wear positive pressure SCBA.

### **PRECAUTIONS**

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

## **RESPONSE TO FIRES**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

## **RESPONSE TO SPILLS**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

### **ON LAND**

- **ELIMINATE IGNITION SOURCES.**
- Do not flush into ditch/drainage systems.

- Block entry into waterways.
- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with peat moss and/or sorbent pads.
- Remove large spills with pumps or vacuum equipment.

#### **ON WATER**

- Use booms to contain and concentrate spill.
- Remove spill using sorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes.

#### **STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.
- Electrically ground containers and vehicles during transfer.

#### **DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult with environmental authorities during final disposal.

### **FIRST AID**

#### **EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

#### **SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

#### **INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

#### **INGESTION**

- **DO NOT INDUCE VOMITING;** if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- **Get prompt medical attention.**

# **HYDRAULIC OIL**

## **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Straw-yellow liquid

ODOUR: Petroleum

SOLUBILITY: Generally insoluble

VAPOUR

DENSITY: Few vapors emitted

FLASHPOINT: 215EC

POUR POINT -25EC

VISCOSITY: Medium (265cSt @ 15EC )

SPECIFIC

GRAVITY: Floats on water (0.9)

## **SAFETY MEASURES**

### **WARNINGS**

- Vapors are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO<sub>2</sub>, and dense smoke are produced upon combustion.
- Oil mist or vapor from hot oil can cause irritation of the eyes, nose, throat and lungs.

### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton are suitable materials (**DO NOT USE NATURAL RUBBER**).
- Use of organic vapor cartridge respirator is highly unlikely.

### **PRECAUTIONS**

- Avoid excessive heat, which can cause formation of vapors.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

## **RESPONSE TO FIRES**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA and eye protection when responding to fires.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.

NOTE: Water or foam may cause frothing.

- Use water to cool containers exposed to fire.

## **RESPONSE TO SPILLS**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

### **ON LAND**

- Prevent additional discharge of oil.
- Do not flush into ditch/drainage systems.
- Block entry into waterways.
- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with peat moss and/or sorbent pads.

- Remove large spills with pumps or vacuum equipment. Spill can also be mechanically removed if oil is too viscous to be pumped.

### **ON WATER**

- Use booms to contain and concentrate spill.
- Remove spill using sorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes/marinas.

### **STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.

### **DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult with environmental authorities during final disposal.

## **FIRST AID**

### **EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

### **SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

### **INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

### **INGESTION**

- DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention.

# **LUBE OIL**

## **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Amber liquid	FLASHPOINT: 190 to 220EC
ODOUR: Petroleum	POUR POINT: -35 to -400EC
SOLUBILITY: Generally insoluble	VISCOSITY: Medium (255cSt @15EC )
VAPOUR	SPECIFIC
DENSITY: Few vapors emitted	GRAVITY: Floats on water (0.9)

## **SAFETY MEASURES**

### **WARNINGS**

- Vapors are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO<sub>2</sub>, and dense smoke are produced upon combustion.
- Oil mist or vapor from hot oil can cause irritation of the eyes, nose, throat and lungs.

### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile, PVC and Viton are suitable materials. **(DO NOT USE NATURAL RUBBER.)**
- Use of organic vapor cartridge respirator is highly unlikely.

### **PRECAUTIONS**

- Avoid excessive heat, which can cause formation of vapors.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

## **RESPONSE TO FIRES**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA and eye protection when responding to lube oil fires.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.  
NOTE: Water or foam may cause frothing.
- Use water to cool containers exposed to fire.

## **RESPONSE TO SPILLS**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

### **ON LAND**

- Prevent additional discharge of oil.
- Do not flush into ditch/drainage systems.
- Block entry into waterways.
- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with sorbent and/or peat moss.

- Remove large spills with pumps or vacuum equipment. Spill can also be mechanically removed if oil is too viscous to be pumped.

#### **ON WATER**

- Use booms to contain and concentrate spill.
- Remove spill using sorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes.

#### **STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.

#### **DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult with environmental authorities during final disposal.

### **FIRST AID**

#### **EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

#### **SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

#### **INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

#### **INGESTION**

- DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention.

# **WASTE OIL**

## **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Black to brown liquid

ODOUR: Petroleum

SOLUBILITY: Generally insoluble

VAPOUR

DENSITY: Few vapors emitted

FLASHPOINT: 100 to 200EC

POUR POINT: -30 to -400EC

VISCOSITY: Medium (200 - 300 cSt)

SPECIFIC

GRAVITY: Floats on water (0.9)

## **SAFETY MEASURES**

### **WARNINGS**

- Vapors are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO<sub>2</sub>, and dense smoke are produced upon combustion.

### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile, PVC and Viton are suitable materials (**DO NOT USE NATURAL RUBBER.**)
- Use of organic vapor cartridge respirator is highly unlikely.

### **PRECAUTIONS**

- Avoid excessive heat, which can cause formation of vapors.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

## **RESPONSE TO FIRES**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA and eye protection when responding to lube oil fires.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.

NOTE: Water or foam may cause frothing.

- Use water to cool containers exposed to fire.

## **RESPONSE TO SPILLS**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

### **ON LAND**

- Prevent additional discharge of oil.
- Do not flush into ditch/drainage systems.
- Block entry into waterways.
- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with peat moss and/or sorbent pads.
- Remove large spills with pumps or vacuum equipment. Spill can also be mechanically removed if oil is too viscous to be pumped.

**ON WATER**

- Use booms to contain and concentrate spill.
- Remove spill using sorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes.

**STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.

**DISPOSAL**

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult with environmental authorities during final disposal.

**FIRST AID****EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

**SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

**INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

**INGESTION**

- **DO NOT INDUCE VOMITING**; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention.



# **GASOLINE**

## **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Colorless liquid (can be dyed)

ODOUR: Gasoline/Petroleum

SOLUBILITY: Insoluble

VAPOUR

DENSITY: Will sink to ground levels

FLASH POINT: -50EC

FREEZING PT: -60EC

VISCOSITY: Not viscous (< 1 cSt)

SPECIFIC

GRAVITY: Floats on water (0.7 - 0.8)

## **SAFETY MEASURES**

### **WARNINGS**

- **Vapors form instantaneously, and are heavier than air.**
- Empty containers can contain explosive vapors.
- Vapors can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapors can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile, Viton and PVC are suitable materials (**DO NOT USE NATURAL RUBBER or NEOPRENE.**)
- Wear full-face organic vapor cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA, if circumstances warrant.

### **PRECAUTIONS**

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

### **RESPONSE TO FIRES**

#### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

### **RESPONSE TO SPILLS**

#### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

#### **ON LAND**

- **ELIMINATE IGNITION SOURCES.**
- Do not flush into ditch/drainage systems.
- Block entry into waterways.

- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with peat moss and/or sorbent pads.
- Cover pools with foam to prevent vapor evolution if gasoline presents a fire hazard; otherwise allow vapors to dissipate.

#### **ON WATER**

- **ELIMINATE IGNITION SOURCES.**
- **DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS.**
- Protection booming can be considered for water intakes.

#### **STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.
- Electrically ground containers & vehicles during transfer.

#### **DISPOSAL**

- Place contaminated materials into segregated marked containers.
- Consult with environmental authorities during final disposal.

### **FIRST AID**

#### **EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

#### **SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

#### **INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

#### **INGESTION**

- **DO NOT INDUCE VOMITING;** if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention.

## **JET A**

### **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: White or pale yellow liquid

ODOUR: Gasoline/Petroleum

SOLUBILITY: Negligible

VAPOUR

DENSITY: Will sink to ground levels

FLASH POINT: -20 to - 250EC

FREEZING PT: -50EC

VISCOSITY: Not viscous (<7 cSt)

SPECIFIC

GRAVITY: Floats on water (0.75 0.8)

### **SAFETY MEASURES**

#### **WARNINGS**

- Vapors instantaneously form, and are heavier than air.
- Low-lying areas can trap explosive vapors.
- Vapors can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapors can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

#### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (**DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC**).
- Wear full-face organic vapor cartridge respirator where oxygen is adequate; otherwise wear SCBA, if circumstances warrant.

#### **PRECAUTIONS**

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

#### **RESPONSE TO FIRES**

##### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, AFFF foam or water fog.
- Use water to cool containers exposed to fire.

#### **RESPONSE TO SPILLS**

##### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

#### **ON LAND**

- **ELIMINATE IGNITION SOURCES.**

- Block entry into waterways; do not flush into ditch/drain systems.
- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with sorbent or explosion-proof pump.
- Cover pools with foam to prevent vapor evolution if avgas presents a fire hazard; otherwise allow vapors to dissipate.

#### **ON WATER**

- **ELIMINATE IGNITION SOURCES.**
- **Contain or remove spills ONLY AFTER VAPOURS DISSIPATE.**
- Protection booming can be considered for water intakes.
- Recover slicks using skimmer and sorbent, if volumes warrant.

#### **STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.
- Electrically ground containers & vehicles during transfer.

#### **DISPOSAL**

- Place contaminated materials in segregated, marked containers.
- Consult with environmental authorities during final disposal.

### **FIRST AID**

#### **EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

#### **SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

#### **INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

#### **INGESTION**

- **DO NOT INDUCE VOMITING;** if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention.

# **PROPANE**

## **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Colorless gas	FLASH POINT: -104EC
ODOUR: Natural gas odor	FREEZING PT: -190 EC
SOLUBILITY: Insoluble	VISCOSITY: n/a
VAPOUR	SPECIFIC
DENSITY: Will sink to ground levels	GRAVITY: Liquid floats on water

## **SAFETY MEASURES**

### **WARNINGS**

- Vapors form instantaneously, and are heavier than air.
- Vapors can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapors can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (**DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC**).
- Avoid frostbite burn to skin and eyes from contact with propane.
- Wear full-face organic vapor cartridge respirator where oxygen is adequate, otherwise wear positive pressure SCBA.

### **PRECAUTIONS**

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

## **RESPONSE TO FIRES**

### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

**RESPONSE TO GAS RELEASES**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS!**

**ON LAND**

- **ELIMINATE IGNITION SOURCES.**
- **DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS**

**ON WATER**

- **ELIMINATE IGNITION SOURCES.**
- **DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS.**

**STORAGE & TRANSFER**

- It is not possible to collect released material.

**DISPOSAL**

- Consult with environmental authorities if the disposal of any contaminated materials is required.

**FIRST AID**

**EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

**SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

**INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

**INGESTION**

- **DO NOT INDUCE VOMITING;** if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention

## **ACETYLENE**

### **TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Colorless gas

ODOUR: Garlic - like

SOLUBILITY: Slightly soluble

VAPOUR

DENSITY: Will sink to ground levels

FLASH POINT: -18EC

FREEZING PT: -82EC

VISCOSITY n/a

SPECIFIC

GRAVITY: (0.6) Liquid floats on water

### **SAFETY MEASURES**

#### **WARNINGS**

- Vapors form instantaneously, and are heavier than air.
- Empty containers can contain explosive vapors.
- Vapors can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapors can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

#### **PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (**DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC**).
- Wear full-face organic vapor cartridge respirator where oxygen is adequate, otherwise wear positive pressure SCBA.

#### **PRECAUTIONS**

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

### **RESPONSE TO FIRES**

#### **CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO<sub>2</sub>, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

**RESPONSE TO GAS RELEASES**  
**CONSIDER ACTION ONLY IF SAFETY PERMITS!**

**ON LAND**

- **ELIMINATE IGNITION SOURCES.**
- **DO NOT ATTEMPT TO CONTAIN OR REMOVE RELEASES**

**ON WATER**

- **ELIMINATE IGNITION SOURCES.**
- **DO NOT ATTEMPT TO CONTAIN OR REMOVE RELEASES**

**STORAGE & TRANSFER**

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials
- Electrically ground containers & vehicles during transfer.

**DISPOSAL**

- Consult with environmental authorities if the disposal of any contaminated materials is required.

**FIRST AID**

**EYES**

- Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes while holding the eyelids open.
- Remove contact lenses, if exposed to vapors or liquid.
- Get prompt medical attention.

**SKIN**

- Remove and launder contaminated clothing.
- Wash skin thoroughly with soap and water.
- Get medical attention.
- Discard saturated leather articles.

**INHALATION**

- Move victim to fresh air.
- Perform artificial respiration if victim not breathing.
- Provide oxygen if victim is having difficulty breathing.
- Get prompt medical attention.

**INGESTION**

- **DO NOT INDUCE VOMITING;** if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration.
- Get prompt medical attention.



## **APPENDIX B**

### **RESPONSE EQUIPMENT INVENTORY**

During the exploration phase of the project, spills occurring along the transportation route will be remedied by the appropriate personnel depending on the party responsible for the spill, the location of the spill, and the extend of the environmental threat. Larger spills will involve the coordination of CMF personnel (including the Emergency Response Team), contractors, and CMF Mutual Aid Partners. For the purposes of listing response equipment, the equipment will be listed by contractor and site.

#### **Mobile Equipment**

From **M and T Enterprises (867 645 2778)**

Equipment *located in Rankin Inlet that can be used for spill countermeasures includes:*

- 1 740 Champion grader
- 1 BW 75 compactor
- 1 Cat 950 loader
- 1 Cat 966 loader
- 1 Cat D5 dozer
- 1 Cat D6D dozer
- 9 tandem dump trucks
- 1 trash pump
- 1 backhoe
- 1 tractor and end dump
- 1 Cat 966 loader
- 1 Cat D3 dozer
- 1 Cat D6E dozer
- 1 Cat D8K dozer
- 1 5000 gal. skid mounted storage tank

From **Nunavut Power Corporation (645 5300)**

Spill equipment available:

- fuel sorbent material
- pumps and hoses
- night operating equipment (portable generator light stand and cords)
- winter clean up equipment (chain saw)
- hand tools (shovels, rakes, wrenches)
- safety equipment

From **Municipality of Rankin Inlet (645 2525)** contact Fire Department (645 2895)

Heavy Equipment available:

- portable lighting
- dump truck
- bull dozer
- snow plow
- fire truck.
- front end loader
- backhoe
- grader
- vacuum truck

#### **Mutual Aid Partners**

In the event of a major spill requiring additional resources, equipment and manpower will be made available through mutual aid agreements with the Canadian Coast Guard, the Hamlet of Rankin Inlet and the Nunavut Power Corporation.

**Canadian Coast Guard (CCG) - Rankin Inlet Inventory**

Material from the CCG inventory at Rankin INLET is available on a cost recovery basis and will be made available on request to the GNWT EMO representative who will be billed by CCG for material consumed and who will then recover costs from CMF accordingly.

- 1500' X 24" oil containment boom
- 6 boom towing devices
- 6 5/8" tow lines X 100' c/w snap hooks
- 6 anchoring devices
- 6 Danforth anchors (22 lbs)
- 6 3/8" X 75' trip lines
- 6 trip line marker buoys type mb40
- 8 bales disposable boom (8" X 10' X 4 lengths per bale)
- 9 bales sorbent pads (18" X 18" X 3/8" X 100 pads)
- 10 sorbent rolls (36" X 150' X 3/8")
- 5 boxes of oil snare
- 2 1000 gal. portatanks
- 1 Spate pump
- 2 lengths 3" oil resistant suction hose - 50' each.
- 2 lengths oil resistant discharge hose - 50" each.
- 1 TDS-118 light medium oil skimmer c/w diesel power pack
- 1 spare parts kit for TDS-118 skimmer
- 1 4Kva diesel generator
- 1 16' aluminum boat
- 1 25 hp outboard motor
- 2 3000 psi portable high pressure washer
- 2 sets portable lights (each set has 3 X 500 watt halogen lamps, spare bulbs, 100" ext. cord and carrying case)
- 2 coils 1/4" polypropylene rope (1200')
- 2 coils 1/2" polypropylene rope (600')
- 2 coils 5/8" polypropylene rope (600')
- 72 pair disposable coveralls
- 120 pair work gloves
- 12 hard hat liners
- 40 dust / mist disposable masks
- 40 pairs assorted rain gear
- 20 pair safety glasses
- 20 safety vests
- 20 pair sunglasses
- 2 20' steel ISO containers
- 1 tool box

## **APPENDIX C**

**NUNAVUT SPILL REPORT FORMS**  
**(next page)**

**1 867 920 8130 24 Hr Report Line**

## **APPENDIX D**

### **FUEL STORAGE MONITORING PLAN**

The fuel storage monitoring plan will consist of the following daily and weekly inspections conducted by CMF personnel that have been trained in the use of fuel pumping equipment and fuel spill response.

The following inspections will be conducted and recorded on a daily basis:

1. All tanks, lines, pumps, hoses, valves and fittings will be inspected for leaks or damage.
2. Ensure proper fuel only is dispensed into the correct tanks and barrels for use in the camp and associated exploration work.
3. Ensure that the "No Smoking" signs posted in the area of the fuel tanks are always clearly visible.
4. Ensure that all personnel on site abide by the "No Smoking" rule within the distances outlined in the regulations for fuel tanks.
5. Ensure all spill response equipment and PPE (Personal Protection Equipment) is clearly visible and easily accessed.
6. Fuel levels in all primary tanks checked and compared against the fuel dispensed from each primary tank for each week.
7. Outer tanks checked for fuel leakage from the primary tank.
8. Spill response equipment checked.
9. PPE checked.

## **Appendix E**

### **Basic Contents of Fuel Spill Response Kit**

1. Absorbent pads or sheets
2. Disposable protective gloves
3. Disposable protective coveralls.
4. Sorbent disposal bags