MELIADINE GOLD PROJECT

SPILL CONTINGENCY PLAN

Meliadine camp site
Meliadine exploration
All Weather Road
Discovery camp site

In accordance with Water Licences 2BE-MEP0813, 2BB-MEL0914 and 2BW-MEL1215

Prepared by:

Agnico-Eagle Mines Limited, Exploration Division

Version
October 2012

DOCUMENT CONTROL

Version	Date (YMD)	By	Section	Page	Revision
1	29 Oct 2012	DF, PR, AG			Complete document revision and update

Version October prepared by:

David Frenette
Environment Coordinator

With the collaboration of Philip Roy and Alexandre Gauthier, Environment technicians

SUMMARY SPILL RESPONSE PRIORITIES

SAFETY FIRST

1. 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 your supervisor and the environment department
7. Site Manager mobilizes Emergency Response Team (if require)
8. Keep unnecessary people out of the area.
9. Wear impervious clothing, goggles, and 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.
13. Notify Henry Kablalik, Resource Management Officer, Rankin Inlet
    KablalikH@inac-ainc.gc.ca, 867 645 2831, fax 867 645 2592
    Notify Peter Kusugak, Field Operations, Iqaluit
    KusugakP@inac-ainc.gc.ca, 867 975 4295, fax 867 979 6645

2. RESPOND SAFELY

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

3. OBTAIN AND REPORT SPILL DETAILS

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

Table: Reportable Spills

Transportation Class	*Type of Substance*	*Compulsory Reporting Amount*
1	Explosives	Any amount
2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity exceeding 100 L
2.2	Compressed gas (non-corrosive, non-flammable)	Any amount from containers with a capacity exceeding 100 L
2.3	Compressed gas	Any amount
2.4	Compressed gas (corrosive)	Any amount
3.1, 3.2, 3.3	Flammable liquid	100 L
4.1	Flammable solid	25 kg
4.2	Spontaneously combustible solid	25 kg
4.3	Water reactant solids	25 kg
5.1	Oxidizing substances	50 L or 50 kg
5.2	Organic peroxides	1 L or 1 kg
6.1	Poisonous substances	5 L or 5 kg
7	Radioactive substances	Any amount
8	Corrosive substances	5 L or 5 kg
9.1 (in part)	Miscellaneous substances	50 L or 50 kg
9.2	Environmentally hazardous	1 L or 1 kg
9.3	Dangerous wastes	5L or 5 kg
9.1 (in part)	PCB mixtures of 5 ppm or more	0.5 L or 0.5 kg
None	Other contaminants	100 L or 100 kg

Note: L = litre; kg = kilogram; PCB = polychlorinated biphenyls; ppm = parts per million.

Note: All releases of harmful substances regardless of quantity are immediately reportable where the release is near a water body, is near a designated sensitive environment or sensitive wildlife habitat, poses an imminent threat to human health or safety or poses an imminent threat to a listed species at risk or it critical habitat.

FURTHER DETAILS WITHIN THIS DOCUMENT

Table of content

1. INTRODUCTION

1.1 PURPOSE

This 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 Agnico-Eagle Mines Limited (AEM) exploration site at Meliadine Lake, and
- spills during the course of camp and exploration operations involving the following substances:
  - P-50 Diesel
  - Jet A and Jet B turbo fuel
  - Hydraulic Oil
  - Lube Oil
  - Waste Oil
  - Propane

Principal objectives of the Spill Contingency Plan are:

- To provide readily accessible emergency information to cleanup crews, Meliadine Gold Project personnel, Kivalliq Inuit Association (KIA) and government agencies in the event of a spill.
- To comply with federal and territorial regulations pertaining to the preparation of contingency plans and notification requirements.
- To promote the safe and effective recovery of spilled materials.
- To minimize the environmental impacts of spills to water and/or land.
- To facilitate the management of wastes according to environmental legislation.

1.2 SCOPE

This Plan addresses the organization of the Meliadine 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 AEM, AEM's contractors, local government agencies.

More information in support of this 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 NT/NU Spill Report Form that is 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;
- Appendix F contains the winter road resupply equipment and conditions;

1.3 SITE DESCRIPTION

1.3.1 General Layout

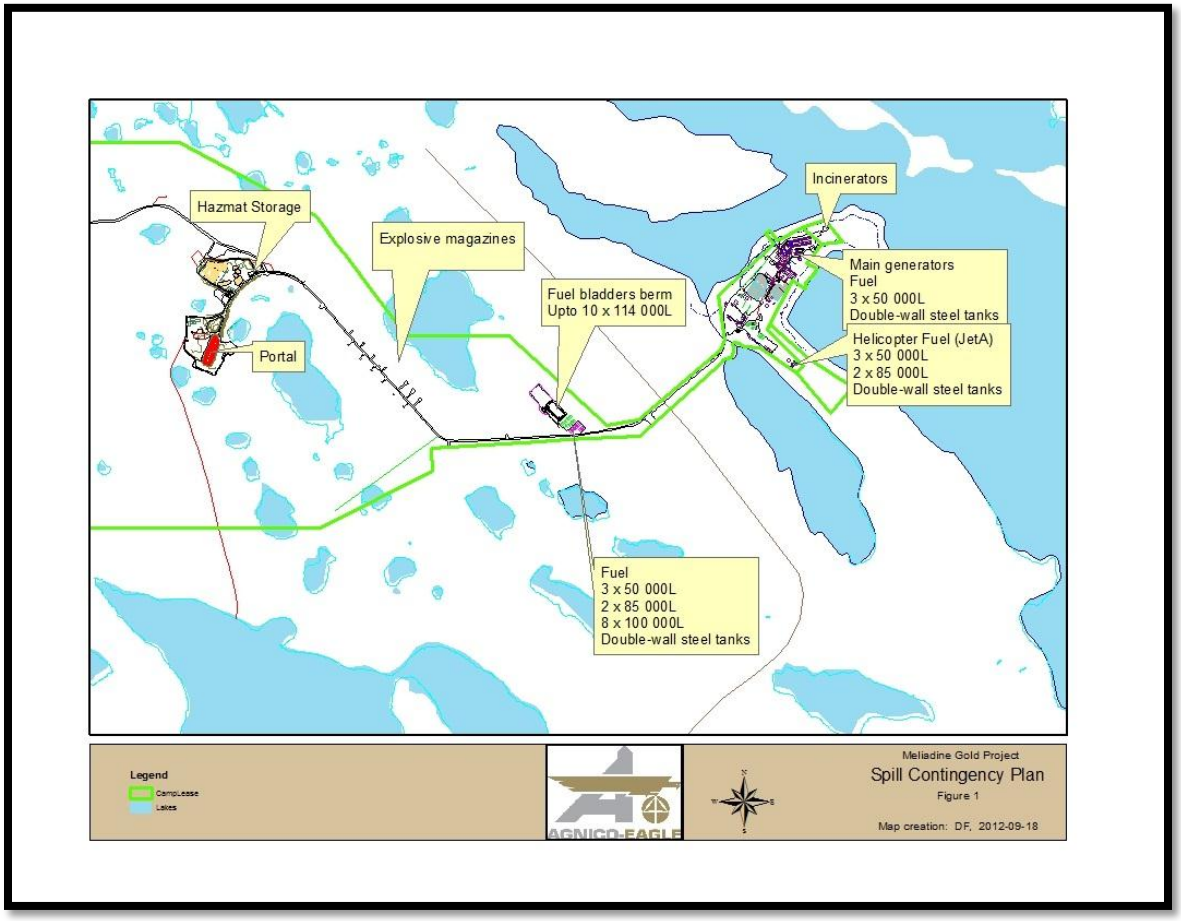
The Meliadine Gold Project camp is located approximately 25 km north of Rankin Inlet (63° 01' 30" N latitude, 92° 10' 20" West longitude). The area is low arctic tundra with a summer active layer up to 1 m on dry exposed ridges and less than 0.5 m in the high organic humic soils under meadows. The camp, with a capacity for up to 200 persons, is located approximately 5 m above lake level on a peninsula surrounded on three sides by Meliadine Lake. The camp is connected via a 2 kilometre access road to an advanced exploration site. Bulk fuel storage is provided by double walled fuel vaults in three locations – 3 X 50,000L of Diesel P50 at camp, 3 X 50,000L and 2 X 85,000L Jet A fuel approximately 200 m south of camp, and 11 X 50,000L, 2 X 85,000L and 8 X 100,000L P-50 for exploration needs about 800 m west of camp along the access road to the underground bulk sampling site (please see Figure 1). AEM is also using a fuel retention berm that can house as many as 10 –114,000 litre fuel bladders adjacent to the existing main bulk fuel facility (Figure 1).

Servicing of vehicles is conducted within the shop established on the Services Pad near the portal entrance or within the garages on the camp site. Best practices will be employed during vehicle servicing including the utilization of spill pans. The shops and garages have shallowly buried sub-floor level liners that will contain any contaminant spills arising from vehicle maintenance. Waste oils, rags, filters and glycol are stored in dedicated waste containment (normally, drums or quatrex bags). The waste oil is securely packaged and returned to a southern facility for proper disposal. The waste barrels or quatrex bags are temporarily stored on the lined pad at the northwest corner of the Operations Pad (Hazmat storage on Figure 1). Accumulated hazardous waste will be manifested for transport south to a licensed waste treatment facility. In 2012, AEM used the services of Qikiqtaaluk environment to package and label the hazardous waste.

The Discovery Camp[1] for Mel East is located at latitude: 62° 57'36"N, longitude: 91° 55'12"W. It covered an area of less than 1.5 hectares and could previously accommodate approximately 15-20 people. Facilities at the site included a plywood kitchen/dry structure, along with a 16'x24' Weatherhaven office tent and a plywood core shack. Workers were accommodated in five 14'x16' Weatherhaven and two 14'x16' wood framed sleeper tents. The sleeper tents previously housed between two and four people, depending on configuration. The camp had two small plywood storage sheds, a plywood drillers shop, and a plywood generator shed.

[1] In 2009 and early 2010, the Discovery Camp was decommissioned. Final reclamation of the camp area in ongoing in 2012

FIGURE 1, GENERAL LOCATION MELIADINE CAMP



1.3.2 Camp Layout (Figure 1)

The camp generators fuel is supplied from three 50,000 litre double-walled fuel vaults (150,000 litre capacity) at the north edge of camp.

Three 50,000 litres and two 85,000 litres double-walled fuel vaults containing Jet A helicopter fuel (320,000 litres capacity) are stationed at the south-east corner of the camp away from other camp facilities. The pumping station here is powered by a gasoline generator. Helicopter pilots and mechanics with appropriate training operate this facility. A fuel spill kit is positioned at the pumping station. Variable quantities of drummed Jet B aviation fuel are also stored within the lined area of bladders berm (Figure 1).

Camp waste oils are collected at the generator sites (Figure 1) during routine oil changes. The oil changes are conducted employing drip pans for spill control. Waste oils are transferred to designated waste oil drums located at the generator sites. When full, the drums are transferred to the Hazardous waste material management center (hazmat center). Waste oil-stained rags and filters are also collected in dedicated drums or quatrex bags that are stored to the hazmat storage prior to transport to a designated hazardous waste treatment centre. This awaits personnel training and authorization by the responsible authorities to manifest hazardous waste shipments to a licensed hazardous waste management facility in southern Canada.

1.3.3 Main Bulk Fuel Facility

Figure 1 shows the layout of the main bulk fuel facility. The facility consists of 11 X 50,000L, 2 X 85,000L and 8 X 100,000L double-walled fuel vaults (1 520,000 litres capacity). AEM is using a fuel retention berm area to contain 10 x 114,000L fuel bladders.

A fuelling area lined and bermed to contain any spills was constructed in 2007 adjacent to the facility. This is the most active fuelling area at the site. A 60 m hose designed for bulk fuel stations in arctic conditions (Plicord Arctic Flexwing – 2 inch) links the fuelling station to the individual double-walled fuel vaults. A spill kit and fire extinguishers are stationed at the fuelling station to assist in emergency situations. Only trained personnel operate the fuelling station. The fuelling station is located away from road traffic.

1.3.4 Drummed Waste

Waste oils, filters, rags, waste fuel, and other contaminants, such as glycol that are housed in dedicated storage drums are stored to the hazmat center (Figure 1). These hazardous waste will be transferred south to a licensed hazardous waste treatment facility during the summer shipping season. This awaits an individual being trained and authorized by the responsible authorities to manifest hazardous waste shipments to a licensed hazardous waste management facility in southern Canada.

1.3.5 Re-supply Route

Bulk supplies including fuel for the camp and exploration program are re-supplied in winter by overland surface transport from Rankin Inlet. A winter access route licensed under KIA right of way permit KVRW98F149 has traditionally been used to re-supply the exploration activities. A new license (KIA file KVRW07F02) has been granted by the KIA authorizing transport by low-PSI tracked vehicles over frozen terrain between Rankin Inlet and the exploration area. The new route includes about 6 km of municipal road, and follows mainly ATV trails between the Char River crossing and the Meliadine Lake camp.

The route follows a height of land path minimizing river and stream crossings. It is expected to operate from early November through January when the ground is frozen and snow cover is light. The route authorized by KIA License KVRW98F149 uses a short length of municipal road within town limits before crossing the sea ice of Prairie Bay. The route then crosses tundra and freshwater ice administered by the Kivalliq Inuit Association (KIA) and then the lake ice of Meliadine Lake under federal jurisdiction. During mid-winter and spring, AEM will re-supply the camp using both routes as conditions permit or require. The haul route distance from Rankin Inlet to the Meliadine Gold Project exploration camp is approximately 28 km in both cases.

1.3.6 Explosive Magazines (Figure 1)

Explosive magazines are aligned adjacent to the access road between the camp and the portal area. There are 13 magazines; 3 Type 9 magazines of 2,000 kg capacity, and 10 of Type 4 magazines of 11,250 kg capacity each. The layout of magazines is in accordance with quantity-distance tables and has been reviewed by the Mining Inspector.

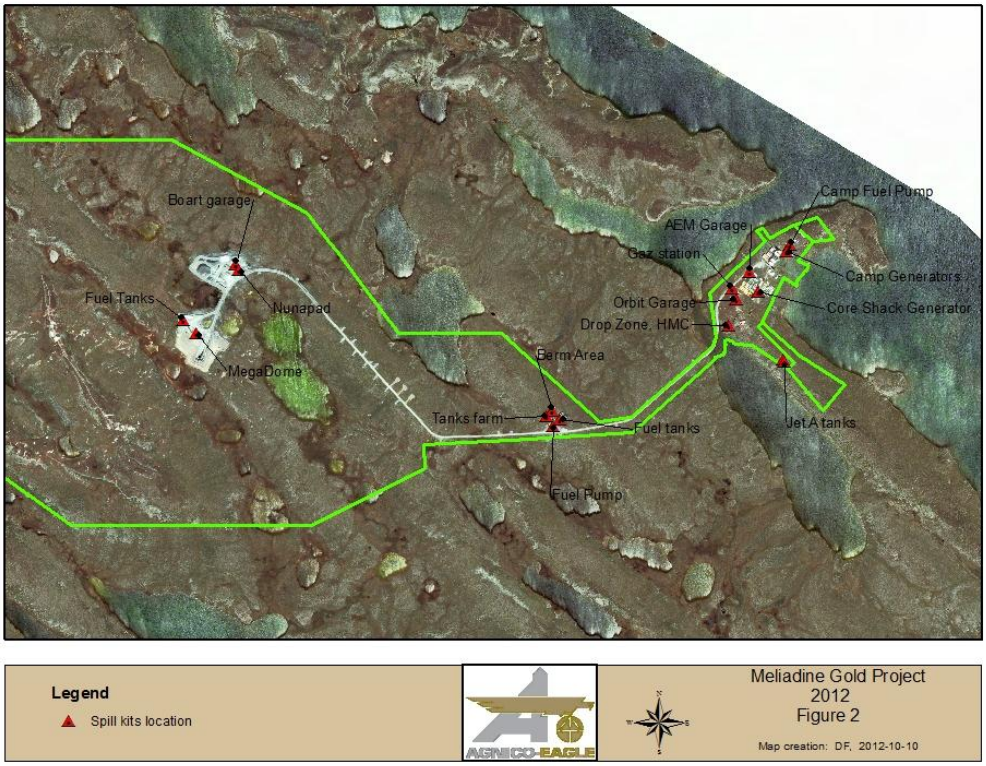
1.3.7 Locations

Spill kits are located at the sites listed above in table 1 and shown on figure 2.

TABLE 1: LOCATION OF SPILL KITS

ID	Spill Kit	UTM_E	UTM_N
Operations Fuel Pump, Spill Kit	1	541191	6988462
Aviation Fuel Pump, Spill Kit	1	542026	6988701
Camp Fuel Pump, Spill Kit	1	542050	6989119
Camp Generators, Spill Kit	1	542038	6989097
Core Shack Generator, Spill Kit	1	541935	6988949
Boart coverall garage	1	540033	6989049
Operations Fuel Vaults	1	541214	6988484
Aviation Jet A Storage	1	542031	6988695
Tank farm	1	541168	6988498
Drop Zone, HMC	1	541828	6988825
MegaDome	1	539892	6988800
Nunapad	1	540047	6989030
AEM Garage	1	541905	6989021
New Gaz station	1	541840	6988962
Orbit Garage	1	541856	6988923
Berm Area	1	541185	6988518
Mininig fuel Tank	1	539846	6988847

FIGURE 2: SPILL KITS LOCATION



1.4 Spill Kits and Bladder Repair Kit

Spill kits in bright yellow 200 L containers include:

- basic personal protective equipment including goggles and latex gloves;
- Absorbent materials including pillows, booms, pads and granular substances; and
- Large plastic bags for containing and transferring contaminated absorbent materials.

Additional absorbent are stored in the environment containers

A spill kit capable of managing a spill of the order of 12,100 litres is a requirement of the KIA Right of Way license KVRW07F02 for all fuel transport vehicles operating on the re-supply route. The contractor has been made aware of this obligation.

A field repair kit will be located at the bladder farm that contains items necessary to perform on-site repairs of punctures, tears, leaks, etc. to the bladders, and this kit will be readily available in an emergency situation.

1.5 Secondary Containment / Spill Response Capacity

All long-term bulk fuel on site is stored in double walled fuel vaults or in drums and bladders within lined and bermed areas. Spill kits are stationed at all pump facilities and they are lined if newly constructed or have been provided with spill platforms.

Facilities constructed since 2007 including maintenance tents, storage tanks, and pumping stations are all protected by buried sub-grade impermeable liners.

All spills will be cleaned up by a combination of absorbent materials, containment and collection in empty 205 L drums on site. Recovered fuels and absorbent materials used in such an operation will be collected in barrels and stored to the hazmat center (Figure 1) to await shipment to a hazardous waste facility.

1.6 Contaminated Soils

Spill sites will be identified, monitored and treated with peat and fertilizer to enhance plant recovery where growth retardation is evident. Sites that do not respond and show no sign of plant growth by the time of site abandonment will become subject to the **Abandonment and Restoration Plan**. Contaminated soils will be stored at a safe location on the services or operations pads on impermeable liners and will be subject to the **Abandonment and Restoration Plan**.

1.7 Abandonment and Restoration Plan

The lands that are subject to this Spill Contingency Plan are Inuit Owned Lands belonging to the Kivalliq Inuit Association and are leased to AEM for the purposes of mineral exploration and development. A revised **Abandonment and Restoration Plan** has been filed with KIA and Nunavut Water Board as of November of 2010, covering both the Meliadine site and Mel East.

1.8 Training

Every employee at AEM receives spill and waste management training during their initial site orientation so they are able to respond to small spills and raise the alarm if a larger response is required. ERT members receive more extensive Hazmat training and learn how to respond while wearing personal protective clothing.

The environment department regularly attend tool-box meetings to provide information on spill response and reporting procedures.

2.0 SPILL ACTION PLAN RESPONSE SEQUENCE

2.1 THE FIRST OBSERVER SHALL REPORT ALL SPILLS TO

Environment department and SITE MANAGER Ph.819-759-3002 (3903 Environment Department) (3906 site manager)

The reporting requirement applies to all spills: on land, on water and on ice, **immediately upon the spill being under control, or on failure to gain control of the situation**.

2.2 ALERT AEM Personnel

1. **SPILL OBSERVER** report to **Environment department** 819-759-3002 (3903) or On site manager (3906) who will report to

2. If the spill is more than the amount shown on the "reportable spill table (page iv), report to **MELIADINE GOLD PROJECT Environment Coordinator and notify the agencies required (section 2.3).**

David Frenette 1 819 874 5980 (3622)
Cell 1 819 355 9271

or

- **Exploration Manager**

Denis Vaillancourt 1 819 874 5980 (3605)
Cell 1 819 354 9023

or

- **Environmental Nunavut Manager**

Stéphane Robert 1 819 759 3700 (5188)
Cell 1 819 763 0229

The reporting requirement applies equally to all substances covered by this contingency plan; fuel, hydraulic oil, lubricants, and waste oil. All reports by telephone must be followed with a fax of the completed form (see Appendix C) to the number indicated on the reporting form.

2.3 NOTIFY AGENCIES

24 HOUR NT/NU SPILL REPORT LINE	PHONE	1 867 920 8130
	FAX	1 867 873 6924
	EMAIL	spills@gov.nt.ca
KIVALLIQ INUIT ASSOCIATION	Phone:	1 867 645 2810
	Phone:	1 867 645 2800
	Fax:	1 867 645 2348
ABORIGINAL AFFAIRS AND NORTHERN DEVELOPMENT CANADA		
Iqaluit		1 867 975 4275
Nunavut Field Operations		1 867 975 4546
Resource Officer, Rankin Inlet		1 867 645 2831
ENVIRONMENT CANADA Iqaluit		1 867 975 4644
Yellowknife		1 867 669 4730
24 Hour Number		1 867 766 3737
FISHERIES AND OCEANS, Rankin Inlet		1 867 645 2871
DEPARTMENT OF ENVIRONMENT, NUNAVUT		1 867 975 5900
Manager of Pollution Control & Air Quality		1 867 975 7748
	Fax	1 867 979 5981

Emergency Contacts

EMO – Emergency Response (Iqaluit - 24 hr)	1 867 766 3737
EMO – Emergency Response – Rankin Inlet	1 867 645 3625
Rankin Inlet Ground Search and Rescue	1 867 645 2027
Rankin Municipality (Senior Administrator)	1 867 645 2895
RCMP – 24 HR EMERGENCY	1 867 645 1111
Rankin Inlet Health Center	1 867 645 2816
After Hours	1 867 645 3311
Midwife (if no answer above)	1 867 645 4607
Rankin Inlet Fire Department	1 867 645 2525
Mine Inspector	1 800 661 0792

2.4 RECORD THE FACTS

Use Spill Report Form found in Appendix C

NOTE: **If the On-Scene Coordinator is not available when a reportable spill is detected then the spill must be reported directly to NWT 24-hour spill report line without delay.**

3.0 SPILL RESPONSE ACTION

3.1 DIESEL P 50, Hydraulic oil, oil, waste oil, Glycol- SPILL RESPONSE ACTIONS
CONSIDER ACTION ONLY IF SAFETY PERMITS!
ELIMINATE IGNITION SOURCES, STOP SOURCE OF SPILLED LIQUID 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 absorbent pads.
- If soil is contaminated, removed the soil and bring it to the hazmat center

ON SNOW & ICE

- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with absorbent 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 liquid with pumps, skimmers and absorbent.
- Flush with low pressure water to herd the spill 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 absorbent 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 a berm or trench.
- Intercept moving slicks in quiet areas using (absorbent) booms.
- Do not use absorbent booms/pads in fast currents and turbulent water.

STORAGE / TRANSFER

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

DISPOSAL

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult Environment technician on disposal procedures.

3.2 GASOLINE, Jet A & B SPILL RESPONSE ACTIONS
CONSIDER ACTION ONLY IF SAFETY PERMITS

GASOLINE AND JET FUEL FORM 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 vapours.
- On shop floors and in work/depot yards, apply particulate absorbents.

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 vapours.
- In work/depot yards, apply particulate absorbents.

ON MUSKEG
- Remove pooled liquid with pumps, if safe to do so.
- Do not deploy personnel and equipment on marsh or vegetation.
- 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 Environment technician on transportation and disposal requirements.

3.3 PROPANE, ACETHYLENE 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

- Vapours cannot be contained when released.

- Water spray can be used to knock down vapours 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.

4.0 SPILL RESPONSE CONTACTS

Agnico-Eagle Mines Limited - Meliadine Gold Project

TITLE

On-Scene Coordinators

- Environment technician 1 819 759 3002 (3903)

Spill Cleanup Supervisors Meliadine Camp

- Site Manager 1 819 759 3002 (3906)

Exploration Manager East Canada	Denis Vaillancourt	1 819 874 5880 ext 3605
	Cell	1 819 354 9023
Environment Coordinator	David Frenette	1 819 874 5980 ext 3622
	Cell	1 819 355 9271
Environment Nunavut Manager	Stéphane Robert	1 819 759 3700 ext 5188
	Cell	1 819 763 0229

CONTRACTORS

M & T Enterprises Ltd. Rankin Inlet	1 867 645 2778	1 867 645 2590

OTHERS

Rankin Municipality (Senior Administrator)	1 867 645 2895	1 867 645 2146

5.0 DUTIES AND RESPONSIBILITIES

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

AEM and CONTRACTOR PERSONNEL

Spill Observer - anyone on route, at fuel cache, camp, or drill site at any time
- Assess the initial severity of the spill and safety concerns.
- Report all spills to the Environment department and/or the site manager immediately and to his supervisor.
- 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) - AEM Meliadine Environment Technician
- Immediately reports the spill the Environment Coordinator and 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, and 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, AEM Site Manager and Environment Coordinator on spill details.
- Oversees completion and distribution of Spill Report. Ensures investigation identifies measures to prevent similar spills in future.
- Participates to 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
- conduct cleanup of spills under direction of Spill Cleanup Supervisor(s).
- Deploy booms, absorbents and other equipment and materials as required.
- Take appropriate response measures.
- Continue cleanup as directed by Spill Cleanup Supervisor until relieved.

Exploration Manager

• 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.

Environment Coordinator

• Provides cleanup advice and directives to the On-Scene Coordinator and Spill Cleanup Supervisor.
• Assists the Exploration Manager in the preparation of press releases, when required.
• Develops safe and effective spill management and prevention practices.
• Provides advice to the Spill Cleanup Supervisor and On-Scene Coordinator for storage and disposal options.
• Updates and distributes Spill Contingency Plan.
• Ensures that there are follow up reports prepared on the spill event, clean up and environmental impacts.
• Ensures On-Scene Coordinator and Emergency Response Team is adequately trained in spill response.

EXTERNAL RESOURCES - contractors

AEM 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 AEM personnel, however caused.
• Reports all spills immediately to the AEM On-Scene Coordinator (OSC) or Site Manager.
• Responsible for the training of their personnel on spill response.
• Develops and maintains company specific contingency plans for the AEM Meliadine Gold Project, which conforms to this AEM Spill Contingency Plan and related policies.

EXTERNAL RESOURCES - Kivalliq Inuit Association and Nunavut Water Board

KIA

The Meliadine Gold Project exploration program is carried out on Inuit Owned Land administered and managed by the KIA who has issued land use permits to AEM 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 and the Nunavut Waters and Nunavut Surface Rights Tribunal Act. 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 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

Aboriginal Affairs and Northern Development Canada (AANDC)
The Northern Affairs program of AANDC 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 AANDC through Resource Management Officers located at the District Offices.

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

AANDC also inspects facilities having a Water Licence to ensure the terms and conditions are being met, and that the effluent quality of any waste released to the environment meets licence limits.

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. 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 prohibiting the harmful alteration, disruption and destruction of fish habitat unless authorized. DFO applies a Habitat Management Policy whereby the objective is to achieve a no net loss of fish habitat. On occasion, DFO Inspectors visit spill sites to investigate possible impacts to fish habitat.

APPENDIX A PRODUCT GUIDES

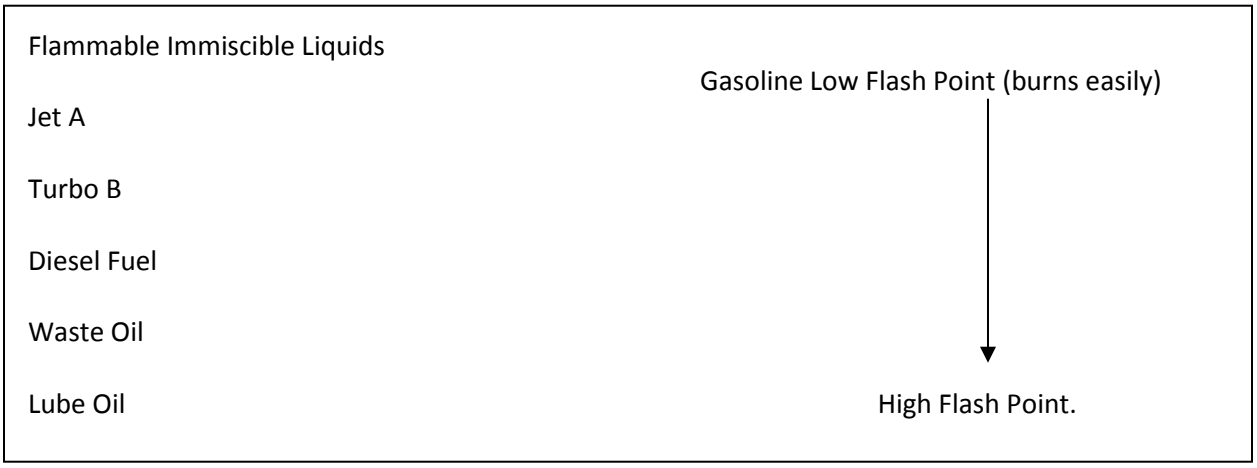
PRODUCT GUIDES

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 GRAVITY: Will sink to ground level
FLASH POINT: 40EC (minimum)
POUR POINT: -50 to -6EC
VISCOSITY: Not viscous
SPECIFIC DENSITY: Floats on water (0.8 - 0.9)

SAFETY MEASURES

WARNINGS

- Vapours are heavier than air and form easily at high temperatures.
- Empty containers can contain explosive vapours.
- Toxic gases form upon combustion.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapours 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 vapour 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, ozone and 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 CO2, 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 absorbent pads.
- Remove large spills with pumps or vacuum equipment.

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

STORAGE & TRANSFER
- Store closed, labelled 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 vapours 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 vapours emitted
FLASHPOINT: 215EC
POUR POINT -25EC
VISCOSITY: Medium (265cSt @ 15EC)
SPECIFIC GRAVITY: Floats on water (0.9)

SAFETY MEASURES

WARNINGS

- Vapours are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO2, and dense smoke are produced upon combustion.
- Oil mist or vapour 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 vapour cartridge respirator is highly unlikely.

PRECAUTIONS

- Avoid excessive heat, which can cause formation of vapours.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, and 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 CO2, 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 absorbent 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 absorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes/marinas.

STORAGE & TRANSFER
- Store closed, labelled 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 vapours 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
ODOUR: Petroleum
SOLUBILITY: Generally insoluble
VAPOUR DENSITY: Few vapours emitted
FLASHPOINT: 190 to 220EC
POUR POINT: -35 to -400EC
VISCOSITY: Medium (255cSt @15EC)
SPECIFIC GRAVITY: Floats on water (0.9)

SAFETY MEASURES

WARNINGS

- Vapours are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO2, and dense smoke are produced upon combustion.
- Oil mist or vapour 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 vapour cartridge respirator is highly unlikely.

PRECAUTIONS

- Avoid excessive heat, which can cause formation of vapours.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, and 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 CO2, 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 absorbent 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 absorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes.

STORAGE & TRANSFER
- Store closed, labelled 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 vapours 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 vapours 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

- Vapours are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO2, 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 vapour cartridge respirator is highly unlikely.

PRECAUTIONS

- Avoid excessive heat, which can cause formation of vapours.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, and 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 CO2, 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 absorbent 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 absorbent, skimmer or vacuum truck.
• Protection booming can be considered for water intakes.

STORAGE & TRANSFER
• Store closed, labelled 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 vapours 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
- Vapours form instantaneously, and are heavier than air.
- Empty containers can contain explosive vapours.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapours 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 vapour 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, ozone, and 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 CO2, 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 absorbent pads.
- Cover pools with foam to prevent vapour evolution if gasoline presents a fire hazard; otherwise allow vapours 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, labelled 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 vapours 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
• Vapours instantaneously form, and are heavier than air.
• Low-lying areas can trap explosive vapours.
• Vapours can travel to distant sources of ignition and flash back.
• Eye contact causes irritation.
• Material can accumulate static charges.
• Inhalation of vapours 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 vapour 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 CO2, 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 absorbent or explosion-proof pump.
• Cover pools with foam to prevent vapour evolution if avgas presents a fire hazard; otherwise allow vapours 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 absorbent, if volumes warrant.

STORAGE & TRANSFER
• Store closed, labelled 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 vapours 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 odour	FREEZING PT: -190 EC
SOLUBILITY: Insoluble	VISCOSITY: n/a
VAPOUR DENSITY: Will sink to ground levels	SPECIFIC GRAVITY: Liquid floats on water

SAFETY MEASURES

WARNINGS

- Vapours form instantaneously, and are heavier than air.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapours 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 vapour 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, ozone, and 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 CO2, 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 vapours 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

- Vapours form instantaneously, and are heavier than air.
- Empty containers can contain explosive vapours.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- inhalation of vapours 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 vapour 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, ozone, and 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 CO2, 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, labelled 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 vapours 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

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 extent of the environmental threat. Larger spills will involve the coordination of AEM personnel (including the Emergency Response Team) and contractors.

AEM Inventory (September 2012)

Matting (roll)	14
Universal matting medium (gray)	2
Yellow berm (2" x 4')	3
Universal matting medium (white), (pallet)	12 and 1 pallet
All purpose absorbent 40pds	8
oil gators absorbent	27
500 ft contractor boom (pallet)	3
Secondary containment Large (30 Gal)	8
Secondary containment Medium (15 Gal)	9
Boom 5" x 10' (unit)	30
Boom 8" x 10' (unit)	45
Boom (unit)	2
100'' Contractor Boom	4 pallets
45 Gl Orange, black Drums	17
Blue drum oil spill kit only (unit)	4
Spill kit oil only (cardboard box)	7
Yellow drums spills kit (unit)	4
Black Quatrex Bag	40
White Quatrex Bag	7
55 gl drums	6
yellow drum secondary containment	4

Mobile equipment

AEM Camp site to update

- Snow Machines
- Quads
- 2 Loaders Caterpillar
- Backhoe Caterpillar 420E
- Pick-up
- 2 skidders
- 2 Dozers

AEM Road construction

- Pick-up
- Loaders
- Dozers
- Graders
- Articulated trucks
- Rock trucks

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 **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

APPENDIX C NT -NU SPILL REPORT FORM

Northwest Territories · Nunavut · Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER ____-____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

PAGE 1 OF _____

APPENDIX D FUEL STORAGE MONITORING PROGRAM

The fuel storage monitoring plan will consist of the following daily and weekly inspections conducted by AEM 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 weekly basis:

1. All tanks, lines, pumps, hoses, valves and fittings will be inspected for leaks or damages.
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 CONTENT OF FUEL SPILL RESPONSE KIT

1. Absorbent pads or sheets, booms, pillows, and granular material

2. Disposable protective gloves

3. Disposable protective coveralls.

4. Absorbent containment and disposal bags

APPENDIX F WINTER ROAD RESUPPLY EQUIPMENT AND CONDITIONS

Re: KIA File KVRW07F02, NIRB File 07AN063 – Winter Road Decision AEM continues to review the following conditions and will submit a revised plan by December 2010 if necessary.

The Proponent must ensure that secondary containment measures are used when transferring fuel and any hazardous materials from vehicles to storage facilities.
The Proponent shall ensure that the transportation contractor for the winter road (M&T Services Ltd.) has an appropriate spill kit to address a spill of fuel from the largest-sized Envirotank (12,000L).
The Proponent shall ensure that the transportation contractor for the winter road (M&T Services Ltd.) has an appropriate spill contingency plan to address the possibility of any spills along the winter road.

Re: Government of Nunavut Comments NIRB File #07AN063 (letter dated Aug. 23, 2007)

- Speed on winter roads should not exceed: 30 km/hr for fully loaded vehicles; 50 km/hr for empty vehicles.
- Trucks should carry at least 10 square meters of polyethylene material (for lining a trench or depression), a spark-proof shovel and oil absorbent blankets or squares.
- Trucks should carry reliable radio and /or satellite phone communications.
- Trucks should carry sufficient response equipment for the safe removal of fuel from an overturned tanker (such as hatch cone covers, hoses etc).
- In general, proponents should be fully prepared to deal with spills resulting from vehicle accidents along the road, in a timely and efficient manner.