APPENDIX B9 - SPILL CONTINGENCY PLAN, VERSION 4 (NOV. 2013)

MEADOWBANK GOLD PROJECT

Spill Contingency Plan

Meadowbank Mine Site

All Weather Private Access Road (AWPAR)

Baker Lake Facilities

In Accordance with Water License 2AM-MEA0815

Prepared by:
Agnico Eagle Mines Limited – Meadowbank Division

Version 4
November 2013

EXECUTIVE SUMMARY

This document presents the Spill Contingency Plan for Agnico Eagle Mines Limited (AEM) Meadowbank Mine Site, All Weather Private Access Road (AWPAR) and Baker Lake Facilities, which is a requirement of the Meadowbank Gold Project Type A Water License No. 2AM-MEA0815 issued on June 09, 2008. The Spill Contingency Plan (SCP) designates lines of authority, responsibility, establishes proper reporting and details plans of action in the event of a spill. This plan applies to the operational phase of the mine and is applicable to all AEM employees and any contractors associated with the project located at latitude 65°01'52"N longitude 96°04'22"W approximately 70 km north of Baker Lake in Nunavut including the Baker Lake Marshalling Facilities located at latitude 64°18'36"N and longitude 95°58'04"W and the AWPAR.

IMPLEMENTATION SCHEDULE

As required by Water License 2AM-MEA0815, Part B, Item 16, the implementation schedule for this Plan is effective immediately (November 2013) subject to any modification proposed by the NWB as a result of the review and approval process.

DISTRIBUTION LIST

AEM - Environmental Superintendent

AEM – General Mine Manager

AEM – Engineering Superintendent

AEM – Health and Safety Superintendent

AEM – Geology Superintendent

AEM – Mill Superintendent

AEM – Maintenance Superintendent

AEM – Mine Superintendent

AEM – Site Services Superintendent

AEM – General Services Superintendent

DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
1	08/08/08			Comprehensive plan for Meadowbank Mine Site, Exploration Camp and Baker Lake Facilities
2	11/12/04			Update of Contacts, Spill management materials, include AWPAR map and Spill KIT Location Map
3	12/07/25			Update of the hazardous materials stored on site
4	2013/11			Comprehensive revision and update with info for Baker Lake Jet-A Tank

Prepared By: _____

Jeffrey Pratt
Environmental Coordinator

Approved By: _____

Kevin Buck
Environmental Superintendent

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SECTION 1 • INTRODUCTION

1.1 PURPOSE AND SCOPE OF THE SPILL CONTINGENCY PLAN

The overall purpose of creating a spill contingency plan is to minimize the impacts of spills by the establishment of predetermined lines of response and plans of action. This plan has been designed to facilitate effective communication and the efficient clean-up of spills from potentially hazardous materials. These materials include:

- Hydrocarbon liquids such as diesel fuel, aviation fuel (Jet-A), gasoline, hydraulic oil;
- Soluble solids such as ammonium nitrate prill;
- Soluble liquids, such as glycols, acids, paints; and
- Corrosive liquids such as sulphuric acid and sodium cyanide.

More specifically the objectives of this Spill Contingency Plan (SCP) are to:

- Identify roles, responsibilities, and reporting procedures;
- Provide readily accessible emergency information to the cleanup crews, management, and government agencies;
- Comply with federal and territorial regulations and guidelines pertaining to the preparation of contingency plans and notification requirements;
- Promote the safe and effective recovery of spilled materials; and
- Minimize the environmental impacts of spills to water or land.

This plan has been prepared in accordance with the following reference documents:

- Indian and Northern Affairs Canada (INAC) 2007. *Guidelines for Spill Contingency Planning;*
- Government of Nunavut (GN), *Contingency Planning and Spill Reporting in Nunavut. A Guide to the New Regulations;*
- Government of Nunavut (GN) 2002, *Guideline General Management of Hazardous Wastes in Nunavut; and*
- Northwest Territories Resources Wildlife and Economic Development Environmental Protection Service. 1988. *Spill Contingency Planning and Reporting Regulations.*

SECTION 2 • PROJECT DESCRIPTION

The Meadowbank Gold Project, operated by Agnico Eagle Mines Limited, is located approximately 70 km north of the Hamlet of Baker Lake in Nunavut. The project is located on Inuit Owned surface lands (IOL BL-14) and has the following coordinates:

Latitude: 65°01'52"N
Longitude: 96°04'22"W
NTS map sheet 66H/1

Meadowbank Project components include marshalling facilities in Baker Lake, the 110 kilometer All Weather Private Access Road (AWPAR) from Baker Lake and the Meadowbank mine site (Figure 7). The Meadowbank mine site consists of the process plant, landfarm, sewage treatment plant, water intake, accommodation buildings, power plant, tank farm, warehouse, truck shop, emulsion plant, open pit (Figure 1) and Vault area (Figure 2). The Baker Lake Marshalling Area consists of a laydown transfer area to temporarily store materials prior to the delivery to the Meadowbank mine site. The Baker Lake fuel farm consists of six (6), ten (10) million liter tanks for diesel fuel, within secondary containment, (Figure 3) and twenty (20), 100,000L double walled tanks, within secondary containment, for aviation fuel (Figure 4). The fuel is delivered in bulk by sealift to the fuel farm. From there, fuel is hauled to the Meadowbank mine site by contractor tanker trucks on the AWPAR. Diesel fuel coming from the Baker Lake Tank Farm is stored at the Meadowbank site into a single 5.6 million liter tank, within secondary containment, and the aviation fuel into two (2) – 50,000L double walled tanks at the airstrip. From there, the diesel is redistributed into different storage tanks by an on-site tanker to mine site fuel tanks and Vault fuel storage tanks. Fuel storage locations have been designed to meet the CCME guidelines for Aboveground Storage Tank Systems Containing Petroleum and Allied Petroleum Products.

Emergency spill response equipment (i.e. spill kits) is installed at each fuel storage location. Spill kits contain the appropriate type, size and quantity of equipment for the volume and type of product present at the storage location. Transport trucks, heavy equipment and light vehicles are all equipped with spill kits.

Construction at the mine site began with the issuance of the Type A Water License and other pertinent authorizations in July 2008 with operations commencing in January 2010.

2.1 PREVENTION AND INSPECTIONS

The first step in spill contingency planning is to take actions to prevent spills from occurring. Transport, transfer and storage of materials are performed by trained personnel using secondary containment, with well-maintained equipment and containers. Refueling stations in Baker Lake and at the mine site are equipped with a lined area to contain any minor leaks or spills while refueling. Transfer of fuel from tanks to tanker trucks are performed with the aid of fuel pumps. Good housekeeping practices are adopted especially in areas such as storage facilities, loading and unloading zones. Site orientations are conducted with all employees and spill prevention and response is discussed in detail. Regular worksite inspections are conducted to identify measures to minimize the risk of spills. All personnel are trained to be aware of the potential hazards associated with the fuel/chemicals with which they are assigned to work. In addition to work site inspections conducted by area specific employees, the Environmental Department conducts weekly inspections to audit facilities handling or storing hazardous materials (Appendix A).

AEM supports the following general principles for spill prevention:

- Provide up to date and accessible Material Safety Data Sheets (MSDS) for all hazardous materials;

- Daily inspections fuel/chemical storage areas for leaks (including flex connectors and plumbing) and platform shifting;
- Daily inspections of hazardous materials storage areas;
- Train workers in the use of safe work procedures for hazardous materials, and procedures to clean up spills;
- Encourage workers to take reasonable measures to prevent spills;
- Keep drums/containers sealed or closed;
- Place drums/containers within a suitable form of secondary or spill containment;
- Keep “overpack” or “salvage” drums nearby to contain leaking drums;
- Keep storage areas secure from unauthorized access;
- Segregate incompatible materials;
- Ensure chemical storage areas are adequately protected from weather and physical damage; and
- Provide adequate spill response materials at storage areas (details of spill response equipment are outlined in Section 8).

Figure 1 : Layout Meadowbank Mine Site

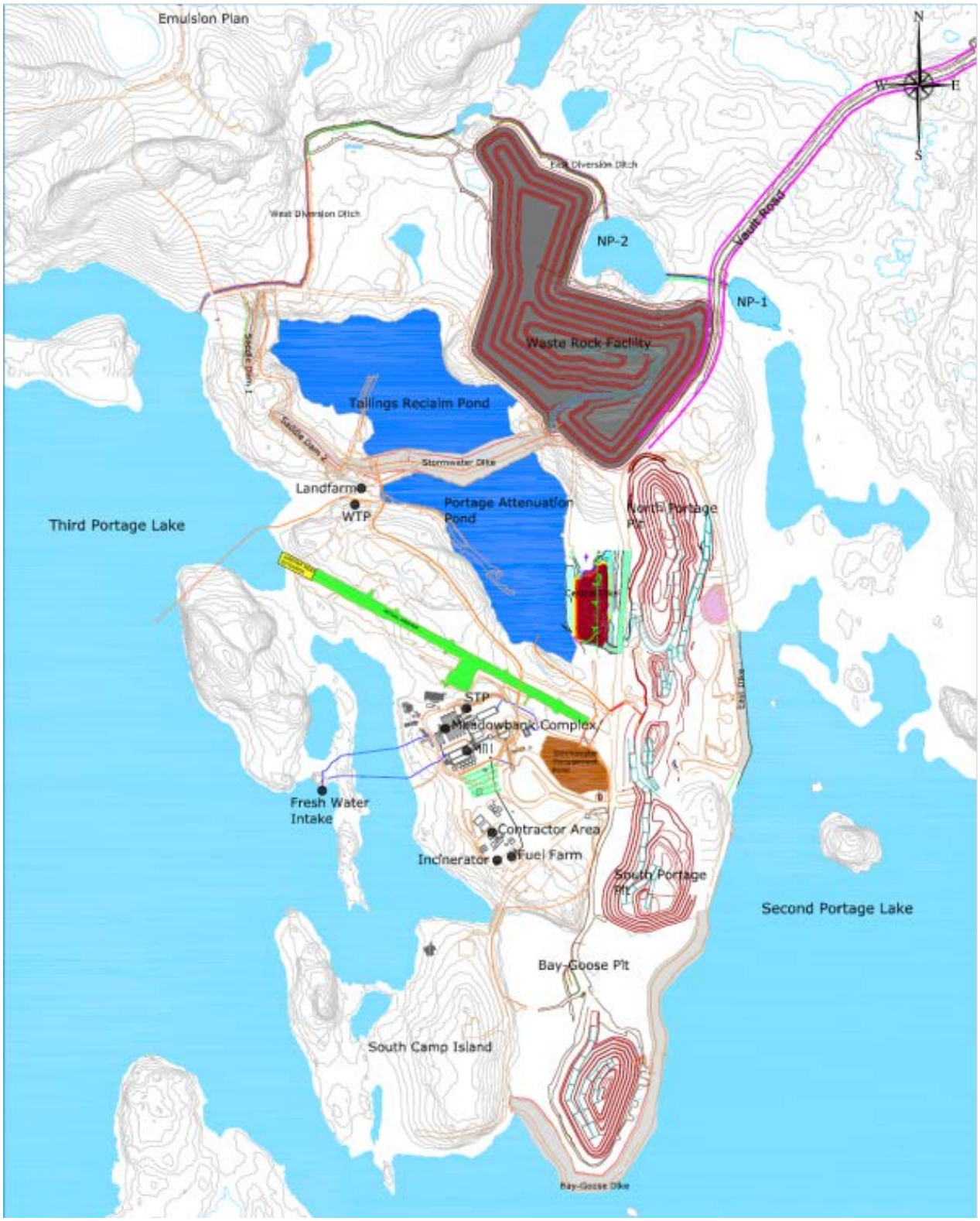


Figure 2 : Layout Vault

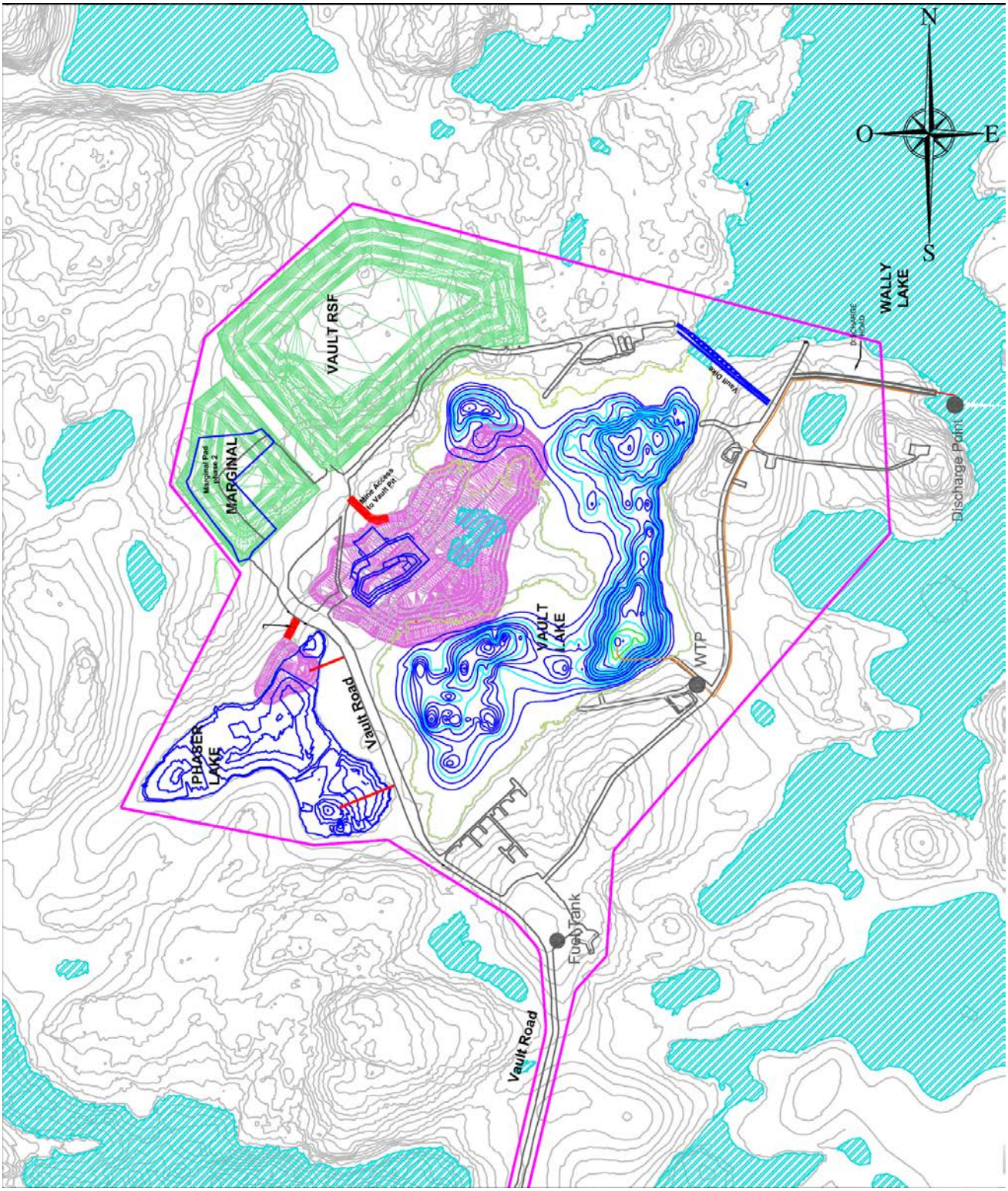
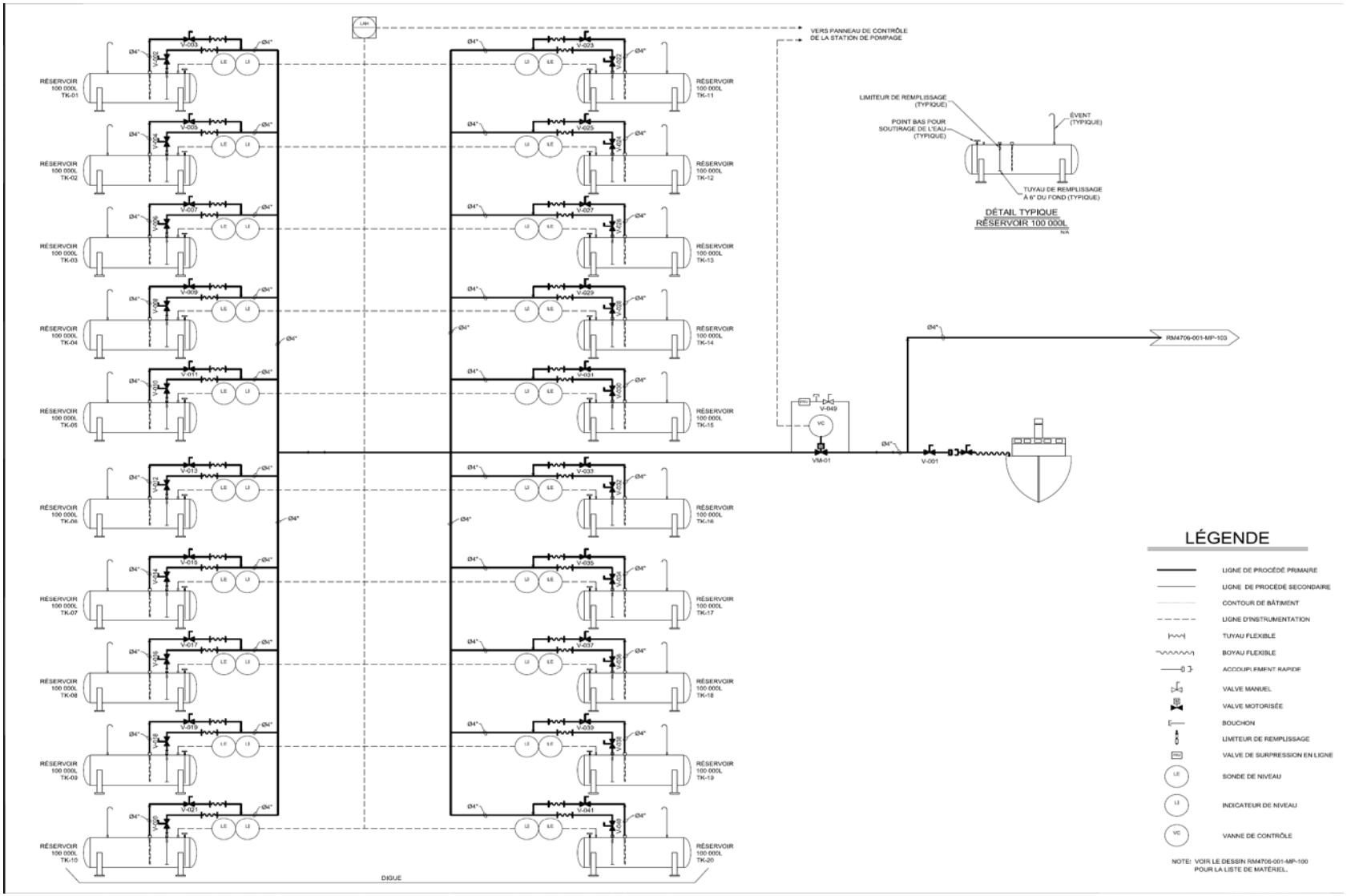


Figure 3 : Baker Lake Diesel Fuel Tank Farm

Figure 4 : Baker Lake Jet-A Fuel Tank Farm



SECTION 3 • DEFINITIONS

3.1 WHAT IS A SPILL?

For the purposes of this plan, a major spill is defined as an accidental release of product into the environment that has the potential for adverse impact. The emergency response team (ERT) must be notified immediately of a major spill or emergency. A tanker truck overturn on the AWPAR is considered as a major spill for the purpose of this plan and Section 7 provides response procedures for an incident of this type. All spills are to be reported to the Meadowbank Environmental Department. Generally, spills inside buildings/structures that are contained and are not likely to impact the external environment are not reportable to authorities and are treated as internal incidents. An AEM Incident Report is still required for internal reporting purposes. If there is doubt about whether a spill or release of a substance inside a building or structure could cause an environmental impact then the incident will be reported as a spill.

A minor spill is defined as any spill that does not involve highly toxic, highly reactive, or explosive chemicals in a situation that is not life threatening or pose a risk of adverse environmental effects. Furthermore, this type of spill presents a manageable physical or health hazard to personnel who, when wearing proper personal protective equipment, will not be exposed to any chemical at a level that exceeds any recognized action level or permissible exposure limit. Minor spills are still to be reported to the Environmental Department but they are not expected to involve emergency responders.

3.2 MATERIALS AND REPORTABLE (TO REGULATORY AUTHORITIES) SPILLS ON SITE

As a precaution, if there is any doubt as to whether the quantity spilled meets the minimum thresholds for reporting to regulatory authorities listed in Table 1, the spill incident will be reported. Furthermore, AEM maintain a detailed log of all spills, reportable to authorities or non-reportable of all materials listed in Section 1.1. As part of AEM's overall environmental management system and in the spirit of a continuous improvement of environmental performance, procedures will be implemented to ensure **all** spills are reported to the Meadowbank Environmental Department.

To ensure compliance with Section 36(3) of the *Fisheries Act* and Section 35 of the *Migratory Bird Regulations* all spills of fuel or hazardous materials, regardless of quantity into a water body (including frozen), shall be reported immediately to the NT-NU 24-HOUR SPILL REPORT LINE (at 867.920.8130).

Table 1 - Spill quantities that must be reported to the NT-NU 24-HOUR SPILL REPORT LINE

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.*

SECTION 4 • RESPONSE ORGANIZATION

This section addresses the response organization and the responsibilities of each individual during response to an incident.

Figure 5 illustrates AEM's Spill Reporting Procedure in the event of a major spill and Sections 4.1- 4.9 list the major responsibilities of site staff that will be participating in the emergency response management.

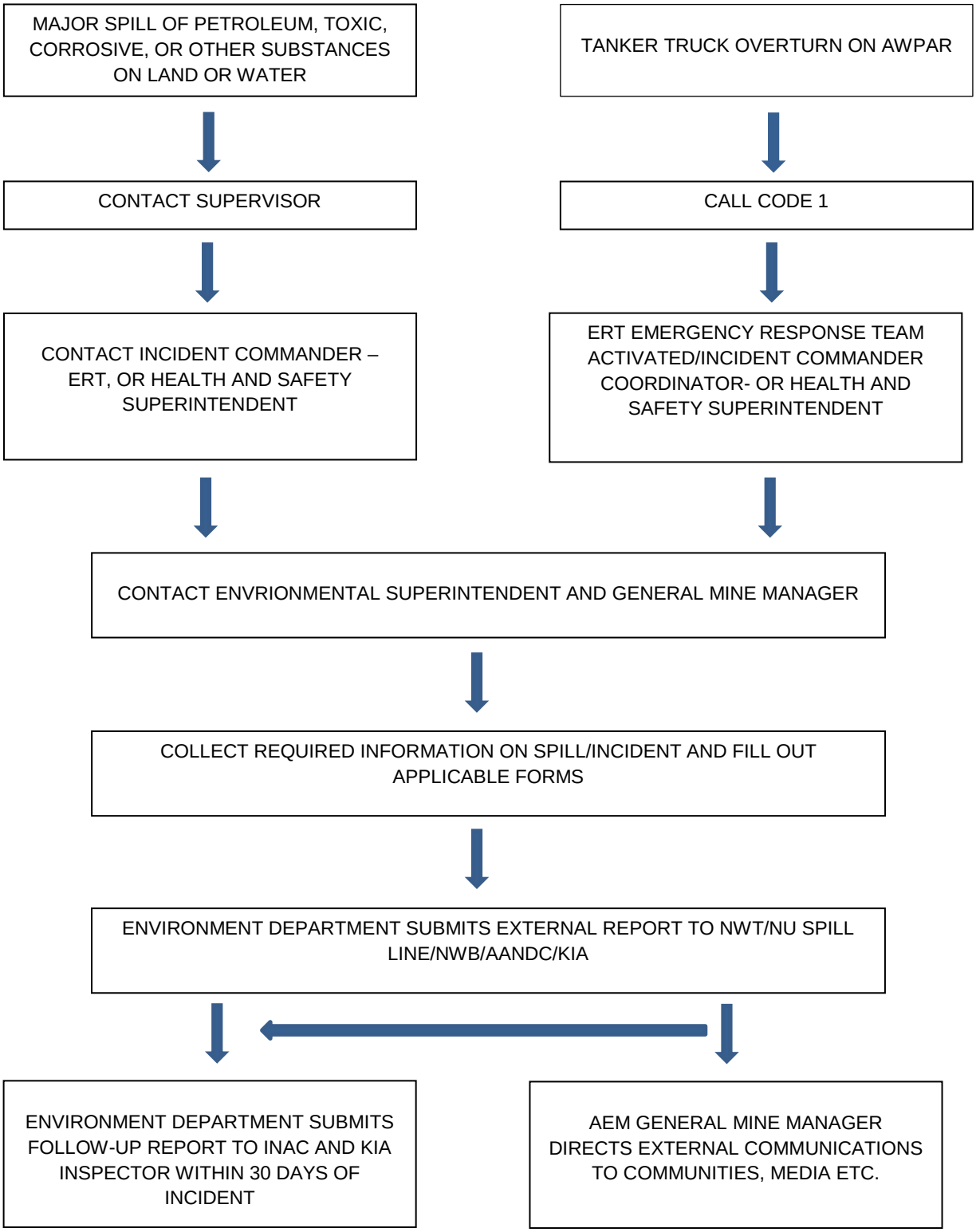
The first person (first responder) to notice, or come in contact with, any spill situation either initiates a Code 1 (for example in the case tanker truck overturn on AWPAR) or reports to his/her immediate supervisor (in the case of all other spills on land or water). The supervisor is responsible to report the incident to the designated Incident Commander for a major spill or to the environmental department for a minor spill. If a Code 1 is initiated, the Incident Commander will respond in conjunction with the ERT. Major responsibilities such as initial coordination, spill clean-up and mobilizing the ERT are part of the Incident Commander's duties.

The Incident Commander will contact the Environmental Superintendent and/or General Mine Manager or alternate, who in turn will inform the Senior Vice President, Environment and Sustainable Development. After all information has been collected, the Environmental Superintendent or alternate will submit a spill report and follow up spill report to the NWT/NU Spill Line, Nunavut Water Board, Kivalliq Inuit Association and Aboriginal Affairs and Northern Development Canada. Incidents that require media communications will be the responsibility of AEM General Mine Manager or alternate.

In the event of a major spill during a ship-to-ship transfer or due to unforeseen circumstances, the shipping company will be the sole proprietor for the spill. The containment and clean-up of inadvertent spills resulting from the tankers in transporting the fuel is the responsibility of the shipping company. In the unlikely event where a major fuel spill becomes unmanageable, the shipping company could call on external resources such as the Canadian Coast Guard for assistance. In these situations, AEM would provide whatever assistance it can to the shipping company[1]. Due to the lack of resources in which Agnico Eagle Mines (AEM) possess to counter act such a large scale marine spill, AEM's assistance would be limited to providing support to preserve the shore line environment. AEM would put its resources to the best use possible during such an event, and assist as much as possible with the resources at hand. The Shipboard Oil Pollution Emergency Plan (SOPEP) (Appendix B) is the responsibility of the shipping company; it covers the ship-to-ship transfer of fuel near Helicopter Island. Please refer to the *Oil Pollution Emergency Plan* for more details. In Appendix C you will find certificate of entry and acceptance boats of shipping company, communication protocol, safety management system for entry into confined water and monthly safety meeting forms.

[1] *The Emergency Response Team will not be equipped or trained to respond to spills offshore in the Marine environment. They will however be able to respond to spills in the near shore area.*

Figure 5 : Major spill/incident reporting procedure



4.1 FIRST RESPONDER

The person who has caused a spill or the first to observe the spill is the first responder. The responsibilities of the first responder are as follows:

- In case of a tanker truck overturn, initiate a Code 1. Remain on radio to provide guidance to the ERT;
- In case of spill to land or water, contact the supervisor to report the incident;
- Identify and contain the spill, IF SAFE TO DO SO; and
- Participate in spill response as a member of the clean-up crew.

4.2 SUPERVISOR

The responsibilities of the Supervisor are as follows:

- Initial assessment of the severity of the incident;
- Contacts the Incident Commander or Environmental Department;
- Gathers facts about the spill; and
- Participate in spill response as a member of the clean-up crew.

4.3 INCIDENT COMMANDER

Responsibilities of the Incident Commander are as follows:

- Assume complete authority over cleanup personnel and the spill scene, as well as assume responsibility for all mitigation efforts;
- Evaluate the initial situation and assess the magnitude of the problem;
- Activates the initial response plan;
- Alert and assemble key personnel in the response team, as deemed appropriate, to handle the situation;
- In consultation with the Environmental Superintendent or designate, develop the overall plan of action for containment and cleanup of the specific incident, as well as direct and implement the plan;
- Ensure assigned responsibilities are carried out and the activities of team members are coordinated;
- Assess the requirements for people, equipment, materials, and tools to contain the spill in light of what resources are immediately available; urgency will depend on the nature of the spill; and
- In consultation with the Environmental Superintendent or designate mobilize any additional resources that may be required and arrange for the transportation of necessary personnel and/or materials to the site.

4.4 EMERGENCY RESPONSE TEAM

AEM has an Emergency Response Team (ERT) that is trained and responsible for controlling the major spills as well as spills from tanker truck overturns along AWPAR, and assisting with medical and other emergencies that may occur at the camp. These team members attend regular training sessions.

4.5 EMERGENCY RESPONSE TEAM COORDINATOR

The responsibilities of the Emergency Response Team Coordinator (ERTC) are as follows:

- Mobilize all ERT personnel, equipment, personal protective equipment and supplies as required to the site of the spill;
- Assist Incident Commander in obtaining any additional resources not available on site;
- Ensure that appropriate PPE is worn properly;
- Assist in developing and implementing emergency response training programs and exercises; and
- Ensure that all spill response personnel receive adequate training to fulfill their responsibilities as part of the ERT.

4.6 ENIVRONMENTAL SUPERINTENDENT OR DESIGNATE

The Environmental Superintendent or designate is responsible for implementing and maintaining the SCP. In addition, the Environmental Superintendent's or designates responsibilities in the case of a spill are to:

- Liaise with the Incident Commander;
- Provide technical advice on the anticipated environmental impacts of the spill;
- Advise on the effectiveness of various containment, recoveries, and disposal options, and suggest the most appropriate approach;
- Prepare and submit any formal reports (see Appendix D for NWT/NU Spill Report Form) to regulators and AEM management detailing the occurrence of a spill;
- Contact the Senior Vice President Environment and Sustainable Development immediately for a major spill;
- Act as the spokesperson with regulatory and government agencies;
- If authorized by the General Mine Manager, act as a spokesperson with the public and media, as required;
- Implement a sampling protocol for the collection and analysis of samples to identify and monitor possible contaminant levels resulting from the spill;
- Ensure on-site resources for spill response and cleanup are available;
- Monitor the effectiveness of the cleanup operation and recommend further work, if necessary;

- Reviews incident occurrences and recommends preventative measures; and
- Assists in implementing training and simulation requirements for spill response personnel.

4.7 GENERAL MINE MANAGER ON DUTY

The General Mine Manager/designate is required to inform team members of the detailed nature of the operations to be performed in the event of a major spill during the operations phase. The responsibilities of the General Mine Manager/designate are as follows:

- Liaise with AEM personnel resources and keep them informed of cleanup activities; and
- Assist the Incident Commander and ERT as needed, particularly in obtaining any additional resources not available onsite for spill response and cleanup.

4.8 HEALTH AND SAFETY SUPERINTENDENT OR DESIGNATE

The following are the responsibilities of the Health and Safety Superintendent or designate in conjunction with the Training Department:

- Maintain emergency and health and safety records;
- Assist in conducting emergency spill response exercises;
- Track all emergency and health and safety training that on-site staff have received, and when retraining will be required;
- Notify the Incident Commander (related to ERT) when retraining is required;
- Ensure that employees are retrained in appropriate emergency response skills, Workplace Hazardous Materials Information System (WHMIS) training, Hazard Communication (HAZCOM), Occupational Health and Safety Administration (OHSA) training, first aid, and respirator fit-testing prior to expiry of existing training certification; and
- Consult with appropriate organizations regarding retraining requirements and schedules.

4.9 ON-SITE HEALTH CARE PROVIDERS

On-site medics are responsible for the following:

- Providing on-site first aid and other medical support; and
- Providing additional training for ERT members.

In addition to the health care providers on site, the Baker Lake Hamlet health professionals will be called first on the scene, if required.

4.10 SPILL RESPONSE TEAM CONTACT INFORMATION

Internal contact information is contained in Table 2 for all AEM personnel involved in spill recovery and subsequent reporting. Table 3 provides contact information for AEM contractors present at the mine site and

transportation contractors. Important external contacts such as regulatory agencies and health organizations are listed in Table 4. Table 5 provides contact information for external contractors should incident warrant assistance from outside sources.

Table 2 - Internal Contacts

Title	Name	Telephone No.
Senior Vice President Environment and Sustainable Development	Louise Grondin	416.847.8656 Cell:819.724.2020
General Mine Manager	Jean Beliveau	867.793.4610 ext.6843 Cell: 819.856.5605
Health and Safety Superintendent or Assistant Superintendent	Normand Ladouceur or Yves Levesque	867.793.4610 ext.6720 Cell: 816.856.6258 or 867.793.4610 ext.6720 Cell: 819.856.9051
Emergency Response Team	Andre Rouleau or Philippe Beaudoin	867.793.4610 ext.6809 Cell: 819.355.2191 or 867.793.4610 ext.6809 Cell: 450.847.4214
Environmental Superintendent	Kevin Buck	867.793.4610 ext.6838 Cell: 819.856.1956
Environmental Coordinator or Environmental Department	Jeffrey Pratt or Environmental Technicians	867.793.4610 ext.6728 or 867.793.4610 ext.6747
Incident Commander	Jeffrey Pratt/ Kevin Buck	867-793-4610 ext.6728
On site Medics	On-site Nurses	867.793.4610 ext.6734 or 6751
Site Security	On-site Security	867.793.4610 ext.6748

Table 3 - Contractor Contacts

Title	Telephone No.
Nolinor Aviation Services	Protocol Agent 867.793.4610 ext. 6808
First Air	867.446.1744
Calm Air	867.793.2873
Dyno Nobel Explosives Ltd.	867.793.4610 ext.6804
Woodward Group of Companies (Shipping)	709.896.2421 or 709.896.6569 (Dennis White)

Table 4 - External Contacts

Organization/Authority	Telephone Number	Fax Number
NT-NU 24-Hour Spill Report Line	867.920.8130 spills@gov.nt.ca	867.873.6924
Workers Safety and Compensation Commission	867.979.8637	867.979.8501
Kivalliq Inuit Association	867.645.5725	867.645.2348
Nunavut Water Board	867.360.6338	867.360.6369
AANDC Inspector	867.975.4548	867.979.6445
Environment Canada, Enforcement Branch	867.975.4644	867.975.4594
Department of Fisheries and Ocean (DFO) – Nunavut Regional Office	867.979.8000	867.979.8039
Manager, Environmental Protection, Government of Nunavut	867.975.7748	867.975.5981
Kivalliq Health Services – Baker Lake (Health Centre)	867.793.2816	867.793.2813
Baker Lake Hamlet Office	867.793.2874	
Baker Lake Fire Emergency	867.793.2900	

Table 5 - External Spill Response Contractor Phone Numbers

Contractor	Telephone No.	Area of expertise
Local		
Baker Lake Contracting & Supplies	867.793.2831	General Contracting and repairs
Peter's Expediting	867.793.2703	Transportation
NWT Ltd (Arctic Fuel)	867.793.2311	Fuel Transportation

SECTION 5 • ACTION PLAN

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

- Tanks, drums or containers may develop leaks or rupture;
- Failure of equipment such as valves, piping or containment structures;
- Overfilling;
- Improper storage;
- Spills during transfer of fuel, chemicals or waste products; and
- Spills resulting from accidents during transportation.

5.1 INITIAL ACTION

For all spill emergencies, it is required that priority actions be undertaken. These are:

- Respond Quickly;
- Ensure Safety; and
- Report the Spill.

5.1.1 Respond Quickly

- Identify the spilled material;
- Be alert – ensure safety of yourself and others by notifying them of the incident;
- Shut off ignition sources such as vehicles and unplug electrical equipment – NO SMOKING;
- Attend to the injured;
- Assess the severity of the spill; and
- Contact the Incident Commander, identify the location and request assistance as required. Incident Commander will mobilize the Emergency Response Team if required.

The primary form of ensuring safety is by using preventative measures. All personnel who deal with chemicals must have training in first aid and safe materials handling, including the Workplace Hazardous Materials Information System (WHMIS). In addition, regular training updates and site- specific exercises/drills are integral to preventing incidents.

5.1.2 Ensure safety

- Consult the MSDS and Product Guides for further information on the substance;

- Keep people away from spill site;
- Wear appropriate PPE such as impervious clothing, goggles, and gloves when containing the spill;
- Approach spill from upwind IF IT IS SAFE TO DO SO;
- Assess whether the spill, leak, or system failure can be readily stopped or brought under control;
- Stop product flow or leak if possible and IF IT IS SAFE TO DO SO;
- Do not contain compounds (e.g. gasoline, aviation fuel) if vapors might ignite – allow them to evaporate; and
- Depending on the type of compound spilled and IF IT IS SAFE TO DO SO, contain product using booms, berms, absorbent pads, earthen dike, trenches or improvise with materials at hand.

5.1.3 Report Spill

- Obtain all necessary information to complete the spill report form for spills that meet the criteria listed in Table 1. Spills that meet regulatory reporting criteria must be reported to the NWT-NU 24 Hour Spill Line/AANDC/Kivalliq Inuit Association (KIA) and the Nunavut Water Board by AEM Environment Staff. Minor spills that do not meet regulatory reporting criteria must still be reported. This must be done within 24 hours using the AEM internal Spill Report Form.; and
- For spills that meet regulatory reporting criteria, a detailed spill report will be submitted to the AANDC Water License Inspector and the KIA Land's Inspector by AEM Environment Staff no later than 30 days after the initial reporting of the spill. This report will contain the amount and type of spilled product, the GPS location of the spill and the measures taken to contain, cleanup and restore the spill site.

Procedures will vary depending on the season and materials spilled. The MSDS for spilled materials and/or Transport Canada's "Emergency Response Guidebook" must be consulted to ensure that safety procedures are followed. Response procedures specific to spills on land, water, snow and ice are presented in the following sections as general guidelines.

5.2 SPILLS ON LAND

Response to spills on land will include control techniques involving the use of two types of barriers: dikes and trenches. Barriers should be placed down-gradient (down-slope) from the source of the spill, and as close as possible to the source of the spill. Barriers will slow the progression of the material spilled and will also serve as containment to allow for recovery.

Depending on the volume spilled, the site of the spill as well as available material, a dike may be built with soil, booms, lumber, snow, etc. A plastic liner, if necessary, can be placed at the toe of and over the dykes to protect the underlying soil or other material and to facilitate recovery of the material. Dikes will be constructed in such a way as to accumulate a thick layer of free product in a single area (V-shaped or U-shaped).

Trenches are useful in the presence of permeable soil and when the spilled material is migrating below the ground surface. A plastic liner should be placed on the down-gradient edge of the trench to protect the underlying soil. Liners should not be placed at the bottom of the trench to allow water to continue flowing underneath the layer floating oil.

The use of absorbent materials to recover a large volume of spilled liquids such as petroleum based material should be avoided. Large volumes of free-product should be recovered, as much as possible, by using vacuums and pumps, and containerized. Mixtures of water and fuel may be processed through an oil-water separator. However absorbent materials work well for smaller volumes of spilled hydrocarbon based materials such as fuel. Absorbent sheets should be used to soak up residual fuel on water, on the ground (soil and rock), and on vegetation. Peat moss may also be sprinkled on vegetation to absorb films of petroleum products.

5.3 SPILLS ON WATER

Response to spills on water will include procedures that include containment, diversion and recovery techniques. The following elements must be taken into consideration when conducting response operations:

- Type of water body or water course (lake, stream, river);
- Water depth and surface area;
- Wind speed and direction;
- Type of shoreline; and
- Seasonal considerations (open-water, freeze-up, break-up, frozen).

The most common type of spill that could be anticipated is a petroleum hydrocarbon (fuel oil) spill during fuel transfers/transport. Containment of an oil slick in water will require the deployment of mobile floating booms to intercept, control, contain and concentrate (i.e., increase thickness) the floating oil. One end of the boom will be anchored to shore while the other will be towed by a boat and used to circle the oil slick and return it close to shore for recovery using a skimmer. Reducing the surface area of the slick will increase its thickness and thereby improve recovery. Mechanical recovery equipment (i.e., skimmers and oil/water separators) will be mobilized to site if required.

Measures will be taken to protect sensitive and accessible shoreline. The oil slick will be monitored to determine the direction of migration. In the absence of strong winds the oil will likely flow towards the discharge of the lake. Measures will be taken to block and concentrate the oil slick at the lake discharge using booms where it will subsequently be recovered using a portable skimmer, vacuum, or sorbent materials.

In small slowly-flowing rivers, streams, channels, inlets or ditches, inverted weirs (i.e., siphon dams) will be used to stop and concentrate moving oil for collection while allowing water to continue to flow unimpeded. In the case of floating oil, in a stream, heading for a culvert (i.e., at a road crossing) a culvert block will be used to stop and concentrate moving oil for collection while allowing water to continue to flow unimpeded. In both cases oil will then be recovered using a portable skimmer or sorbent materials.

In the case of spills in larger rivers, with fast moving currents, diversion booming will be used to direct the oil slick ashore for recovery. Single or multiple booms (i.e., cascading) may be used for diversion. Typically, the booms are anchored across the river at an angle. The angle will depend on the current velocity. Choosing a section of a river that is both wider and shallower will make boom deployment easier. Diversion booming may also be used to direct an oil slick away from a sensitive area to be protected.

5.4 SPILLS ON SNOW AND ICE

In general, snow and ice will slow the movement of hydrocarbons. The presence of snow may also hide the oil slick and make it more difficult to follow its progression. Snow is generally a good natural sorbent, as hydrocarbons will have a tendency to be soaked up by snow through capillary action. However, the use of snow as a sorbent material will be limited as much as possible. Snow and frozen ground will also prevent hydrocarbons from migrating down into soil or at least slow the migration process. Ice will prevent seepage of fuel into the water.

Most response procedures for spills on land discussed previously may be used for spills on snow and ice. The use of dykes (i.e., compacted snow berms lined with plastic sheeting) or trenches (dug in ice) will slow the progression of the fuel and will also serve as containment to allow recovery of the fuel.

Free-product will be recovered by using a vacuum, a pump, or sorbent materials. Contaminated snow and ice will be scraped up manually or using heavy equipment depending on volumes. The contaminated snow and ice will be placed in containers or within plastic lined berms on land.

5.5 DISPOSAL OF SPILLED MATERIAL

For this section you can refer to the *Landfarm Design and Management Plan.* All contaminated spill pads, and booms are placed within Quatrex bags for shipment to an approved disposal facility. All the petroleum hydrocarbon contaminated soil is placed into the landfarm for treatment. Spills over 100 L of non-petroleum hydrocarbon material (e.g. solvents, glycol) will be placed in drums and stored in the on-site hazardous material area for shipment south to approve facilities during barge season. Spills of non-petroleum hydrocarbon material fewer than 100 L will be placed in the Tailings Storage Facility. For spills fewer than 100 L of petroleum hydrocarbon contaminated snow will be placed in a designated area of the landfarm and treated as contact water after snowmelt. For spills over 100 L of petroleum hydrocarbon contaminated snow will be excavated and stored in labeled drums. After snow melt, the contaminated water will be pumped through the site's oil-water separator (carbon filter) to remove petroleum hydrocarbon residue. The treated water will be sampled per Part F, Item 6 of the NWB Water License, and discharged to the Stormwater Management Pond if criteria are met. If criteria are not met, water will be treated as hazardous material and shipped south. Also, after snowmelt, visible product will be cleaned up with absorbent pads or booms.

SECTION 6 • HAZARDOUS MATERIALS STORED ON SITE

A variety of petroleum products and other hazardous materials will be used as part of the mining operations. Large quantities of petroleum products will be stored at various sites. Explosives will also be stored on site. Other hazardous materials will be used but in smaller quantities. Nonetheless, all these products are considered as potential environmental and safety hazards.

Material Safety Data Sheets (MSDS) of all materials transported, stored and used on-site will be made available at strategic locations near to where hazardous materials or toxic substances are stored or utilized. Appendices E to J provide General Response Procedures for Spilled Chemical Substances.

Table 6 identifies the predominant hazardous materials transported, stored and generated at the site. You can refer to the *Hazardous Materials Management Plan* for more details.

Table 6 - Materials stored at site during operations

Material	Maximum Amount present on Site	Maximum Amount transported per unit	Storage Location
Acetylene	500 cylinders	300 cylinders per sea can	Inventory Lay down
Activated Carbon	350 Mt	10 Mt per sea can	Inventory Lay down and Process Plant lay down
Ammonium Nitrate	10 000 Mt	20 Mt per sea can	Emulsion plant
Ammonium Nitrate Fuel Oil (ANFO)	Manufactured on demand	20 000 kg per truck	Emulsion plant
Motor Oil	Estimated at 800 000L	20 800L per sea can	Inventory Lay down, garage
Trojan Boosters (Blasting Systems)	34 000 kg	15 Mt per sea can	Emulsion plant
Borax, Anhydrous	7 500 kg	3 375 kg per sea can	Inventory Lay down and Process Plant lay down
Calcium Chloride	600 000L	10 000L per sea can	Inventory Lay down
Calcium Hydroxide	NOT IN INVENTORY		Inventory Lay down
Calcium Oxide	NOT IN INVENTORY		
Calcium Peroxide	NOT IN INVENTORY		
Carbon Dioxide	10 cylinders	10 cylinders per sea can	
Copper Sulphate	500 Mt	20 Mt per sea can	Inventory Lay down and Process Plant lay down
Diesel Fuel	5.5 million Liters	40 000L per tanker	Tank farm
Dyno Split (Detagel)	135 000 kg	15 Mt per sea can	Emulsion plant

Nonel EZTL	1 400 kg	15 Mt per sea can	Emulsion plant
Nonel MS	1 800 kg	15 Mt per sea can	Emulsion plant
Ethylene Glycol	60 000L	10 000L per sea can	Inventory Lay down
Ferric Chloride Hexahydrate	NOT IN INVENTORY		
Ferric Subsulfate Solution	NOT IN INVENTORY		
Hydrofluoric Acid	NOT IN INVENTORY		
Hydrogen Peroxide	NOT IN INVENTORY		
Jet A Fuel	50 000L	11 000L Tanker	Tank, tarmac
Lead Acid Batteries	500L	500L per sea can	Warehouse
Magnafloc 10 (Flocculant)	300 Mt	15 Mt per sea can	Inventory Lay down
Nitric Acid	120 000L	8 000L per sea can	Inventory Lay down
Portland Cement	3 500 Mt	20 Mt per sea can	Dyke and Construction lay down
Sodium Cyanide	1 300 Mt	19 Mt per sea can	Inventory Lay down and Process Plant lay down
Sodium Hydroxide	10 kg	10 kg in sea can	Warehouse
Sodium Nitrate	10.2 Mt	5.1 Mt per sea can	Inventory Lay down
Sulfur	4 600 Mt	20 Mt per sea can	Inventory Lay down Process Plant lay down Quarry 1
Unleaded Gasoline	50 000L	40 000L tanker	Tank farm
Varsol	4 000L	2000 L per sea can	Inventory Lay down

SECTION 7 • POTENTIAL SPILL ANALYSIS

In order to prepare for emergency spill response, potential spill analysis was conducted and on various worst case scenarios. The exercise serves to identify potential risk areas, as well as to determine the fate of spilled products and their environmental effects. One potential scenario was identified for the Meadowbank Gold Project:

- Road between Baker Lake and the Meadowbank Mine Site – spill contents of a tanker truck into water body.

Scenario #1: Road Accident Tanker Truck Spill on AWPAR

Description of incident: Spill of the contents of a fuel tanker to the ground or water during transport from the Baker Lake to the Meadowbank Mine Site.

Potential causes: Vehicle accident, human error, mechanical failure

Hazardous products spilled: Diesel fuel, aviation fuel

Maximum volume spilled: 40,000 litres

Immediate receiving medium: Stream, river or lake

Distance and direction to nearest receiving body of water: N/A

Resources to protect: Streams, rivers and lakes

Estimated emergency response time: Maximum time is 90 minutes depending on location of spill (assuming truck driver is injured and cannot commence spill response procedures). Minimum time to respond to a spill on the AWPAR is 15 minutes.

Spill response procedures: Contain and recover oil slick downriver as described in Section 5.3, protect shorelines using sorbent booms. Collect free-product for temporary storage. Clean-up soiled shorelines. If the response crew arrives before the complete spill, seal the leak where feasible, contain and recover oil spill on ground using dykes, sumps or trenches as described in Section 5.2. Also if the truck driver is not injured, he will act as a first responder and immediately initiate the spill contingency plan as defined in Section 5 using the spill kit kept in the fuel trucks.

SECTION 8 • RESPONSE EQUIPMENT

8.1 GENERAL EQUIPMENT

This section addresses the emergency response machinery, equipment, tools and other resources that will be made available on-site for spill counter measures.

Mobile Equipment available to AEM, that will be used for spill contingency include:

- Graders
- Cranes
- Snowmobiles
- Vacuum Truck
- Loaders
- Backhoe
- Bulldozer
- Forklift
- Water Trucks
- Excavators

Winch Trucks
Pickup Trucks
Generator Sets
Fire Truck
Aluminum Boats
Fuel Trucks
Bobcat
Haul Trucks
Snow Cat

If required, additional equipment on site will be made available to assist with spill recovery.

Temporary containment systems are also available on site and include:

- Booms
- Drums
- Tanks
- Tailings Pond
- Spill absorbent material packages/pads
- Silt fencing
- Maritime Barrier

Emergency transportations that will be used under an emergency situation are:

- Aircraft (fixed wing or helicopter)
- 4-wheel drive vehicles
- Snowmobiles
- Boats
- Tundra Buggy

Communication equipment on site includes radios, telephones, faxes and other wireless communication systems that will be used in the event of an emergency situation.

Spill Response kits are strategically located where required (Figure 6). Each department and work area is responsible for providing sufficient spill response kits in their respective work areas. The kits are kept in marked and accessible locations. The locations include all fuel storage areas, chemical storage areas and so on.

All of the mobile equipment on site (heavy equipment) contains an emergency spill kit.

An Environmental Emergency Trailer which is easily accessible and mobile is located on site which contains the following items:

- Pump Elastec
- Pump accessories
- Vaccum ends
- 45 gallons top
- Tubing 2 inches diameter
- Tubing 3 or 4 inches diameter
- Diesel Fuel jerry can (place on a miniberm)
- Spill kit accessory (red box)
- Drums opener
- Wescot (to open empty drum screw)
- Empty drums
- 2 drums berm
- 4 drums berm 4x8
- Tarp 20x30
- Tarp 30x50
- Oil white spill pads
- Universal boom 5x10
- Universal boom 8x10
- ABS pipe : 10' (4")
- ABS pipe : 10' (6")
- Cell U-Sorb
- Sphagsorb
- 3 Size of Wedge wood
- Plug pattie
- Quattrex bags
- Hand shovel
- Ice braker chisel
- Sledge hammer
- Rod bar (4')

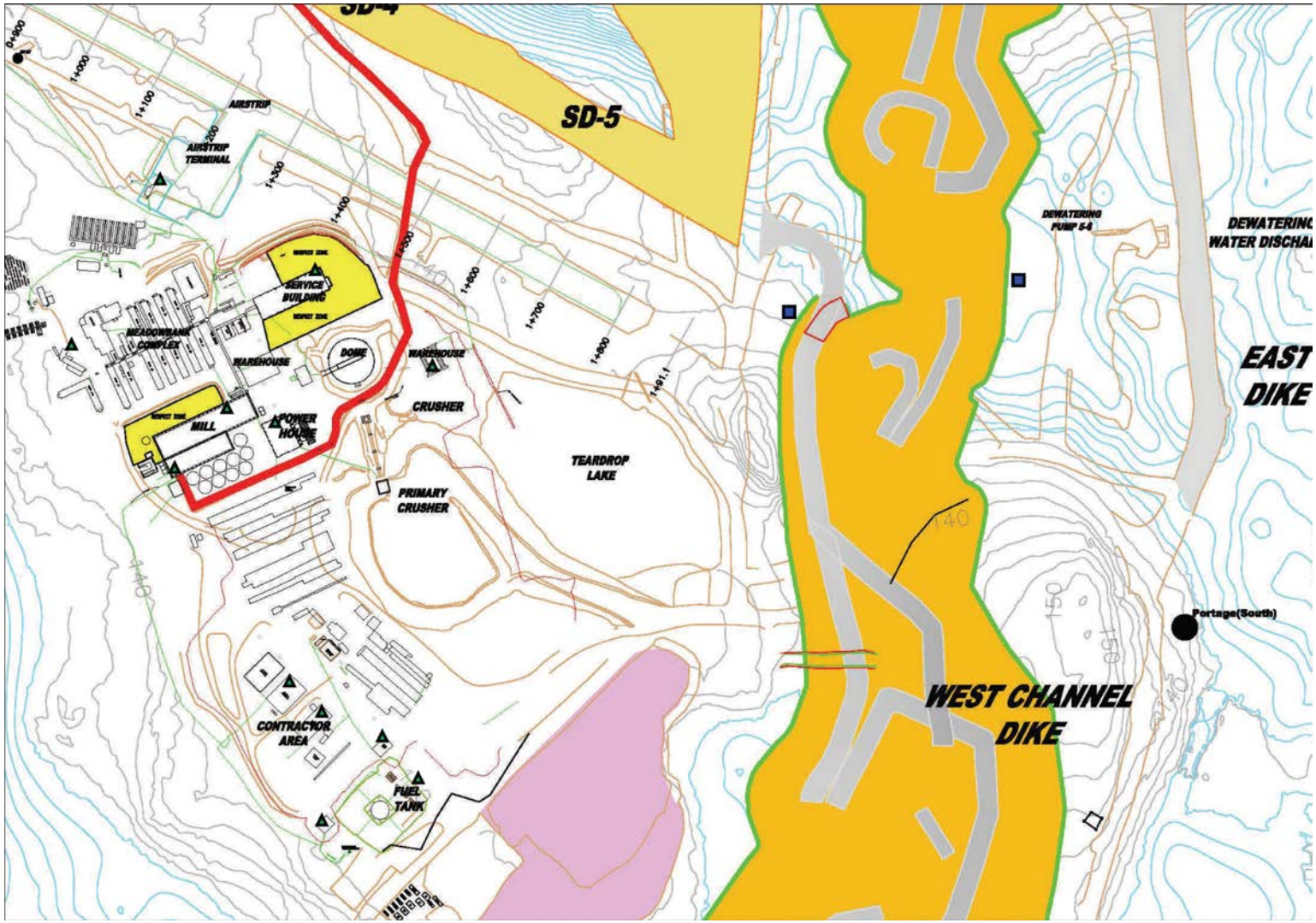
Along the AWPR there are 9 environmental emergency sea cans. These sea cans are strategically placed along the road at water crossings (Figure 7). Each environmental emergency sea can contains the following material:

- Empty drums (Sealed)
- Mini berm 36"x36" x4'
- 4 drum spill berm 4x8
- Tarp 20'x30'
- Tarp 30'x50'
- Oil white spill pads
- Universal boom 5"x10' (Chemical)
- Universal boom 8"x10' (Chemical)
- Oil only booms 5"x10' (Hydro-carbons)
- Maritime barrier (Baffle)
- ABS pipe : 10' (4")
- Cell U-Sorb
- Amerisorb peat moss

- Oil gator absorbent
- Plug pattie
- Quattrex bags
- Fork lift crate (pallets)
- Long handle round point shovel
- Chisel point crow bar 16 lbs 57"
- Ice braker chisel
- Sledge hammer 12 lbs 36"
- Rod bar (4')

If required, external resources are available in the Hamlet of Baker Lake and those contacts are found in Table 5.

Figure 6 : Spill Response Equipment Location



Spill Kits

Large Spill Kits for Mine Ops

Figure 7 : Map of AWAPR Including Locations of Environmental Emergency Sea cans

Environmental Emergency Sea cans

SECTION 9 • TRAINING & EMERGENCY SPILL/EXERCISE

9.1 TRAINING

9.1.1 On-site Personnel

A designated ERT consisting of on-site personnel has been established. AEM will ensure that the ERT is trained and present for major spill response at all times. All members of the team are trained and familiar with emergency and spill response resources, including their location and access, the SCP, and appropriate emergency spill response methodologies. The ERT has up to 40 members, each of whom train 8 hours per month.

The following training is included:

- A review of the spill response plan and responsibilities of the ERT members;
- The nature, status, and location of fuel and chemical storage facilities;
- The on-site and off-site spill response equipment and how to use it;
- Emergency contact lists;
- Desktop exercises of “worst case” scenarios; and
- The likely causes and possible effects of spills.

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 road crew between Baker Lake and Meadowbank also received training regarding the actions that they have to do during an emergency or major spill on the road. You can find records of different trainings that AEM personnel have attended in Appendix K. The Environmental Department regularly attends tool-box sessions to provide information on spill response, spill prevention and spill reporting procedures.

SECTION 10 • LIST OF ACRONYMS

ANFO	Ammonium Nitrate Fuel Oil
AWPR	All Weather Private Road
CCME	Canadian Council of Ministers of the Environment
DFO	Fisheries and Oceans Canada
EMS	Environmental Management System
ERP	Emergency Response Plan
ERT	Emergency Response Team
ERTC	Emergency Response Team Coordinator
GN	Government of Nunavut
HCN	Hydrogen Cyanide
HMMP	Hazardous Materials Management Plan
AANDC	Aboriginal Affairs and Northern Development Canada
LEL	Lower Explosion Limit
AEM	Agnico Eagle Mines Limited
MSDS	Materials Safety Data Sheets
NIOSH	National Institute for Occupational Safety and Health
OHSP	Occupational Health & Safety Plan
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
SCP	Spill Contingency Plan
TDG	Transportation of Dangerous Goods
WHMIS	Workplace Hazardous Materials

Appendix A

Environmental Department weekly inspection template

Environmental Inspection report for Refuelling station and Tank farm

Date: **Inspected By:**
Location: **Responsible department:**

Meadowbank:

Subject	Conform	Non-conform	N/A	Picture(s) #
Spills on the ground				
Spill kit				
Refuelling procedures followed (secondary containment at every connection and 3 persons)				
Water in secondary containment (If discharge is needed, NWB Type A Water License Part F needs to be followed)				
Date of last pipe and tank visual inspection (monthly)				
Date of last env. visual inspection (weekly)				
Non-smoking sign, Extinguisher and tank identification present				

Comments:_____

Recommendations:_____

Environmental Inspection report for Refuelling station and Tank farm

Date: **Inspected By:**
Location: **Responsible department:**

Baker Lake:

Subject	Conform	Non-conform	N/A	Picture(s) #
Spills on the ground				
Spill kit				
Refuelling procedures followed (secondary containment at every connection and 3 persons)				
Water in secondary containment (If discharge is needed, NWB Type A Water License Part F needs to be followed)				
Date of last pipe and tank visual inspection (monthly)				
Date of last env. visual inspection (weekly)				
Non-smoking sign, Extinguisher and tank identification present				

Comments:_____

Recommendations:_____

Picture 1: Description

Picture 2: Description

Picture 3: Description

Picture 4: Description

Picture 5: Description

Picture 6: Description

HAZMAT Storage Area: Environmental Inspection report

Date: _____ **Inspected By:** _____

Location: _____ **Responsible department:** _____

Subject	Conform	Non-conform	N/A	Picture(s) #
Are storage containers clearly labelled to identify Hazmat substance?				
Are storage containers in good condition? Is there any visible damage or leaks? Can the doors be sealed shut?				
Is HAZMAT in containers properly segregated?				
Is HAZMAT arrangement to prevent from falling or dislodging?				
Where necessary – Is HAZMAT placed on pallets i.e. Drums?				
Where necessary – Are containers with product stored in an upright position?				
Where necessary – Are Quatrex bags closed properly?				
Do you see any potential environmental hazards posed by these HAZMAT containers/materials?				

Comments:_____
_____
_____
_____
_____

Recommendations:_____
_____
_____
_____
_____

Picture 1: Description

Picture 2: Description

Picture 3: Description

Picture 4: Description

Picture 5: Description

Picture 6: Description

Appendix B

Shipboard Oil Pollution Emergency Plan

The WOODWARD GROUP OF COMPANIES

Coastal Shipping Ltd.
The Woodward Group of Companies
114 Main Street, P.O. Box 910
Lewisporte, NL A0G 3A0 CANADA

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN (SMPEP)

In accordance with MARPOL 73/78, Annex I
IMO Res. MEPC. 78(43)

MT "ALSTERSTERN"
IMO 9053220

CONFIRMATION OF ACKNOWLEDGE

Shipboard Marine Pollution Emergency Plan

Date Entered:	Rank:	Name:	Signature:
			.

INDEX OF CORRECTIONS

Date of Correction	SMPEP pages exchange (date)		APPENDIX 2 Date of Current List of Contact Points
	IN	OUT	

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN

In accordance with Regulation 37 of Annex I and Regulation 17 of MARPOL 73/78

SHIP'S IDENTIFICATION

GL- REGISTER - NUMBER	34583
NAME OF SHIP	ALSTERSTERN
CALL SIGN	XJAZ
IMO NUMBER	9053220
TYPE OF SHIP	CHEMICAL / OIL TANKER
PORT OF REGISTRY	ST. JOHN'S
GROSS TONNAGE	11426
FLAG	CANADA
OFFICIAL NUMBER	835794

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INTRODUCTION

1. This Shipboard Marine Pollution Emergency Plan (hereafter referred to as the "Plan") is written in accordance with the requirements of regulation 37 of Annex I and regulation 17 of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 there to and amended by Res. MEPC. 78 (43).
   As recommended by IMO this plan is a **combination of a SOPEP and a Shipboard Marine Pollution Emergency Plan for noxious liquid substances.**

2. The purpose of the Plan is to provide guidance to the Master, officers and operating personnel onboard the Ship, with respect to the steps to be taken when an oil or marine pollution incident has or is likely to occur. The appendices contain communication data of all contacts referenced in the Plan, as well as other reference material.

3. The Plan contains all information and operational instructions required by the "Guidelines for the development of the Shipboard Marine Pollution Emergency Plan" as developed by the Organization (IMO) and published under MEPC. 85(44) and MPEC.54 (32) amended by MPEC.86(44). .

4. This Plan has been examined byGermanischer Lloyd or GL on behalf of Transport Canada and, except as provided below, no alteration or revision shall be made to any part of it without prior approval by or on behalf of GL.

5. Changes to Sections 4 and the appendices will not be required to be approved by the Board. The appendices should be maintained up to date by the Owners, Operators, and Managers.

6. For the purposes of this Plan, the Master is taken to be that person who is a member of the vessel's operational personnel and to which is given senior responsibility for the vessel and any circumstances pertaining thereto.

7. Before entering a port of call, the Master should be aware of local emergency response procedures and organizations and have up to date contact information readily available.

SECTION 1 • Preamble

1.1 This Plan is intended to assist the ship's personnel in dealing with an unexpected discharge of oil or noxious liquid substances (NLS). Its primary purpose is to set in motion the necessary actions to stop or minimize the discharge of those substances and to mitigate its effects.

1.2 Effective planning ensures that the necessary actions are taken in a structured, logical and timely manner.

1.3 The primary objectives of this Plan are to:

- prevent pollution
- stop or minimize outflow when a damage to the ship or its requirement occurs
- stop or minimize outflow when an operational spill occurs in excess of the quantity or instantaneous rate permitted under the present Convention.

1.4 Further, the purpose of the Plan is to provide the Master, officers and certain crew members with a practical guide to the prevention of marine spills and in carrying out the responsibilities associated with regulation 37 of Annex I and Reg. 17 of Annex II of MARPOL 73 / 78.

- procedures to report an oil / marine incident.
- Coastal States (Focal Points) and Port Contact Lists to be contacted in the event of any pollution incident.
- co-ordination with national and local Authorities in combating a pollution.

1.5 In summary, the Plan will serve to promote a practiced response when the ship's personnel is faced with a spill.

1.6 Although the Plan is designed as a ship-specific tool it must be also be considered as an additional instrument and is a link to shore-based plans. With this the Plans allows an efficient co-ordination between the ship and shore-based Authorities /Organizations in mitigating the effects of any pollution incident.

1.7 The Plan includes a summary flowchart (See page 8) to guide the Master through reporting and acting procedures required during an oil pollution incident response.

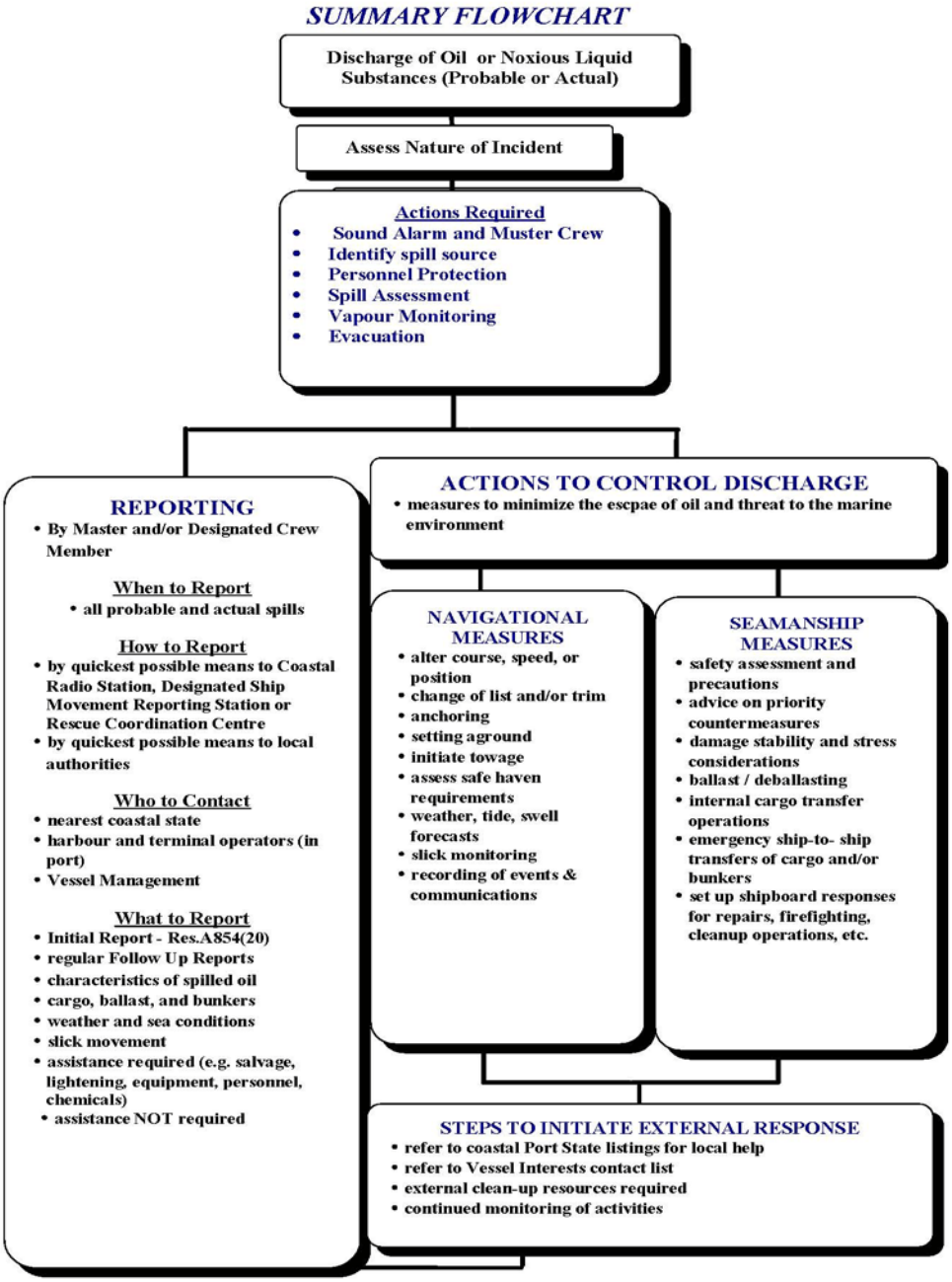
1.8 The Plan is likely to be a document used on board by the Master and the officers of the ship and must therefore be available in the working language used by them.

1.9 The Plan is not applicable if the vessel operates in U.S waters within the EEZ (exclusive economic zone). The Vessel Response Plan (VRP) has to be activated.

1.10 All Procedures in this Plan are in line with Coastal emergency procedures which can be found in the file Emergency Preparedness as part of the Safety Management System (SMS). They should be referred to in any case for obtaining additional information.

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN - SUMMARY FLOWCART

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to a pollution emergency based on the guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given inclusion of specific reference to the Plan. The steps are designed to assist ship personnel in action to stop or minimize the discharge of oil or NLS and mitigate its effects. These steps fall into two main categories - reporting and actions.



SECTION 2: Reporting Requirements

2.1 GENERAL

The reporting requirements of this section comply with those of regulation 37 Annex I and 17 Annex II of MARPOL 73 / 78.
When the ship is involved in an incident which results in the discharge of oil or NLS, the Master is obliged under the terms of MARPOL 73 / 78 to report details of the incident, without delay, to the nearest Coastal state by means of the fastest telecommunication channels available.

The intent of these requirements are to ensure that Coastal States are informed, without delay, of any incident giving rise to pollution, or threat of pollution of the marine environment, as well as of the assistance and salvage measures, so that appropriate action may be taken.

Without interfering with ship owner's liability, some coastal states consider that it is their responsibility to define techniques and means to be taken against a marine pollution incident and approve such operations which might cause further pollution i.e. lightening. States are in general entitled to do so under the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973

2.2 Reporting Procedures

For easy reference the reporting requirements in the context of this plan are divided in to the following information blocks:

2.2.1 When to Report

Taking the summary flowchart as shown on page 5 as a basic guide into consideration reports are necessary in the following cases:

2.2.1.1 Actual discharge

The Master is obliged to report to the nearest Coastal state whenever there is a discharge of oil resulting

- from damage to the ship
- from damage to the ship's equipment
- for the purpose of securing the safety of a ship or saving life at sea
- during the operation of the Ship in excess of the quantity or instantaneous rate permitted under the present Convention.

2.2.1.2 Probable discharge

The Master is obliged to report even when no actual discharge of oil or NLS has occurred but there is a probability that one could.

However, as it is not practicable to lay down precise definitions of all types of situations involving probable discharge of oil / NLS which would warrant an obligation to report the Master

is obliged to judge by himself whether there is such a probability and whether a report should be made.

Therefore, it is recommended that, at least, the following events

- damage, failure or breakdown which affects the safety of the ship (e.g. collision, fire, grounding, explosion, structural failure, flooding, cargo, cargo shifting, list, etc.)

or

- failure or breakdown of machinery or equipment which results in impairment of the safety of navigation (e.g. failure or breakdown of steering gear, propulsion, electrical generating system, essential shipborne navigation aids etc.)

are carefully considered by the Master - taking into account the nature of the damage failure or breakdown of the ship, machinery or equipment as well as the ship's location , proximity to land, weather, state of the sea and traffic density - as cases in which a probable discharge is more likely.

If in doubt, the Master should always make a report in cases aforementioned.

In all cases the Authorities should be kept informed by the Master as how the situation progress and be advised when all threats of pollution has passed.

2.2.2 Information Required

As required in article 8 and Protocol I of MARPOL 73 / 78 Convention the Master or other persons having charge of the ship should report the particulars of any pollution incident. In this context the International Marine Organization (IMO), in 1997, adopted Resolution A. 851 (20) "General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents involving Dangerous Goods, Harmful Substances and / or Marine Pollutants"

The intent of the Resolutions aforementioned is to enable Coastal States and other interested parties to be informed, without delay, of any incident giving rise to pollution, or threat of pollution of the marine environment, as well as of assistance and salvageable measures, so that appropriate action may be taken.

Nothing in this chapter relieves the Master in using sound judgment to make sure that any incident or probable discharge is reported as quick as possible in the prevailing situation.

When Transmitting initial reports to the authorities of the nearest Coastal State, the Master or other persons dealing with such a transmission should take note of IMO Resolution A 851(20).

Especially, the format of the initial report as well as supplementary of the follow up reports should conform with the guidance contained in Resolution A 851(20). All reporting whether initial or follow up, should follow IMO's reporting format as outlined below and should contain the following information:

FORMAT AND INFORMATION REQUIRED FOR OFFICIAL REPORT

AA VESSEL NAME, CALL SIGN, FLAG

BB DATE AND TIME (GMT) OF INCIDENT: 11/1935 meaning 11th of month at 7:35 pm.

CC SHIPS POSITION: 2230N 0600E meaning 22 deg. 30 min. N, 6 deg. E

or

DD SHIPS POSITION BY TRUE BEARING (3 DIGITS) AND DISTANCE FROM CLEARLY IDENTIFIED LANDMARK.

EE TRUE COURSE (3 DIGITS)

FF SPEED IN KNOTS AND TENTHS OF A KNOT (3 DIGITS)

LL ROUTE INFORMATION - INTENDED TRACK

MM RADIO STATIONS AND FREQUENCIES GUARDED

NN TIME OF NEXT REPORT (same as in BB)

OO DRAFT (4 DIGITS - meters and centimeters)

PP TYPES AND QUANTITIES OF CARGO AND BUNKERS ON BOARD

QQ BRIEF DETAILS OF DAMAGE, LIMITATIONS ETC. (must include condition of vessel and ability to transfer cargo, ballast, or fuel)

RR BRIEF DETAILS OF ACTUAL POLLUTION (oil type, estimate of quantity discharged, whether discharge continues, cause, estimate of slick movement)

SS WEATHER AND SEA CONDITIONS (wind force/direction, relevant tidal and/or current information)

TT NAME, ADDRESS, FAX, TELEPHONE NUMBERS OF VESSEL OWNER OR REPRESENTATIVE

UU DETAILS OF LENGTH, BREADTH, TONNAGE, AND TYPE OF VESSEL

WW TOTAL NUMBER OF PERSONS ON BOARD

XX MISC. DETAILS (This includes brief details of incident, actions taken, injuries sustained and assistance required. If no outside assistance is required, then this should be clearly stated.)

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN

INITIAL NOTIFICATION

AA(SHIPS NAME; CALL SIGN; FLAG)

BB(DATE AND TIME OF EVENT; UTC)

D	D	H	H	M	M

CC (POSITION; LAT; LONG) OR DD (BEARING; DISTANCE FROM LANDMARK)

				N	S					
d	d	m	m				d	d	d	N miles
					E	W				
d	d	d	m	m						

EE (COURSE) FF(SPEED)

d	d	d	kn	kn	1/ 10

LL (INTENDED TRACK)

MM (RADIO STATION(S) GUARDED)

NN (DATE AND TIME OF NEXT REPORT; UTC)

D	D	H	H	M	M

OO (DRAFT; METERS, centimeters)

M	M	cm	cm

PP(TYPE AND QUANTITY OF CARGO/ BUNKERS ON BOARD)

QQ (BRIEF DETAILS OF DEFECTS/ DEFICIENCIES/ DAMAGE)

RR (BRIEF DETAILS OF POLLUTION; INCLUDING ESTIMATE OF QUANTITY LOST)

SS (CONTACT DETAILS OF WEATHER AND SEA CONDITIONS)

Wind
- Direction
- Speed (Beaufort)

SWELL
- Direction (m)
- Height

TT (CONTACT DETAILS OF SHIP´S OWNER/ OPERATOR/ AGENT)

UU (SHIP SIZE AND TYPE)

XX (ADDITIONAL INFORMATION)

All follow up reports by the Master should include information relevant to the Coastal State Authorities to keep them informed as the incident develops.

Follow up reports should include information on any significant changes in the ship's condition, the rate of release and spread of the substances, weather and sea conditions and clean-up activities underway.

In this context details of bunker and cargo disposition, condition of any empty tanks and nature of any ballast carried are information needed by those involved in order to assess the threat posed by an actual or probable discharge from the damaged ship.

2.2.3 Whom to Contact

The Master is responsible for reporting any incident involving an actual or probable discharge of oil or NLS.
Contact information for coastal State and other concerned parties (port contacts, vessel interest contacts) is located in Section 4.

2.2.3.1 Coastal State Contacts

The vessel, in accordance with the regulations, has onboard a **declaration** that the vessel's management has, in accordance with 167 of the Canada Shipping Act 2001, entered into an arrangement with response organization, **ECRC** to which a certificate of designation has been issued pursuant to section 169 in respect of the quantity of oil that is carried both as fuel and cargo on board the vessel.

The **Director of Operations**, identified in the **declaration** , shall be responsible for contacting and mobilizing the response organization, **ECRC at 613-930-9690**.

2.2.3.2 Port Contacts

As Ports of Call vary, MASTER to ensure that pprior t entering port any local contacts are obtained and displayed in MASTERS designated location. After departure contacts are to be added to manual and updated as necessary.

2.2.3.3 Vessel Interest Contacts

Vessel interest contacts are outlined on **page 31**

SECTION 3: Steps to Control Discharge

Ship personnel will most probably be in the best position to take quick action to mitigate or control the discharge of oil or noxious liquid substances from their ship

Therefore, this Plan provides the Master with clear guidance on how to accomplish this mitigation for a variety of situations.

It is the Master's responsibility to initiate a response in the event of a discharge of oil/NLS or substantial threat of discharge - actual or probable - into waters.

In no case action should be taken that in any way could jeopardize the safety of personnel either onboard or ashore.

In cases of a discharge of a noxious liquids substances the Master has to refer to the "Material Safety Data Sheet" (MSDS) provide onboard for any NLS cargo. Consideration to be made to any danger resulting from discharge of such substances, i.e. mixing with water, air, other materials / substances.

Special consideration is to be taken in case of the necessity to transfer cargo into another compartment onboard the compatibility of the material to be transferred and the material of pipes and tanks to be used for such actions.

In cases of small spills on deck, the vessel's crew should take whatever actions are necessary to prevent oil from escaping over the side. Once the spill is contained on deck, the crew will need to take action to clean up the oil. SPILLED OIL SHALL NOT BE WASHED OVER THE SIDE. Once oil is in the water, the crew's ability to respond in a practical manner is greatly reduced.

The following list specifies different kinds of possible operational spills with regard to reactions to be taken.

3.1 <u>OPERATIONAL SPILLS</u>

3.1.1 Operational Spill Prevention

All crew members shall maintain a close watch for the escape of oil or NLS during bunker or cargo operations.

Prior to bunker or cargo transfer the competent crew members should mobilize the spill equipment, as far as available on board, and place it close to the planned operation, e.g. along the railing on the side at which bunker operation takes place. All deck scuppers and open drains must be effectively plugged. Accumulations of water should be drained periodically and scupper plugs replaced immediately after the water has run off. Any free floating substances should be removed prior to draining.

Bunker or Cargo tanks which have been topped up should be checked frequently during the remaining operations to avoid an overflow.

Unless there are permanent means for retention of any slight leakage at ship / shore connections for bunker or cargo transfer, it is essential that a drip tray is in place to catch any leaking substance.

All crew members of the ship's crew should be familiar with the fundamentals of the ship's vital systems including the ventilation and electrical systems. Crew members should be able to isolate the accommodation and/or machinery spaces using the louvers and fan shutoffs and, from the distribution panels, isolate electrical circuits in areas of risk.

In the event of an operational spill which occurs during bunkering or cargo operations, it is important that the bunkering party terminate any and all bunkering operations and close all manifold valves.

Before closing any manifold valves, the bunkering / cargo party must immediately inform the terminal / loading master so that they may take action to eliminate the possibility of over-pressurization of the shore side transfer components.

After dealing with the cause of the spill, it may be necessary to obtain permission from local authorities and/or the terminal before resuming bunkering or cargo operations.

If the possibility of fire or explosion exists, nonessential air intakes to accommodations and machinery spaces should be closed and all sources of ignition should be eliminated. See Section 1.3.3 of this Plan.

Care must be taken to consider stability and stress when taking action to mitigate the spillage of oil. Internal transfers should be undertaken only with a full appreciation of the likely impact on the vessel's overall stress and stability. Please refer to the "Approved Stability Book" carried on board.

Operational Spill Checklist

Action Considered	Designated Person	Completed
Sound emergency alarm	Person Discovering Incident	Y / N
Mobilize Oil Pollution Prevention Team	Chief Engineer / Master	Y / N
Cease all bunkering operations	Chief / 2nd Engineer	Y / N
Locate source of leakage	Chief / 2nd Engineer	Y / N
Operate manifold valves	Chief / 2nd Engineer	Y / N
Close all nonessential vent intakes and tank vents as required	Chief / 2nd Engineer	Y / N
Stop or reduce outflow	Chief Engineer / Deckhand	Y / N
Assess fire risk	Chief Officer	Y / N
Commence clean up	Chief Officer	Y / N
Assess Stress / Stability	Master / Chief Officer	Y / N
Transfer fuel from damaged area to slack tanks or other containment space	Chief / 2nd Engineer	Y / N

Request outside assistance if required	Master	Y / N
Counter excessive list if required / possible	Chief Officer	Y / N

3.1.2 Pipeline Leakage

In the event of leakage from an oil / NLS pipeline, valve, hose or metal arm, the Chief Engineer must ensure that the following actions are taken:

- Stop oil flow, close manifold and other valves.
- Sound emergency alarm and mobilize Oil Pollution Prevention Team
- Locate source and drain affected section into an available empty or slack tank. Repair if possible
- If there is any possibility of vapours entering the engine room or accommodation intakes, appropriate preventative steps must be taken quickly.
- Absorb spill with any absorbent materials on hand and dispose of oil soaked materials in an appropriate container.
- If oil is overboard, report to proper authorities immediately (as per section 4 of this plan).

3.1.3 Tank Overflow

In the event of an oil tank overflow, the Chief Engineer must ensure that the following actions are taken:

- Stop oil flow, close manifold and other valves.
- Sound emergency alarm and mobilize Oil Pollution Prevention Team
- Place drain buckets under overflow pipes to contain possible spills.
- If there is any possibility of vapours entering the engine room or accommodation intakes, appropriate preventative steps must be taken quickly.
- Drain or transfer oil to slack or empty tanks if possible with due consideration paid to vessel stability. If no slack or empty tanks are available, oil may be pumped back ashore through delivery lines, having first gained permission to do so.
- Absorb spill with any absorbent materials on hand and dispose of oil soaked materials in an appropriate container.
- If oil is overboard, report to proper authorities immediately (as per section 4 of this plan).

3.1.4 Hull Leakage

If oil is noticed on the water near the vessel during normal operations and cannot be accounted for, the possibility of hull leakage should be suspected.

In the event of a hull leakage, the Master must ensure that the following actions are taken:

- Sound emergency alarm and mobilize Oil Pollution Prevention Team.
- Stop any transfer or bunkering operations.
- Identify damage and report to proper authorities immediately (as per section 4 of this plan). Consider a diver if necessary and possible.

- If possible, contain spill using materials on hand and dispose of oil soaked materials in an appropriate container.
- If there is any possibility of vapours entering the engine room or accommodation intakes, appropriate preventative steps must be taken quickly.
- Transfer fuel away from suspected leaks to empty or slack tanks if possible, or to a ballast tank if necessary. If in port, arrangements can be made to pump oil ashore to tanks or trucks. Due consideration is to be paid to vessel stress and stability.
- If it is not possible to identify the leaking tank, reduce level in all tanks in the vicinity, giving due consideration to vessel stress and stability.

3.1.5 Spills caused by Equipment in Machinery Spaces

- If operational spills are caused by failure of equipment in machinery spaces, any further operation of this equipment should be stopped immediately and measures are to be taken to avoid a spill. Such equipment may be
  - Oily - water separating equipment or oil filtering equipment or oil filtering equipment to de-oil bilge water from the engine room bilges.
  - Valves in pipes connecting ballast / cargo systems
  - Cooling pipes in cooler systems
  - Gearing of bow thruster
  - Stern tubes

- Sound emergency alarm and mobilize Oil Pollution Prevention Team.
- Absorb spill with any absorbent material in hand and dispose of oil soaked materials in an appropriate container.
- Do not restart equipment until problem has been rectified.

3.2 <u>Spills Resulting from Casualties</u>

In the event of a casualty the Master's first priority will be to ensure the safety of personnel and the vessel and initiate action to prevent escalation of the incident and marine pollution.

3.2.1 Ship grounded / stranded

If the vessel grounds, the Master must ensure that the following actions are taken:

- Sound emergency alarm, muster crew, and Mobilize Oil Pollution Prevention Team once safe to do so.
- Eliminate all avoidable sources of ignition and ban smoking onboard. Action bust be taken to prevent hazardous vapours from entering accommodation and machinery spaces. See section 1.1.3.
- Identify damage by means of a visual inspection.
- Take soundings around vessel to determine the nature and gradient of seabed.
- Check differences in tidal range at grounding site.
- Evaluate tidal current in grounding area.
- Take soundings of all tanks on shell and compare with departure soundings.

- Determine probability and/or quantity of oil released
- If oil release is determined or is probably, this is to be included in the casualty report.
- Determine other possible hazards to the vessel such as sliding off the grounding site or further damage from seas / swell, and torsion forces.

At this point, determine risk of additional damage to vessel by attempting to refloat. If remaining aground is determined to be less of a risk then:

- Use anchors to prevent vessel movement.
- Take on ballast in empty tanks with due consideration paid to stress and stability. Please refer to the approved stability book.
- Consider transfer of fuel from damaged tanks with due consideration paid to stress and stability. Please refer to the approved stability book.
- Reduce longitudinal stress on the hull by transfer of fluids internally. Please refer to the approved stability book.
- If the change in stability and stress cannot be calculated onboard, contact the vessel's management to arrange for the necessary calculations. Refer to appendix 3 for information which should be provided.

3.2.1.1 Prevention of Fire and Explosion

If a fire or explosion occurs on board, the vessel's fire control party must ensure that the following actions are taken:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.
- Determine extent of damage and what damage control measures can be taken.
- Determine whether there are casualties.
- Request assistance as deemed necessary.
- Take necessary actions to prevent smoke and other hazardous vapours from entering the accommodation and machinery spaces.
- Assess possibility of oil leakage.
- Determine possible actions to control the discharge of oil. This will depend largely on the damage to the ship and cargo.
- If there is a discharge or possible discharge of oil, this to be included in the casualty report.
- Should abandonment be necessary, the Master must ensure that every effort is made to maneuver survival craft upwind of any oil spill.

3.2.1.2 Hull Damage / Hull Failure / Containment Failure

If the vessel suffers structural hull failure, the Master must ensure that the following actions are taken:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.

- Reduce speed or stop to minimize stress on hull.
- Assess immediate danger of sinking or capsizing.
- Initiate damage control measures if possible.
- If lightening is required, all efforts should be made to wait for a barge or other ship to receive the cargo.
- If oil has spilled, or if it is necessary to jettison oil to maintain stability, make a report as per section 2.
- If the change in stability and stress cannot be calculated onboard, contact the vessel's management to arrange for the necessary calculations.
- Consider forecasted weather conditions and their effect on the situation.
- Should abandonment be necessary, the Master must ensure that every effort is made to maneuver survival craft upwind of any oil spill.

3.2.1.3 Procedures to reduce or Stop Outflow of Oil or NLS

The Master should assess the possibility of damage to the environment and whatever action can be taken to reduce further damage from any release, such as;

- Transfer /cargo internally, provided shipboard piping system is in an operational condition and in careful view of the compatibility of the substance and the tanks/pipes used for transfer, and taking into account the impact on the ship's overall stress and stability.
- Isolate damaged/penetrated tanks hermetically to ensure that hydrostatic pressure in tanks remains intact during tidal changes.
- Evaluate the necessity of transferring bunkers / cargo to barges or other ships and request such assistance accordingly.
- Evaluate the possibility of additional release of oil or NLS in close co-operation with coastal states.

In case of large differences between the tide levels, the Master should try to isolate the damaged tanks to reduce additional to reduce additional loss of substances.

3.2.1.4 Refloating by own means

The Master should also evaluate the question of refloating the vessel by own means. Before such an attempt is made, it must be determined:

- whether the ship is damaged in such a way that it may sink, break up or capsize after getting off
- whether the ship , after getting off, may have maneuvering problems upon leaving the dangerous area on its own.
- whether machinery, rudder or propeller are damaged due to grounding or may be damaged by trying to get off ground by own means.
- whether the ship may be trimmed or lightened sufficiently to avoid damage to other tanks in order to reduce additional pollution.
- weather evaluation; whether there is time/reason to await improvements in weather or tide.

- whether ship's structure permits refloating/consultation of GL Emergency Response Service
- whether all steps of Coastal Shipping Ltd. procedure "Grounding" have been complied with.

3.2.1.5 Securing the Ship

If the risk of further damage the ship is greater in an attempt to refloat the ship by own means, than in remaining aground until professional assistance has been obtained, the ship's Master should try to secure the ship as much as possible:

- Trying to prevent the ship from moving from its present position
- By dropping anchors (adequate water depth and anchor ground provided)
- By taking ballast into empty tanks, if possible
- Trying to reduce longitudinal strain on hull by transferring ballast or bunkers internally
- Reducing fire risk by removing all sources of ignition.

Inform in line with Section 2 all parties interested about Grounding and the actions taken so far.

3.2.2 Fire /Explosion

Should an explosion and a fire occur onboard, sound the GENERAL ALARM immediately.
Further actions should be initiated in accordance with the ship's Muster List.
In case of fire and explosion the following priorities exist:

- Rescuing lives
- Limiting damage /danger to the ship and cargo
- Preventing environmental pollution

The Coastal Shipping Emergency Procedure **" Fire and Explosion"** in the file Emergency Preparedness should be complied with.

Steps to control the discharge of oil will depend largely on the damage to the ship and cargo.
Special information thereto is contained in subparagraphs 3.2.4, 3.2.5 and 3.2.6.
Inform in line with Section 2 all parties interested about the Fire /Explosion and the actions taken so far.

3.2.3 Collision

The Master shall follow the emergency plan as given in Coastal Shipping Ltd Emergency procedure "Collision" in file: Emergency Preparedness as follows:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.
- Determine whether there are casualties.
- If there is a possibility of fire or explosion, eliminate all avoidable sources of ignition and ban smoking onboard. Action should be taken to prevent flammable vapours from entering the accommodation and machinery spaces. .

- Decide whether separation of vessels may cause or increase spillage of oil, or increase the risk of sinking.
- If any oil tanks are penetrated, isolate these tanks or transfer oil to slack or empty tanks with due attention paid to stress and stability of the vessel. Please refer to the approved stability book.
- If there is an oil spill, make a report as per section 4.
- If possible to maneuver, the Master, in conjunction with the appropriate shore authorities should consider moving his ship to a more suitable location in order to facilitate emergency repair work or lightening operations, or to reduce the threat posed to any sensitive shoreline areas.

3.2.4 Excessive List

Should the ship for some reasons suddenly start to list excessively during discharging/loading operations, or bunkering, all ongoing operations should be stopped immediately until the cause has been determined.

The Officer on duty should inform the Master and/or Chief Officer without delay.

The Master should try to determine the reason for excessive list, and take steps to rectify the situation and to stabilize the ship's condition:

- Check reasons for list
- Soundings / Ullage to be taken in all tanks
- Bunker / Ballast / Cargo pumps to be made ready
- Consider measures to minimize list in transferring liquid from one compartment to another
- Ensure water tightness of empty spaces
- Close all opening
- Secure vent pipes to avoid ingress of water
- If bunkering: Change to corrective tanks for rectifying the situation
- If ballasting/deballasting: Change to corrective tanks to rectify the situation
- If there is reason to believe that the list may cause any spill, notify as per Section 4
- If the ship's crew is in jeopardy, prepare lifeboats for launching, and notify as per Section 4

If the situation is brought under control, inform all parties interested.

3.2.5 Dangerous reaction of cargo

In case of spillage of NLS cargo on deck, to the sea or incidents mixture with other cargo through internal tanks leakage consider dangerous reactions of such mixture. Promptly consult the Material Sheet Data Sheet (MSDS) available for the cargo shipped to the information provided. Take necessary actions for the safety of the crew for the case of (possible) contamination with spilled material or its vapours

3.2.6 Other dangerous cargo and/or vapour release

In case release of dangerous liquid noxious substances take necessary actions for the protection of the crew against health hazards, especially by contamination with materials or its toxic vapours. Avoid material or vapours spreading over the ship. If any dangerous material or vapour is released from any part of the containment system, take arrangements to free the deck area as far as possible by turning the ship to have the accommodation upwind of the point of release.

Evacuate crew members from the endangered area. If persons have to carry out any unavoidable duties within the endangered area, care for the personal protection for those persons to avoid direct contact.
All possible sources of ignition should be eliminated and non-essential air intakes shut down to prevent intake of vapour into accommodation and engine spaces.

Take measures to reduce tanks level or pressure to stop any emission of material or vapour.

Report about such spillage to nearest coastal state in order to arrange precautionary measures for the environment.

3.2.7 Loss of tank environmental control

Consider any hazards arising out of loss of environmental control in view of possible explosion dangers by contacting the Material Safety Data Sheets (MSDS) of the cargo concerned.
Avoid any intake of air into the uncontrolled spaces to avoid a dangerous mixture to be built within the respective.

3.2.8 Ship submerged/foundered/wrecked

If the ship is wrecked to the extent that it or parts of it are submerged, take all measures to evacuate all persons onboard. Avoid contact with any spilled cargo or oil . Alert other shops and/or the nearest coastal state for assistance in rescuing lives and the as far as possible.

3.3 <u>Priority Actions</u>

Top priority shall in all cases of emergency be put on the safety of the persons onboard and to take actions to prevent escalation of the incident.
Immediate consideration should be given to the protective measures against fire, fire explosions and personal exposure to toxic vapour.
Detailed information about damage sustained to the ship and its containment system has to be obtained.
On the basis of the information the Master can decide next actions for the protection of lives, the ship, the cargo and the environment.
The Master should take into account the following when he is determining whether salvage assistance will be needed or not:

- Nearest land or hazard to navigation
- Vessel's set and drift

- Estimated time of casualty repair
- Determination of nearest capable assistance and its response time.

Detailed information about the cargo, especially NLS Cargo has to be available and to be referred to further actions regarding the cargo.

In case of necessary movement of cargo within the ship careful consideration is to be given to hull strength and stability as well as to the compatibility of all material. (cargo, tanks, coating, piping) in view of any transfer actions planned.

Plans/tables about location and specification of the current cargo as well as bunkers and ballast have to be readily available.
Information about Current cargo/bunker/ballast distribution and the Material Safety Data Sheets (MSDS) for the carried cargo substances are available at:

- Cargo, bunkers, ballast distribution: Cargo Office
- Material Safety Data Sheets (MSDS); Alleyway opposite of the cargo office

3.4 Mitigating Activities

If safety of both the ship and the personnel has been addressed the Master shall care for the following issues:

- Assessment of the situation and monitoring of all activities as documented evidence
- Care for further protection of the personnel, use of protection gear, assessment of further risk for health and safety
- Containment of the spilled material by absorption and proper and safe disposal of all material onboard until proper delivery ashore under close guidance of the safety information given by the Product Data Sheet
- Decontamination of Personnel after finishing the cleanup process.

3.5 Transfer of Bunker/Cargo - Lightering

If the ship has sustained extensive structural damage, it may be necessary to transfer all or part of the cargo/bunker to another ship. In Ship to Ship transfer operations involving a specialized service ship, the Master of that ship will normally be in overall charge.
In the case of non-specialized ships the Master or other person in overall charge of the operation should be mutually agreed and clearly established by the Masters concerned prior to the start of operations.
The actual bunker/cargo transfer should be carried out in accordance with the requirements of the receiving ship.
In all cases each Master remains responsible for the safety to be jeopardized by the action of the other Master, his owner, regulatory officials or others.

The ship to ship transfer operations should be coordinated with the appropriate responsible local Authority. When selecting the area of operation the Masters should consider the following points:

- The need to notify and obtain the agreements of any responsible authority
- The destinations of the ships concerned
- The shelter provided, particularly from sea and swell
- The sea area and depth of water, which should be sufficient for maneuvering during mooring, unmooring, and transfer operations and allow a safe anchorage if operations have to be undertaken at anchor
- The traffic density
- The weather conditions and weather forecasts.

Further, before commencing Ship to Ship Transfer operations each ship should carry out, as far as possible, appropriate preparations like

- Pre-mooring preparations of the ship
- Positioning of fenders if such equipment is available on board
- Mooring equipment arrangements
- Checking the communication channels between the two ships.

In addition to the general principles of Ship to Ship operations as aforementioned the Master should take note of supplemented instructions issued in the Coastal Shipping Ltd bunkering procedures.

3.6 Damage Stability and Hull Stress Calculation

Whenever the tank status changes in the course of the incident the stability and stress of the vessel has to be checked using the class approved cargo computer.

In case of hull damage stability shall instantly be checked using the appropriate application of the cargo computer. The damage control plan should be referred to. In addition to that the **GL Emergency Response Service** is to be consulted for proper stress and stability calculations.

Whenever possible the contact to the **GL Emergency Response Service** will be via Coastal Shipping Ltd. office in order to reduce the workload onboard.
Otherwise the vessel can contact the **GL Emergency Response Service** directly using the following numbers:

Phone: **011-49-40-3614-9134**
Mobile: **011-49-172-405-9713**
Fax: **011-49-40-361-493-620**
email: **matthias.galle@gl-group.com**

Vessel Stress and Stability Information

VOYAGE PARTICULARS

Departure Port

Departure Date

Time (GMT)

VESSEL CONDITION IMMEDIATELY BEFORE CASUALTY

Mean Draft Forward

Mean Draft Aft

KG(solid)

KG(fluid)

LCG of Vessel

Condition of Tanks and Compartments

#	COMPARTMENT	S.G.	TONNES

3.7 General Responsibilities of the Master and designated Officers / crew members

The responsibilities of the Master Officers and the crew onboard in the event of a spill actual or probable to bring the accident under control on board, limit overflows or cleanup procedures, and to secure the ship immediately if an incident occurs.

The following is an example which can be used by the Master to aid in designating officers. Should changes to the team be made, please make a record in this section :

Master
Chief Mate
Chief Engineer

In the event of an emergency, the team should be called out as soon as it is safe to do so.

The team should be given necessary training in the use of such equipment as oil absorbents that the vessel may carry. All members crew should be aware of their duties should an oil spill occur.

Master

- In overall charge.
- Informs terminal authorities or coastal authorities of incident.
- Informs the local agent and requests agent to inform the local underwriter's representative.
- Advises the company's head office of the situation. Keeps everyone updated at regular intervals. and advises of any changes in status of the emergency.
- Keeps log of all events and progress of actions.

Chief Mate

- In charge of deck / cargo operations.
- In charge of lifeboats if required.
- Keeps the Master informed and updated on the situation and of the results of steps taken to contain any spills and limit outflow.
- Insures all openings in the deck and superstructure are closed to limit vapour entry.
- Position sorbent / clean up material to prevent any fluid escape.

Chief Engineer

- In charge of bunkering operations.
- Organizes distribution of oil spill detergents if required.
- Stops bunkering operations if applicable.
- Stops pumps and any unnecessary pieces of machinery.

Other Personnel

Deck Officer on duty

- Alerts and informs Chief Officer / Chief Engineer on the situation.

- Mobilize off duty crew as necessary.

Engineer on duty

- Assist the Chief Engineer.
- Prepare for fire fighting.
- Ensure sufficient power and water to deck.
- Organizes onboard clean up equipment.

Deck Officer off duty

- Under the direction of the Master, responsible for the reporting and record keeping of all events.

On duty Ratings

- Alerts the Officer on duty of any leakage.
- Position sorbent / clean up material to prevent any fluid escape.

Off duty personnel

- Assist as required

SECTION 4: National and Local Co-Ordination Steps to Control Discharge

In accordance with the Canadian Pollutant Discharge Reporting Regulations, the Master or Owner of a ship must report, without delay, any discharge or anticipated discharge of a pollutant in Canadian waters or fishing zones, to a Pollution Prevention Officer (PPO). Reports must be made in the manner described in Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants, TP 9834, or "General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants" adopted by the IMO by Resolution A.851(20). These initial reports can be made to Marine Communication and Traffic Service (MCTS) or any other Canadian Coast Guard Radio Station (CGRS), on the frequencies listed in the publication, Radio Aids to Marine Navigation (RAMN).

Alternatively, spills may be reported to the appropriate regional center or nearest Vessel Traffic Service Center on VHF channel 16:

CANADA

Atlantic Region

St. John's, NL	Tel:	1-800-563-9089
Halifax, NS	Tel:	1-800-565-1633

Central & Arctic Region

Quebec City, QC	Tel:	1-800-363-4735
Sarnia, ON	Tel:	1-800-265-0237

Western Region

Vancouver, BC	Tel:	1-800-889-8852

GREENLAND

Spill Notification Point

Joint Arctic Command	Tel:	+299 36 40 00
MRCC Greenland	Fax:	+299 36 40 29
Aalisartut Aqquttaat 47	Email:	ako@mil.dk
Po Box 1072, 3900 Nuuk, Greenland		ako-commcen@mil.dk

Competent National Authority

Greenland Bureau of Minerals and Petroleum (BMP)	Tel:	(+299) 34 68 00
Imaneq 1A 201,	Fax:	(+299) 32 43 02
PO Box 930, 3900 Nuuk, Greenland	Email:	bmp@nanoq.gl
	Web:	www.bmp.gl

Note:

The following contacts have been included as they are within the expected range of operation of the Vessel. Due to the nature of the Vessel's voyages and varied ports of call this list should not be considered exhaustive. For this reason space has been included at the end of this section for addenda.

Within Canada, administrative inquiries related to pollution prevention, compliance and enforcement, vessel regulations, design and construction should be directed to:

Transport Canada
Marine Safety and Security
330 Sparks Street
Ottawa, Ontario
K1A 0N5
Tel: (613) 998-0610 Fax: (613) 954-1032

Inquiries relating to pollution response should be directed to:

Commissioner
Canadian Coast Guard
Department of Fisheries and Oceans
6th Floor, Centinnial Towers
200 Kent Street
Ottawa, Ontario
K1A 0E6
Tel: (613) 990-0999/7728 Fax: (613) 990-1866 Email: info@dfo-mpo.gc.ca

ECRC East Coast Response Corporation
1201-275 Slater Street
Ottawa, Ontario
K1P 5H9
Tel:(613) 230-7369

Additional Contact Information

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

VESSEL INTEREST CONTACTS

VESSEL MANAGEMENT

Coastal Shipping Limited (Owners)
P. O. Box 300, Station C
Happy Valley-Goose Bay, NL
A0P 1C0
Canada
Ph: (709) 896-2421
Fax: (709) 896-5028

24 HOUR EMERGENCY CONTACTS

General Manager	Dennis White	(709) 896-2421 work (709) 896-1404 cell (709) 896-2870 home
Engineering Superintendent	Jim Babij	(709) 579-6127 work (709) 727-5065 cell (709) 576-0160 home
	Kevin Brewer	(709) 579-6127 work (709) 682-0826 cell (709) 227 2600 home
Fleet Manager	Phillip John	(709) 535-6944 work (709) 541-1807 cell pjohn@woodwards.nf.ca
Designated Person Ashore	Craig Whiteway	(709) 834-1320 work (709) 727-4848 cell cwhiteway@woodwards.nf.ca

APPENDICES:

Appendix I:

- **Spill Equipment Inventory**

Appendix II:

- **General Arrangement**
- **Layout of General Arrangement Stowage Plan**
- **Diagram of Fuel Bunkering**
- **Tank Plan**
- **Capacity Plan**
- **Diagram of Fuel Service Lines**
- **Lubricating Oil System**
- **Stripping System**

APPENDIX I

SPILL EQUIPMENT "MT ALSTERSTERN"

LOCATION PLAN

Date Checked (dd/mm/yy):

Quantity	Unit	Description
		BOX 2 (CATWALK)
100	Pcs	Oil sorbent pads / sheets
1	Bag	Sorbent boom
2	Bags	Saw Dust
2	Bags	Granules
		BOX 3 (CATWALK)
3	Pcs	Compressed air breathing apparatus
1	Pc	Chemical suit (gas tight)
2	Pairs	Rubber boots
2	Pcs	Safety lamp
2	Pcs	Face mask
3	Pcs	Safety goggles
2	Pcs	Rubber gloves
3	Pcs	CHEMTEX chemical clothing
		BOX 4 (CATWALK)
2	Pcs	Sorbent blanket
2	Bags	Sorbent boom
25	Ltr.	Oil spill dispersant (SEACARE)
1	Pc	Pressure sprayer
1	Pc	Non sparking shovel
2	Pcs	Safety goggles
2	Pairs	Rubber gloves
2	Pairs	Rubber boots
2	Pcs	Plastic scoop
2	Pcs	Galvanized scoop
2	Pcs	Rain suit
		BOX 5 (BLOWER EXHAUST)
2	Bags	Saw dust
2	Bags	Granules
		BOX 6 (ACCOMMODATION)
2	Pcs	Compressed air breathing apparatus
2	Pcs	Chemical suit (gas tight)
2	Pcs	Safety helmet
2	Pcs	Safety lamp
1	Pc	Air drill
2	Pcs	Safety goggles
2	Pairs	Gloves
2	Pairs	Rubber boots
		SAFETY LOCKER #415
7	Pcs	Foam spray (Montage Schaum)
		FORECASTLE
4	Bags	Saw dust
		AFT WET LOCKER
14	Bags	Saw dust
5	Bags	Granules

****TO BE CHECKED MONTHLY AND DATE OF INSPECTION RECORDED****

APPENDIX II

Appendix C

Shipping Company certificate of entry and acceptance boats
Communication protocol
Safety management system for entry into confined water
Safety management system for monthly safety meeting

STEAMSHIP MUTUAL

CERTIFICATE OF ENTRY AND ACCEPTANCE

This is to certify that the ship below has been entered for insurance in
The Steamship Mutual Underwriting Association (Bermuda) Limited
for

Class 1 - Protection and Indemnity

With effect from

Noon G.M.T 20/02/2013 to Noon G.M.T 20/02/2014

until sold, lost, withdrawn or the entry is terminated in accordance with the Rules, to the extent specified and in accordance with the Act, Bye-Laws and the Rules from time to time in force and the special terms specified overleaf.

For the account of:

Coastal Shipping Ltd (Owner)

and Joint Members, if any, under Rule 9 (i) as listed overleaf

whose names have been entered in the Register of Members of the Club as a Member.

Vessel Name:	**"DORSCH"**		
Gross Tonnage:	**6,729**	Built:	**1980**
Class:	**GL**	IMO no:	**8007195**
Port of Registry:	**ST. JOHN`S, NFL.**		

THIS CERTIFICATE OF ENTRY IS EVIDENCE ONLY OF THE CONTRACT OF INDEMNITY INSURANCE BETWEEN THE ABOVE NAMED MEMBER(S) AND THE ASSOCIATION AND SHALL NOT BE CONSTRUED AS EVIDENCE OF ANY UNDERTAKING, FINANCIAL OR OTHERWISE, ON THE PART OF THE ASSOCIATION TO ANY OTHER PARTY.
IN THE EVENT THAT A MEMBER TENDERS THIS CERTIFICATE AS EVIDENCE OF INSURANCE UNDER ANY APPLICABLE LAW RELATING TO FINANCIAL RESPONSIBILITY, OR OTHERWISE SHOWS OR OFFERS IT TO ANY OTHER PARTY AS EVIDENCE OF INSURANCE, SUCH USE OF THIS CERTIFICATE BY THE MEMBER IS NOT TO BE TAKEN AS ANY INDICATION THAT THE ASSOCIATION THEREBY CONSENTS TO ACT AS GUARANTOR OR TO BE SUED DIRECTLY IN ANY JURISDICTION WHATSOEVER. THE ASSOCIATION DOES NOT SO CONSENT.

NOTES

1. REFERENCE IS REQUESTED TO THE RULES AS TO THE CIRCUMSTANCES OF ENTRY BEING CANCELLED AND AS TO THE CIRCUMSTANCES OF AN ALTERATION IN THE RULES OR BYE-LAWS.

2. THE RULES ARE PRINTED ANNUALLY IN BOOK FORM, INCORPORATING ALL PREVIOUS ALTERATIONS AND A COPY IS SENT TO EACH MEMBER. ALTERATIONS CAN BE MADE BY ORDINARY RESOLUTION FOLLOWING A GENERAL MEETING NOTIFIED TO ALL MEMBERS.

3. THIS CERTIFICATE OF ENTRY SUPERSEDES ANY PREVIOUS CERTIFICATE OF ENTRY IN RESPECT OF THESE RISKS AND ENTERED SHIP(S). SAVE AS OTHERWISE EXPRESSLY PROVIDED HEREIN ANY SUCH PREVIOUS CERTIFICATE OF ENTRY SHALL REMAIN IN FULL FORCE AND EFFECT UP TO THE DATE OF THIS CERTIFICATE OF ENTRY.

STEAMSHIP MUTUAL MANAGEMENT (BERMUDA) LTD.
MANAGERS

Hamilton, Bermuda - 07/02/2013

Certificate Number - 43113/ 1

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Limit of Liability

Cover hereunder for all claims in respect of Oil Pollution shall be limited to US$ 1,000,000,000 each vessel any one accident or occurrence.

Inclusions of Cover

Cover as per Rules including but not limited to:

Liabilities in respect of Cargo in accordance with Rule 25 xiii and/save as may be more particularly set out in this Certificate of Entry.

Liability to Persons including Crew for illness, injury or death in accordance with Rule 25 i-iii, and/save as may be more particularly set out in this Certificate of Entry.

Liability for Loss of or Damage to Fixed and Floating Objects (including docks, jetties etc.) in accordance with rule 25 vii and/save as may be more particularly set out in this Certificate of Entry.

Liabilities in respect of Pollution in accordance with Rule 25 vi and/save as may be more particularly set out in this Certificate of Entry.

Liabilities in respect of Wreck Removal in accordance with Rule 25 xi and/save as may be more particularly set out in this Certificate of Entry.

Subject to the Rules and the Member's terms of entry this vessel is covered for trading to Arctic Waters.

Warranties

Vessel carrying non-persistent oil cargoes only, or held covered at terms and conditions to be agreed.

Trading between 15th June and 30th November annually, and to be laid-up at a safe port with less than 1/4 crew onboard for the remainder of the time

Trading Canadian waters only

Deductibles

US$5,235 - from all other cargo claims, each single voyage.

US$4,000 - from all other claims, any one accident or occurrence.

Other Conditions

Sanctions Clause

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It is a condition of this insurance that no coverage will be provided and no entries will be accepted in respect of:

1. Vessels owned, managed, operated or chartered by a party (who need not be a Member or prospective Member of the Club); and/or

2. Vessels;

designated under any legislation, regulation or order of any State or International Organisation which howsoever exposes those vessels and/or the Club and/or the Member entering such vessels and/or any other Member of the Club to the risk of being or becoming subject to any sanction, prohibition or adverse action whatsoever.

If, notwithstanding this condition,

(a) a vessel, in relation to which cover has been provided, or the entry of which has been accepted by the Club (whether or not a certificate of entry has been issued) ; or

(b) such vessel's owner, manager, operator or charterer, (whether or not a Member of the Club)

is or becomes so designated, the entry of that vessel and/or the coverage provided to the Member, shall cease forthwith and no claims, liabilities, costs or expenses shall be paid by or recoverable from the Club in relation thereto.

In the event that any vessel entered (whether or not a certificate of entry has been issued), or a vessel in relation to which cover has been provided, is employed on any voyage, in any trade, or for the carriage of cargo in breach of any legislation, regulation or order of any State or International Organisation which howsoever exposes the Club to the risk of being or becoming subject to any sanction, prohibition or adverse action whatsoever, the insurance of that vessel and/or the coverage provided to the Member shall cease forthwith and no claims, liabilities, costs or expenses in relation thereto, and arising after the date of such cessation, shall be recoverable hereunder. Save that at any time after such cessation, if the Directors in their absolute discretion so determine, that vessel's entry in the Club or the coverage in relation to that vessel, may be reinstated on such terms and conditions and from such date and time as the Directors or the Managers direct.

Crew Clauses

CANADIAN COMPENSATION EXCLUSION CLAUSE

Excluding any and all liability to crew and/or others employed on or about the vessel under any and all Workmens' Compensation Acts or equivalent legislation applicable under Canadian Federal or Provincial Law

Premium

Cancelling Returns only.

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Additional Parties

Joint Members

The cover afforded to:

1. Woodwards Oil Ltd (Other)
2. Labrador Leasing Ltd (Operator)
3. Labrador Motors Ltd (Operator)
4. Woodwards Ltd (Other)
5. Arctic Services Ltd (Other)

as Joint Member shall extend only to risks, liabilities, costs and expenses arising out of operations and/or activities customarily carried on by or at the risk and responsibility of shipowners and which are within the scope of the cover provided under the terms, conditions and exceptions provided by the Rules and by this Certificate of Entry.

The conduct of any one Joint Member which is sufficient to bar that Joint Member's right of recovery under the terms, conditions and exceptions provided by the Rules and by this Certificate of Entry shall bar absolutely the rights of recovery of all Joint Members thereunder.

All Joint Members shall be jointly and severally liable to pay contributions due to the Club in respect of this entry, and the receipt by any one Joint Member of any sums payable by the Club in respect of this entry shall be sufficient discharge of the Club for the same.

There shall be no recovery out of the funds of the Club in respect of any liability, costs and expenses arising out of or as a result of any claim, dispute or difference between any Joint Members, affiliates and/or any others insured to any extent under one entry.

Loss Payable Clause

Payment of any recovery the Owner is entitled to receive out of the funds of the Association in respect of any liability, costs or expenses incurred by him shall be made to the Owner or to his order unless and until the Association receives notice from:

The Royal Bank of Canada

that the Owner is in default under the Mortgage, in which event all recoveries shall thereafter be paid to:

The Royal Bank of Canada

or their order; provided always that no liability whatsoever shall attach to the Association, its Managers or their Agents for failure to comply with the latter obligation until after the expiry of two clear business days from the receipt of such notice. The Association shall, unless it receives from the Mortgagee notice to the contrary, be at liberty at the request of the Owner to provide bail or other security to prevent the arrest or obtain the release of the vessel, without liability to the Mortgagee.

Affiliated Companies Clause
It is noted that cover has been extended as follows, subject to the terms of Rule 9 (ii):

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Should a claim in respect whereof a Member named in this Certificate of Entry is insured by the Association be made or enforced through an Affiliated, Associated or Subsidiary Company of such Member, the Association shall if so requested by the Member indemnify such Company against any loss which as a consequence thereof such Company shall have incurred in that capacity provided always that nothing herein contained shall be construed as extending to any amount which would not have been recoverable from the Association by the Member had such claim been made or enforced against him. Once the Association has made such indemnification it shall not be under any further liability and shall not make any further payment to any person or Company whatsoever, including the Member, in respect of that claim.

Conduct of any one of the parties insured under this entry which is sufficient to bar the insured's rights hereunder shall bar the rights of recovery of all the said insured.

Addenda

War Risk Extension Clause

1) Cover excluded under Rule 21 is hereby reinstated subject to the terms set out in this Certificate of Entry and any Endorsement thereto, and to the following conditions.

2) This special cover shall be subject to an excess of either:

a) the "proper value" of the entered ship as defined in the Note to Rule 25 xv, (which, for the purpose of this War Risk Extension only, shall be deemed not to exceed US$100 million), or
b) the amount recoverable in respect of the claim under any other policy of insurance, whether of war risks or otherwise,

whichever shall be the greater, save that such excess shall not apply where the entry of the ship is solely in the name of or on behalf of a Charterer other than a Charterer by Demise or Bareboat Charterer, provided that the Directors may authorise the payment, in whole or in part, of any claim or part of a claim which falls within such excess, if in their discretion and without having to give any reasons for their decision they decide that the Owner should recover from the Club.

3) Subject to the exception set out below, the limit applying to this special cover shall be US$500 million, any one event each vessel or any limit set out elsewhere in this Certificate, whichever shall be the lesser.

4) All perils included in the special cover shall be subject to the following:

Chemical, Biological, Bio-chemical, Electromagnetic Weapons and Computer Virus Clause:

In no case shall this insurance cover loss damage liability or expense directly or indirectly caused by or contributed to by or arising from
a) any chemical, biological, bio-chemical or electromagnetic weapon;
b) the use or operation, as a means for inflicting harm, of any computer virus.

5) At any time or times before, or at the commencement of, or during the currency of any Policy Year of the Club, the Directors may in their discretion determine that any ports, places, countries, zones or areas (whether of land or sea) be excluded from the insurance provided by this P&I war risks cover. Save as otherwise provided by the Directors, this P&I war risks cover shall cease in

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respect of such ports, places, countries, zones or areas at midnight on the seventh day following the issue to the Members of notice of such determination in accordance with the terms of the cover provided pursuant to Rule 21 of the Club's Rules. Unless and to the extent that the Directors in their discretion otherwise decide there shall be no recovery from the Club under this P&I war risks cover in respect of any claim howsoever arising out of any event, accident or occurrence within the said area after such date.

6) Whether or not notice has been given under Clause (5) above, this P&I war risks cover shall terminate automatically:

i) upon the outbreak of war (whether there be a declaration of war or not) between any of the following countries:

United Kingdom, United States of America, France, the Russian Federation, the People's Republic of China and this insurance excludes loss, damage, liability or expense arising from such outbreak of war;

ii) in respect of any vessel, in connection with which cover is granted hereunder, in the event of such vessel being requisitioned either for title or use and this insurance excludes loss, damage, liability or expense arising from such requisition.

7) Notwithstanding any other term or condition of this insurance, the Directors may in their discretion cancel this special cover giving 7 days' notice to the Members (such cancellation becoming effective on the expiry of 7 days from midnight of the day on which notice of cancellation is issued by the Club and the Directors may at any time after the issue of notice of such cancellation resolve to reinstate special cover pursuant to the proviso to the terms of the cover issued pursuant to Rule 21 on such terms and conditions and subject to such limit as the Directors in their discretion may determine.

8) When either a Demise, Time, Voyage, Space or Slot Charterer and/or the Owner of the Entered Ship are separately insured for losses, liabilities, or the costs and expenses incidental thereto covered under Rule 21 of the Club and/or the equivalent Rule of any other Association which participates in the Pooling Agreement and General Excess Loss Reinsurance Contract, the aggregate of claims in respect of such losses, liabilities, or the costs and expenses incidental thereto covered under Rule 21 of the Club and/or the equivalent Rule of such other Association(s), shall be limited to the amount set out in the Certificate of Entry in respect of any one ship, any one incident or occurrence. If such claims exceed this limit, the liability of the Club in respect of each Certificate of Entry shall be limited to that proportion of the limit that claims recoverable from the Club under that Certificate bear to the aggregate of the said claims recoverable from the Club and from such other Association(s), if any.

9) Cover for acts of terrorism as defined in the U.S. Terrorism Risk Insurance Act of 2002 (TRIA) is included hereunder, subject to the conditions set out above, the estimated cost of this element of coverage being US0.25 cents per entered gross ton.

10) The Club shall not provide insurance hereunder for any losses, liabilities, costs or expenses if the provision of such insurance would create a liability for the (Insured Owner) under the Tanker Oil Pollution Indemnification Agreement 2006 to contribute to the IOPC Supplementary Fund.

11) Sanctions Clause - Excluding coverage for liabilities, costs and expenses to the extent that the payment of any claim or the provision of any benefit in respect of those

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liabilities, costs and expenses would expose the Club and/or their reinsurers hereunder to any sanction, prohibition or restriction under United Nations Resolutions or the trade or economic sanctions, laws or regulations of the European Union, United Kingdom or United States of America.

Bio-Chem Clause

1.1 Subject to the terms and conditions and exclusions set out herein, cover is extended to include the liability of the Member:
(a) To pay damages, compensation or expenses in consequence of the personal injury to or illness or death of any seaman (including diversion expenses, repatriation and substitute expense and shipwreck unemployment indemnity),
(b) For the legal costs and expenses incurred solely for the purpose of avoiding or minimising any liability or risk insured by an Association (other than under the Omnibus Rule)
1.2 Where such liability is not recoverable under either:
(a) cover provided by the Club for such liabilities, costs, losses and expenses as would be covered under the Rules but for the exclusion of war risks in Rule 21, or
(b) Any underlying war risk policies covering the same risks,
1.3 Solely by reason of the operation of an exclusion of liabilities, costs, losses and expenses directly or indirectly caused by or contributed to by or arising from :
(a) Any chemical, biological, bio-chemical or electromagnetic weapon
(b) the use or operation, as a means for inflicting harm, of any computer, computer system, computer software program, malicious code, computer virus or process or any other electronic system,
1.4 Other than liabilities, costs, losses and expenses arising from:
(i) Explosives or the methods of the detonation or attachment thereof
(ii) The use of the entered ship or its cargo as a means for inflicting harm, unless such cargo is a chemical or bio-chemical weapon.
(iii) the use of any computer, computer system or computer software program or any other electronic system in the launch and/or guidance system and/or firing mechanism of any weapon or missile.

2. Excluded Areas
2.1 The Directors may in their discretion decide that there shall be no recovery in respect of any liabilities, costs, losses and expenses directly or indirectly caused by or contributed to by or arising out of any event, accident or occurrence within such ports, places, zones or areas, or during such period as they may specify.
2.2 At any time or times before, or at the commencement of, or during the Policy Year, the Club may by notice to the Member change, vary, extend, add to or otherwise alter the ports, places, countries, zones and periods specified in Clause 2.1 from a date and time specified by the Club not being less than 24 hours from midnight on the day the notice is given to the Member.

3. Cancellation
Cover hereunder may by notice to the Member be cancelled by the Club from a date and time specified by the Club, not being less than 24 hours from midnight on the day notice of cancellation is given to the Member.

4. Limit of Liability
4.1 Subject to Clause 4.2 the limit of liability of the Club under this extension of cover in respect of all claims shall be in the aggregate US$30 million each ship any one accident or occurrence or series thereof arising from any one event.

Heather J. Cooper

4.2 In the event that there is more than one entry by any person for Bio-Chem cover as provided herein in respect of the same ship with the Club and/or any other insurer which participates in the Pooling Agreement or General Excess Loss Reinsurance Contract, the aggregate recovery in respect of all liabilities, costs, losses and expenses arising under such entries shall not exceed the amount stipulated in Clause 4.1 and the liability of the Club under each such entry shall be limited to such proportion of that amount as the claims arising under that entry bear to the aggregate of all such claims recoverable from the Club and any such other insurer.

5. Deductible
The deductible shall be the deductible applicable to the relevant cover set out in the Certificate of Entry.

6. Law and Practice
This clause is subject to English law and practice.

Association:
The Steamship Mutual Underwriting Association (Bermuda) Limited
Washington Mall 1, PO Box HM 447, Hamilton HM BX, Bermuda
Tel: (441) 295-4502 Fax: (441) 292-8787

Managers:
Steamship Mutual Management (Bermuda) Limited
Washington Mall 1, PO Box HM 447, Hamilton HM BX, Bermuda
Tel: (441) 295 4502 Fax: (441) 292 8787

Managers' London Representative:
Steamship Insurance Management Services Limited
Authorised and Regulated by the United Kingdom Financial Services Authority
Aquatical House, 39 Bell Lane, London E1 7LU
Tel: 020 7247 5490 Website: www.simsl.com
Registered No: 3855693 England

Heather J. Cooper

STEAMSHIP MUTUAL

CERTIFICATE OF ENTRY AND ACCEPTANCE

This is to certify that the ship below has been entered for insurance in
The Steamship Mutual Underwriting Association (Bermuda) Limited
for

Class 1 - Protection and Indemnity

With effect from

Noon G.M.T 20/02/2013 to Noon G.M.T 20/02/2014

until sold, lost, withdrawn or the entry is terminated in accordance with the Rules, to the extent specified and in accordance with the Act, Bye-Laws and the Rules from time to time in force and the special terms specified overleaf.

For the account of:

Coastal Shipping Ltd (Owner)

and Joint Members, if any, under Rule 9 (i) as listed overleaf

whose names have been entered in the Register of Members of the Club as a Member.

Vessel Name:	**"NANNY"**		
Gross Tonnage:	**6,544**	Built:	**1993**
Class:	**DNV**	IMO no:	**9051399**
Port of Registry:	**ST. JOHN`S, NFL.**		

THIS CERTIFICATE OF ENTRY IS EVIDENCE ONLY OF THE CONTRACT OF INDEMNITY INSURANCE BETWEEN THE ABOVE NAMED MEMBER(S) AND THE ASSOCIATION AND SHALL NOT BE CONSTRUED AS EVIDENCE OF ANY UNDERTAKING, FINANCIAL OR OTHERWISE, ON THE PART OF THE ASSOCIATION TO ANY OTHER PARTY.
IN THE EVENT THAT A MEMBER TENDERS THIS CERTIFICATE AS EVIDENCE OF INSURANCE UNDER ANY APPLICABLE LAW RELATING TO FINANCIAL RESPONSIBILITY, OR OTHERWISE SHOWS OR OFFERS IT TO ANY OTHER PARTY AS EVIDENCE OF INSURANCE, SUCH USE OF THIS CERTIFICATE BY THE MEMBER IS NOT TO BE TAKEN AS ANY INDICATION THAT THE ASSOCIATION THEREBY CONSENTS TO ACT AS GUARANTOR OR TO BE SUED DIRECTLY IN ANY JURISDICTION WHATSOEVER. THE ASSOCIATION DOES NOT SO CONSENT.

NOTES

1. REFERENCE IS REQUESTED TO THE RULES AS TO THE CIRCUMSTANCES OF ENTRY BEING CANCELLED AND AS TO THE CIRCUMSTANCES OF AN ALTERATION IN THE RULES OR BYE-LAWS.

2. THE RULES ARE PRINTED ANNUALLY IN BOOK FORM, INCORPORATING ALL PREVIOUS ALTERATIONS AND A COPY IS SENT TO EACH MEMBER. ALTERATIONS CAN BE MADE BY ORDINARY RESOLUTION FOLLOWING A GENERAL MEETING NOTIFIED TO ALL MEMBERS.

3. THIS CERTIFICATE OF ENTRY SUPERSEDES ANY PREVIOUS CERTIFICATE OF ENTRY IN RESPECT OF THESE RISKS AND ENTERED SHIP(S). SAVE AS OTHERWISE EXPRESSLY PROVIDED HEREIN ANY SUCH PREVIOUS CERTIFICATE OF ENTRY SHALL REMAIN IN FULL FORCE AND EFFECT UP TO THE DATE OF THIS CERTIFICATE OF ENTRY.

STEAMSHIP MUTUAL MANAGEMENT (BERMUDA) LTD.
MANAGERS

Hamilton, Bermuda - 07/02/2013

Certificate Number - 43117/ 1

Heather J. Cooper

STEAMSHIP MUTUAL

Limit of Liability

Cover hereunder for all claims in respect of Oil Pollution shall be limited to US$ 1,000,000,000 each vessel any one accident or occurrence.

Inclusions of Cover

Cover as per Rules including but not limited to:

Liabilities in respect of Cargo in accordance with Rule 25 xiii and/save as may be more particularly set out in this Certificate of Entry.

Liability to Persons including Crew for illness, injury or death in accordance with Rule 25 i-iii, and/save as may be more particularly set out in this Certificate of Entry.

Liability for Loss of or Damage to Fixed and Floating Objects (including docks, jetties etc.) in accordance with rule 25 vii and/save as may be more particularly set out in this Certificate of Entry.

Liabilities in respect of Pollution in accordance with Rule 25 vi and/save as may be more particularly set out in this Certificate of Entry.

Liabilities in respect of Wreck Removal in accordance with Rule 25 xi and/save as may be more particularly set out in this Certificate of Entry.

Subject to the Rules and the Member's terms of entry this vessel is covered for trading to Arctic Waters.

Warranties

Vessel carrying non-persistent oil cargoes only, or held covered at terms and conditions to be agreed.

Trading between 15th June and 30th November annually, and to be laid-up at a safe port with less than 1/4 crew onboard for the remainder of the time

Trading Canadian waters only

Deductibles

US$5,235 - from all other cargo claims, each single voyage.

US$4,000 - from all other claims, any one accident or occurrence.

Other Conditions

Sanctions Clause

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It is a condition of this insurance that no coverage will be provided and no entries will be accepted in respect of:

1. Vessels owned, managed, operated or chartered by a party (who need not be a Member or prospective Member of the Club); and/or

2. Vessels;

designated under any legislation, regulation or order of any State or International Organisation which howsoever exposes those vessels and/or the Club and/or the Member entering such vessels and/or any other Member of the Club to the risk of being or becoming subject to any sanction, prohibition or adverse action whatsoever.

If, notwithstanding this condition,

(a) a vessel, in relation to which cover has been provided, or the entry of which has been accepted by the Club (whether or not a certificate of entry has been issued) ; or

(b) such vessel's owner, manager, operator or charterer, (whether or not a Member of the Club)

is or becomes so designated, the entry of that vessel and/or the coverage provided to the Member, shall cease forthwith and no claims, liabilities, costs or expenses shall be paid by or recoverable from the Club in relation thereto.

In the event that any vessel entered (whether or not a certificate of entry has been issued), or a vessel in relation to which cover has been provided, is employed on any voyage, in any trade, or for the carriage of cargo in breach of any legislation, regulation or order of any State or International Organisation which howsoever exposes the Club to the risk of being or becoming subject to any sanction, prohibition or adverse action whatsoever, the insurance of that vessel and/or the coverage provided to the Member shall cease forthwith and no claims, liabilities, costs or expenses in relation thereto, and arising after the date of such cessation, shall be recoverable hereunder. Save that at any time after such cessation, if the Directors in their absolute discretion so determine, that vessel's entry in the Club or the coverage in relation to that vessel, may be reinstated on such terms and conditions and from such date and time as the Directors or the Managers direct.

Crew Clauses

CANADIAN COMPENSATION EXCLUSION CLAUSE

Excluding any and all liability to crew and/or others employed on or about the vessel under any and all Workmens' Compensation Acts or equivalent legislation applicable under Canadian Federal or Provincial Law

Premium

Cancelling Returns only.

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Additional Parties

Joint Members

The cover afforded to:

1. Woodwards Oil Ltd (Other)
2. Labrador Leasing Ltd (Operator)
3. Labrador Motors Ltd (Operator)
4. Woodwards Ltd (Other)
5. Arctic Services Ltd (Other)

as Joint Member shall extend only to risks, liabilities, costs and expenses arising out of operations and/or activities customarily carried on by or at the risk and responsibility of shipowners and which are within the scope of the cover provided under the terms, conditions and exceptions provided by the Rules and by this Certificate of Entry.

The conduct of any one Joint Member which is sufficient to bar that Joint Member's right of recovery under the terms, conditions and exceptions provided by the Rules and by this Certificate of Entry shall bar absolutely the rights of recovery of all Joint Members thereunder.

All Joint Members shall be jointly and severally liable to pay contributions due to the Club in respect of this entry, and the receipt by any one Joint Member of any sums payable by the Club in respect of this entry shall be sufficient discharge of the Club for the same.

There shall be no recovery out of the funds of the Club in respect of any liability, costs and expenses arising out of or as a result of any claim, dispute or difference between any Joint Members, affiliates and/or any others insured to any extent under one entry.

Affiliated Companies Clause
It is noted that cover has been extended as follows, subject to the terms of Rule 9 (ii):

Should a claim in respect whereof a Member named in this Certificate of Entry is insured by the Association be made or enforced through an Affiliated, Associated or Subsidiary Company of such Member, the Association shall if so requested by the Member indemnify such Company against any loss which as a consequence thereof such Company shall have incurred in that capacity provided always that nothing herein contained shall be construed as extending to any amount which would not have been recoverable from the Association by the Member had such claim been made or enforced against him. Once the Association has made such indemnification it shall not be under any further liability and shall not make any further payment to any person or Company whatsoever, including the Member, in respect of that claim.

Conduct of any one of the parties insured under this entry which is sufficient to bar the insured's rights hereunder shall bar the rights of recovery of all the said insured.

Addenda

War Risk Extension Clause

1) Cover excluded under Rule 21 is hereby reinstated subject to the terms set out in this

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Certificate of Entry and any Endorsement thereto, and to the following conditions.

2) This special cover shall be subject to an excess of either:

a) the "proper value" of the entered ship as defined in the Note to Rule 25 xv, (which, for the purpose of this War Risk Extension only, shall be deemed not to exceed US$100 million), or
b) the amount recoverable in respect of the claim under any other policy of insurance, whether of war risks or otherwise,

whichever shall be the greater, save that such excess shall not apply where the entry of the ship is solely in the name of or on behalf of a Charterer other than a Charterer by Demise or Bareboat Charterer, provided that the Directors may authorise the payment, in whole or in part, of any claim or part of a claim which falls within such excess, if in their discretion and without having to give any reasons for their decision they decide that the Owner should recover from the Club.

3) Subject to the exception set out below, the limit applying to this special cover shall be US$500 million, any one event each vessel or any limit set out elsewhere in this Certificate, whichever shall be the lesser.

4) All perils included in the special cover shall be subject to the following:

Chemical, Biological, Bio-chemical, Electromagnetic Weapons and Computer Virus Clause:

In no case shall this insurance cover loss damage liability or expense directly or indirectly caused by or contributed to by or arising from
a) any chemical, biological, bio-chemical or electromagnetic weapon;
b) the use or operation, as a means for inflicting harm, of any computer virus.

5) At any time or times before, or at the commencement of, or during the currency of any Policy Year of the Club, the Directors may in their discretion determine that any ports, places, countries, zones or areas (whether of land or sea) be excluded from the insurance provided by this P&I war risks cover. Save as otherwise provided by the Directors, this P&I war risks cover shall cease in respect of such ports, places, countries, zones or areas at midnight on the seventh day following the issue to the Members of notice of such determination in accordance with the terms of the cover provided pursuant to Rule 21 of the Club's Rules. Unless and to the extent that the Directors in their discretion otherwise decide there shall be no recovery from the Club under this P&I war risks cover in respect of any claim howsoever arising out of any event, accident or occurrence within the said area after such date.

6) Whether or not notice has been given under Clause (5) above, this P&I war risks cover shall terminate automatically:

i) upon the outbreak of war (whether there be a declaration of war or not) between any of the following countries:

United Kingdom, United States of America, France, the Russian Federation, the People's Republic of China and this insurance excludes loss, damage, liability or expense arising from such outbreak of war;

ii) in respect of any vessel, in connection with which cover is granted hereunder, in the event of such vessel being requisitioned either for title or use and this insurance excludes loss, damage,

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liability or expense arising from such requisition.

7) Notwithstanding any other term or condition of this insurance, the Directors may in their discretion cancel this special cover giving 7 days' notice to the Members (such cancellation becoming effective on the expiry of 7 days from midnight of the day on which notice of cancellation is issued by the Club and the Directors may at any time after the issue of notice of such cancellation resolve to reinstate special cover pursuant to the proviso to the terms of the cover issued pursuant to Rule 21 on such terms and conditions and subject to such limit as the Directors in their discretion may determine.

8) When either a Demise, Time, Voyage, Space or Slot Charterer and/or the Owner of the Entered Ship are separately insured for losses, liabilities, or the costs and expenses incidental thereto covered under Rule 21 of the Club and/or the equivalent Rule of any other Association which participates in the Pooling Agreement and General Excess Loss Reinsurance Contract, the aggregate of claims in respect of such losses, liabilities, or the costs and expenses incidental thereto covered under Rule 21 of the Club and/or the equivalent Rule of such other Association(s), shall be limited to the amount set out in the Certificate of Entry in respect of any one ship, any one incident or occurrence. If such claims exceed this limit, the liability of the Club in respect of each Certificate of Entry shall be limited to that proportion of the limit that claims recoverable from the Club under that Certificate bear to the aggregate of the said claims recoverable from the Club and from such other Association(s), if any.

9) Cover for acts of terrorism as defined in the U.S. Terrorism Risk Insurance Act of 2002 (TRIA) is included hereunder, subject to the conditions set out above, the estimated cost of this element of coverage being US0.25 cents per entered gross ton.

10) The Club shall not provide insurance hereunder for any losses, liabilities, costs or expenses if the provision of such insurance would create a liability for the (Insured Owner) under the Tanker Oil Pollution Indemnification Agreement 2006 to contribute to the IOPC Supplementary Fund.

11) Sanctions Clause - Excluding coverage for liabilities, costs and expenses to the extent that the payment of any claim or the provision of any benefit in respect of those liabilities, costs and expenses would expose the Club and/or their reinsurers hereunder to any sanction, prohibition or restriction under United Nations Resolutions or the trade or economic sanctions, laws or regulations of the European Union, United Kingdom or United States of America.

Bio-Chem Clause

1.1 Subject to the terms and conditions and exclusions set out herein, cover is extended to include the liability of the Member:
(a) To pay damages, compensation or expenses in consequence of the personal injury to or illness or death of any seaman (including diversion expenses, repatriation and substitute expense and shipwreck unemployment indemnity),
(b) For the legal costs and expenses incurred solely for the purpose of avoiding or minimising any liability or risk insured by an Association (other than under the Omnibus Rule)
1.2 Where such liability is not recoverable under either:
(a) cover provided by the Club for such liabilities, costs, losses and expenses as would be covered under the Rules but for the exclusion of war risks in Rule 21, or
(b) Any underlying war risk policies covering the same risks,
1.3 Solely by reason of the operation of an exclusion of liabilities, costs, losses and expenses

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directly or indirectly caused by or contributed to by or arising from :
(a) Any chemical, biological, bio-chemical or electromagnetic weapon
(b) the use or operation, as a means for inflicting harm, of any computer, computer system, computer software program, malicious code, computer virus or process or any other electronic system,
1.4 Other than liabilities, costs, losses and expenses arising from:
(i) Explosives or the methods of the detonation or attachment thereof
(ii) The use of the entered ship or its cargo as a means for inflicting harm, unless such cargo is a chemical or bio-chemical weapon.
(iii) the use of any computer, computer system or computer software program or any other electronic system in the launch and/or guidance system and/or firing mechanism of any weapon or missile.

2. Excluded Areas
2.1 The Directors may in their discretion decide that there shall be no recovery in respect of any liabilities, costs, losses and expenses directly or indirectly caused by or contributed to by or arising out of any event, accident or occurrence within such ports, places, zones or areas, or during such period as they may specify.
2.2 At any time or times before, or at the commencement of, or during the Policy Year, the Club may by notice to the Member change, vary, extend, add to or otherwise alter the ports, places, countries, zones and periods specified in Clause 2.1 from a date and time specified by the Club not being less than 24 hours from midnight on the day the notice is given to the Member.

3. Cancellation
Cover hereunder may by notice to the Member be cancelled by the Club from a date and time specified by the Club, not being less than 24 hours from midnight on the day notice of cancellation is given to the Member.

4. Limit of Liability
4.1 Subject to Clause 4.2 the limit of liability of the Club under this extension of cover in respect of all claims shall be in the aggregate US$30 million each ship any one accident or occurrence or series thereof arising from any one event.
4.2 In the event that there is more than one entry by any person for Bio-Chem cover as provided herein in respect of the same ship with the Club and/or any other insurer which participates in the Pooling Agreement or General Excess Loss Reinsurance Contract, the aggregate recovery in respect of all liabilities, costs, losses and expenses arising under such entries shall not exceed the amount stipulated in Clause 4.1 and the liability of the Club under each such entry shall be limited to such proportion of that amount as the claims arising under that entry bear to the aggregate of all such claims recoverable from the Club and any such other insurer.

5. Deductible
The deductible shall be the deductible applicable to the relevant cover set out in the Certificate of Entry.

6. Law and Practice
This clause is subject to English law and practice.

Association:
The Steamship Mutual Underwriting Association (Bermuda) Limited
Washington Mall 1, PO Box HM 447, Hamilton HM BX, Bermuda
Tel: (441) 295-4502 Fax: (441) 292-8787

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STEAMSHIP MUTUAL

Managers:
Steamship Mutual Management (Bermuda) Limited
Washington Mall 1, PO Box HM 447, Hamilton HM BX, Bermuda
Tel: (441) 295 4502 Fax: (441) 292 8787

Managers' London Representative:
Steamship Insurance Management Services Limited
Authorised and Regulated by the United Kingdom Financial Services Authority
Aquatical House, 39 Bell Lane, London E1 7LU
Tel: 020 7247 5490 Website: www.simsl.com
Registered No: 3855693 England

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BAKER LAKE AREA OPERATIONAL PROCESSES

To further support safe operations in the Baker Lake area between Woodward and Atlantic Towing, the following information and procedures will be adopted starting in the 2013 season.

1.0 COMMUNICATION PROTOCOL

Daily e-mail sent out by each vessel to all vessels by 8:00am. Distribution of e-mail would include all ATL, Woodward and Desgagnes vessels in the area.

E-mail to include:

- Current position
- ETA thru narrows
- Communication equipment status

Long Distance Communication

- Primary – satellite phone
- Secondary – Sat-C

Short Distance Communication

- VHF communication – channel 16

2.0 ATL COMMUNICATION INFORMATION

Atlantic Beech

- E-mail: 43252810@stratosmobile.net
- Cellular: (902) 229-3904
- Satellite: 011-8707-6481-1379

Atlantic Teak

- E-mail: 432521310@stratosmobile.net
- Cellular: (506) 343-4539
- Satellite: 011-8707-6487-5881

ATL VHF working channel is 69

WOODWARD COMMUNICATION INFORMATION

Dorsch

- E-mail: 431699913@stratosmobile.net
- Cellular: 1-709-727-6027
- Satellite: 1-613-980-6750

Nanny

- E-mail: 43169764@statosmobile.net
- Cellular: 1-709-690-4025
- Satellite: 1-613-855-6114

Alsterstern

- E-mail: 431605510@statosmobile.net
- Cellular: 1-709-541-0861
- Satellite: 1-613-855-4412

Havelstern

- E-mail: 431605711@statosmobile.net
- Cellular: 1-709-541-0083
- Satellite: 1-613-855-6115

Travestern

- E-mail: 431600532@statosmobile.net
- Cellular: 1-709-541-2029
- Satellite: 1-613-855-6121

WOODWARD VHF working channel is 10

DESGAGNES TRANSARCTIK INC.

Sedna Desgaganes

- E-mail: captain.sedna@desgagnes.com
- Cellular: (581) 998-3961
- Satellite: (418) 907-1134

Zelada Desgaganes

- E-mail: captain.zelada@desgagnes.com
- Cellular: (581) 998-6295
- Satellite: (418) 241-6175

Master Claude A. Desgagnes

- E-mail: captain.claudea@desgagnes.com
- Cellular: (418) 802-8596
- Satellite: (418) 907-8409

Master Rosaire A. Desgaganes

- E-mail: captain.rosairea@desgagnes.com
- Cellular: (418) 254-2355
- Satellite: (514) 907-5719

3.0 RULES OF THE WATER WAYS

Note: Outbound refers to Tanker and/ or Tug & Barge leaving Baker Lake for Helicopter Island

Inbound refers to Tanker and/or Tug & Barge leaving Helicopter Island for Baker Lake

Helicopter Island to Baker Lake

Inbound ATL Tug will contact outbound Woodward Tanker by e-mail to get its transit time thru the narrows . Tug and barge will depart Helicopter Island 3 and ½ hours prior to the transit time of the Tanker. It takes 3 hours for the Tug and Barge to reach the narrows from Helicopter Island. This allows plenty of time for all 4 vessels to transit the narrows. A couple of minutes before entering

Inbound ATL Tug and Barge **WILL ALWAYS** depart Helicopter Island prior to inbound Woodward Tanker. Inbound Woodward Tanker **WILL ALWAYS** follow inbound ATL Tug and Barge until to entrance of Baker Lake (no passing). Inbound ATL Tug and Barge and inbound Woodward Tanker will communicate on VHF channel 16 and should give a "security call" on channel 16 before entering the channel (satellite used as back up). All vessels (inbound and outbound) will use VHF channel 16 for communication (satellite used as back up).

Inbound ATL Tug and Barge will pass thru the narrows first, followed by the inbound Woodward Tanker. Outbound Woodward Tanker will pass thru the narrows next, followed by the outbound ATL Tug and Barge.

Baker Lake to Helicopter

Outbound Woodward Tanker will depart for the narrows. When reaching the narrows, outbound Woodward Tanker **WILL NEVER** proceed until inbound traffic has cleared the narrows. Outbound Woodward Tanker will hold position above the narrows just south of Bannerman Island.

Outbound ATL Tug and Barge will depart for the narrows. When reaching the narrows, outbound ATL Tug and Barge **WILL NEVER** proceed until inbound traffic has cleared the narrows. Outbound ATL Tug and Barge will hold position above the narrows just south of Bannerman Island.

Once inbound vessel traffic has cleared the narrows, the outbound Woodward Tanker will proceed thru the narrows first. The outbound ATL Tug and Barge **WILL ALWAYS** proceed thru the narrows after the outbound Woodward Tanker. All vessels (inbound and outbound) will use VHF channel 16 for communication (satellite used as back up).

FUEL HOSE POSITIONING

The fuel hose from the Woodward Tanker will be connected to the far side of the vessel away from the spud barge. The fuel hose will lay directly to shore, where a support structure will guide the fuel hose along the shore line until it mates with the shore manifold. This eliminates the risk of the ATL Tug and Barge coming into contact with the fuel hose while departing/ arriving at the spud barge. Also, a tender will be near the cargo hose with a line in order to move the hose away from the tug and barge.

In case of foul weather, where the tug and barge must cast off in a hurry, pumping operations will be suspended for a very short period of time, while the tug and barge depart.

Entry into Confined Waters

Vessel: _____
Channel/Pass/Port: _____
Date Completed: _____

Have the passage plan details been checked?

Item	Initials	Comments
Intended track verified for navigational hazards		
Paper chart track and ECS track are identical		
UKC maintained within Standing orders factoring in draft, squat and rise of tide. If this is not possible, prior clearance has been obtained from the Marine Superintendent in accordance with company policy.		
"No-Go" areas and abort positions are clearly marked on chart		
Index lines checked and characteristics of shoreline considered for radar errors		
Course alterations are within the maneuverability characteristics of the vessel including allowances for drift and wheel over delays		
The passage plan that includes this confined waters transit has been approved by the Master		

Prior to entering confined waters, have the following been prepared and checked?

Item	Initials	Comments
Call to E/R to confirm Engineer is on watch in the E/R and all systems are functioning normally		
Hand steering is engaged and both steering gear motors are running		
Thrusters are on, tested and control is on the bridge		
Primary pitch control is fully functional and on the bridge		
Sounder is switched on, recording, and the print out is signed by the OOW indicating the time, location and the direction of travel through the confined waters. If a printer is not fitted, a note to the same effect should be placed in the bell book.		
Speed log is switched on and functional		
Tide and current conditions have been checked and are suitable for the passage		
An up-to-date ice chart is available for the region and conditions are suitable for the passage		
Visibility conditions are suitable for the passage		
The Master has been informed of the upcoming passage and has assigned him/herself or the Chief Officer to the bridge during the passage		
A watchman has been placed on the bow and anchors have been prepared for immediate let-go. If not, Master must initial the line below, otherwise cross out the statement below.		
I do not feel a watchman on the bow is necessary for this passage. **Master's Initials:**		
If a watchman has been placed on the bow, a communication system has been established and tested.		
Immediately prior to entering the channel, a SECURITE call has been made to alert traffic in the vicinity.		

Notes, other precautions taken, or information about when precautions noted above must be enforced or may be relaxed

Signatures:

Watch Officer: _____ Signature: _____

Master or C/O: _____ Signature: _____

Monthly Safety Meeting Minutes

Date: _____
Time Started: _____
Vessel: _____

Purpose of Meeting

1. Review and discuss the response to the previous meetings and assign any action requested as part of a Corrective Action Plan.
2. Review and discuss any Memos, Classification Society Circulars, or amendments to the company's Safety Management System that have been implemented since the previous meeting.
3. Make general reminders and comments to the crew about safety and safety procedures on board. (ex: wear PPE, watch ice, snow on deck, reminder about crane safety)
4. Discuss incidents, injuries, accidents, and near-misses that have occurred since the previous meeting and propose corrective action to prevent reoccurrence.
5. Crew to raise and discuss new safety concerns onboard the vessel, keeping the focus on specific safety risks, potential hazards, and best safety practices, not general complaints.

Attendance (names)

Agenda

1. Minutes of previous meeting reviewed by vessel's crew.
2. Read and discuss company response to previous meeting.
3. Discuss outstanding items carried forward from previous meetings and safety items that have been resolved.
4. Review company memos, Class circulars, changes to Safety Management System, and make general safety reminders for crew.
5. Discuss risk assessments, injuries, accidents, near-misses and action to prevent reoccurrence.
6. Discuss new safety issues raised by vessel personnel.

Minutes of Previous Meeting

Minutes of previous meeting reviewed by vessel's crew.
Company response read and discussed.

Minutes of Current Meeting

Outstanding Safety Items From Previous Meetings

List items that were previously reported, but have not been closed yet. Indicate with a Yes or No if an additional response is requested from the office on the issue.

#	Safety Item	Latest Status	Response Requested? (Y/N)
1			
2			

Resolved Safety Items From Previous Meetings

List items that were previously reported, and have been resolved. Discuss the resolution and any changes in policy that have resulted.

#	Safety Item	Resolution
1		
2		

Review of Memos, Circulars, and SMS Amendments

List the item that is being discussed and any comments from the crew about how it applies to company vessels, changes to policy that may be needed to address the issue, or related concerns.

Item Discussed	Comments

Safety Reminders

List any reminders give to crew regarding safety onboard and applicable comments.

Item Discussed	Comments

Injuries, Accidents, Near-misses

List any incidents that have occurred since the previous meeting including a detailed description, and the findings of any follow-up investigation conducted. The office will follow-up on each item listed, so any suggested action to prevent reoccurrence would be helpful in improving safety policy. If the incident listed is an injury, accident or significant near-miss, please ensure the appropriate report paperwork has also been filed.

#	Incident Description	Investigation Findings	Suggested Action
1			
2			

New Safety Items Raised

List new safety items raised by the crew keeping the list focused on legitimate safety items. Non-safety related issues should be deferred to general discussion at the end of the meeting. The Master should comment on issues raised to determine if the issue can be resolved onboard. Indicate with a Yes or No if a response is requested from the office on the issue.

#	Safety Issue	Master's Comments	Response Requested? (Yes/No)
1			
2			
3			
4			

Other Comments

Meeting adjourned at:

Signatures

Safety Officer: _____ Master: _____

Appendix D

NWT/NU Spill Report Form

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

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

REPORT LINE USE ONLY

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

Appendix E

General Response Procedures for Spilled Chemical Substances

Explosives

E.1 Ammonium Nitrate
E.2 Ammonium Nitrate Fuel Oil (ANFO)

E.1 Ammonium Nitrate

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank camp.

The first step against prevention of potential spills and association hazards is the application of proper storage procedures for bulk Ammonium Nitrate, including the following:

- Good housekeeping of the storage facility will prevent spilling and or contamination of materials;
- Ammonium nitrate should be stored away from combustible materials and fuels, as well as other blasting accessories (i.e. boosters, delays, detonating cords and detonators);
- The storage facility should be well ventilated;
- Proper signage restricting the use/exposure of ammonium nitrate to ignition sources should be posted (e.g. no hot work, smoking or vehicle maintenance); and
- The storage facility should be locked at all times with only authorized personnel allowed access.

The following is a general spill response procedure for ammonium nitrate. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required. AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For an ammonium nitrate spill (solid):

1) Isolate and evacuate the spill area;

2) Contact your Supervisor who will then contact the On-Scene Coordinator and coordinate appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

3) Put on appropriate personal protective equipment. For an ammonium nitrate spill this includes:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Protective eyeglasses or chemical safety goggles or face shield **as recommended by the MSDS;**

   c) Lab coat, coveralls or TyvekTM coveralls **as recommended by the MSDS; and**

   d) Half mask air-purifying respirator with cartridges and/filters **as recommended by the MSDS or respirator manufacturer;**

4) Ventilate (open windows/doors to outdoors) closed spaces before entering;

5) Remove all sources of heat and ignition (no smoking, flares, sparks or flames in immediate area) and remove uncontaminated combustible materials and organic compounds (wood, paper, oil, etc.,) from spill area;

6) For spills to land, protect the spill area from storm water runoff by constructing a ditch or dike using suitable absorbent materials, soil or other appropriate barrier;

7) Vacuum or sweep the spill residue using non-metal, non-sparking tools and place the residue in a labelled,

plastic, container (plastic pail with lid or double heavy duty plastic bags) for re-use or off-site disposal at a licensed disposal facility;

Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and ***clearly label the container per WHMIS Guidelines****.*

Note: Minimize dust generation during the operation.

8) Remove and bag personal protective equipment for cleaning and disposal at a licensed facility. Thoroughly wash potential skin contact locations after handling.

E.2 Ammonium Nitrate Fuel Oil (ANFO)

Currently no ANFO is stored at the site. ANFO is fabricated as required, with ammonium nitrate and fuel oil. In the event that ANFO would be stored at the camp, AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank Gold Project. Proper handling and disposal of ANFO is an important first step in mitigating against spills and associated hazards.

The proper storage procedures are as follows:

- ANFO should only be used under the supervision of authorized trained personnel;
- ANFO should be kept away from heat, sparks, and flames, as well as initiating explosives, oxidizing agents, combustibles, and other sources of heat;
- Containers should be protected from physical damage and in dry, well ventilated conditions;
- Transportation to the Mine site will be in accordance with Section 14 of the *Mines Act* and Regulations and the *Transportation of Dangerous Goods Act*. Transport vehicles will be in sound mechanical condition and equipped with proper safety equipment. Loaded vehicles will not be left unattended and only authorized personnel will be responsible for the security of the explosives under their control; and
- Explosives that have been identified as deteriorated or damaged will need to be disposed of or destroyed. The appropriate method of disposal or destruction and subsequent course of action will be determined by authorized personnel or the explosive supplier.

The following is a general spill response procedure for ammonium nitrate fuel oil – ANFO. The following procedure does not apply to emulsions or other explosives. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required. AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For an ANFO spill (solid):

1) Isolate and evacuate the spill area;

2) Immediately extinguish any open flames and remove ignition sources (no smoking, flares, sparks in immediate area) IF SAFE TO DO SO. **Fires involving large quantities of ANFO should not be fought;**

3) Contact the On-Scene Coordinator who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

4) Put on appropriate personal protective equipment. For an ANFO spill this includes:

   a): Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Protective eyeglasses or chemical safety goggles or face shield **as recommended by the MSDS;**

   c) Lab coat, coveralls or TyvekTM coveralls **as recommended by the MSDS;**

   d) Shoe covers or rubber boots;

   e) Half mask air-purifying respirator with cartridges and/filters **as recommended by the MSDS or respirator manufacturer;**

5) If the spill has occurred outdoors, stay upwind and avoid low lying areas. Ventilate (open windows/doors to outdoors) closed spaces before entering. Ensure adequate explosion proof ventilation for clean-up;

6) Remove all sources of heat and ignition (no smoking, flares, sparks or flames in immediate area) and remove uncontaminated combustible materials and organic compounds (wood, paper, oil, etc.,) from spill area;

7) Do not operate radio transmitters within 100 m of electric detonators;

8) For spill on land, protect the spill area from storm water runoff by constructing a ditch or dike using suitable absorbent materials, soil or other appropriate barrier. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination;

9) Collect, sweep or shovel spilled material and the other contaminated material/soil using non- metallic, spark-proof tools and place residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility;

Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and ***clearly label the container per WHMIS Guidelines.***

Note: The drums/containers/residues are to be stored in ventilated areas away from incompatible materials for eventual off-site disposal at a licensed disposal facility.

10) Remove and bag personal protective equipment for cleaning or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated.

Appendix F

General Response Procedures for Spilled Chemical Substances

F.1 Compressed Gases

F.1 Compressed Gases

AEM commits to review, modify and approve as required to establish this procedure as appropriate for Meadowbank Gold Project.

The following is a general spill response procedure for compressed gases. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required. AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a compressed (inert and flammable) gas leak:

1) IF SAFE TO DO SO and it will stop the gas leak, turn off cylinder valve;

2) If the leak cannot be stopped by closing the cylinder valve, and it is **an inert atmospheric gas** (e.g. nitrogen, carbon dioxide, etc.) isolate and evacuate the affected area. If the leak is a **flammable gas** and the leak is outside of a ventilated building enclosure that will contain the gas, immediately activate the fire alarm system and evacuate the area/building;

3) Contact the On-Scene Coordinator who will assemble spill response team members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

4) If possible and safety permits, adjust leaking cylinder so that gas escapes rather than liquid;

5) If possible and safety permits, eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area) and turn off electrical equipment;

6) If the spilled has occurred outdoors, stay upwind and avoid low lying areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, then it may also be necessary to have it shut-down. Allow vapours to ventilate outdoors by opening windows and doors to the exterior; and

7) Isolate area until gas has dispersed. On-Scene Coordinator to verify safe conditions.

Appendix G

General Response Procedures for Spilled Chemical Substances

G.1 Flammable and Combustible Liquids

G.1 Flammable and Combustible Liquids

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank Gold Project. The following is a general spill response procedure for flammable or combustible liquids, particularly petroleum hydrocarbon products. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a spill of flammable or combustible petroleum hydrocarbon product (liquid):

1) Isolate and evacuate the spill area;

2) Immediately extinguish any open flames and remove ignition sources (no smoking, flares, sparks in immediate area) IF SAFE TO DO SO;

3) Stop leak and contain spill (**see Step 9**) IF SAFE TO DO SO;

4) Contact the On-Scene Coordinator who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

5) Put on appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Splash goggles or face shield;

   c) Shoe covers or rubber boots;

   d). Lab coat or TyvekTM coveralls; and

   e) Half mask air-purifying respirator with **organic vapour or combination** cartridges, or **as otherwise recommended by the MSDS or respirator manufacturer**.

6) If the spilled has occurred outdoors, stay upwind and avoid low lying areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, then it may also be necessary to have it shut-down;

7) Ventilate (open windows/doors to outdoors) closed spaces before entering. Ensure adequate explosion-proof ventilation for clean-up. A vapour suppressing foam or water spray may be used to reduce vapours;

8) Remove all sources of ignition (no smoking, flares, sparks or flames in immediate area) and combustible materials (wood, paper, oil, etc.) within the spilled area;

9) Contain spill by using spill absorbent, spill pads or pillows, soil or snow to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate. If possible, compact soil or snow dikes, and place plastic tarps over the dike and at its foot to allow the product to pool on the plastic for easy recovery;

   Note: Do not use paper towels to absorb spill as this increases the rate of evaporation and vapour

concentration in the air.

Note: Do not flush with water into drainage areas or ditches as this will spread spill.

Note: Snow works well as a natural absorbent to collect and contain spilled petroleum hydrocarbons. However, its use in containing a spill will result in a water-contaminant mixture that may be more difficult to manage. It is important to scrape up the contaminated snow and ice as soon as possible.

10) Carefully cover the spill area with spill absorbent, spill pads, soil or snow, starting at the outside and working inward. Do not touch or walk through spilled material;

11) Sweep up or shovel the residue using non-metallic, spark-proof tools and place the residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags). For larger spills to land, excavate impacted absorbent material and soil, place in lined and bermed temporary storage area or directly into sealed drums/containers;

Note: The drums/containers/residues are to be stored in ventilated areas away from incompatible materials for eventual treatment at on-site landfarm or off-site disposal at a licensed disposal facility. Electrically ground all containers and transporting equipment.

Note: Larger pools of product may be pumped into empty storage tanks or drums.

12) If spill is indoors, mop the affected area using detergent and water. Dispose of this water to drums for eventual off-site disposal at a licensed disposal facility. Spills to land may require further excavation or remediation of contaminated soil until acceptable soil quality is achieved. The On- Scene Coordinator and/or Environmental Superintendent will assess this requirement;

13) For spills to water, immediately limit the area of the spill on water using absorbent pads and booms and similar materials to capture small spills on water. Deploy and slowly draw in absorbent booms to encircle and absorb the spilled product. Recover larger spills on water with floating skimmers and pumps, as required, and discharge recovered product to drums or tanks;

Note: Petroleum hydrocarbons are generally hydrophobic, and as such, do not readily dissolves in water. They typically tend to float on the water's surface. Absorbent booms are often relied on to recover hydrocarbons that escape land containment and enter water.

Note: Antifreeze sinks and mixes with water. If released to water, attempt to isolate/confine the spill by damming or diverting the spill. Pump contaminated water to tanks or drums.

14) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated leather articles, (including shoes) that cannot be decontaminated.

Appendix H

General Response Procedures for Spilled Chemical Substances

Oxidizing Substances

H.1 Liquids
H.2 Solids

H.1 Liquids

AEM commits to review, modify and approve as required and to establish this procedure as appropriate for use at the Meadowbank Gold Project. The following is a general spill response procedure for liquid oxidizer compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a liquid oxidizer spill:

1) Isolate and evacuate the spill area;

2) Stop leak and contain spill (**see Step 8**) IF SAFE TO DO SO;

3) Contact the On-Scene Coordinator who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

4) Put on the appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a) Gloves **as recommended by the MSDS or glove manufacturer;**

    b) Splash goggles or face shield;

    c). Shoe covers or rubber boots;

    d) Lab coat, coveralls or TyvekTM coveralls **as recommended by the MSDS**; and

    e) Half mask air-purifying respirator with cartridges and/or filters **as recommended by the MSDS or respirator manufacturer**.

5) Ventilate closed spaces before entering. Ensure adequate explosion-proof ventilation for clean-up;

6) Remove and/or moisten with water any combustible material (wood, paper, oil, etc.) affected by the spill;

7) Use water spray to reduce vapours or divert vapour cloud drift, if required;

8) Contain spill by using non-combustible spill absorbent, soil or snow to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate;

    *Note: Flushing area with flooding quantities of water may also be appropriate assuming this does not make clean up and waste management more difficult– **refer to the MSDS**.*

9) Carefully cover the spill area with spill absorbent, soil or snow, starting at the outside and working inward. Use non-combustible absorbent. Do not touch or walk though spilled material.

10) Sweep up or shovel the spill residue using non-metal, non-sparking tools and place the residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags) for off- site disposal at a licensed disposal facility;

11) For indoor spills, mop the affected area using detergent and water. Flushing area with flooding quantities of water may also be appropriate – **refer to the MSDS**. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate. Spills to land may require further excavation or remediation of contaminated soil until acceptable soil quality is achieved. The On- Scene Coordinator and/or Environmental Superintendent will assess this requirement; and

12) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

H.2 Solids

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank Gold Project.

The following is a general spill response procedure for solid oxidizer compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a solid oxidizer spill:

1) Isolate and evacuate the spill area;

2) Contact the On-Scene Coordinator who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

3) Put on the appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Safety glasses or goggles;

   c) Lab coat; and

   d) Half mask air-purifying respirator with **N95 or greater protection** particulate filter or **as recommended by the MSDS or respirator manufacturer**.

4) Remove all sources of heat and ignition (no smoking, flares, sparks or flames in immediate area) and remove uncontaminated combustible materials and organic compounds (wood, paper, oil, etc.,) from spill area;

5) For spills to land, protect the spill area from storm water runoff by constructing a ditch or dike using suitable non-combustible absorbent materials, soil or other appropriate barrier. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination;

6) Vacuum, sweep or shovel the spill residue using non-metal, non-sparking tools and place the residue into a labelled, plastic, container (plastic pail with lid or double heavy duty plastic bags) for re- use or off-site disposal at a licensed disposal facility;

   Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and ***clearly label the container per WHMIS Guidelines****.*

   Note: Minimize dust generation.

7) If there is still oxidizer residue left in the spill area, neutralize with appropriate agent **as recommended by the MSDS**, or for spills to land continue to excavate until no visible spilled solid remains. Use non-combustible spill absorbent or soil to absorb the neutralized residue. Place in suitable drums/containers for disposal to a licensed facility;

8) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary

sewer, process stream or waste drums as appropriate; and

9) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

Appendix I

General Response Procedures for Spilled Chemical Substances

Poisonous and Toxic Substances

I.1 Sodium Cyanide

I.1 Sodium Cyanide

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank Gold Project. The following is a general spill response procedure for solid Sodium Cyanide.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a Sodium Cyanide (solid) spill:

1) Isolate and evacuate the spill area;

2) Contact the On-Scene Coordinator who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

3) Put on the appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**
   b) Safety glasses or goggles;
   c) Lab coat; and
   d) Half mask air-purifying respirator **as recommended by the MSDS or respirator manufacturer**.

   Note: For worker safety, maintain readily accessible supply of cyanide antidote kits on site.

4) Ventilate area of spill or leak;

5) Avoid exposure to acids, water or weak alkalis which can react to form toxic hydrogen cyanide (HCN) gas.

6) Contain spill to prevent release to sewer, waterway or onto ice. For spills to land, protect the spill area from storm water runoff by constructing a ditch or dike using absorbent materials, soil or other appropriate barrier. If raining, cover spill area with tarp or plastic to minimize contact with water and prevent subsequent runoff. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination;

7) Shovel the spilled material into labelled drums, containers or plastic bags for re-use or off-site disposal at a licensed disposal facility.

   Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and ***clearly label the container per WHMIS Guidelines****.*

   Note: Minimize dust generation.

8) If there is still spilled sodium cyanide residue left in the spill area, neutralize with appropriate agent **as recommended by the MSDS** (sodium or calcium hypochlorite solution), or for spills to land continue to excavate until no visible spilled solid remains. Use suitable spill absorbent or soil to absorb the neutralized residue. Place in suitable drums/containers for disposal to a licensed facility. Collect material and place in a closed container for recovery or disposal;

9) For indoor spills, mop the affected area using detergent and water. Dispose of this water to waste drums/containers for disposal to a licensed facility; and

10) Remove and bag personal protective equipment for disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

Appendix J

General Response Procedures for Spilled Chemical Substances

Corrosive Substances

J.1 Acids, Liquids
J.2 Acids, Solids
J.3 Bases/Alkali, Liquids
J.4 Bases/Alkali, Solids

J.1 Acids, Liquids

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank Gold Project.

The following is a general spill response procedure for liquid acid compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required. AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a liquid acid spill:

1) Isolate & evacuate the spill area;

2) Stop leak and contain spill (**see Step 8 below**) IF SAFE TO DO SO;

3) Contact the On-Scene Coordinator who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

4) Put on appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Splash goggles or face shield;

   c) Shoe covers or rubber boots;

   d) Lab coat or TyvekTM coveralls; and

   e) Half mask air-purifying respirator with **acid gas or combination** cartridges, or **as otherwise recommended by the MSDS or respirator manufacturer**.

5) If the spill has occurred outdoors, stay upwind and stay out of low areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, then it may also be necessary to have it shut-down;

6) Ventilate (open windows/doors to outdoors) closed spaces before entering;

7) Remove all sources of ignition (no smoking, flares, sparks or flames in immediate area);

8) Contain spill by using spill absorbent, spill pads or pillows, or dry soil to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate. Ideally, use spill absorbent that contains a mild neutralizing agent **as recommended by the MSDS;**

   *Note: Many acids, particularly concentrated acids react violently in the presence of water. Do not flush spill area with water unless the **MSDS** indicates acceptable.*

   Note: Nitric Acid reacts violently and explosively with organic chemicals and organic material such as wood, cotton and paper; therefore, do not use organic absorbent material on Nitric acid.

Note: Hydrofluoric acid will fume during neutralization. Provide adequate ventilation and approach from upwind. Neutralize carefully with sodium bicarbonate, soda ash or lime. Use water spray to disperse the gas/vapour if required. Remove all sources of ignition.

9) Carefully cover the spill area with spill absorbent, spill pads or dry soil, starting at the outside and working inward. If practical, neutralize spill using **MSDS-recommended** or commercially available neutralizers. Use pH indicator paper to determine if spill is neutralized (pH 7);

Note: Use caution as neutralization reactions generate heat.

10) Sweep or shovel the neutralized spill residue using non-metal, non-sparking tools and place the residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility;

11) Check the pH of the spill area. If it is less than pH 6, then further neutralize with a dilute solution of a suitable reagent **as identified on the MSDS** or for spill to land continue to excavate contaminated soil;

12) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate;

13) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated; and

14) After the spill has been cleaned up, the area should be free of vapours. However, if personnel note odours or irritation, isolate the spill area; re-clean the area as per **Steps 11 and 12** or wait at least **1 hour** before re-entering or until considered safe by the On-Scene Coordinator or Environmental Superintendent.

J.2 Acids, Solids

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use on the Meadowbank Gold Project.

The following is a general spill response procedure for solid acid compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a solid acid spill;

1) Isolate and evacuate the spill area;

2) Contact the On-Scene Coordinator who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

3) Put on the appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Safety glasses or goggles;

   c) Lab coat; and

   d) Half mask air-purifying respirator with **N95 or greater protection** particulate filter, or **as otherwise recommended by the MSDS or respirator manufacturer**.

4) Contain spill to prevent release to sewer, waterway or onto ice. For spills to land, protect the spill area from storm water runoff by constructing a ditch or dike using absorbent materials, dry soil or other appropriate barrier. If raining, cover spill area with tarp or plastic to minimize contact with water and prevent reaction and/or subsequent runoff. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination;

5) If necessary to minimize dust production, slightly moisten the solid. Use water, or if the material is water reactive, another inert liquid **as recommended by the MSDS;**

6) Sweep up or shovel the residue using non-metallic, spark-proof tools and place the residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags) for reuse or off-site disposal at a licensed disposal facility;

   Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and ***clearly label the container per WHMIS Guidelines****.*

7) Remaining solid acid residue may be neutralized using a dilute solution of appropriate agent **as recommended by the MSDS** (e.g. sodium bicarbonate - baking soda), or for spills to land continue to excavate until no visible spilled solid remains. Check the pH of the spill area; the final pH should be between pH 6 and 10. Use spill absorbent, spill pads or dry soil to absorb the neutralized residue;

   Note: Use caution as neutralization reactions generate heat.

8) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate; and

9) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

J.3 Bases/Alkali, Liquids

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank exploration camp.

The following is a general spill response procedure for liquid alkali or base compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a liquid alkali or base spill:

1) Isolate & evacuate the spill area;

2) Stop leak and contain spill (**see Step 8**) IF SAFE TO DO SO;

3) Contact the On-Scene Coordinator who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

4) Put on the appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

   a) Gloves **as recommended by the MSDS or glove manufacturer;**

   b) Splash goggles or face shield;

   c) Shoe covers or rubber boots;

   d) Lab coat or TyvekTM coveralls; and

   e) Half mask air-purifying respirator with cartridges/filters **as recommended by the MSDS or respirator manufacturer**.

5) If the spill has occurred outdoors, stay upwind and stay out of low areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, then it may also be necessary to have it shut-down;

6) Ventilate (open/windows to outdoors) closed spaces before entering;

7) Remove all sources of ignition (no smoking, flares, sparks or flames in immediate area) and combustible materials (wood, paper, oil, etc.);

8) Contain spill by using spill absorbent, spill pads or pillows, or dry soil to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate. Ideally, use spill absorbent that contains a mild neutralizing agent **as recommended by MSDS;**

   Note: Use caution as neutralization reactions generate heat.

9) Carefully cover the spill area with spill absorbent, spill pads or dry soil, starting at the outside and working inward. If practical, neutralize spill using MSDS-recommended or commercially available neutralizers. Use

pH indicator paper to determine if spill is neutralized (pH 7);

Note: Use caution as neutralization reactions generate heat.

10) Sweep or shovel the neutralized spill residue using non-metal, non-sparking tools and place the residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility;

11) Check the pH of the spill area. If it is greater than pH 10, then further neutralize with a dilute solution of a suitable reagent **as identified on the MSDS**, or for spill to land continue to excavate contaminated soil;

12) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate;

13) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated; and

14) After the spill has been cleaned up, the area should be free of vapours. However, if personnel note odours or irritation, isolate the spill area; re-clean as per **Steps 11 and 12** or wait at least **1 hour** before re-entering or until it is considered to be safe by the On-Scene Coordinator or Environmental Superintendent.

J.4 Bases/Alkali, Solids

AEM commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank Gold Project.

The following is a general spill response procedure for solid alkali or base compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

AEM commits to review and test, and if necessary, modify and update thus spill response procedure on an annual basis.

For a solid alkali or base spill;

1) Isolate and evacuate the spill area;

2) Contact the On-Scene Coordinator who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken;

3) Put on the appropriate personal protective equipment. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a) Gloves **as recommended by the MSDS or glove manufacturer;**

    b) Safety glasses or goggles;

    c) Lab coat; and

    d) Half mask air-purifying respirator with **N95 or greater protection** particulate filter or **as recommended by the MSDS or respirator manufacturer**.

4) Contain spill to prevent release to sewer, waterway or onto ice. For spills to land, protect the spill area from storm water runoff by constructing a ditch or dike using absorbent materials, dry soil or other appropriate barrier. If raining, cover spill area with tarp or plastic to minimize contact with water and prevent reaction and/or subsequent runoff. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination;

5) If necessary to minimize dust production, slightly moisten the solid. Use water, or if the material is water reactive, another inert liquid **as recommended by the MSDS**;

    Note: Do not use water to flush bases in powdered form, such as calcium oxide (lime), as this material is not very soluble.

6) Sweep or shovel the residue using non-metallic, spark-proof tools and place the residue into a labelled, plastic, waste container (plastic pail with lid or double heavy duty plastic bags) for offsite disposal at a licensed disposal facility;

    *Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and **clearly label the container per WHMIS Guidelines**.*

7) Remaining solid alkali or base residue may be neutralized using a dilute solution of appropriate acid. Check the pH of the spill area; the final pH should be between pH 6 and 10. Use spill absorbent, spill pads or dry soil to absorb the neutralized residue;

8) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate; and

9) Remove and bag personal protective equipment for cleaning, informing laundry personnel of contaminant hazards, or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

Appendix K

Agnico Eagle Spill Response Training Records

Group Training Report

Course Name: Emergency Planning and Spill Response Awareness

Trainer's Name: Trever Miller

Date: Jan. 15/2013

Agnico-Eagle Mines Ltd.
Meadowbank Division

M		Name	Company	Signature	Hours TRG.	Hours ASS.	Total Hours	Code
	1	Jeffrey Pratt	AEM				10	
	2	Fanny Laporte	AEM				10	
	3	RICHARD JACKSON	AEM				10	
	4	Tom Thomson	AEM				10	
	5	MAURICE BARIRAU	AEM				10	
	6	DAVID ALEXANDER	AEM				10	
	7	Martin Theriault	AEM				10	
	8							
	9							
	10							

COMMENTS:

Trainer's signature:

Date: January 15, 2013

Codes:
1. AEM Permit
2. Restrictive Permit
3. Temporary Permit
4. Training Completed
5. Training Not Completed
6. Fail

Assessment Codes:
A+: Very Good
A : Good
B : Average
C : Below Average

Tom Thomson

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

- **Incident** - 45 m^3 diesel spills/plus oil/acid – Originates on Land, flows into the River
- **Spill** - occurred 22:00 hrs on March 20, 2013
- **River** – water flow, 5 km/hr, braided channels; approx 15 km to Baker Lake
- **Lake** – winds from the North West at 20 km/hr. Tide is high.

Km 23 - Bridge 3

1. List the **issues** linked to this scenario:

Response Time + Moving Equipment / Resources to the Area
Light + Temperature
Fish Bearing Stream
Speed of Containment / Cut off Point
Vast Contaminated area - Type of Contaminate

* Safety of Personel, Communications, Environment, Equipment

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2. What **resources** are required?

Baker Lake Contractor / Peters Exp.
Baker Lake Command Center, Camp, at Spill Location
Ert Personal + Relieve
Emergency Trailer - Environmental
Emergency C-Cans / Roll offs
Lighting / Generators
Transportation
Safety officer(s)
AEM Personal from Baker Lake
Mapping of Area

3. What are the **initial spill response steps and what does your ICS look like**?

3rd Control / Crisis Centre
On Site Commander
Baker Lake
Logistic, Planning, Finance

1) Review ERP + Spill Contingency Plan
Prepare J.H.A on Spill

Establish Safety Zones - Hot, Warm, Cold

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4. What is your oil spill containment and recovery **strategy**?

Shut off / Stop Spill - Identify Source
Contain Spill - Trench n Bell or (POE)
Maritime Booms & Absorbants
Estimate Direction of spill & find a cut off points

By Using 10 - 30 - 4 - Protect Shoreline and diverting flow

* Pre plan - Plan it now

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

Vacuum Pump, Absorbants, Oil/water Separator
- Vegatated / Rocky Shorelines - Excavate cont Soil
-
- Sample & Monitored until we have clearance from DFO, ENV Canada

- Do a quick wash & leave it for Bio remediation

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6. What are some **safety** issues?

[redacted], Drinking Water - Baker Lake

Temperature + H+S of Response Team
LEL's
water + Ice

7. How do you manage your **waste**?

Quatrex, 45 Gallons, oil/water separator

Contaminated Soil pad

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

Same as #3 - Notify Proper Personal / Additional Authorities
DFO, EC, Baker Lake Res.

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Fanny Laporte.

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

45 000 Litres KM 23

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KM 23.

1. List the **issues** linked to this scenario:

Communication issu

Contamination

- Back to land / Water contamination / Wildlife. To white ~~fish~~ lake. (Fishing major site for invit)
- Time of day and distance from camp.
- March → still snow – could be cold
- Accident → Health & Safety (Driver) and the Responder
- Acid → add another safety issue ↓ less.
- Baker Lake water intake
- Public relation case / inform the Community
  ↳ by appropriate person

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2. What **resources** are required? *60 people

- Labor → with incident Command Plan / everybody has a task in the organization / ERT Team.
- Commandement Trailer & facilities close to site ✓
  ↳ could be a container, heated
- decontamination area.
- Machinery → loader → TRUCK → shovel. ✓
- Disposal and containing material DRUMS/45Gall (berm - secondary material) Vacum - emergency trailer with supply.
- Towerlight → because it is night ✓ zodiac empty tanker.
  helicopter for next morning.

3. What are the **initial spill response steps and what does your ICS look like**?

Command ICS:

INFO. ①
- MSDS Sheets - Planning - Logistic
- JHA
- S.R.P spill response Plan. / ERP. / SRP /

② Find resources / General Briefing.

③ Logistic and reassess at all change (FLRA)

↳ operations.
- Isolation
- Contain
- Recovery - Remediate
- wildlife
- waste management
- Sampling.

Level 3 SPILL Emergency

Because it is night and impact can be desastrous

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4. What is your oil spill containment and recovery **strategy**?

(1) (A) → Make the environment safe for me and my Team - Gaz det for - PPE
(1) Stop the leaks
(3) (2) dig a ~~ditch~~ trench to protect the water (Shore)
(3) evaluate where the contaminent are
→ wind → slope → current.
(4) Instal maritime bariere to contain (or) the biggest part of the oil.
(5) Snow barrier if needed.
(2) (6) cut all entries to other ponds and rivers
(7) Vaccum the contaminent and dispose the waste adequatly.
(8) transpose what is still in the tanker to another container

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

Tundra / Rock
→ Inspect the Shore / contain with ~~snow~~ Maritime barrier. trenches / bell hole.
→ Monitoring often and sample
→ When melting / sample and vaccum if needed Quick wash.
→ let nature take over.
→ if ~~not~~ too much → excavate the Shore and remove contaminent. and dispose

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6. What are some **safety** issues?

Under The ice. → leave it.

→ LEL / Fire / toxic Gases.

→ Water / ice / cold for response team and equipment.

→ darkness → uneven Ground / strain ankle

7. How do you manage your **waste**?

45 Gall.

used Fuel → sent back south to appropriate place

used absorbant supply → ship down south in Quadrex

material → brought to Land farm

Clean and rinse - PPE

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

See # 4 ~~Questio~~ answer. ✓

→ cut the Hamlet Water intake. ✓

inform additional Autorities.

Skimming Vessels

Boats. ✓ ✓ ✓

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Jeff Pratt

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

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1. List the **issues** linked to this scenario:

- 90km from mine
- Dark out
- Very Cold
- Vacinty to lake
- low tide will suck out

2. What **resources** are required?

- Personnel
- Command center both on site & Baker Lake
- Lightening
- Amenities for personnel
- Spill Response Equipment
- Transportation

3. What are the **initial spill response steps and what does your ICS look like**?

- Alert ERT and immobilize
- Alert ICS

ICS - Review of Spill Contingency - Planning for mobilization

- ERT Captain would assess situation and report incident command

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4. What is your oil spill containment and recovery **strategy**?

~~Cont~~

- Stop the release - Plug hole or build berm.
- Contain release - Do Not Let Enter Lake
  - Place boom along ~~mouth~~ deltas From the tributaries.
  - Have to create ice road to down stream collection point.
  - ~~Use~~ Extract contaminent from down stream boom point*

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

- Create Hot, Warm, Cold Zones
- Rocky Sandy Substate
- Leave to summer Valatilize

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6. What are some **safety** issues?

- No light
- Cold Weather
- PPE For Chemicals

7. How do you manage your **waste**?

- Quatrex bags
- Totes for liquid Contaminants

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

M. Theriault

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

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1. List the **issues** linked to this scenario:

- BL water intake
- impact to the land / to the water
- Going towards white hills lake (fishing lake)
- Distance from camp / time of event / Weather
- H/S for the driver and responder + Possible acid reaction
- Spalding of cont.
- Wildlife (fish)
- Public relationship (not have the appropriate person)
- Dispersion
- Communication, Road Access

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2. What **resources** are required?

- Equipment : Boat, Maritime Barrier, Shovel, truck, Quadrex waste disposal, secondary containment, Spot (toward light) Vaccum (Emergency trailer)

Decontamination unit, Commandement unit

- Personnal : Labour, ERT, IC, public relationship

helicopter

3. What are the **initial spill response steps and what does your ICS look like**?

Planning { MSDS sheet, JHA, ERP, SRP,

Logist. { General Briefing
Find ressource and equipment and make them available

Operation → Field Level Risk Assessment
↳ Isolation - contain - Recovery ~~est~~. Wildlife - Waste Managment
Sampling

Reassess between field and Management by IC.

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4. What is your oil spill containment and recovery **strategy**?

Make sure everything is safe, gaz detector, PPE ect.

Plug the hole / Stop the leak

Dig a ditch (trench) close to the shore

Evaluate the location of the contaminate in the watere

Install maritime barrier to enclose/isolate the leaking shore

Cut all entries to other channels

Vaccum the accumulate diesel / transfert the diesel left in the tanker

Adequately dispose the waste

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

inspect the shore, Keep the maritime barrier containing the fuel close to shore, monitore and sample if needed, vaccum, let nature take over

WASH II

If too much contaminant Keep coming from the underground, dig everything

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6. What are some **safety** issues?

- LEL / fire / toxic gasses
- WATER / ICE
- cold weather
- Heavy equipment
- Uneven soil, darkness (strain ankle)

7. How do you manage your **waste**?

- used fuel send back south to appropriate location
- Absorbant stuff used (quadrex) burned or ship down south
- Contaminated soil send to landfarm
- Rinse all the PPE

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

See question #4

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R-Jackson

SWAT OILSPILL ISSUES WORKSHOP

23 2h

Situation Analysis – Truck Rollover

- **Incident** - 45 m^3 diesel spills/plus oil/acid – Originates on Land, flows into the River
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1. List the **issues** linked to this scenario:

- RESPONSE TIME
- MOVING RESOURCES + EQUIP
- LIGHT FACTOR
- FISH BEARING
- SPEED OF CONTAINMENT
- VAST CONTAMINATED AREA
-

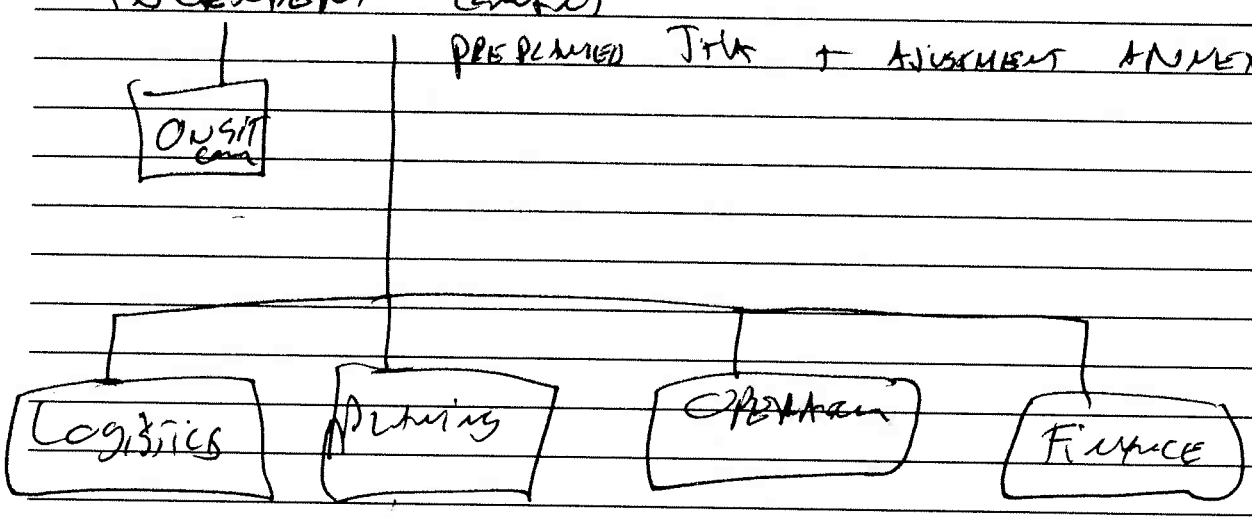
2. What **resources** are required?

- BLCS + PETER EXPEDITING HEAVY EQUIPMENT
- ERT PERSONEL + RELIEF PERSONEL
- COMMAND CENTER ON SITE + AT CAMP
- EMERGENCY SEA CANS ROLLOFF BINS
- LIGHTING, GENERATORS
- INFORMATION + SAFETY OFFICER
- MAPPING OF THE AREA
-

3. What are the **initial spill response steps and what does your ICS look like**?

INCIDENT COMMAND

PREPLANNED JHA + ADJUSTMENT ANNEXE



RI

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4. What is your oil spill containment and recovery **strategy**?

CONTAIN SPILL (STOP SPILL AT THE SOURCE
PREVENT FURTHER ENTRY/ TRENCH BELL HOLE
ESTIMATE DIRECTION OF SPILL MARITIME BOOMING
FIND CUT OFF POINTS
BY USING 10/30 Q4 RULE DIRECT FLOW TO AND
PROTECT SHORE LINE

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

- VACU PUMP
- PADS
- SORBANTS
-

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6. What are some **safety** issues?

LEL
COLD T°
~~[illegible]~~ INHALATION
CONTAMINATION
FIRE
WATER OVERFLOW

7. How do you manage your **waste**?

QUATRON PACKS
45 Gal DRUMS
OIL WAT SEPERATION
CONTAMINATED SOIL PAD

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

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D. ALEXANDER

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

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- **Lake** – winds from the North West at 20 km/hr. Tide is high.

1. List the **issues** linked to this scenario:

WATER INFILTRATION 90KM away
~~Sound alarm~~ Pitch DARK
~~Extreme~~ cold
Set-up block before ~~RIVER~~ EMPTIES INTO BAKER LAKE
Low tide when it comes will make it worse

2. What **resources** are required?

~~FIRST RESPONSE - ALERT BAKER LAKE FIRE DEPT.~~
COMMAND CENTRE AT MEADOW + BAKER
LIGHTING
WARM-UP FOR STAFF
SPILL RESPONSE EQUIP.
TRANSPORT FROM MINE
50-60 people fly off at MB

3. What are the **initial spill response steps and what does your ICS look like**?

~~ALERT ERT~~ ALERT ERT, INCL. ENVIRO, MINE SUPER, H+S SUPER, SITE SERVICES, HR
REVIEW CONTINGENCY PLAN, PLANNING FOR MOBILIZATION
ERT CAPTAIN - WITH ENVIRO, WOULD ASSES REPORT BACK TO the ICS

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4. What is your oil spill containment and recovery **strategy**?

STOP ~~CONTAIN~~ SPILL CONTAIN FROM ENTRY INTO LAKE.
PLUG THE HOLE IN TRUCK OR BUILD BERM
CREW ASSIGNED.
- INSTALL BOOM ALONG THE DELTA MOUTH OF THE RIVER JUST BEFORE IN ENTERS THE LAKE
- MAKE ICE ROAD TO DOWNSTREAM COLLECTION POINT
- WITH VACUUM TRUCK
- ESTABLISH ZONES

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

ROCKY, SANDY SUBSTRATE, WAIT TIL SUMMER
VALITISE.
ZONE OFF.

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6. What are some **safety** issues?

PITCH DARK - Need
Cold weather
PROPER PPE

7. How do you manage your **waste**?

VACUUM TRUCK

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

CELLULOSE BOOMS.

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M. BARIBEAU

SWAT OILSPILL ISSUES WORKSHOP

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- **Lake** – winds from the North West at 20 km/hr. Tide is high.

1. List the **issues** linked to this scenario:

- 90 kms from site
- Patch dark, very cold.
- Sanity to lake.
⇒ Set up on site operational post.
⇒ Low tide will draw water away.
⇒

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2. What **resources** are required?

→ Manpower.
→ Boat, Light Tower, ammunition.
→ Bather lake, Free flight.
→ Personnel transportation.
→ Means of communication.
→ Small loader, Vacuum Truck.

3. What are the **initial spill response steps and what does your ICS look like**?

- Set up ICS
- H&S, Environment, HR, Site Services, General Services. spill.
- Review emergency contingency Plan.
- Plan mobilization. → ERT Captain assess situation and Report, →

SWAT Consulting Inc.

4. What is your oil spill containment and recovery **strategy**?

Stop the Release, prevent further entry
- shut off flow, Build Berms,
=> Block off.

Water use Boat to collection Pond,

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

Rocky Sand want to leave till Summer.

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6. What are some **safety** issues?

- Measuring ice thickness
- Wear Proper PPE
- Lighting
- cold weather
- acid
- Ashes Zoning

7. How do you manage your **waste**?

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

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Group Training Report

Course Name:

Trainer's Name:

Date: 2013-01-16

Agnico-Eagle Mines Ltd.
Meadowbank Division

M		Name	Company	Signature	Hours TRG.	Hours ASS.	Total Hours	Code
	1	Jamie Kataluk	AEM				10	
	2	Robin ALLARD	AEM				10	
	3	Dave Holmston	AEM,					
	4	ALAIN GENESSE	A-E-M					
	5	Stéphane Larose	AEM					
	6	LUC BLANCHETTE	FGL					
	7							
	8							
	9							
	10							

COMMENTS:

Trainer's signature:

Date:

Codes:
1. AEM Permit
2. Restrictive Permit
3. Temporary Permit
4. Training Completed
5. Training Not Completed
6. Fail

Assessment Codes:
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A : Good
B : Average
C : Below Average

STÉPHANE LAROSE

SWAT OILSPILL ISSUES WORKSHOP

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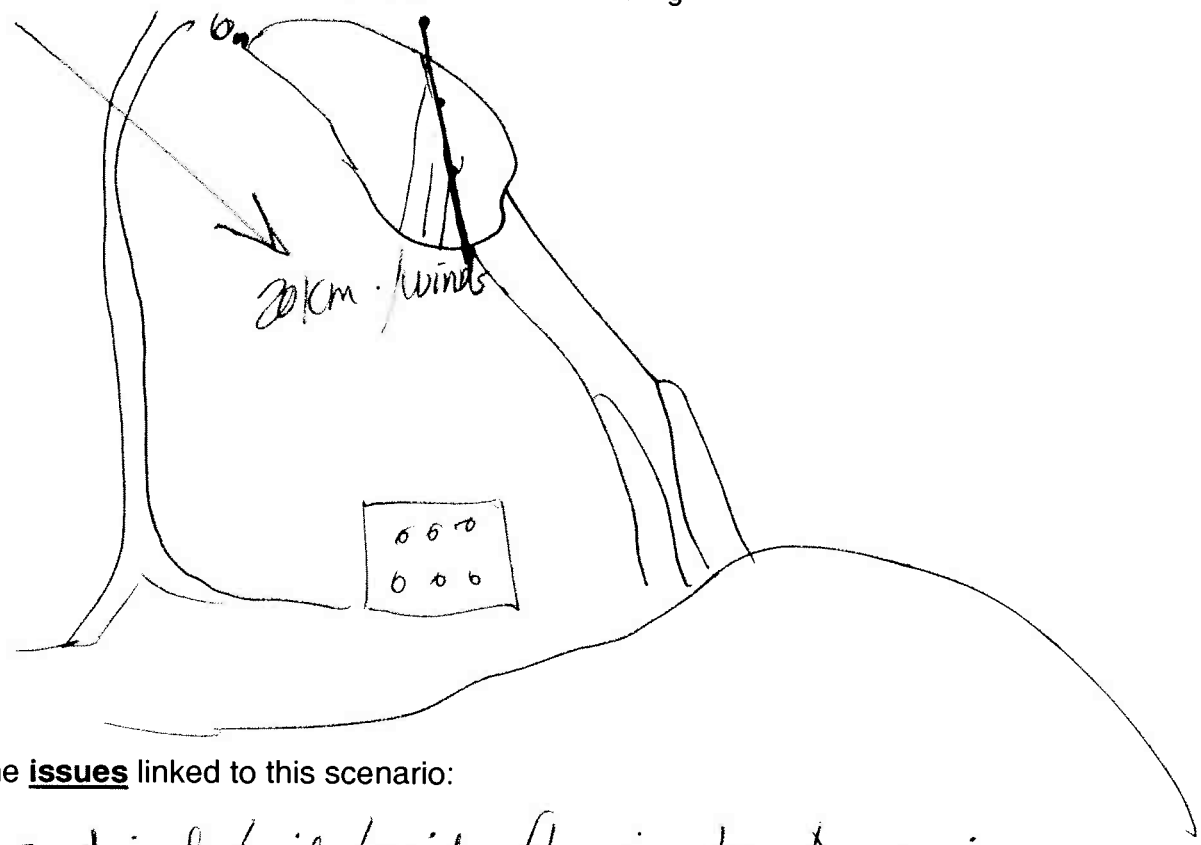

1. List the **issues** linked to this scenario:

→ 45 m^3 diesel / oil / acid flowing to the river heading to Baker lake. (15 km away)
→ Give less than 3 hours to react.
→ Contain the spill before the lake (Before to 2 rivers)
→ Secure and take care of the driver.

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2. What **resources** are required?

→ Helicopter to have look on the scene (Speed of the spill)
→ 1 team at the scene (accident) to contain the spill at the source
→ 1 team further down to stop the flow before the lake.
→ Boats / maritime barrier / boom, etc... light plan
→ ERT TEAM in case of fire.
→ empty tanker to pump in.
→ Good communication
→ MSDS → Proper PPE

3. What are the **initial spill response steps and what does your ICS look like**?

- Scene survey (analyse) (inspection)
- Make the plan (planning)
- Decision (delegatee people)
- Execution
- Call proper authority

command
PLANNING OPERATION logistique cost

Safety first!!!

SWAT Consulting Inc.

4. What is your oil spill containment and recovery **strategy**?

→ Install barrier before the rivers (less contamination)
→ Recover the fuel/oil (Skimmer)

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

→ Assest the shoreline situation and ask trained people to evaluate if we need to clean and what we have to do.
→ Flush
→ is it transferable?

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6. What are some **safety** issues?

- Risk of fire
- Falling into water / ice
- Poor visibility at night.
- Hypothermia
- Hot water.
- PPE (:

7. How do you manage your **waste**?

- Bring to the proper facility disposal (ENV. DEPT.) (QUATREX BAG)

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

- Protect the water intake of the town.
- Do whatever it takes at all cost.
- Inform community

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Dave Holmstrom.

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

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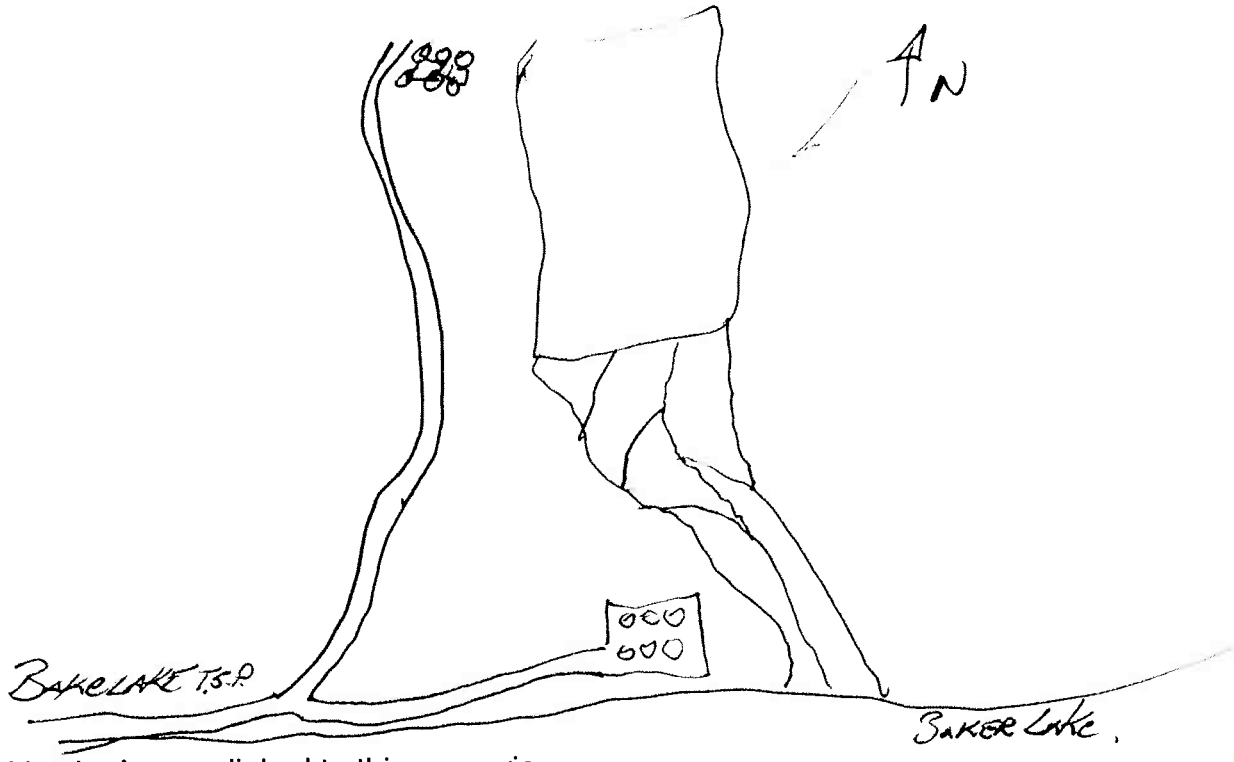

1. List the **issues** linked to this scenario:

- Potential Risk to Baker Lake portable drinking water.
- Fast moving water (Freshet). High travel rate / ICE,
- Potential Impact to spawning grounds.
- Is it stopped? - Truck Rollover & Contained
- What are the sensitive areas.
- Time Frame / Braided channel extended shoreline
- LEL
- Road traffic / Security

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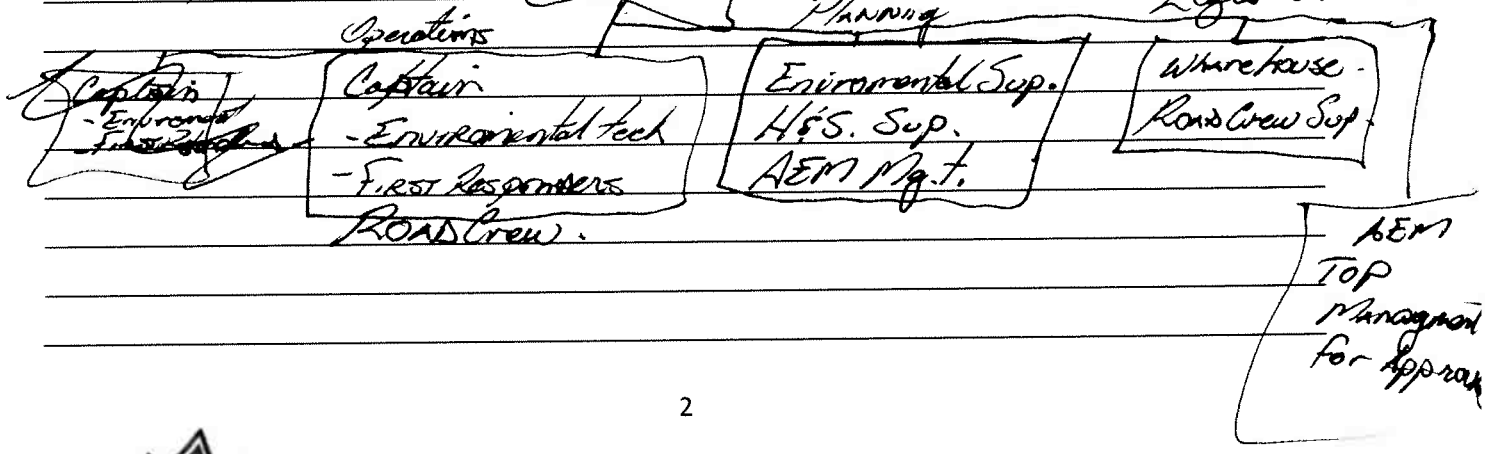
2. What **resources** are required?

- pump trucks - helicopter, - boat
- personal facilities - food, PPE, Bathroom -
- personnel - clean up, communication, H&S, Environmental.
- stop & containment resources - booms, pumps, earth
- - ~~[illegible]~~, C-Cans for [illegible], earth movers, storage -
- ERP, ~~[illegible]~~ Spill contingency Plan, OPEP, JHA.
- WHMIS,
- Level C, for first 6 Hours. Level D After.
- TIER 3 response. initially

3. What are the **initial spill response steps and what does your ICS look like**?

- Call appropriate personnel.
- Evaluate Spill - Immediate danger threat level.
- ~~[illegible]~~ Identify Incident Command team - with ERP
  - Operations personnel.
  - Planning Team.
  - Logistics
  - Finances.

- Spill response plan
- JHSA



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4. What is your oil spill containment and recovery **strategy**?

- STOP Source.
- Based on Evaluation = ~~contain~~ Establish Booms for River Containment
  - Recover land based spills using
  - haul truck, Hoe, Loader ~~if~~
  - create ditch pump oil - from there.
  - Water containment - skimmer cleanup.
  - pump from bottom of V, U, S, Boom.
  - Install booms at 30° of ∠.
  - Install ~~proper~~ bell hole. pump from there.

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

~~Shore~~ Shoreline types.
- Rock
- Tundra, Organics.

Using SCAT.

Identified shoreline types
- rock - nothing
- Tundra - Absorbants
- and natural recovery.
- is it transferable.

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6. What are some **safety** issues?

- LEL, Benzine,
- Tired personal.
- recovery of truck
- Water Ice operation - ~~PPE~~! Assesment.
- other road traffic.
- Possibility of Community water supply
- Wild Animals.

7. How do you manage your **waste**?

Hazmat / Quadrex / TOTES / DRUMS / Soil Pad.
Soil farms, Incinerate

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

- U-Boom
- V-Boom.
- S-Boom.
- Corral it.
- Install Booms @ P.O.E.

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Robin Allard

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

- **Incident** - 45 m^3 diesel spills/plus oil/acid – Originates on Land, flows into the River
- **Spill** - occurred 22:00 hrs on ~~March~~ June 20, 2013
- **River** – water flow, 5 km/hr, braided channels; approx 15 km to Baker Lake
- **Lake** – winds from the North West at 20 km/hr. Tide is high.

1. List the **issues** linked to this scenario:

Flow in River.
→ close Baker Lake - Potential
→ Ice → Flow Forward
→ Potential Impact to wildlife
Stop possible a mat.
Sensitive area
TIME FRAME.
+ Surface for Braided.
Road usus.

Safety Driver
LEL ISSUE.
High flow.

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2. What **resources** are required?

→ pump truck / Machinery
Personnel facilities . Food / PPE / Tax
HR
Spill - Stop / contain mant resources / Lights
Helicopter
Communication
H/S
Environment Dept / Rep
Documentation (ERP / Spill / OPEP) - JHA / BOAT
WHMIS

TIER III / → →

3. What are the **initial spill response steps and what does your ICS look like**?

Evaluate / call
→ STOP if possible / Safety ERP / Spill RP /
immediate Danger
→ ICS
C → ~~OCT~~ - OOC

O	P	L	F
Capt.	Env	Work	Management
Tech.		P/L	
Responders	H/S		
Salvor			
Load			

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4. What is your oil spill containment and recovery **strategy**?

→ Prevent from going to WATER.
→ Boom for containment.
→ Recover Truck / Ditch / VAC TRUCK
HOE - IF POSSIBLE

→ WATER CONTAINMENTS - Bottom/Bund.
→ collect. Skimmer /

Protect Shore line

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

SCAT
Rocks / Organic Matter -
↳ No SHEEN / Small. minimal.

Tool. Hatha
Org → Sorbents / mm Nature

TRANSFERT

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6. What are some **safety** issues?

Tired
Recovery of fuel
ON WATER/ICE OPERATION/ assement.
FAST WATER
DRINKING WATER.

7. How do you manage your **waste**?

HAZMAT / QUADREX / TOTES / DRUMS
GS?

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

✓ BOOM
✓ BOOM
✓ BOOM.

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LUC BLANCHETTE

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

- **Incident -** 45 m^3 diesel spills/plus oil/acid – Originates on Land, flows into the River
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- **River** – water flow, 5 km/hr, braided channels; approx 15 km to Baker Lake
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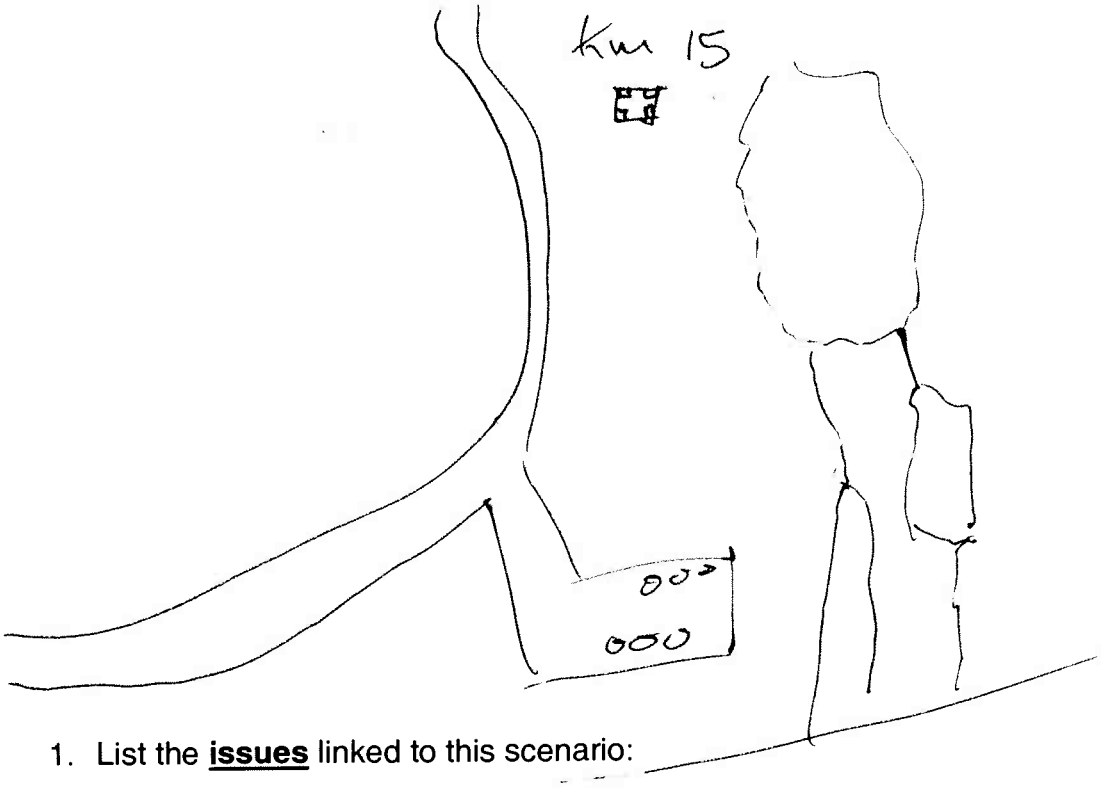

1. List the **issues** linked to this scenario:

- POSSIBLE CONTAMINATION OF COMMUNITIES WATER SUPPLY
- FRESHET WILL MAKE IT HARDER TO COLLECT CONTAMINANTS.
- BRAIDED CHANNELS INCREASE THE CHANCES OF MORE CONTAMINATED AREA
- MAY DISTURB SPAWNING AREAS → FISH
- TIDES WILL INCREASE THE CONTAMINATION OF SOIL.
- SHORT TIME FRAME
- SAFETY OF THE DRIVER
- LEL'S
- OTHER ROAD USERS.

2. What **resources** are required?

- HEAVY EQUIPMENTS TO BUILD TRENCHES
- ENOUGH MATERIAL TO DO ENTIRE CLEANUP. (LAND & RIVER)
- PROPER PPE TO PROVIDE TO ALL PERSONEL
- ENOUGH MATERIAL TO DISPOSE CONTAMINATED MATERIAL (TOTES, SEALED DRUMS
- ADEQUATE MATERIAL TO BRING CONTAMINATED MATERIAL TO MINE SITE.
- SAFETY MONITORING DEVICE BEFORE STARTING ANY CLEANUP.
- PROPER COMMUNICATION.
- MSDS.
- MATERIAL TO MOVE THE TRUCK.
- H&S AND ENVIRONNEMENT PERSONNEL.
-

3. What are the **initial spill response steps and what does your ICS look like**?

- CODE 1 RADIO CALLED
- IC INFORMS TEAM OF SITUATION AND DOES HEADCOUNT BEFORE DEPLOYING TEAM
- COMMAND CENTRE SET UP - INCLUDE MANAGEMENT TO ASSISTS IN DECISION
- MONITOR AND DEVELOPPE A SAFETY ZONE IN THE SPILL AREA.
- IDENTIFY HAZARDS.
-
-

COMMAND

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4. What is your oil spill containment and recovery **strategy**?

- PREVENT FURTHER ENTRY.
- BUILD TRENCHES OF BARRIERS TO AVOID THE SPREADING OF THE SPILL.
- PLACE BOOMS INSIDE BARRIERS TO PICK UP CONTAMINANTS
- ONCE BOOMS ARE FULL - REPLACE WITH NEW ONES. PLACE CONTAMINATED BOOMS IN PROPER CONTAINERS.
- SEND QUADREX BAGS TO MINE SITE AND PLACED INSIDE SEACANS, PROPERLY LABELLED
- WATER → PLACE MARITIME BARRIER INSIDE LAKE. PLACE BOOMS OR ABSORBS ON SHORE TO PROTECT SOIL ALSO ALONG MARITIME BARRIERS.
-

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

- ASSES THE SHORELINE.
- FLUSH THE SHORELINE
- STOP THE CLEANING WHEN CONTAMINANTS IS NOT TRANSFERABLE.

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6. What are some **safety** issues?

- TIRENESS OF THE CREW
- LEL'S
- REMOVAL OF THE TRUCK
- WORK ON ICE AND NEAR FAST WATER.
- WILDLIFE

7. How do you manage your **waste**?

- PUT IT INTO DRUMS OR TOTES TO BURN IT OR STORE IT → MINE SITE.
- ~~IF IT HITS THE WATER, SET UP A V, J OR U~~ Boom.

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

SET UP A V, J OR U Boom.

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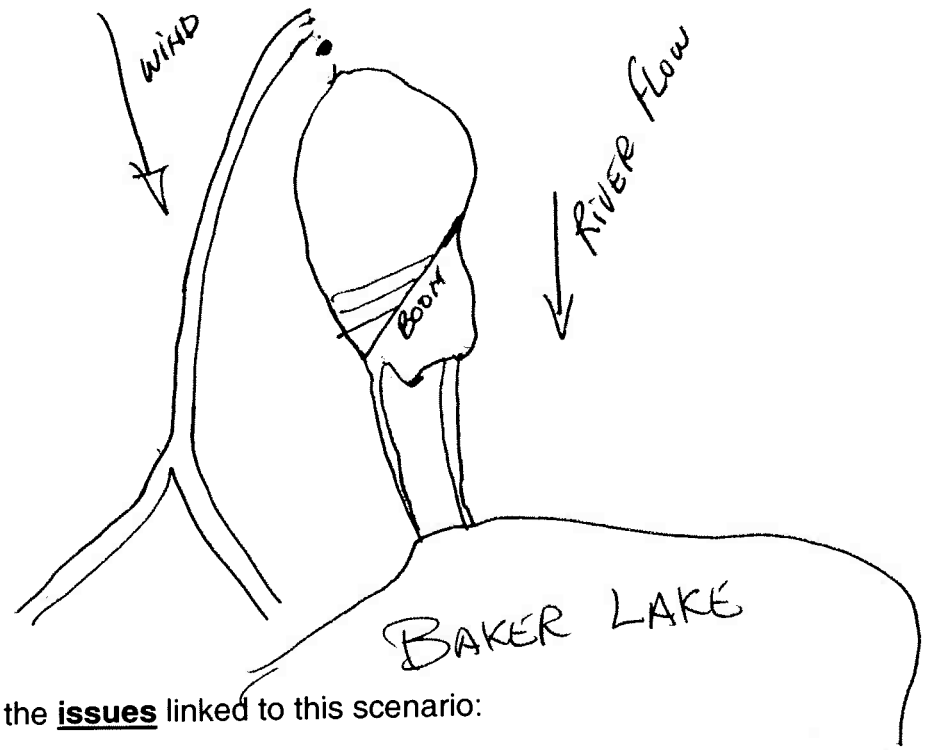
ALAIN GENESSE

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

- **Incident** - 45 m^3 diesel spills/plus oil/acid – Originates on Land, flows into the River
- **Spill** - occurred 22:00 hrs on ~~March~~ June 20, 2013
- **River** – water flow, 5 km/hr, braided channels; approx 15 km to Baker Lake
- **Lake** – winds from the North West at 20 km/hr. Tide is high.



1. List the **issues** linked to this scenario:

- DIESEL FLOWING INTO THE RIVER, HEADING TO BAKER LAKE (15 KM AWAY) giving us LESS THAN 3 HRS TO CONTAIN THE SPILL BEFORE IT GETS TO THE LAKE.
- ISOLATE THE VEHICULE.
- MAKE SURE THE DRIVER IS OK.

2. What **resources** are required?

- HELICOPTER TO ASSESS THE SPILL ON THE RIVER AND THE ACTUAL SPEED OF THE SPILL.

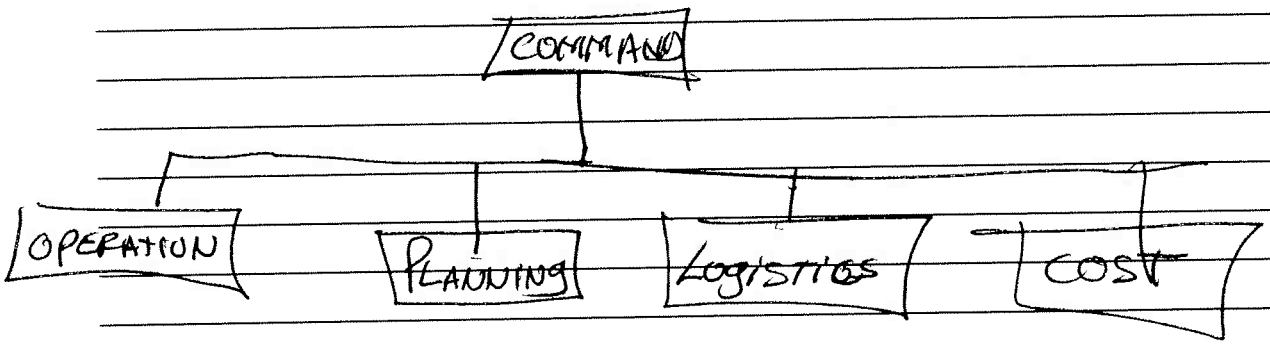
- A TEAM OF RESPONDERS AT THE ACCIDENT TO CONTAIND THE SPILL AT THE SOURCE.
- ANOTHER TEAM FURTHER DOWN STREAM BEFORE THE LAKE TO PREVENT ANY SPILL INTO THE LAKE

- NEED BOATS, MARITIME BARRIERS, SKIMERS, LIGHT PLANTS
- E.R.T. TEAM IN CASE OF FIRE

- M/T TANKER TRUCK TO PUMP THE REST OF THE LOAD
- M.S.D.S. - P.P.E.

3. What are the **initial spill response steps and what does your ICS look like**?

- ANALIZE THE SCENE, DELEGATE PEOPLE
- MAKE A PLAN, MAKE A DECISION, TAKE ACTION
- CALL PROPER AUTHORITY
- SAFETY



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4. What is your oil spill containment and recovery **strategy**?

- INSTALL BOOM ACROSS THE RIVER (POUND) BEFORE IT GETS INTO THE 2 RIVERS (CREEK) AND THE BIG LAKE

FABRICATE A BERM

10-30-4 BARRIER

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

- ASSESS THE SHORELINE SITUATION, ASK TRAINNED PEOPLE TO EVALUATE IF WE NEED TO CLEAN, IF YES WHAT IS THE BEST WAY TO DO IT. (ANY FRAGILE SYSTEM)

- IS IT TRANSFERABLE? YES OR NO

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6. What are some **safety** issues?

- RISK OF FIRE
- FALLING INTO WATER
- DEALING WITH POOR VISIBILITY (DARK AT NIGHT)
- WATER & ICE
- POTABILITY

7. How do you manage your **waste**?

- BRING TO THE PROPER DISPOSAL FACILITY.

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

- PROTECT THE WATER INTAKE FOR THE TOWN
- DO WHATEVER IT TAKES AT ALL COST.
- INFORM THE COMMUNITY.
- U-BOOM, V-BOOM, J-BOOM

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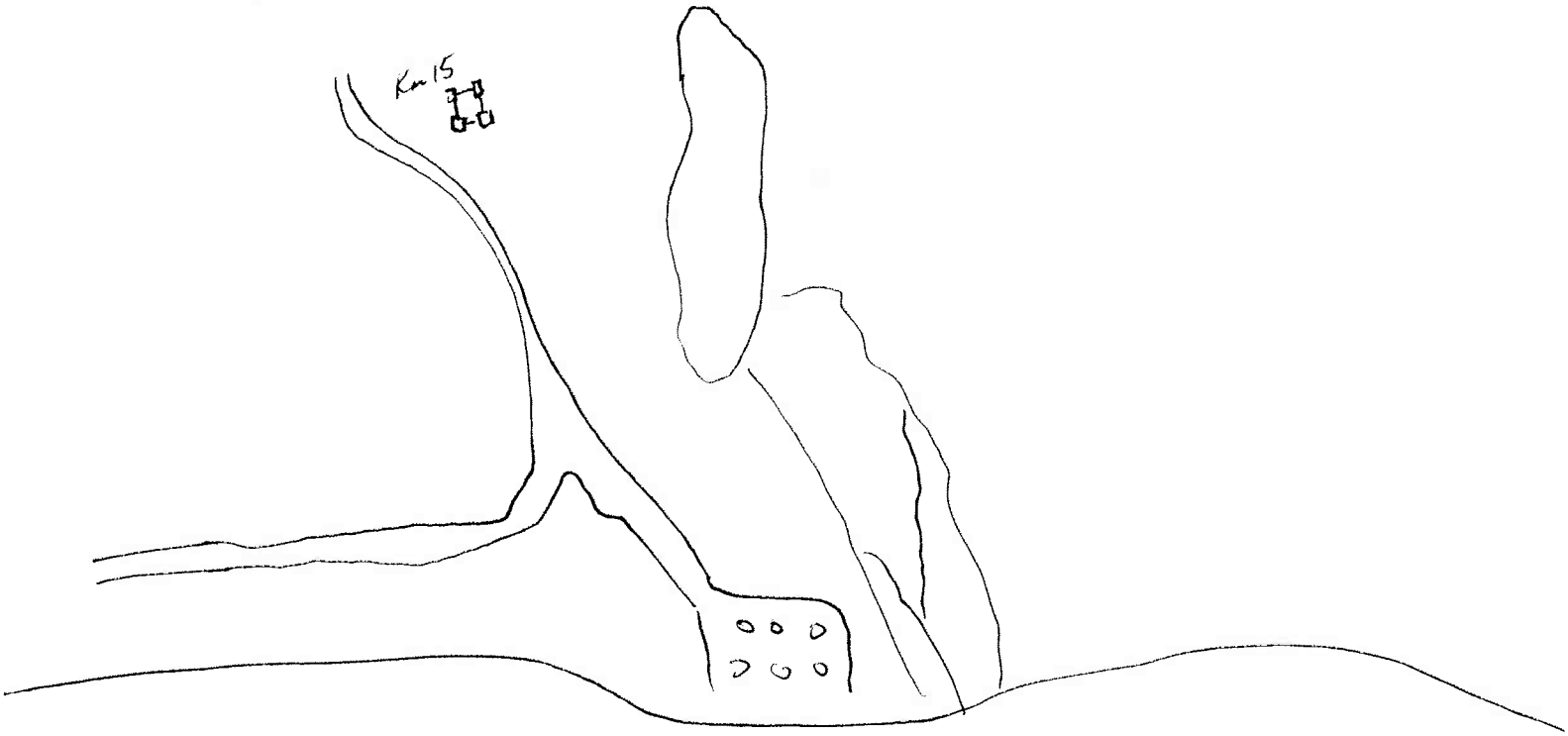
Janie Katalnt

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover considered Tier 3 incident

- **Incident -** 45 m^3 diesel spills/plus oil/acid – Originates on Land, flows into the River
- **Spill** - occurred 22:00 hrs on ~~March~~ June 20, 2013
- **River** – water flow, 5 km/hr, braided channels; approx 15 km to Baker Lake
- **Lake** – winds from the North West at 20 km/hr. Tide is high.



1. List the **issues** linked to this scenario:

possible contamination of communitys water supply
freshet will make it harder to collect contaminants
braided channels - increases chances of more contamination area
may disturb spawning areas - fish
tides will increase contamination of soil
response time
other road users

2. What **resources** are required?

heavy equipment to build trenches (COMMS) ERP
enough material to do entire clean up
proper PPE for all ~~personell~~ personnel
enough material to dispose contaminated material - totes, sealed drums
adequate equipment to bring contaminated material to mine site
safety monitoring devices before starting any clean up

3. What are the **initial spill response steps and what does your ICS look like**?

- Code 1 on radio called - safety
- IC informs team of situation and does a head count before deploying team
- command centre setup - include management to assist in decisions
- develop a safety zone in spill area

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4. What is your oil spill containment and recovery **strategy**?

land - build bell holes or barriers to avoid spreading of contaminants
- place booms inside barriers to pick up contaminants
- once booms are full, replace with new ones - place contaminated booms into Quattrex bags
- send Quattrex bags to mine site and placed inside seacans - properly labelled

Water - place maritime barrier inside lake
place booms along shore to protect soil - also along maritime barrier collect

5. What is your strategy for shoreline **cleanup** operations; if using SCAT what are the forecasted shoreline types, what is your treatment options for each type and what is your end point criteria

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6. What are some **safety** issues?

LEL

fatigue
water and ice
removal of truck
other road users
fast water
wildlife

7. How do you manage your **waste**?

place contaminated material - rags, booms - inside quattrex bags
send bags to mine site - placed into seacans

8. If it were to make it to the lake what is your containment, recovery, cleanup and general overall response?

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Group Training Report

Course Name:

Trainer's Name: Robin Allard

Date: June 18, 2013

AGNICO-EAGLE

Agnico-Eagle Mines Ltd.
Meadowbank Division

M		Name	Company	Signature	Hours TRG.	Hours ASS.	Total Hours	Code
	1	JEAN-CLAUDE POITRAS	AEM		1.5		1.5	4
	2	Bernard Paradis	AEM		1.5		1.5	4
	3	MICHEL POITRAS	PRO-AB		1.5		1.5	4
	4	SERGE PARÉ	A.E.M		1.5		1.5	4
	5	RAY CARLSON	AEM		1.5		1.5	4
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							

Trainer's signature

Date: 18 June, 2013

Induction Department Signatures:

Human Resources:
Camp:
Nurse:
Security:
Health & Safety:
Environment:
Training:

Comments:

Codes:
1. AEM Permit
2. Restrictive Permit
3. Temporary Permit
4. Training Completed
5. Training Not Completed
6. Fail

Assessment Codes:
A+: Very Good
A : Good
B : Average
C : Below Average