MEADOWBANK COMPLEX

Spill Contingency Plan

Meadowbank Mine Site
All Weather Access Road (AWAR)
Whale Tail Mine Site
Whale Tail Haul Road (WTHR)
Baker Lake Facilities

In Accordance with Water License 2AM-WTP1830 & 2AM-MEA1530

Prepared by:
Agnico Eagle Mines Limited – Meadowbank Division

Version 15
December 2021

EXECUTIVE SUMMARY

This document presents the Spill Contingency Plan for Agnico Eagle Mines Limited (Agnico Eagle) Meadowbank Mine Site, All Weather Access Road (AWAR), Whale Tail Mine Site, Whale Tail Haul Road (WTHR), and Baker Lake Marshalling Facilities, which is a requirement of the Meadowbank Gold Project Type A Water License No. 2AM-MEA1530 and 2AM-WTP1830.

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 Project and is applicable to all Agnico Eagle employees and any contractors associated with the project located at latitude 65°01'52"N and 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, Whale Tail Project located at latitude 64°24’14” and 96°40’50”, the All-Weather Access Road (AWAR), and the Whale Tail Haul Road between Meadowbank and Whale Tail sites.

IMPLEMENTATION SCHEDULE

As required by Water License 2AM-WTP1830 Part B, Item 11 & 2AM-MEA1530 Part B Item 11, the implementation schedule for this Plan is effective immediately (December 2021) subject to any modification proposed by the NIRB and NWB as a result of the review and approval process.

DISTRIBUTION LIST

Agnico Eagle – Environmental Superintendent

Agnico Eagle – Environmental General Supervisor

Agnico Eagle – Environmental Coordinator

Agnico Eagle – General Mine Manager

Agnico Eagle – Engineering Superintendent

Agnico Eagle – Health and Safety Superintendent

Agnico Eagle – Geology Superintendent

Agnico Eagle – Mill Superintendent

Agnico Eagle – Maintenance Superintendent

Agnico Eagle – Mine Superintendent

Agnico Eagle – Energy & Infrastructure Superintendent

DOCUMENT CONTROL

Version	Date (YMD)	Section	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 AWAR 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
5	2014/11	Appendices I & J	Include the prohibition of adding neutralizing chemicals to drainages or near or within water bodies
6	2015/09	3	Change definition of a major spill and minor spill
		Table 4	Contact Information
		5.1.3	Add point that procedure MBK-ENV-0016 will be followed for reporting spills
		5.6	Addition of section on event monitoring. Seepage monitoring included in section.
		Appendix L	Dyno Nobel Emergency Response Plan added in Appendix J
		Appendix M	MBK-ENV-0016 Spill Response Procedure Added
WT	2016/05	Complete document	Added Whale Tail open pit and haul road to the Spill Plan. Spills at the Whale Tail open pit will be subject to this Plan.
7_NIRB	2018/12	Complete document	Spill Contingency Plan as Supporting Document submitted to the Nunavut Impact Review Board for review and approval as part of Whale Tail Pit – Expansion Project
7	2019/02	Complete document	Added Whale Tail pit and haul road to the Spill Plan.
7_NWB	2019/05	Complete document	Spill Contingency Plan as Supporting Document submitted for the Expansion Project in support of the Nunavut Water Board (NWB) Type A Water License Amendment Process.
8	2019/09	Section 10	Update Section MDMER
9	2019/12	Appendix N	Add Appendix N: MDMER Emergency Plan Cross Reference Table
		Appendix O	Add Appendix O: STSR Emergency Plan Cross Reference Table
		Appendix P	Add Appendix P: MSDS Diesel and Jet-A
		Section 2	Add info related to tank Km 132
		Section 2.1	Add info during refueling

		Figure 1 to 4 Section 5.1.3 Section 10	Update Figure Add info related to spill report Update all section + add Photo 1 to 3 + add Figure 10
10	2020/02	Appendix Q All	Add Appendix Q: Environmental Emergency Regulation Cross Reference Table Update to include E2 regulation
11	2020/07	Complete document	Update 60 days following the approval of the amended Water License 2AM-WTP1830
12	2020/08	Complete document	Adding complemental information for the E2 regulation
13	2021/03	Complete document	Separating information by facility in accordance with E2 regulation. Adding risk assessments for E2 substances – Appendix R. Revised Appendix K
14	2021/08	Table 2 Table 3 Complete document	Updated internal contacts Updated contractor contacts (Woodward) Updated information for Baker Lake OHF Tank 8 addition.
15	2021/12	Section 2 Figure 4 Table 6 Appendix C1	Updated to include emulsion plant at the Whale Tail site Updated to include emulsion plant at the Whale Tail site Update to maximum quantities expected on site Included spill response to include information on ammonium nitrate (solid) spills to water.

Prepared By: Environmental Department

Approved By:

Alexandre Lavallee

Environnent & Critical Infrastructures Superintendant

TABLE OF CONTENTS

SECTION 1 INTRODUCTION 1-1
1.1. PURPOSE AND SCOPE OF THE SPILL CONTINGENCY PLAN 1-1
SECTION 2 PROJECT DESCRIPTION 2
2.1. PREVENTION AND INSPECTIONS 3
SECTION 3 DEFINITIONS 8
3.1. WHAT IS A SPILL? 8
3.2. MATERIALS AND REPORTABLE (TO REGULATORY AUTHORITIES) SPILLS ON SITE 8
SECTION 4 RESPONSE ORGANIZATION 10
4.1. FIRST RESPONDER 16
4.2. SUPERVISOR 16
4.3. INCIDENT COMMANDER 16
4.4. EMERGENCY RESPONSE TEAM 17
4.5. EMERGENCY RESPONSE TEAM COORDINATOR 17
4.6. ENIVRONMENTAL SUPERINTENDENT OR DESIGNATE 17
4.7. GENERAL MINE MANAGER ON DUTY 18
4.8. HEALTH AND SAFETY SUPERINTENDENT OR DESIGNATE 18
4.9. ON-SITE HEALTH CARE PROVIDERS 18
4.10. SPILL RESPONSE TEAM CONTACT INFORMATION 18
SECTION 5 ACTION PLAN 22
5.1. INITIAL ACTION 23
5.1.1. Respond Quickly 23
5.1.2. Ensure safety 23
5.1.3. Report Spill 24
5.2. SPILLS ON LAND 24
5.3. SPILLS ON WATER 25
5.3.1. Spill Scenario: A spill >5,000 litres up to 10,000,000 litres 26
5.4. SPILLS ON SNOW AND ICE 27
5.5. DISPOSAL OF SPILLED MATERIAL 27
5.6. SEEPAGE MANAGEMENT 28
5.7. EVENT MONITORING 28
SECTION 6 HAZARDOUS MATERIALS STORED ON SITE 29
6.1. Baker Lake Tank description and surrounding environment 31
6.1.1. Topography 31

6.1.2. Geology ... 31
6.1.3. Flora and Fauna ... 31
6.1.4. Subsurface Conditions ... 31
6.1.5. Water Quality ... 32
6.1.6. Bathymetric Data ... 32
6.1.7. Tides and Currents that Prevail at the Facility ... 32
6.1.8. Meteorological Conditions Prevailing at the Facility ... 32
6.1.9. Surrounding Area Environmental Sensitivities ... 32
6.2. Meadowbank Diesel Tank description and surrounding environment ... 33
6.2.1. Topography ... 33
6.2.2. Geology ... 33
6.2.3. Flora and Fauna ... 33
6.2.4. Subsurface Conditions ... 33
6.2.5. Water Quality ... 34
6.2.6. Meteorological Conditions Prevailing at the Facility ... 34
6.2.7. Surrounding Area Environmental Sensitivities ... 34
6.3. Health and Environmental risk resulting from an emergency release of diesel fuel ... 34
SECTION 7 POTENTIAL SPILL ANALYSIS ... 36
SECTION 8 RESPONSE EQUIPMENT ... 37
8.1. GENERAL EQUIPMENT ... 37
SECTION 9 TRAINING & EMERGENCY SPILL/EXERCISE ... 44
SECTION 10 MDMER INFORMATION ... 45
10.1. Seepage Locations ... 45
10.2. Final Discharge Points - Meadowbank ... 48
10.3. Final Discharge Points – Whale Tail ... 49

LIST OF TABLES

Table 1 - Spill quantities that must be reported to the NT-NU 24-HOUR SPILL REPORT LINE. 9
Table 2 - Internal Contacts..... 19
Table 3 - Contractor Contacts..... 20
Table 4 - External Contacts 20
Table 5 - Mutual Aid Contact 21
Table 6 - Materials stored at site during operations..... 29

LIST OF FIGURES

Figure 1: Layout Meadowbank Mine Site..... 4
Figure 2: Baker Lake Diesel and Jet-A Fuel Tank Farm..... 5
Figure 3: Baker Lake Diesel and Jet-A Fuel Tank Farm location versus Baker Lake Community6
Figure 4. Layout Whale Tail Mine Site 7
Figure 5. Emergency Procedure 11
Figure 6: Spill/incident reporting procedure 13
Figure 7: Spill/incident on Water Reporting Procedure..... 14
Figure 8: Quick Reference Diagram for Reportable E2 releases (Schedule 1 substance)..... 15
Figure 9: Map of AWAR Including Locations of Environmental Emergency Sea cans 42
Figure 10: Map of Whale Tail Haul Road Including Locations of Environmental Emergency Sea cans 43
Figure 11: FDP Location Whale Tail 53

LIST OF PHOTOS

Photo 1. FDP East Dike Discharge Meadowbank 48
Photo 2. ST-MDMER-5 FDP..... 49
Photo 3. ST-MDMER-6 FDP..... 50
Photo 4. ST-MDMER-7 FDP..... 50
Photo 5. ST-MDMER-8 FDP..... 51

LIST OF APPENDICES

Appendix A: Environmental Department weekly inspection template

Appendix B: NWT/NU Spill Report Form

Appendix C: General Response Procedures for Spilled Chemical Substances Explosives

C.1 Ammonium Nitrate

C.2 Ammonium Nitrate Fuel Oil (ANFO)

Appendix D: General Response Procedures for Spilled Chemical Substances

D.1 Compressed Gases

Appendix E: General Response Procedures for Spilled Chemical Substances

E.1 Flammable and Combustible Liquids

Appendix F: General Response Procedures for Spilled Chemical Substances

F.1 Oxidizing Substances - Liquids

F.2 Oxidizing Substances - Solids

Appendix G: General Response Procedures for Spilled Chemical Substances

G.1 Poisonous and Toxic Substances (Sodium Cyanide)

Appendix H: General Response Procedures for Spilled Chemical Substances: Corrosive Substances

H.1 Acids, Liquids

H.2 Acids, Solids

H.3 Bases/Alkali, Liquids

H.4 Bases/Alkali, Solids

Appendix I: Agnico Eagle Spill Response Training Records

Appendix J: Dyno Nobel Emergency Response Plan

Appendix K: MBK-ENV-PRO-Spill Reporting Procedure

Appendix L: 2021 Mock Spill in Baker Lake

Appendix M: Product Transfer Area Assessment – Baker Lake Oil Handling Facility

Appendix N: MDMER Emergency Plan Cross Reference Table

Appendix O: STSR Emergency Plan Cross Reference Table

Appendix P: MSDS Diesel and Jet-A

Appendix Q: Environmental Emergency Regulation Cross Reference Table

Appendix R: Risk Assessment - Environmental Emergency Regulation Designated Substance - Diesel

LIST OF ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited
ANFO	Ammonium Nitrate Fuel Oil
AWAR	All-Weather Access Road
CCME	Canadian Council of Ministers of the Environment
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
DFO	Fisheries and Oceans Canada
E2	Environmental Emergency Regulations
ECCC	Environment and Climate Change 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
LEL	Lower Explosion Limit
MDMER	Metal and Diamond Mining Effluent Regulations
MSDS	Materials Safety Data Sheets
NIOSH	National Institute for Occupational Safety and Health
OHF	Oil Handling Facility
OHSP	Occupational Health & Safety Plan
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
PTA	Product Transfer Area
SCP	Spill Contingency Plan
SWIM	Single Window Information Management System
TBD	To Be Determined
TDG	Transportation of Dangerous Goods
WHMIS	Workplace Hazardous Materials Information System
WTHR	Whale Tail Haul Road

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 meets the requirements of section 30 of the Metal and Diamond Mining Effluent Regulation (MDMER) Emergency Response Plan pursuant to the Fisheries Act for both the Meadowbank and Whale Tail sites.

This plan meets the requirements of Environmental Emergency Regulations SOR/2019-51 required for the diesel bulk storage in Meadowbank and Baker Lake Tank Farm. Additional information on tank construction, diesel ship to shore transfer, prevention, inspection and emergency situation can be found in the following plan:

- Emergency Response Plan;
- Oil Pollution Emergency Plan / Oil Pollution Prevention Plan;
- Meadowbank and Whale Tail Bulk Fuel Storage Facilities: Environmental Performance Monitoring Plan; and
- Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan.

This plan has been designed to facilitate effective communication and the efficient clean-up of potentially hazardous materials spills. These materials include:

- Hydrocarbon liquids such as diesel fuel, aviation fuel (Jet-A), gasoline, hydraulic oil;
- Soluble solids such as ammonium nitrate prills;
- Soluble liquids, such as glycols, acids, paints;
- Corrosive liquids such as sulphuric acid and corrosive solids such as sodium cyanide;
- Effluent as defined by the MDMER;
- Seepage from waste related structures that could affect receptors; and
- Any deleterious substances such as suspended solids, arsenic, copper, lead, nickel, zinc, etc.

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:

- Crown-Indigenous Relations and Northern Affair Canada (CIRNAC) 2007. *Guidelines for Spill Contingency Planning*;
- Government of Canada, Department of Fisheries and Ocean (DFO) 2016, *Fisheries Act*;
- Government of Canada, Environment and Climate Change Canada (ECCC) 1999, *Canadian Environmental Protection Act (CEPA) and the Environmental Emergency Regulations 2019 SOR/2019-51*;
- Government of Canada, Environment and Climate Change Canada (ECCC) 2008, *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations s.30 to 32, SOR/2008-197*
- Government of Canada, Environment and Climate Change Canada (ECCC) 2017, *Migratory Birds Convention Act* 1994;
- Government of Canada, Environment and Climate Change Canada (ECCC) 2018, *Metal and Diamond Mining Effluent Regulations*;
- 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 Access Road (AWAR) from Baker Lake, the Meadowbank mine site, the Whale Tail Project and the Whale Tail Haul Road between Meadowbank and Whale Tail sites. 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). 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 eight (8), ten (10) million liter tanks for diesel fuel, within secondary containment and eighteen (18) 100,000L double walled tanks, within secondary containment, for aviation fuel (Figure 2). The Whale Tail Project (Figure 4) consists of sewage treatment plant, water intake, accommodation buildings, power plant, 1,500,000 bulk fuel storage area, warehouse, maintenance shop, emulsion plant, and open pit. The Whale Tail Haul Road has one diesel tank of 1,915L installed at Km 132 on Crown Land. The double wall diesel tank at Km 132 is located in the tundra on a gravel pad near the WTHR. There are no water bodies in the vicinity of the tank that can be affected by a potential spill. There are no trees and few shrubs in the area surrounding the tank storage facility. The nearest community is located in Baker Lake and there is no risk that a spill at this tank can have consequence on them.

Version 15

The fuel is delivered in bulk by sealift to the Baker Lake fuel farm. From there, fuel is hauled to the Meadowbank and Whale Tail sites by contractor tanker trucks on the AWAR and on the Whale Tail Haul Road, respectively. Diesel fuel coming from the Baker Lake Tank Farm is stored at the Meadowbank site in a single 5.6 million liter tank, within a secondary containment, and the aviation fuel into two (2) – 50,000L double walled tanks in proximity of the airstrip. Fuel at the Whale Tail site is stored in one 1.5 million liter tank. From there, the diesel is redistributed around site by an onsite fuel truck to site fuel tanks. Fuel storage locations have been designed to meet the CCME guidelines for Aboveground Storage Tank Systems Containing Petroleum and Allied Petroleum Products. Diesel is mainly use for the electricity production and mining/hauling activities. Different other process as incinerator and smaller mobile equipment also required smaller diesel usage.

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 Meadowbank mine site began with the issuance of the Type A Water License and other relevant authorizations in July 2008 with operations commencing in January 2010. Mining of ore at Meadowbank ceased in 2019. The Meadowbank site is extended to 2026 through the operation of the Whale Tail Project which will supply ore to the Meadowbank process plant. Construction of the Whale Tail open pit started in July 2018 and commercial production achieved on September 30, 2019.

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, at the mine site, and at the Whale Tail site are equipped with a lined area to contain any minor leaks or spills while refueling. A Product Transfer Area Assessment was conducted for the Baker Lake Oil Handling Facility and can be found in Appendix M. No Product Transfer Area Assessment is required for the diesel tank at KM 132 as the tank does not have an aggregate capacity of more than 2,500 L. Transfer of fuel from tanks to tanker trucks is performed with the aid of fuel pumps. During refueling activities, a portable containment is place under the dry quick connect coupling to capture small spills that may result during disengagement of the loading arm. 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).

Agnico Eagle supports the following general principles for spill prevention:

- Provide up-to-date and accessible Material Safety Data Sheets (MSDS) for all hazardous materials;
- Regular inspections of fuel/chemical storage areas for leaks (including flex connectors and plumbing) and platform shifting;
- Regular 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 when not in use;
- 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

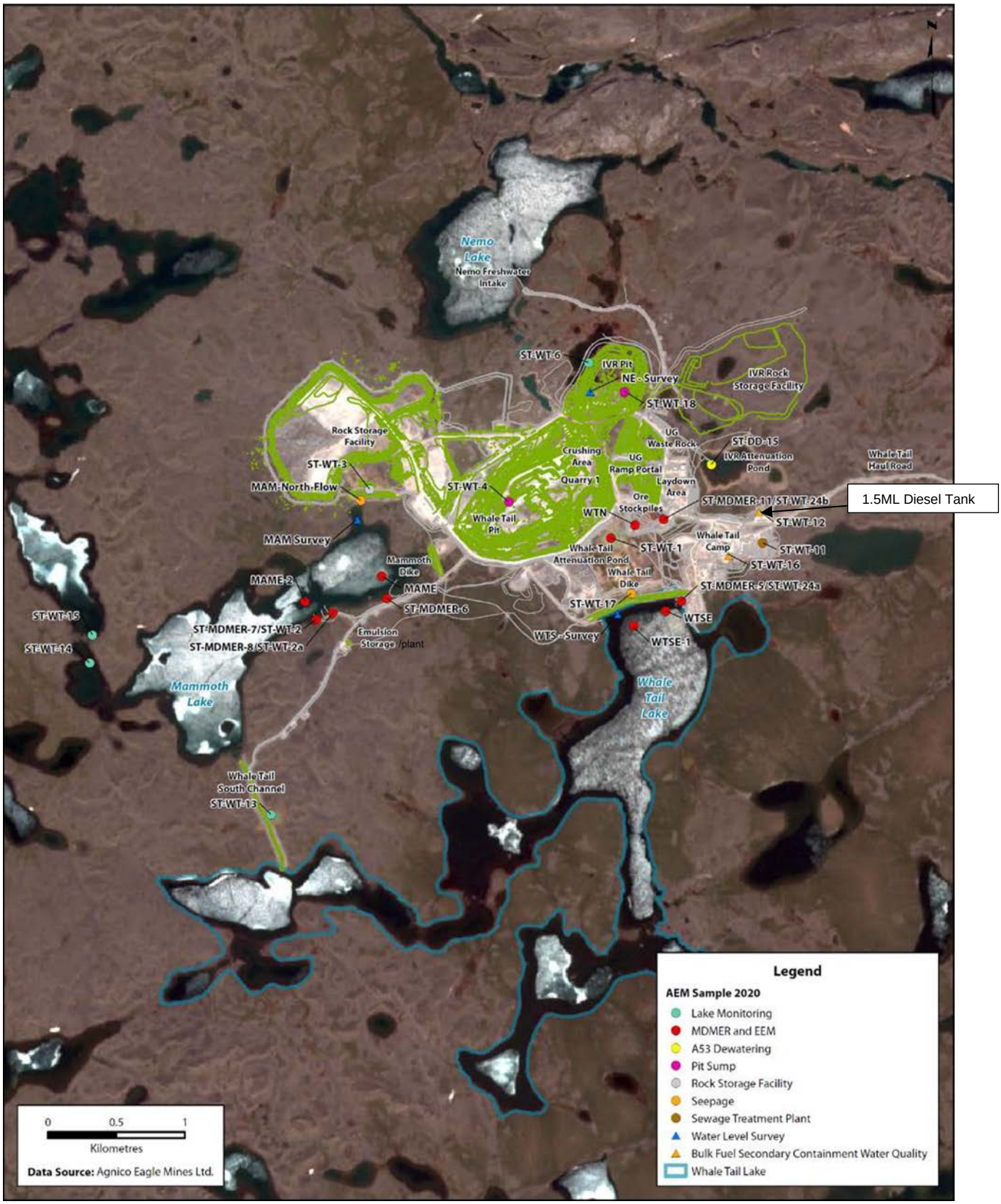
Figure 2: Baker Lake Diesel and Jet-A Fuel Tank Farm

*Tank 8 not illustrated.

Figure 3: Baker Lake Diesel and Jet-A Fuel Tank Farm location versus Baker Lake Community

Blue dot represents the Baker Lake freshwater intake

Figure 4. Layout Whale Tail Mine Site



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 impacts to the receiving environment, Agnico Eagle property or human health. This can include potential impacts to water, surface and groundwater, land, equipment, buildings, local communities, human health and the atmosphere.

A minor spill is defined as any spill that does not involve a toxic, reactive, or explosive material in a situation that does not pose a significant risk to the environment, human health or Agnico Eagle property. Minor spills are generally contained within Agnico Eagle facilities.

As per the Environmental Emergency Regulations (E2) an environmental emergency (spill of E2 regulated substance) is defined as;

Means an uncontrolled, unplanned or accidental release of an E2 substance into the environment (or the reasonable likelihood of such a release) that:

a) Has or may have an immediate or long term harmful effect on the environment;

b) Constitutes or may constitute a danger to the environment on which human life depends; or

c) Constitutes or may constitute a danger in Canada to human life or health.

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, Agnico Eagle maintain a detailed log of all spills reportable to authorities and those non-reportable for all materials listed in Section 1.1. As part of Agnico Eagle's overall environmental management system and in the spirit of a continuous improvement of environmental performance, procedures will be implemented to ensure **all** spills irrespective of location are reported to the Meadowbank Environment Department.

To ensure compliance with Section 36(3) and 38(5) of the Fisheries Act, Section 5(1) of the Migratory Birds Convention Act, the CEPA Environmental Emergency Regulations, Nunavut Spill Regulation and the Metal and Diamond Mining Effluent Regulations all spills of fuel or hazardous/deleterious 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 or online at spills@gov.nt.ca). All spills on land that reach the reportable quantity listed in Table 1 need to be reported to the NT-NU 24-HOUR SPILL REPORT LINE within 24 hours of the spill occurrence.

As per the E2 regulations, any regulated substances listed in Schedule 1 of the regulation that is deemed an environmental emergency, as defined above in Section 3.1, is to be reported to ECCC. A written report of the environmental emergency must be reported in the form of a Schedule 8 and submitted electronically on the Single Window Information Management (SWIM) System. The written report must describe the nature of the event, the name and quantity of the substance involved, the state of the container system (if applicable), the impact of the release, and measures taken to prevent a recurrence. Refer to Figure 8 for when to report an Environmental Emergency as per the E2 regulations.

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
None	Deleterious substances, MDMER effluent parameters, Seepage	Any amount

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 6 and 7 illustrates Agnico Eagle's Spill Reporting Procedure Steps in the event of a 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 (i.e. If a tanker truck overturns on the AWAR/Whale Tail Haul Road) or reports to his/her immediate supervisor (i.e. 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 (as per procedure below), the Incident Commander will respond in conjunction with the Emergency Response Team (ERT). Major responsibilities such as initial coordination, spill clean-up and mobilizing the ERT are part of the Incident Commander's duties.

At any time, if an emergency happens, the initial call will be a code one call on any operations channel to ensure a proper response. The procedure goes as such:

A *Code One* can be called by any person on site to report an accident, serious incident or fire which requires the response of the ERT (Emergency Response Team).

All *Code One* should be called on any operations channel or on any phone by calling 6911

The procedure steps:

1. Call ***Code One*** over the two-way radio ***three (3) times*** on any operations channel or on any phone by calling 6911

   When a code 1 is called over the radio, please respect the "Radio Silence" and if you are driving on the mine site road, please pull over and safely park your vehicle until an All Clear is given.

2. Give your name, exact location and the nature of the Emergency

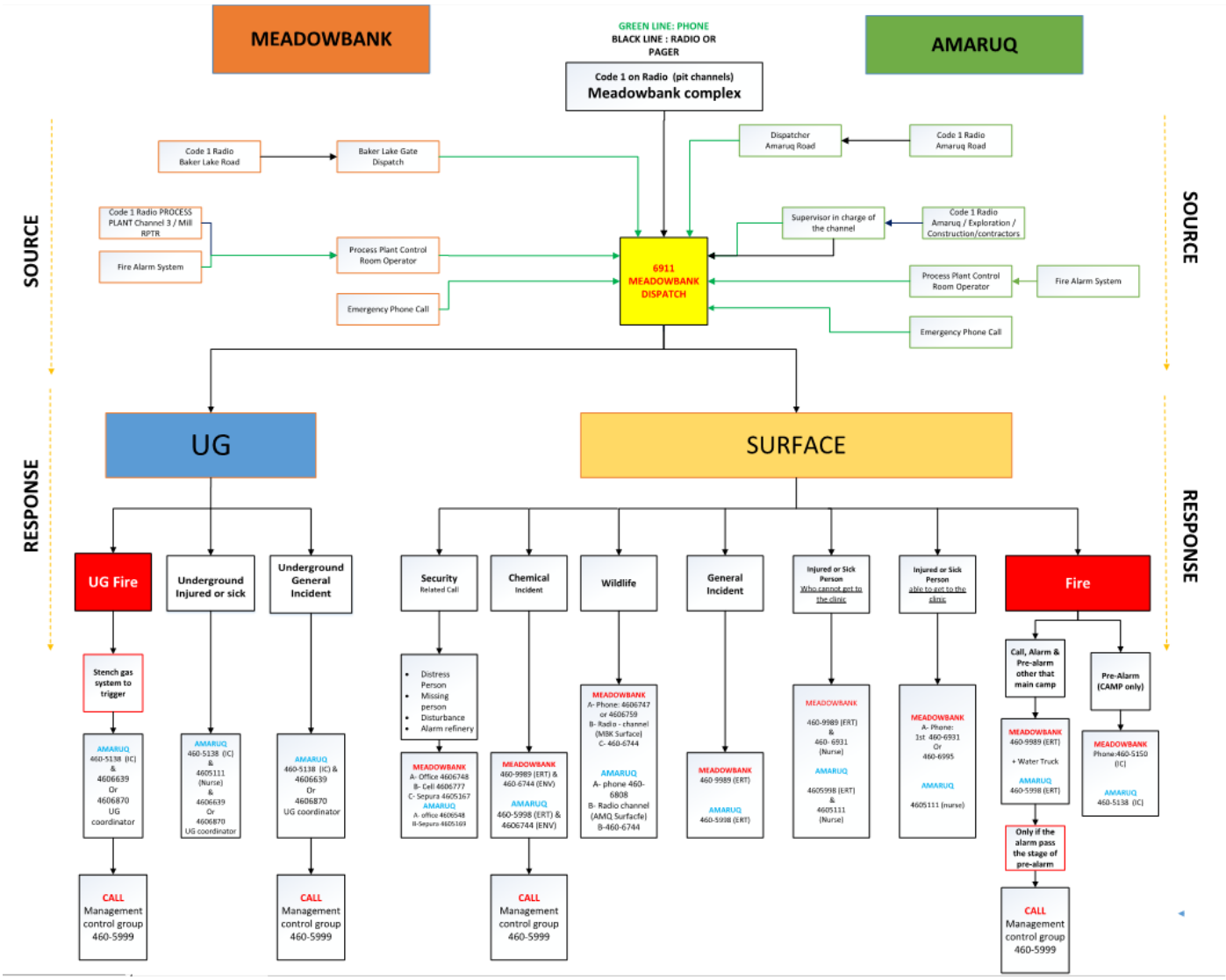
3. Upon notification of the ***Code One,*** the "dispatch" is the only person who will communicate with the person who initiated the Code One

4. The "dispatch" will contact the proper personal to notify them of the ***Code One*** Emergency.

5. If safe to do so the person who called the code one should stay at the location in case any additional information is required or to relay any development which may occur prior to ERT or proper personal arriving to take over the Emergency

Once the ***Code One*** is called, the Incident commander, captain or dispatch determines whether all work in the affected ZONE will be stopped and equipment will be secured so as not to interfere with the response by the ERT. Radio Silence on working channel must be observed until advised otherwise by the Incident Commander or ERT Team Captain.

Figure 5. Emergency Procedure



The Incident Commander will contact the Environmental Superintendent and/or General Mine Manager or alternate, who in turn will inform the Senior Vice President Sustainability. 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, Environment and Climate Change Canada (ECCC) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). Incidents that require media communications will be the responsibility of Agnico Eagle 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 solely responsible for responding to the spill. The containment and cleanup 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, Agnico Eagle would provide whatever assistance it can to the shipping company. Agnico Eagle 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) 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 / Oil Pollution Prevention Plan for more details. Please refer to the certificate of entry and acceptance boats of shipping company, communication protocol, safety management system for entry into confined water and monthly safety meeting forms found in the Oil Pollution Emergency Plan / Oil Pollution Prevention Plan.

In the event of a spill during the ship to shore transfer, the Oil Pollution Emergency Plan / Oil Pollution Prevention Plan will be applicable. Please refer to the plan for a complete review of the procedure to be implemented.

Figure 6: Spill/incident reporting procedure

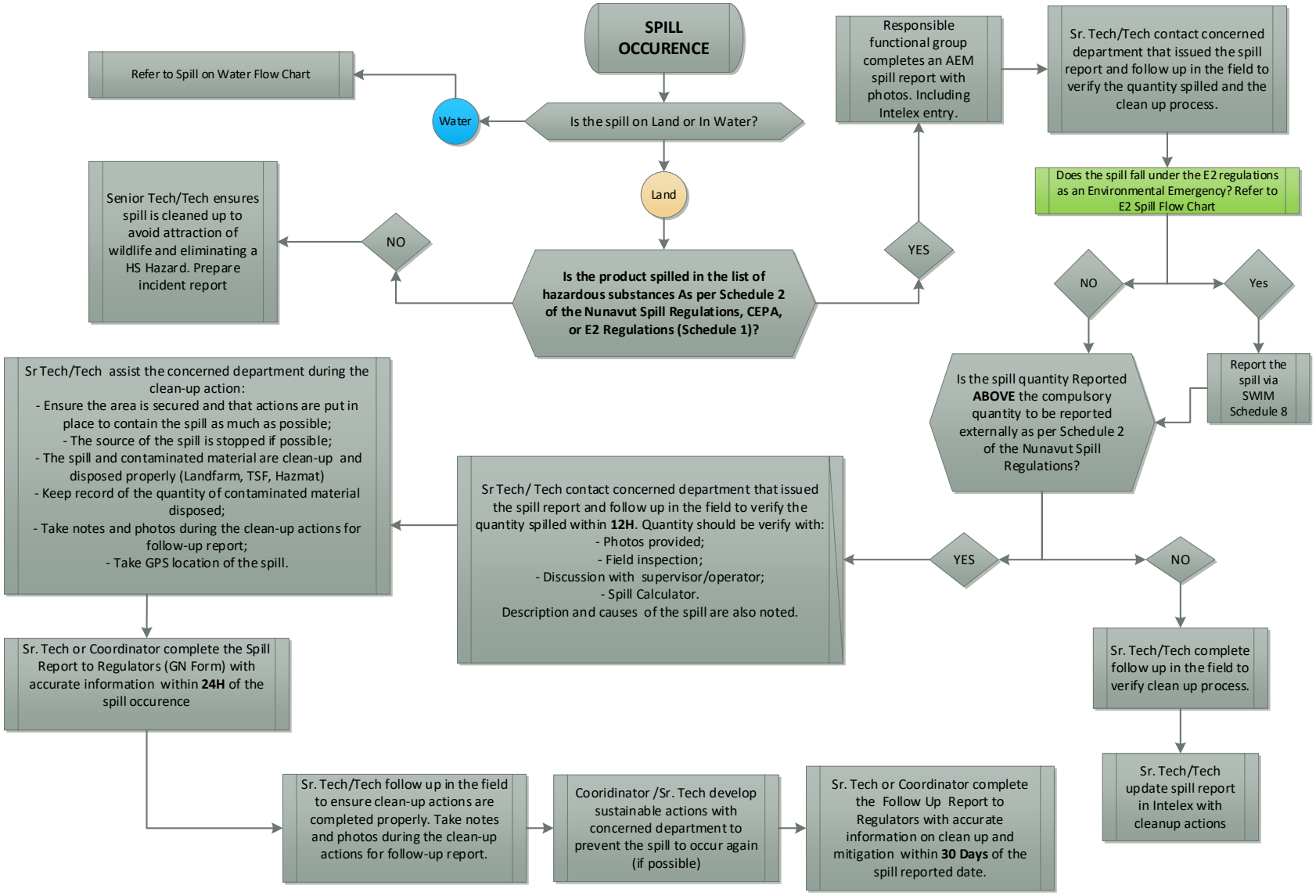


Figure 7: Spill/incident on Water Reporting Procedure

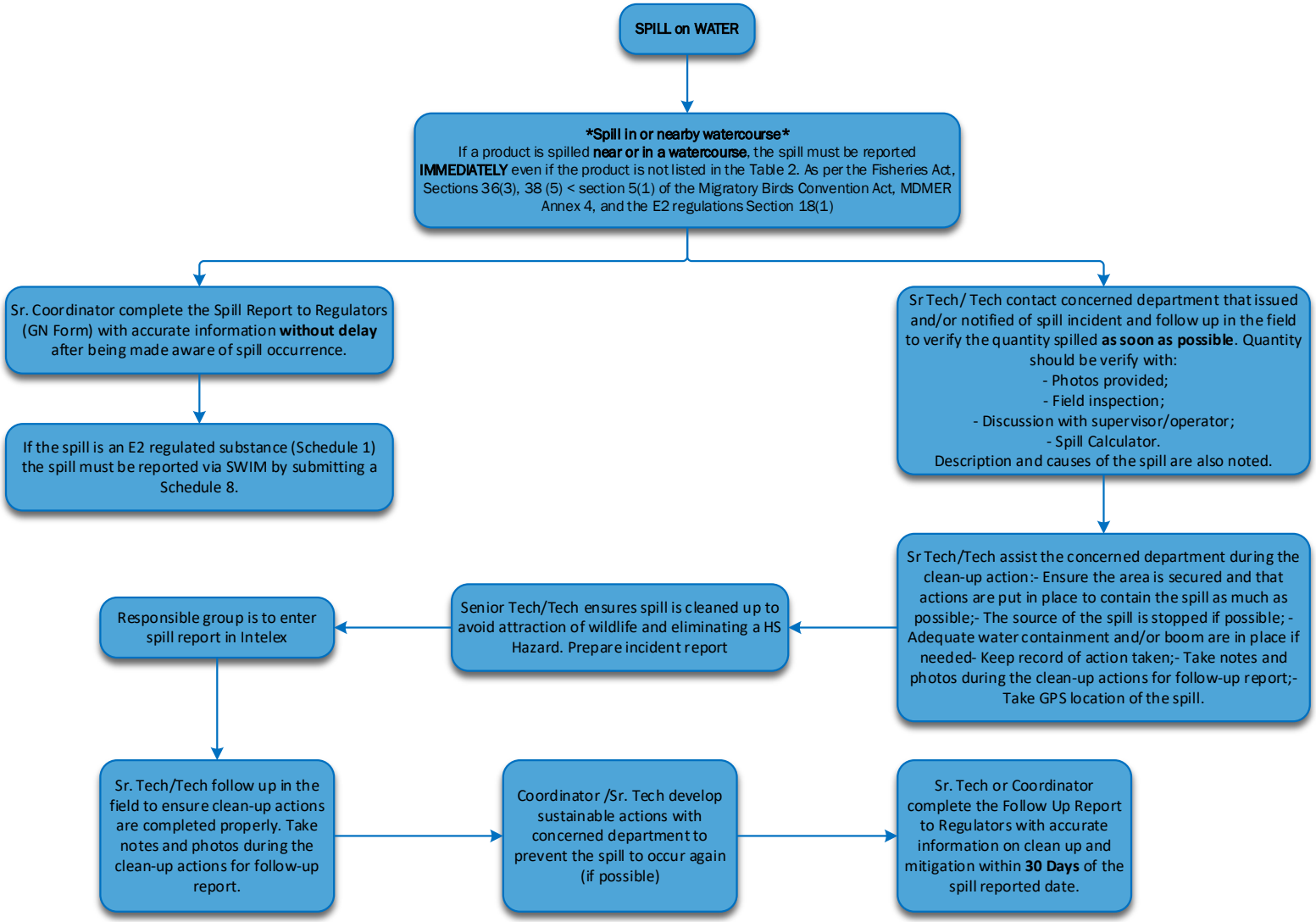
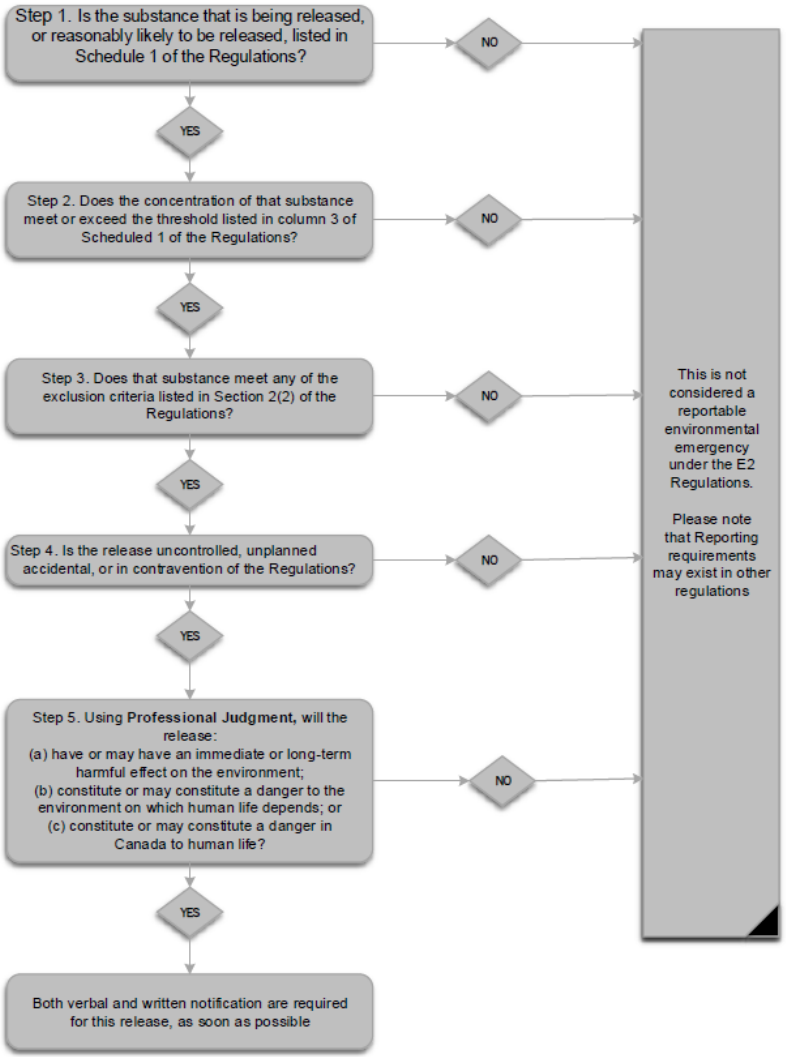


Figure 8: Quick Reference Diagram for Reportable E2 releases (Schedule 1 substance)



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 major incident (example: tanker truck overturn) and/or spill in or nearby watercourse, 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;
- Immediately identify and contain the spill, IF SAFE TO DO SO; commence preparing spill response equipment 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

Agnico Eagle has an Emergency Response Team (ERT) that is trained and responsible for controlling major spills, including those that could occur should a tanker truck overturn along the AWAR or on the Whale Tail Haul Road, and assisting with medical and other emergencies that may occur at the Meadowbank Mine, wherever the location. ERT 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 B for NWT/NU Spill Report Form) to regulators and Agnico Eagle management detailing the occurrence of a spill;
- Contact the Senior Vice President Sustainability 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 Agnico Eagle personnel resources and keep them informed of cleanup activities;
- Incidents that require media communications will be the responsibility of Agnico Eagle General Mine Manager or alternate; 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 Agnico Eagle personnel involved in spill recovery and subsequent reporting. Table 3 provides contact information for Agnico Eagle contractors present at the mine site and transportation contractors. Important external contacts such as regulatory agencies and health organizations are listed in Table 4. Agnico also has a mutual agreement with other mining companies in the north to assist our site in case of a major emergency, the contact information are detailed in Table 5.

Table 2 - Internal Contacts.

Title	Name	Telephone No.
Sr. Vice President, Sustainability, People and Culture	Carol Plummer	416.644.2056
Vice President of Environment and Critical Infrastructure	Michel Julien	416-947-1212 ext. 4013738 Cell: 514.244.5876
Senior Corporate Director, Communications, Social and Public Affairs, Communications	Jason Allaire	819.759.3555 ext. 460800 Cell: 819.355.2608
Meadowbank General Mine Manager	Alexandre Cauchon	819.759.3555 ext. 4606896 Cell: 819.651.2216
H&S Superintendent	Patrick Goldfinch	819.759.3555 ext.4606720
Incident Commander	Philip Beaudoin/Richard Jackson	819.759.3555 ext.4606809 Cell: 450.847.4214
Environmental Superintendent	Alexandre Lavallee	819.759.3555 ext.4606980 Cell: 819-860-0804
Environmental General Supervisor	Eric Haley	819-759-3555 ext. 4606744 Cell: 819-651-1010
Environmental Coordinator	Tom Thomson / Samuel Tapp	819.759.3555 ext.4606906
Environmental Department	Environmental Technicians	819.759.3555 ext.4606747/4606759
On-site Medics	On-site Nurses	819.759.3555 ext.4606734 or 4606751
Site Security	On-site Security	(867) 793-4610 ext. 4606748

Table 3 - Contractor Contacts

Title	Telephone No.	Contact in Emergency for:
Nolinor Aviation Services	Protocol Agent 867.759.3700 ext. 4608008	Flight services for additional crew, or additional supplies
First Air	1-800-267-1247	Flight services for additional crew, or additional supplies
Calm Air	1-800-839-2256	Flight services for additional crew, or additional supplies
Dyno Nobel Explosives Ltd.	(819) 825-5441	Heavy Equipment, Man power, Emergency Blasting
Woodward Group of Companies	(709) 535-6944	Fuel Hauler
Baker Lake Contracting & Supplies	(867) 793-2831 Press #1	Man power, equipment, trades personnel i.e. pipefitter, plumber, electrical
Peter's Expediting	(867) 793-2703	Equipment, man power, Ground transportation services
Arctic Fuel Services	(867) 793-2311	Fuel hauling, trucking, man power.

Table 4 - External Contacts

Organization/Authority	Telephone Number
NT-NU 24-Hour Spill Report Line	(867) 920-8130 spills@gov.nt.ca
Workers Safety and Compensation Commission	(877) 661-0792 (Emergency) or (800) 661-0792
Kivalliq Inuit Association	(867) 645-5725
Nunavut Water Board	(867) 360-6338
CIRNAC Inspector	Christine Wilson (867) 222-6482
Environment and Climate Change Canada – Pacific Prairies and the North	(780)-951-8600
Government of Nunavut – Department of Environment	(867) 975-7700
Kivalliq Health Services – Baker Lake	(867) 793-2816 *Dial 0*
Baker Lake Hamlet Office	(867)-793-2874
Baker Lake Fire Emergency	(867) 793-2900

RCMP Regular Hour RCMP 24 Hour Emergency Number	(867) 793-0123 (867) 793-1111
Canadian Coast Guard (in the event of a spill to the marine environment) Superintendent Environmental Response	(800) 265-0237 (519) 383-1954 (519) 381-6186 (cell)
Transport Canada – Marine Safety Philip Levesque	 (204)-984-5786 Cell : 204-801-6951

**All above phone numbers are current as of February 2020*

Table 5 - Mutual Aid Contact

Mutual Aid	Telephone Number
Diavik Diamond mines Inc	(867) 669-6500 ext. 5903 Phone number is monitored by Security Control 24 Hours a day
Agnico Eagle Mines Limited (Nunavut Operations)	Meliadine (819) 759-3555 ext. 4603977 Hope Bay (819) 759-3555 ext 4606832 General Manager Eric Steinmetzer
De Beers Canada – Gahcho Hué	(416) 645-1695 ext. 6699 Phone number is monitored by Security Control 24 Hours a day
Dominion Diamonds Mines Ekati	(867) 880-2201 or (867) 880-4444 Both phone numbers are answered and monitored by Security Control 24 Hours a day
GMRP	24-hour mine number (Security) (867) 446-2647

SECTION 5 ACTION PLAN

Below is a list of spill events that have the potential to occur at the Meadowbank Complex. Risk assessments have been completed on each of the spill events listed below that involve diesel (E2 regulated substance).

Spill events that may occur:

- Tanks, drums or containers may develop leaks or rupture (for example., corrosion or weld failure);
- Failure of equipment such as valves, piping or containment structures;
- Fuel Tank failure;
- Vessel overfilling and release, or over pressurizing and venting through relief valve or rupture disk; Overfilling;
- Release occurring during the loading/unloading from transportation vessels
- Improper storage;
- Spills during transfer of fuel, chemicals or waste products;
- Spills resulting from accidents during transportation;
- Process Vessel/pump releases due to equipment failure (i.e. cracks, seal failure, ect.)
- Transfer hose releases;
- Release of inhalation toxicants of short duration;
- Vehicle collision with a tank resulting in rupture;
- Fire (at facility, equipment itself, ignition of leaking substance);
- An explosion;
- Extreme weather; (ex: permafrost degradation, extreme cold, extreme warm temp)
- Natural disasters (earthquake, fire on tundra);
- Vandalizing;
- Seepage that may migrate off site to receiving water or land; and
- Discharge to receiving environment of a deleterious substance exceeding the MDMER and/or NWB Water License and/or any other regulation.

At the Meadowbank and Baker Lake OHF, the spill that is more likely to occur is a spill during the fueling of the delivery truck. Quantity will be negligible and can be contained and recovered with the spill material on site. Is it expected, as per the Product Transfer Area Assessment – Baker Lake Oil Handling Facility in Appendix M, that a spill due to a broken piping can release up to 1,000L to the adjacent gravel area. In this case, no fuel is expected to reach any receiving environment and stay within the boundary of the facility. Material on site will be sufficient to contain the spill. If the spill is greater than 1,000L up to 10,000L, it may have a possibility to reach the Baker Lake, this would be the worst-case scenario. In that case, the longest impact distance outside the boundary of the facility can be up to 3.4 Km. The maximum quantity that can be release from the Baker Lake OHF is 10 ML. In that case, fuel may reach Baker Lake and it is expected

that the longest impact outside the boundaries of the facility will be around 85 Km. For the Meadowbank tank farm, a spill of the maximum quantity that the tank can contain is not expected to go outside the boundaries of the facility. Spilled fuel is expected to be contain inside the secondary containment and if fuel escape fuel it will still remain inside the facility boundaries due to topography in this area.

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. If required the Incident Commander will mobilize the Emergency Response Team.

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

- Spill reporting will follow procedure MBK-ENV-PRO-Spill Reporting. This procedure can be found in Appendix K
- Obtain all necessary information to complete the spill report form (reportable or not) and provide to Environment Staff within 12 hours. Spills that meet regulatory reporting criteria must be reported to the NWT-NU 24 Hour Spill Line/CIRNAC/ECCC/Kivalliq Inuit Association and the NWB by Agnico Environment Staff within 24 hours. Any spills near and/or in water (including frozen) must be reported immediately to NWT-NU 24 Hour Spill Line/CIRNAC/ECCC/Kivalliq Inuit Association and the NWB by Agnico Environment Staff even if not meeting regulatory criteria describe in Table 1; and
- For spills that meet regulatory reporting criteria, a detailed spill report will be submitted to the CIRNAC Water License Inspector, ECCC inspector and the KIA Land's Inspector by Agnico Eagle 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. Report will be submitted as per requirement of the Water License and/or Fisheries Act Section 38 (7) and/or MDMER Section 31.
- For spills relating to E2 substances (E2 regulation Schedule 1), professional judgement must be used to determine if the spill is considered an environmental emergency as per Section 18 (1) of the Environmental Emergency Regulation (Figure 8). If the spill is considered to be an environmental emergency, the spill must be reported electronically using SWIM by submitting a Schedule 8.

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:

- To ensure compliance with Section 36(3) and 38(5) of the *Fisheries Act* and Section 5(1) of the Migratory Birds Convention Act 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) and if the spill is an E2 regulated substance (Schedule 1) the spill must be reported via SWIM.
- 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 (diesel) 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.

5.3.1. Spill Scenario: A spill >5,000 litres up to 10,000,000 litres

In the case of an ***Extreme*** spill, Agnico follow the below actions listed to complete the best containment and clean up possible. Spill response supplies at the OHF (including all responses equipment and resources from Meadowbank, emergency trailer, emergency sea can along the AWAR) will need to be use to control and cleaned up. Tanker delivering fuel also has on board equipment that can be share with Aginco in case of extreme spill. However, at this point Agnico could require external assistance with the clean-up. For spill during fuel transfer from ship to shore, refer to the Oil Pollution Emergency Plan / Oil Pollution Prevention Plan.

The material onsite can be deployed within one hour to contain a spill, unless deployment within one hour will be unsafe. Generally, for spill greater than $1m^3$, the Emergency Response Plan (ERP) will be activated and the Emergency Response Team (ERT) located at Meadowbank mine site will come in Baker Lake to help. Realistically, the ERT can be on site within 125 minutes (or less) ready to help for the clean-up activity. Material from the Meadowbank Mine site, if required, will be brought to the Baker Lake OHF within 125 minutes to finalize the containment (if not complete) and recovered of the oil pollution incident.

In the case that the communities of Baker Lake should need to be evacuated on short notice, the Emergency Response Team will immediately assist in the evacuation of the community. The General Mine Manager will immediately contact the Mayor of the Hamlet to inform regarding the situation. In addition, if safe to do so, a radio notification should be immediately broadcast on the Baker Lake Radio station.

Appropriate Actions	Resources
1. Drawn appropriate PPE and stop the spill, if it's safe to do. 2. Make sure that the environment is safe for the facility personnel, the facility and Baker Lake community. 3. Make sure that risk of fire or explosion are minimize. 4. Call Code One on Radio 5. Make the community of Baker Lake aware of the Spill to ensure measures can be taken to ensure safety of the community (contact mayor, hamlet counsel, fire department, RCMP) 6. Request for supplemental spill response material as detailed and ERT support 7. Minimize the oil pollution incident by containing the spilled fuel to spreading within the marine environment, if it's safe to do. 8. Notify CCG, Transport Canada, local and regulatory authorities, and request for assistance if needed. 9. Containment boom is manned to prevent the escape of fuel outside the boom.	a. Agnico employees aware of the procedure for spill. d. Emergency Response Team trained for spill response. e. Shore-based boat to position booms and spread absorbent material. f. Spill response equipment and supplies maintained in Agnico sea can locate at Agnico's Marshalling area. g. Additional booms to place outside the containment boom. h. Additional boats can be transported from the Meadowbank site as well local boats can be rented from local contracting companies i Heavy equipment such as excavators, back hoes, vacuum trucks, and dump trucks for waste materials. j. in the case of larger spills an Incident Command System will be set up at the Meadowbank site as laid out in the Meadowbank Emergency Response Plan.

10. If necessary, place a diversion boom outside the containment boom to stop the diesel from getting onto the beach 11. Spread absorbent material on the spill to capture it 12. For larger amounts of spilled materials on water, use absorbent booms to collect the spilled fuel 13. Monitor any fuel that could not be recovered and collect water samples near the spill site and in the access passage for analysis. Repeat as necessary. 14. If diesel reaches the beach, excavate the contaminated beach material and take it to the Landfarm area at the Meadowbank site.	

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

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 Meadowbank landfarm for treatment, this includes contaminated soil from the Baker Lake and Whale Tail facilities. 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 (TSF).

Spills smaller 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. Spills over 100 L of petroleum hydrocarbon contaminated snow will be excavated and stored in labeled drums or at the TSF. After snow melt, the contaminated water could be pumped through the site’s oil-water separator (carbon filter) to remove petroleum hydrocarbon residue. The treated water will be sampled per the NWB Water License and discharged to the respective Stormwater Management Pond at Meadowbank and Whale Tail 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.

For more information refer to the Meadowbank Landfarm Design and Management Plan and the Whale Tail Landfarm Design and Management Plan.

5.6. SEEPAGE MANAGEMENT

Seepage from the tailings storage facility (TSF) and waste rock storage facilities (WRSF) are treated as actionable and reportable spills. In the event that seepage is observed, an action plan is implemented to address the problem. The action plan includes: cause identification, mitigation measures used to stop or control the seepage, clean-up actions, disposal of contaminated material if applicable and monitoring requirements.

5.7. EVENT MONITORING

The Event Monitoring (EM) program addresses the site-specific monitoring that is required following any accidental release. A “release” may be caused by a spill or an emergency (Emergency Response Plan; March 2021).

The EM program is designed to verify whether contamination of the surface soil, nearby receiving environment and active zone has occurred as a result of an accidental release of a hazardous material or contaminated water, through monitoring of surface runoff and nearby receiving environment following remediation of any release. It is anticipated that owing to the presence of permafrost beneath most of the mine footprint, there will be minimum impact to groundwater. A complete list of hazardous materials in use during operations at all sites is provided in the Hazardous Materials Management Plan (July 2020).

The EM plan is developed on a site-specific basis subsequent to a spill or accidental release, and considers the type of product spilled, the potential receptors, and the potential for any remaining contamination after clean-up. The plan is done in coordination with the Environmental Superintendent.

In the event of an accidental release, the water quality of the downstream receptor and possibly upstream of the receiving point, if any, is to be sampled (during the ice-free season) and analyzed. Should the spill have happened over snow cover, water and possibly soil sampling is to take place at the earliest feasible time after thaw to verify if there has been any impact to the receiving water or soil quality. The specific parameters monitored as part of the EM program will depend on the nature of the spill, and will be determined for the specific hazardous material released.

EM sampling is to occur following the clean-up of a release and the frequency of sampling will depend on the type of material spilled (wet or dry spill), the environment into which the chemical was released (surface water body or soil; frozen or thawed), and the quantity of spill material. The EM program for a particular spill will cease upon obtaining satisfactory analytical results (within 20% of background level, to accommodate for analytical accuracy) from the potentially affected areas or as required by regulators.

In the event of a seepage from the TSF and/or rock storage facility (RSF), water will be pumped back to the North Cell TSF (or South Cell if necessary). Seepage from the Whale Tail RSF will be pumped to the Quarry 1 or the Attenuation Pond. Visual inspections will be conducted regularly to confirm that the seepage is appropriately contained and will not enter into the receiving environment.

SECTION 6 HAZARDOUS MATERIALS STORED ON SITE

A variety of petroleum products and other hazardous materials will be used as part of mining operations. Large quantities of petroleum products will be stored at various sites at the Meadowbank Mine and at Whale Tail Project. 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 C to H provide General Response Procedures for Spilled Chemical Substances.

P50 Diesel is a bright oily substance that has a low viscosity. It spreads rapidly on the water, has a low solubility in salt water (60 mg/L), and a high evaporation rate as described in the text box below. Appendix P provide the MSDS for Diesel and Jet-A.

Predicted Evaporation Rate of Spilled Diesel

Weight percent Evaporation = (5.8 + 0.045T) in(t)
Where T = water temperature
t = time in minutes

After a time span of 60 minutes at a surface temperature of 5°C, up to 25 % weight of the spilled diesel would have evaporated.

After 240 minutes, or 4 hours, the weight percent of the diesel that would have evaporated would be 33%.

Source: Environment Canada, Emergencies Science and Technology Division

Table 6 identifies the predominant hazardous materials transported, stored and generated at the sites. Those destined for use in the process plant will only be stored at Meadowbank. Refer to the Hazardous Materials Management Plan for more details.

Version 15

Table 6 - Materials stored at site during operations

Material	Maximum Anticipated on -site	Maximum Amount transported per unit	Storage Location
Acetylene	500 cylinders	300 cylinders per sea can	Inventory Lay down
Activated Carbon	350 t	10 t per sea can	Inventory Lay down and Process Plant lay down
Ammonium Nitrate	12,500 t	20 t per sea can	Meadowbank/Whale Tail Emulsion plant
Ammonium Nitrate Fuel Oil (ANFO)	Manufactured on demand – 500,000 kg	20,000 kg per truck	Emulsion plant and Esker 6
Motor Oil	Estimated at 800,000L	20,800L per sea can	Inventory Lay down, garage
Trojan Boosters (Blasting Systems)	34,000 kg	15 t per sea can	Emulsion plant
Borax, Anhydrous	9,200 kg	3,375 kg per sea can	Inventory Lay down and

Version 15

Material	Maximum Anticipated on -site	Maximum Amount transported per unit	Storage Location
			Process Plant lay down
Calcium Chloride	910,000kg	10,000kg per sea can	Inventory Lay down
Copper Sulphate	27.5 t	20 t per sea can	Inventory Lay down and Process Plant lay down
Diesel Fuel	5.9 million Liters	40,000L per tanker	Meadowbank Tank farm + small tanks on site
Diesel Fuel	2.6 million Liters	40,000L per tanker	Whale Tail Tank farm + small tanks on site
Diesel Fuel	80 million Liters	NA	Baker Lake Tank farm
Diesel Fuel	1,915 Liters	NA	Whale Tail Haul Road Km 132
Dyno Split (Detagel)	135,000 kg	15 Mt per sea can	Meadowbank/Whale Tail Emulsion plant
Nonel EZTL	1,400 kg	15 Mt per sea can	Meadowbank/Whale Tail Emulsion plant
Nonel MS	1,800 kg	15 Mt per sea can	Meadowbank/Whale Tail Emulsion plant
Ethylene Glycol	60,000L	10,000L per sea can	Inventory Lay down
Jet A Fuel	100,000L	11,000L Tanker	Meadowbank Tank, tarmac
Jet A Fuel	1,800,000L	Vessel Tanker	Baker Lake Tank Farm
Jet A Fuel	200,000	11,000L Tanker	Whale Tail Tank farm
Lead Acid Batteries	500L	500L per sea can	Warehouse
Magnafloc 10 (Flocculant)	300 Mt	15 Mt per sea can	Inventory Lay down
Nitric Acid	130,000L	8,000L per sea can	Inventory Lay down
Cement	1,500 t	20 t per sea can	Dyke and Construction lay down
Sodium Cyanide	3,700 t	19 t per sea can	Inventory Lay down and Process Plant lay down
Sodium Nitrate	3t	5t per sea can	Inventory Lay down
Sulfur	1,100 t	20 t per sea can	Inventory Lay down Process Plant lay down

Version 15

Material	Maximum Anticipated on -site	Maximum Amount transported per unit	Storage Location
Unleaded Gasoline	10,000L	40,000L tanker	Meadowbank
Unleaded Gasoline	15,000	NA	Baker Lake
Unleaded Gasoline	19,000	40,000L tanker	Whale Tail
Varsol	4,000L	2,000 L per sea can	Inventory Lay down

6.1. Baker Lake Tank description and surrounding environment

Agnico's Oil Handling Facility (OHF) is located in the area of Baker Lake at latitude 64°18 22.778" N and longitude 95°57'33.990" W. The Baker Lake OHF consists of eight (8), ten (10) million liter tanks for diesel fuel, within secondary containment (Figure 3). The steel fuel tanks have been field erected and built to API-650 standards with each bermed area holding two tanks. This area can contain 110% of the volume of one ten (10) million liters tanks storage tank.

6.1.1.Topography

The bulk fuel storage area is located east of the Hamlet of Baker Lake, approximately 350 m north of Baker Lake (Figure 4). The OHF sits on a low terrace parallel with the shoreline of the lake. There is a gradual slope (5 to 10% grade) toward Baker Lake with an approximate elevation change of 35 m from the OHF to the Baker Lake shoreline. The Baker Lake shoreline is gently sloping, well-drained and is lined with marine gravels, sands and boulders.

6.1.2.Geology

The regional surficial geology is characterized by sandy till, bedrock outcrops, felsenmeer (ice-shattered bedrock) and shallow lakes. The most common soil type in this region is glacial till. Marine beach deposits are found along the north shore of Baker Lake.

The soil near the bulk fuel storage facility is comprised of silts, sands, gravels, cobble and boulders and frost-susceptible glacial till overlying weathered bedrock. The soil thickness is typically less than 1.4 m with permafrost or bedrock encountered at less than 2 m. Approximately 60% of the surface area surrounding the bulk fuel storage facility is comprised of bedrock outcrop.

6.1.3.Flora and Fauna

There are no trees and few shrubs in the area surrounding the bulk fuel storage facility. The site is covered by low-lying vegetation; predominated by grassy hummocks, dwarf willow, sedge, green moss and lichen.

Arctic ground squirrels, ptarmigan and songbirds are inhabitants in the area surrounding the bulk fuel storage facility. Lake cisco, lake trout, arctic char, lake whitefish, round whitefish, slimy sculpin and stickleback are predominant species found in Baker Lake.

6.1.4.Subsurface Conditions

Test pits excavated in 2005 near the Bulk Fuel Storage Facility and between the tanks and the shoreline indicate a saturated top layer (0.2 m) of organic material (primarily green moss). A layer of grey to black medium sand is present up to 0.7 m thickness throughout the area, below which a saturated, grey brown,

sand and silt layer is found.

Bedrock is exposed at shallow depths throughout the site in locations where topsoil or till soils are present. Bedrock is encountered at a maximum depth of 1.4 m. As predicted by the soil conditions, seepage flows in test pits indicate high site drainage (Baker Lake Bulk Fuel Storage Facility Environmental Performance Monitoring Plan).

6.1.5.Water Quality

Baker Lake water quality closely resembles distilled water as many conventional water chemistry parameters are at or below detection limits. The water column is generally well mixed and the water chemistry homogenous. During the open water season there is limited vertical stratification in temperature and dissolved oxygen, with observed higher salinity in the bottom strata.

6.1.6.Bathymetric Data

As required by Water License 2AM-MEA1530 Schedule B, Item 6, a bathymetric survey(s) is conducted prior to each year of shipping at the Baker Lake Marshaling Facility. The result of this annual bathymetry is provided in the annual report.

6.1.7.Tides and Currents that Prevail at the Facility

There is a general southward current in Hudson Bay at Chesterfield Inlet of about 19 km/day (CCG 2008). Tides are 4.6 meters with strong cross-currents at Chesterfield Inlet; usually flowing southwest at about 1.85 km/hr.

6.1.8.Meteorological Conditions Prevailing at the Facility

Monthly meteorological data has been collected from 1971 to 2000 from the Baker Lake “A” climate station, which is a Meteorological Service of Canada climate station. Snow and rain are combined to give monthly average precipitation. The prevailing winds for the area are generally from the north to north-west and average 20.4 km/hr.

6.1.9.Surrounding Area Environmental Sensitivities

The community of Baker Lake is a hamlet in the Kivalliq Region, in Nunavut on mainland Canada. Located 320 km inland from the west coast of the Hudson Bay, it is near the nation's geographical centre, and is notable for being the Canadian Arctic's sole inland community. The hamlet is located at the mouth of the Thelon River on the shore of Baker Lake.

The freshwater provided to the community is taken in Baker Lake. The freshwater intake is located approximately 3.4 km from the Meadowbank OHF. See Figure 4 above for the exact location. In case of a spill during fuel transfer, preventive action will be taken to avoid any contamination in close proximity of the water intake and cause health and safety problems to the community:

1) As part of the spill procedure, Agnico will make the community of Baker Lake aware of any spill to ensure measures can be taken to ensure safety of the community by contacting Mayor / Hamlet counsel and Fire department;

2) As part of the spill procedure, boom and absorbents pads will be deployed to confined and limit the progression of the spill into the water;

3) Booms will be deployed to capture the spill;

4) If spill cannot be captured prior to spreading towards the freshwater intake, booms will be deployed around the freshwater pump and regular inspection will be done to see if there are visible sheen;

5) As a precaution and depending of the spill size, Agnico will work with the Baker Lake Hamlet Counsel to provide a notice to the community of Bake Lake to stop the consumption of the freshwater during the time spill is recovered and until a test on water is conducted. During this time Agnico will provide potable water to the community[1]. As soon as the spill will be recovered and it's determined that the freshwater intake and distribution system is not contaminated the consumption of freshwater will resume.

6.2. Meadowbank Diesel Tank description and surrounding environment

The Meadowbank Bulk Fuel Storage Facility is located at Meadowbank, east of the main camp facilities adjacent to the mine operations haul road. There is one (1) above ground storage tank with approximately 5.6 million liters capacity within a lined secondary containment able of containing 110% of the volume. The GPS coordinates of the facility is NAD83 14W E 0638083 N 7214288.

6.2.1.Topography

The surrounding area of the Meadowbank site consists of low, rolling hills with many small lakes; Third Portage Lake is located to the south and Second Portage Lake to the north. The bulk fuel storage tank at Meadowbank is bounded to the north by the mine site, a haul road to the east, and the incinerator and waste management area to the south. The surface water drainage at the bulk fuel storage facility is towards the storm water management pond to the north.

6.2.2.Geology

The fuel storage sites have a thin, discontinuous cover of top soil with minimal organic material. Soil thickness is typically between 1 and 5 m below which bedrock is encountered. In the area near, bedrock is encountered within 2m of existing ground surface or is exposed with weathered fractures extending 1 to 2 m into the rock.

6.2.3.Flora and Fauna

There are no trees and few shrubs in the area surrounding the Meadowbank site. The site is covered by low-lying vegetation; predominated by grassy hummocks, dwarf willow, sedge, green moss, and lichen.

Arctic ground squirrels, ptarmigan and songbirds are inhabitants in the area surrounding the fuel storage areas. Lake trout, arctic char, lake whitefish, round whitefish, slimy sculpin and stickleback are predominant fish species found in local lakes.

6.2.4.Subsurface Conditions

Soil is characterized by lateral deposits of glacial till. Bedrock is exposed at shallow depths throughout the sites. There is high site drainage due to limited soil depth, high presence of fractured bedrock and glacial

[1]The Meadowbank project keeps a supply of 120 twenty litre bottles of drinking water in supply at all times in case of emergency. As well the water treatment plant is capable of producing >200m^3 of water a day and the current usage for the mine site is ~110m^3. Thus, if required the Meadowbank mine can produce drinking water for the community for an emergency cease in the consumption of potable water due to a spill at the Baker Lake Marshalling Facility

till.

6.2.5.Water Quality

Water quality closely resembles distilled water as many conventional water chemistry parameters are at or below detection limits. The water column is generally well mixed and the water chemistry homogenous. During the open water season there is limited vertical stratification in temperature and dissolved oxygen.

6.2.6.Meteorological Conditions Prevailing at the Facility

Refer to Section 6.1.8 above.

6.2.7.Surrounding Area Environmental Sensitivities

There is no local community near the mine site. The surface water drainage at the bulk fuel storage facility is towards the storm water management pond to the north and the risk of affecting surrounding area is pretty low.

The freshwater provided to the mine is taken from Third Portage Lake. The freshwater intake is located approximately 2 km NW from the Meadowbank OHF. See Figure 1 above for the exact location. In case of an emergency spill towards Third Portage Lake, preventive action will be taken to avoid any contamination in close proximity of the water intake and cause health and safety problems:

1) As part of the spill procedure, Agnico will make the community of Baker Lake aware of any emergency spill to ensure measures can be taken to ensure safety of the community by contacting Mayor / Hamlet counsel and Fire department;
2) As part of the spill procedure, boom and absorbents pads will be deployed to confined and limit the progression of the spill into the water;
3) Booms will be deployed to capture the spill; and
4) If spill cannot be captured prior to spreading towards the freshwater intake, booms will be deployed around the freshwater pump and regular inspection will be done to see if there are visible sheen.

6.3. Health and Environmental risk resulting from an emergency release of diesel fuel

Short-term exposure to diesel fuel can cause irritation of the eye, skin or respiratory tract. Dizziness, headache or nausea can also be experienced. Long-term exposure to diesel fuel fumes can cause lung cancer, kidney damage and increased risk of heart attack.

Another risk related to an emergency release of diesel fuel would be the contamination of the drinking water. Diesel fuel is highly flammable and pose a serious fire hazard if not contained.

Diesel fuel is considered a non-persistent oil (as compared to a heavier Bunker or crude oil product) in even the calmest sea conditions, as it will lose 40% of its volume due to evaporation within 48 hours in cold weather. Adverse weather will disperse the sheen into smaller slicks creating a greater surface area for evaporation. In open rough seas, most of the volume released will be dispersed and evaporated within 5 days. Nevertheless, it still poses a threat to marine organisms and particularly birds if they happen to come into contact with the slick.

More details can be found in Appendix P.

The possibility that an environmental emergency occurs, the potential effects of the environmental emergency on the environment and on human life or health and the measures that will be taken to protect the environment and human life or health will be communicate to the members of the community every year, especially prior to the fuel transfer from ship to shore at Baker Lake.

SECTION 7 POTENTIAL SPILL ANALYSIS

To prepare for emergency spill response, potential spill analyses were conducted using various worst-case scenarios. These exercises serve to identify potential risk areas, as well as to determine the fate of spilled products and their environmental effects. One such potential scenario was identified for the Meadowbank Gold Project, this being a tanker truck spilling its contents into a waterbody somewhere between Baker Lake and Meadowbank alongside the AWAR. Such a scenario could also be applied to a tanker truck going off the Whale Tail haul road and spilling its contents.

Scenario #1: Road Accident Tanker Truck Spill on AWAR

Description of incident: Spill of the contents of a fuel tanker to the ground or water during transport from Baker Lake to the Meadowbank 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 AWAR 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 loss of fuel from the tanker truck seal the leak if 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 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 Agnico Eagle that will be used for spill contingency includes:

- 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

- Sherp

Communication equipment at Meadowbank and Whale Tail 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 around the Meadowbank and Whale Tail sites. Tank at Km 132 also have a spill response kit. 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 all sites (heavy equipment) contains an emergency spill kit.

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

- Pump Elastec
- Pump accessories
- Vacuum 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 breaker chisel
- Sledge hammer
- Rod bar (4')

Along the AWAR there are 9 environmental emergency sea cans (Figure 9). Currently, there is two (2) environmental emergency sea cans installed along the Whale Tail Haul Road at Km 125.5 and Km 147, between Whale Tail Pit and Meadowbank. More environmental sea can are planned to be installed. Approximate location are detailed on Figure 10 below. These sea cans are, or will be placed, strategically placed along the roads at water crossings. 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"

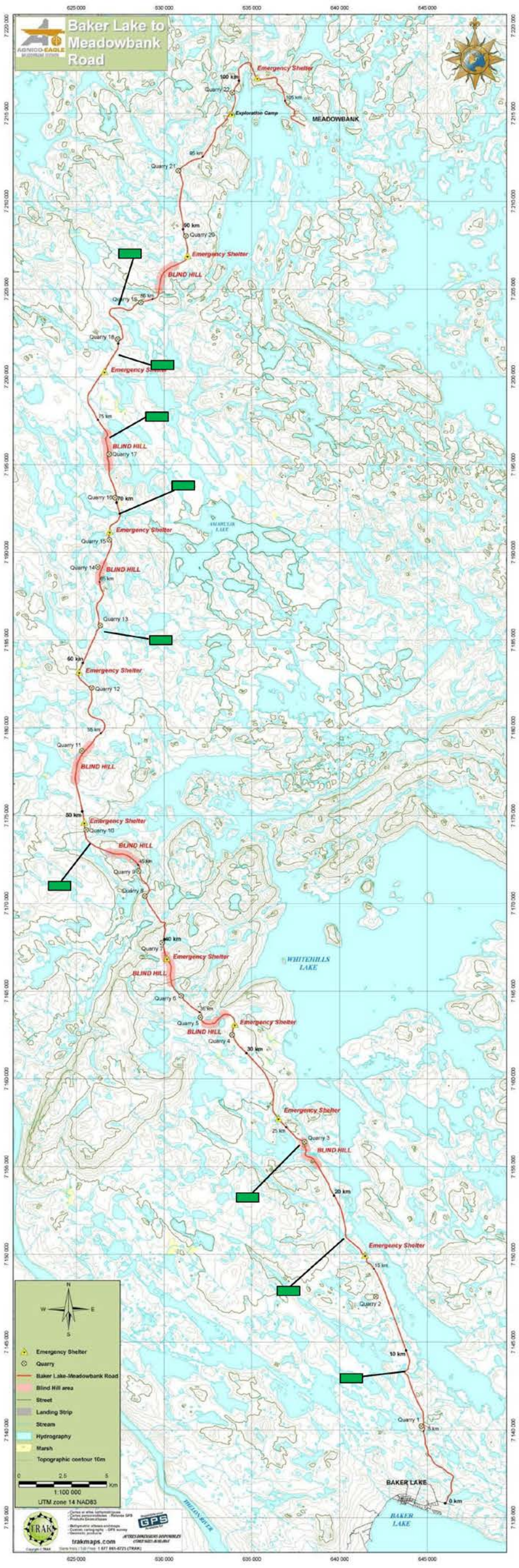
- Ice braker chisel
- Sledge hammer 12 lbs 36"
- Rod bar (4')

The following equipment is available right at the Baker Lake OHF at any given time in a sea can designated for Environmental Emergency and can be deployed on scene within one hour, if it's safe to do, to contain and control the spill.

- 3 x Empty drums (sealed)
- 2 x Mini Berm 36"x 36"
- 2 x 4 Drums Berm 4'x 8'
- 4 x Tarp 20'x 30'
- 4 x Tarp 30'x 50'
- 20 x Oil Spill Absorbent Pads
- 10 x Universal Absorbent Boom 5"x 10' (For Hydro-soluble Chemical)
- 10 x Universal Absorbent Boom 8"x 10' (For Hydro-soluble Chemical)
- 10 x Petroleum base Absorbent Boom 5"x 10' (for Petroleum product)
- 8 x Maritime Barrier (Baffle)
- 5 x ABS pipe: 10' long x 4" diameter
- 2 x Cell-U-Sorb (Absorbent)
- 2 x Amerisorb Peat moss (Absorbent)
- 2 x Oil Gator Absorbent
- 1 x Plug Patties
- 4 x Quatrex bags
- 2 x Fork Lift Crate
- 4 x Hand Shovel
- 1 x Crow Bar Chisel
- 1 x Ice Breaker Chisel
- 1 x Sledge hammer
- 15 x Rod bar 4'
- 1 x ½ drum containment
- 1 x 16ft Boat with motor and gasoline jerry can (sea can #321225)

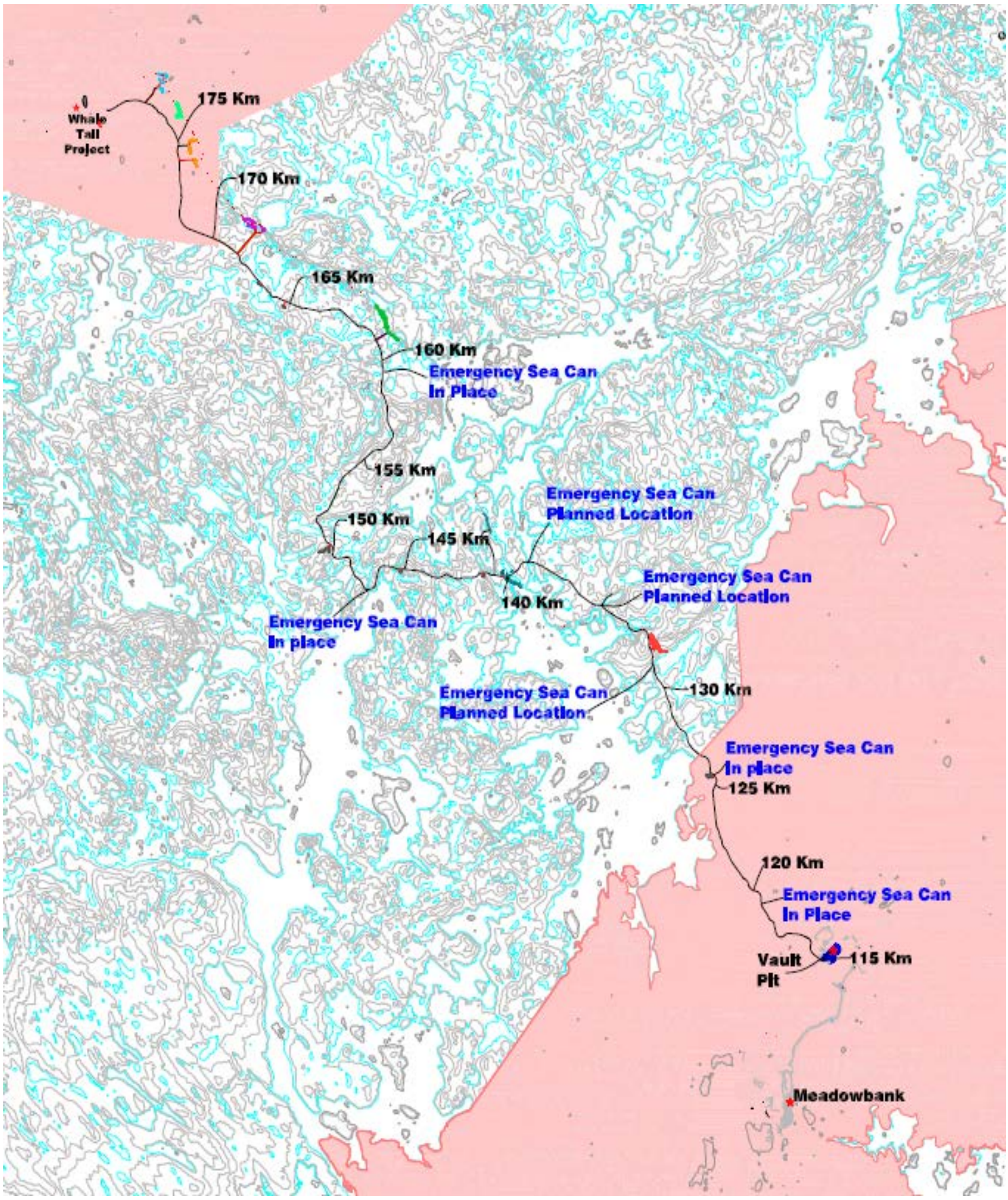
If required, external resources are available in the Hamlet of Baker Lake and those contacts are found in Table 3.

Figure 9: Map of AWAR Including Locations of Environmental Emergency Sea cans



Environmental Emergency Sea cans

Figure 10: Map of Whale Tail Haul Road Including Locations of Environmental Emergency Sea cans



SECTION 9 TRAINING & EMERGENCY SPILL/EXERCISE

A designated Emergency Response Team (ERT) consisting of on-site personnel has been established at Meadowbank and another team is established at Whale Tail. Agnico Eagle will ensure that the ERTs are trained and present for major spill response at all times. All members of the teams 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;
- The likely causes and possible effects of spills; and
- On-site personnel.

Every employee at Agnico Eagle 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 equipment (PPE).

A training program is being developed to provide more complete training to all personnel (Agnico and contractors) that will cover safe spill response and intervention as well as awareness to different guidelines pertaining to spills. This training would be mandatory for all staff and renewable yearly.

In February 2020, two employees from the Environmental Department followed the Marine Spill Response Operation Course (MSROC) given by the Canadian Coast Guard (CCG).

The road crews between Baker Lake and Meadowbank, and Meadowbank and Whale Tail also received or will receive training regarding the actions that they have to carry out during an emergency or major spill on the road. You can find records of different trainings that Agnico Eagle personnel have attended in Appendix I. Agnico also performed each year a Mock Spill Scenario in Baker Lake. You can find the detailed of the 2021 Mock Spill in Appendix L. As per the Environment Emergency Regulation, a yearly simulation exercise will be conducted and a full-scale exercise will occurred every five year for both the Meadowbank site and the Baker Lake Oil Handling facility separately as they are considered separate facilities under the E2 regulations. Debriefing of the simulation exercise will allow to determine the aspect of the current plan (training, prevention, communication) that will need to be improved. This SCP will be updated to reflect the conclusions and improvement needed. A Product Transfer Area Assessment for Baker Lake Oil handling Facility was also completed and can be found in Appendix M. The Environmental Department regularly attends tool-box sessions to provide information on spill response, spill prevention and spill reporting procedures.

SECTION 10 MDMER INFORMATION

The Fisheries Act prohibits the deposit of deleterious substances into fish frequented waters unless authorized by regulation. The Metal and Diamond Mining Effluent Regulations (MDMER) were promulgated under the Fisheries Act and exempts metal and diamond mining industry from subsection 36(3) general prohibition of the Act. The purpose of the MDMER is to improve metal mine effluent management and greater protection of fish, fish habitat and consumption of fish by humans. Being subject to the MDMER sets out limits and parameters that enable industries to deposit deleterious substances into waters frequented by fish. The MDMER includes effluent limits on releases of eight parameters: six metals (arsenic, copper, cyanide, lead, nickel and zinc), radium-226 and total suspended solids (TSS). The MDMER also imposes limits on the pH of effluent and prohibits the discharge of effluent that is acutely lethal to fish, even if it is determined that the eight MDMER parameters and pH effluent is in compliance. Total suspended solid is the parameter in the effluent discharge that is the most likely to give concern for the discharge in freshwater. Arsenic was also identified as a parameter of concern for the Whale Tail Discharge to environment. To prevent this Water Treatment Plant was put in place to treat TSS and arsenic, if needed.

The Final Discharge Point (FDP) means an identifiable discharge point of a mine beyond which the operator of the mine no longer exercises control over the quality of the effluent. For example, sampling within the tailings pond would not be classified as a legal sample as the mine still exercises control over the quality of the effluent within a tailings pond.

For the discharge to receiving environment, before discharging occurs, required samples from the FDP are taken and analyzed to ensure they are compliant. Under the Nunavut Water Board Water Licence 2AM-MEA1530 and 2AM-WTP1830 Agnico Eagle also has to notify CIRNAC before starting the discharge. If analysis indicates a limit is exceeded or a field measurement indicates a trend towards non-compliance, discharge is stopped. Evaluation is done and if necessary, treatment occurs. Agnico Eagle is also required to report the effluent discharge to the Spills line and provide a written report no later than 30 days after the incident.

10.1. Seepage Locations

When potential seepages (dike, infrastructure) are discovered and/or spill from operation happens and can enter fish bearing waters, mitigation measures are taken (building dikes, pumping stations, putting maritime barriers, etc.). As of now, two (2) seepages were discovered entering fish bearing waters at Meadowbank and one (1) at Whale Tail:

1. On November 4, 2013, it was observed that water was seeping through the road in front of the Assay Lab Road. In December 2013, Agnico requested Tetra Tech (formerly EBA) to perform an assessment, drilling delineation program and provide a report with recommendations in early 2014. Construction of an interception trench was completed in April-May 2014 and repairs and sealing of containment structures within the mill were completed during the summer of 2014. In November 2015 work was conducted to repair portions of the mill floor and ensure its watertight integrity. Agnico also put in place an internal action plan and monitoring program for this seep in 2014. The monitoring is part of the Freshet Action Plan. Refer to Appendix D of the 2019 Water Management Report and Plan for more details regarding the monitoring and action taken by Agnico before, during and after the freshet at this seepage area. Daily visual inspections were conducted during freshet. Prior and after freshet, inspections were conducted weekly and after rain events. Monitoring in Third Portage Lake in response to the mill seepage through the assay road (identified in 2013) continues to indicate that there has been no impact to the near shore

receiving waters of Third Portage Lake. The seepage appears to be effectively contained through construction of an interception trench (2014).

2. The Portage Waste Rock Storage Facility (PRSF) has been in operation since 2009. In 2013, ponded water was observed at the south-east base of the PRSF (sampling station ST-16). This was first reported in the 2013 Annual Report (as well as to regulators in July 2013) as a small volume of the seepage, with elevated levels of cyanide, nickel and copper (among other constituents) had migrated, through a rockfill perimeter road, to the near shore area of NP-2 Lake. Agnico determined, in 2013, that the seepage contained reclaim water from the North Cell TSF that had flowed under the PRSF to a sump area designated as sampling station ST-16. Mitigation measures were implemented in since 2013 and this included daily inspections during the freshet period, the installation of a pumping system in ST-16 to direct accumulated water back to the North Cell TSF, installation of four thermistors to analyze freezing in the PRSF and installation of a filter barrier along RF-1 and 2 to prevent water and tailings egress from the North Cell (tailings water) through the PRSF to ST-16. As part of progressive reclamation capping of the North Cell tailings commenced in winter 2015 and continued as of today. Thermistors installed in 2013 indicate also that freezeback is occurring along the seepage path. In accordance with the 2020 Freshet Action Plan (see Appendix D of the 2020 Water Management Report and Plan), Agnico continued to monitor water quality and contain the ST-16 Seepage. From 2014 to 2019, average analysis results for applicable parameters confirmed no impacts to downstream lakes (NP-1, Dogleg, Second Portage Lake).

3. As required by Part H, Item 8b of Water License 2AM-WTP1830, Agnico Eagle Mine Limited – Meadowbank Division informed regulators via email on August 25 that during an inspection held on August 24 at 10:30hrs of the Whale Tail Waste Rock Storage Facility (WRSF) Dike, a water flow was observed at the toe of the dike entering Mammoth Lake. Following observation of the water flow, special measures were immediately put in place on August 24 to reduce the flowrate by pumping water out of the WRSF collection pond, with the ultimate objective to stop the flow as quickly as possible. Given the nature of the topography at the toe of the WRSF Dike (flat terrain at an elevation close to the lake elevation with the presence of a boulder field), and its difficult access, installing a pumping station at the toe could not be done rapidly and that the best course of action was a rapid head reduction in the pond by emptying it.

   The WRSF pond was considered to be essentially empty by September 1, within one week of the first observation. In the meantime, an access road to the toe of the dike was constructed to allow the installation of a water collection system to pump the water back upstream. The collection system was operated until the onset of freezing conditions on September 30 but after the pond was emptied. By this time it was mostly collecting drainage water downstream of the dike.

   The visual detection of this seepage downstream of the dike was difficult because of the presence of a boulder field at the toe which caused the flow to be somewhat diffuse as well as the presence of natural runoff reporting in this area.

   A series of samples were taken for analysis on August 26 from the water source (WRSF Pond) as well as from the receiving waterbody (Mammoth Lake). The toxicity test results were provided in the September 13, 2019 report and showed no mortalities.

   Samples were also taken to test the water quality specifically for MDMER related

parameters on August 26. Sampling locations were identified as WRSF flow (water sampled downstream of the dike, where the flow was first observed and where a sump was excavated) and Mammoth Lake receiving (water sampled within a few meters of the shoreline of Mammoth Lake north).

Analysis results from these samples and from subsequent samples taken at both locations showed no exceedances of the MDMER water quality criteria. These results are consistent with the expected water quality for this contact water.

A full complement of samples for extended parameters were also collected on August 27, 30, September 2 and on a weekly basis until freeze up (September 29, 2019) and sent to the accredited laboratory. No MDMER or Water License exceedances were shown for this complement of sampling.

A series of measures were implemented to minimize the risk of a similar occurrence in the future:

- The water level in the WRSF pond was maintained at a low level throughout 2020 as per recommendation from the MDRB as a precautionary measure and to ensure protection of the freeze-back of the key trench and will continue in 2021;
- Permafrost penetration was promoted during winter 2019-2020 by implementing a series of additional measures to increase the robustness of the infrastructure and in particular the upstream toe against permafrost degradation:
    - Strategic snow removal to keep the toe more exposed to winter conditions;
    - Keeping a low water level (if any) in the pond during winter and summer months;
    - Placing additional thermal cover material on the upstream portion of the dike; and;
    - Assessing freeze back performance with periodic instrumentation review;
    - A more robust downstream water collection system was designed and constructed; and
    - Thermistors monitoring will continue.
- In addition, the following environmental monitoring is conducted:
    - A monthly limnology profile of Mammoth Lake was completed over the winter and open water conditions;
    - A core receiving environment monitoring program was carried out, including Mammoth lake; and
- A sediment sampling campaign was executed in the summer at Mammoth Lake.

Agnico Eagle continues to closely monitor the situation and is working on mitigation measures to ensure adequate performance of the structure.

10.2. Final Discharge Points - Meadowbank

For the discharge to receiving environment, the FDP is located downstream of the Effluent Water Treatment Plant or after the pumping station; beyond that point Agnico Eagle cannot exercise control over the quality of the effluent. FDP water quality is assessed with grab samples; the sampling point is located at a valve along the discharge pipe, at the pump or after the Water Treatment Plant.

Agnico Eagle Meadowbank Gold Project became subject to the Metal Mines Effluent Regulations (MMER), under the Fisheries Act, on January 1, 2010 as the dewatering of Second Portage Lake occurred at a flow rate greater than 50 m^3 per day. Once the dewatering was completed, it became the Portage Attenuation Pond. Water was treated via a water treatment plan and was discharging in Third Portage Lake via a diffuser, to control erosion and disturbance to bottom sediments. On November 19, 2014 tailings deposition commenced in the South Cell (Portage Attenuation Pond) and this represented the end of use of the Portage Attenuation Pond. There has been no further effluent discharge to Third Portage Lake since July 5, 2014. This FDP was official dismantled on May 1, 2019 to ECCC and no more reporting is required on MERS system. Refer to Figure 1 above for the FDP location.

The Vault final discharge (Meadowbank) point became subject to the MMER Regulation on June 27, 2013 at the commencement of the dewatering of Vault Lake. Once the dewatering completed, it became the Vault Attenuation Pond. TSS water treatment plan was not required for discharge to Wally Lake as water was compliant with section 4(1) of the regulation. Water was discharged via a diffuser, to control erosion and disturbance to bottom sediments. Since October 2017, no more water was discharged to Wally Lake and there are no further plans to discharge water from this location in the following year. FDP still active on the MERS system. Refer to Figure 2 above for the FDP location.

The East Dike Seepage Discharge (Meadowbank) became subject to the MMER on January 6, 2014. Water was pumped water from the two collection points, South and North seepage and discharged through a common header through a diffuser, to control erosion and disturbance to bottom sediments environment, into Second Portage Lake. The seepage water was released into the Second Portage Lake, prior to contact with mining activity, without treatment as it is compliant with section 4 (1) of the regulation. FDP still active on the MERS system. Refer to Figure 1 above for the FDP location and Photo 1 below.

***Photo 1*. FDP East Dike Discharge Meadowbank**

10.3. Final Discharge Points – Whale Tail

At the Agnico Eagle Whale Tail Project, during the in-water portion of the Whale Tail Dike Construction, Agnico had an effluent discharge from the construction dewatering activities. The Whale Tail Site became subject to the MDMER on July 27, 2018 as the discharge occurred at a flow rate greater than 50 m^3 per day. The FDP sample was taken from the Water Treatment Plan prior to the release on the tundra, which flows onto a natural boulder field at the edge of the Whale Tail Lake North Basin (receiving environment). Discharge was stopped since August 27, 2018. This FDP was official dismantled on May 1, 2019 to ECCC and no more reporting is required on MERS system. Refer to Figure 11 below location of the FDP.

During the dewatering of the Whale Tail North Basin, a FDP was created in 2019 - ST-MDMER-5 WT North Basin Dewatering Phase 1. The dewatering of Whale Tail North was completed on May 20, 2020 however, the FDP name will remain the same in MERS. This FDP was subject to MDMER on March 5th, 2019. In 2020, depending of the water quality, ST-MDMER-5 was pumped and discharged to Whale Tail Lake South Basin with or without water treatment to be compliant with Section 4 (1) of the MDMER. The effluent was discharged via a submerged diffuser to control erosion and disturbance to bottom sediments. The final discharge point (FDP) is located near the shore of Whale Tail South Basin. Refer to Figure 11 below for the FDP location and Photo 2 below.

Photo 2. **ST-MDMER-5 FDP**

/ When the water from the Whale Tail North Basin dewatering required treatment for TSS, the water was pumped and treated via the Water Treatment Plan and discharged back in Mammoth Lake via a submerged diffuser to control erosion and disturbance to bottom sediments - ST-MDMER-6 WT North Basin Dewatering Phase 2. This FDP became subject to MDMER on June 17, 2019. Whale Tail North Basin dewatering water is pumped and treated for TSS through the Water Treatment Plant then the water is discharged in Mammoth Lake via a submerged diffuser. This discharge is still active on MERS system but no more water was discharged since October 26, 2019. Refer to Figure 11 below for the FDP location and Photo 3 below.

Photo 3. **ST-MDMER-6 FDP**

Quarry 1 water was discharged to Mammoth Lake via a submerged diffuser to control erosion and disturbance to bottom sediments – ST MDMER-7. ST-MDMER-7 intake was originally planned to be the Whale Tail Attenuation Pond and the sampling point of the FDP at the Water Treatment Plant. Since the Whale Tail Attenuation Pond was not yet operational due to ongoing dewatering, Agnico sent a notification of modification to ECCC on September 19, 2019 to move the intake from Whale Tail Attenuation Pond to Quarry 1. The sampling point of the FDP moved from after the WTP to the intake of the pump in Quarry 1. On March 20, 2020, Agnico Eagle sent a notification to ECCC to modify this FDP and move the intake to the Whale Tail Attenuation Pond and the FDP on the shore of Mammoth Lake. Refer to Figure 11 below for the FDP location.

Photo 4. **ST-MDMER-7 FDP**

Agnico submitted an application, as per the MDMER regulation Section 10 (1), to ECCC on May 8, 2019 regarding the creation of the ST-MDMER-8 discharge. Water was first discharged from this FDP on June 17, 2020. The original application for this FDP was a water intake in the Whale Tail Attenuation Pond and

FDP sampling location after the WTP. On March 20, 2020, Agnico sent a notice of modification to ECCC regarding the FDP sampling location. The sampling location was moved from after the WTP to a sampling valve installed on the HDPE discharge pipe near the shore of Mammoth Lake, as shown in Photo 5. Depending of the water quality, water may be treated by the Water Treatment Plant (WTP) before discharge in the Mammoth Lake East Diffuser. Exposure sampling point in Mammoth Lake (MAME-2) and diffuser location remained the same as our original application. This discharge is still active on MERS system. Refer to Figure 11 below for the FDP location.

Photo 5. **ST-MDMER-8 FDP**

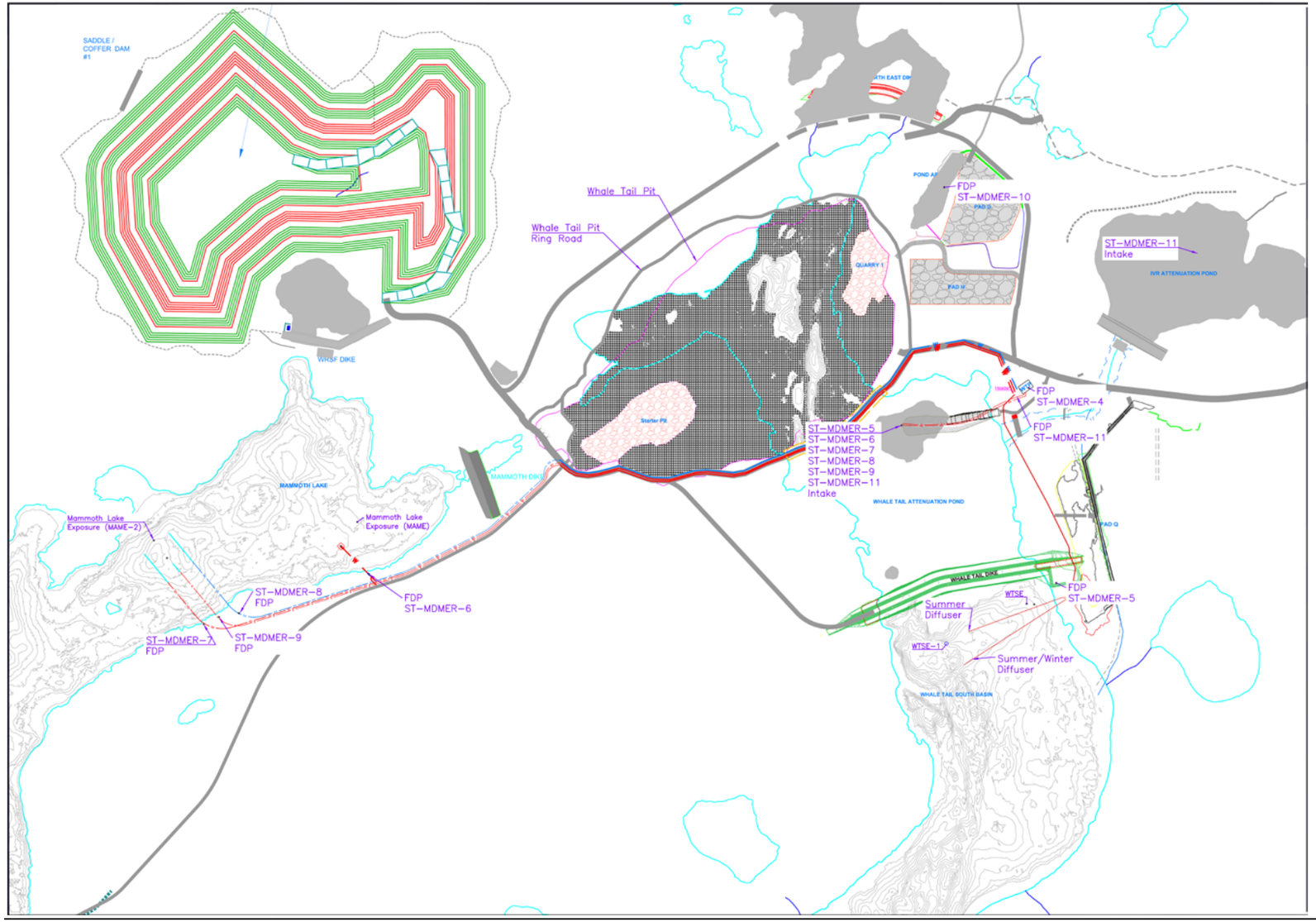
Application submitted to ECCC on May 8, 2019, as per the MDMER regulation Section 10 (1), also included the creation of the FDP ST-MDMER-9. No water has been discharged yet from this FDP. The original application for this FDP was a water intake in the Whale Tail Attenuation Pond and FDP sampling location after the WTP. On March 20, 2020, Agnico sent a notice of modification to ECCC regarding the FDP sampling location. Water intake moved from after the WTP to a sampling valve installed on the HDPE discharge pipe near the shore of Mammoth Lake. Depending of the water quality, water may be treated by the Water Treatment Plan (WTP) before discharge in the Mammoth Lake winter diffuser. Exposure sampling point in Mammoth Lake (MAME-2) and diffuser location remained the same as our original application. This discharge is still active on MERS system but the exact date of discharge will have to be corrected on MERS once the discharge start as per previous communication with ECCC. Refer to Figure 11 below for the FDP location.

During September 23, 2019 ECCC's MDMER inspection at Whale Tail Site, the Inspector observed a discharge from the A-P5 pond to the tundra towards the Nemo Lake watershed. After investigation, Agnico Eagle was notified on October 3, 2019 that the A-P5 discharge to environment meet the definition of an effluent and thus must submitted to the Minister of the Environment the information required by MDMER

Section 9. The requested information was provided on October 31, 2019. A-P5 Stormwater Management Pond is a man-made structure use for the water management on the Whale Tail site. Water collected by this pond is mainly non-contact water but can received contact water from the underground operation or other location around site, if needed. Water from this pond is discharged to tundra in the watershed of Nemo Lake, via one HDEP pipe flowing into a boulder field in a manner to dissipate energy and limit erosion. No water treatment is expected for the discharge as the water quality is expected to reach the MDMER discharge criteria. If not, water will be pumped in the Whale Tail Attenuation Pond. FDP and sampling point (ST-MDMER-10 A-P5 Discharge) for this discharge will be located at the water intake pump. This discharge is still active on MERS system but no more water was discharged since September 26, 2019. Refer to Figure 11 below. There is no photo of the sampling point available for the update of this Version 11.

Agnico submitted an application, as per the MDMER regulation Section 10 (1), to ECCC on May 8, 2019 regarding the creation of the ST-MDMER-11 discharge. Discharge began on November 6, 2020 and was subject to the MDMER regulations. The water intake for this FDP is the Whale Tail and or IVR Attenuation pond where water is treated in the WTP before being discharged into Whale Tail South via a diffuser. The FDP sampling location is at the header after the WTP.

Figure 11: FDP Location Whale Tail



Appendix A

Environmental Department weekly inspection template

Environmental Inspection report for MBK Refuelling Station, Jet-A tank and fueling area, Tank farm, and Camp Gensets

Date: _____ **Inspected By:** _____

Time: _____ **Weekly Inspection**

Compliance with	Subject	Conform	Non-conform	N/A	Comments
NIRB Condition 26	Ensure that spills, if any, are cleaned up immediately and that the site is kept clean of debris, including wind-blown debris.				
NIRB Condition 25	Management and control waste in a manner that reduces or eliminates the attraction to carnivores and/or raptors.				
NWB Part D Item 29 MBK - SCP	Spills on the ground				
NWB Part H Item 4 NIRB Condition 27	Secondary containment for fuel, Jet-A, and chemical storage in place				
NWB Part D Item 29	Refuelling procedures followed (secondary containment at every connection and 3 persons)				
MBK Bulk Fuel Storage Monitoring Plan Section 6.1	Precipitation or runoff accumulation in secondary containment				
MBK Bulk Fuel Storage Monitoring Plan Section 6.1	Any visible sheen on water.				

NWB Part F Item 23	Water in secondary containment of MBK Bulk Fuel Storage Facility and Jet-A storage being measured and recorded in m^3.				
NWB Part F Item 9 NIRB Condition 12	Discharge of water not causing erosion				
MBK Bulk Fuel Storage Monitoring Plan Section 6.1	Any visual structural issues with containment berms				
NWB Part F Item 8	10 days' notice given to inspector prior to discharge?				
NWB Part F Item 6	Water being discharged to land meets water quality limits				
MBK Bulk Fuel Storage Monitoring Plan Section 6.1	Any indicators that would suggest damage to liner for secondary containments				
NWB Part F Item 9	Discharge of water >30m from ordinary high water mark				
NWB Part F Item 5	Discharge from MBK Fuel Storage Facility being directed to Stormwater Management Pond				
NWB Part I Item 10(e)	Is the discharge volume being tracked?				
NWB Part F Item 9	Discharge of water not directly flowing to water body				
NWB Part H Item 3 NIRB Condition 27	Prevention in place to disallow chemicals, petroleum products and waste from entering Water				
NWB Part H Item 5	Date of last Env. visual inspection (weekly)				

MBK Bulk Fuel Storage Monitoring Plan Section 6.1	Weekly manual or electronic dip tests were conducted for inventory reconciliation. Date of last test				
CCME - Above Ground Storage Tank Guidelines	Non-smoking sign, Extinguisher, and tank identification present				
MBK - SCP	Spill Kits Present				
NWB Part D Item 22 NWB Part D Item 33	Erosion present / Erosion control in Place				
NWB Part D Item 36 NIRB Condition 27	All tanks and piping are not altered from approved construction.				
NWB Part I Item 9	Are signs identifying monitoring stations in place and posted in English, Inuktitut and French				
NWB Part I Item 12 (l)	Annual Geotechnical inspection completed				
MBK Wildlife Management Plan	Any nesting taking place on tanks or stairways of tank farm				
BMP	Are there any additional environmental hazards/potential impacts that require attention?				
MINE ACT	Are there any Health and Safety issues that should be addressed to prevent injury to workers?				

Comments/Recommendations:_____

_____
_____
_____
_____
_____
_____
_____
_____
_____

Environmental Personnel Name: _____

Signature: _____

Actions Corrected:
_____
_____
_____
_____

Site Service Supervisor Name: _____

Signature: _____

Picture 1: Description

Picture 2: Description

Picture 3: Description

Picture 4: Description

Picture 5: Description

Picture 6: Description

Environmental Inspection report for Baker Lake Marshalling Area, Refuelling Station, Jet-A, and Tank farm

Date **Inspected By**:

Time: **Weekly Inspection**

NWB WL NIRB Cert	Subject	Conform	Non-conform	N/A	Comments
NIRB Condition 26	Ensure that spills, if any, are cleaned up immediately and that the site is kept clean of debris, including wind-blown debris.				
NIRB Condition 25	Management and control waste in a manner that reduces or eliminates the attraction to carnivores and/or raptors.				
NWB Part D Item 29 MBK SCP	Spills on the ground				
NWB Part H Item 4 NIRB Condition 27	Secondary containment for fuel, Jet-A, and chemical storage in place				
NWB Part D Item 29	Use of the bucket when refilling fuel truck				
NWB Part D Item 29	Refuelling procedures followed (secondary containment at every connection and 3 persons)				
MBK - BLFSF Monitoring Plan Section 6.1	Precipitation or runoff accumulation in secondary containment				

MBK - BLFSF Monitoring Plan Section 6.1	Any visible sheen on water.				
NWB Part F Item 23	Water in secondary containment of Marshalling Area Bulk Fuel Storage Facility and Jet-A storage being measured and recorded in m^3.				
NWB Part F Item 9 NIRB Condition 12	Discharge of water not causing erosion				
MBK - BLFSF Monitoring Plan Section 6.1	Any visual structural issues with containment berms				
MBK - BLFSF Monitoring Plan Section 6.1	Any indicators that would suggest damage to liner for secondary containments				
NWB Part F Item 9 NIRB Condition 12	Discharge of water >30m from ordinary high water mark				
NWB Part I Item 8(g)	Is the discharge volume being tracked?				
NWB Part F Item 9 NIRB Condition 12	Discharge of water not directly flowing to water body				
NWB Part F Item 19 NIRB Condition 12	Waste disposal area >30 m from high water mark				
NWB Part F Item 22 NIRB Condition 25	All solid waste disposed of at approved disposal facility				
NWB Part H Item 3 NIRB Condition 27	Prevention in place to disallow chemicals, petroleum products and waste from entering Water				

EC Requirement	Date of last pipe and tank visual inspection Site Services (monthly)				
NWB Part H Item 5	Date of last env. visual inspection (weekly)				
MBK - BLFSF Monitoring Plan Section 6.1	Weekly manual or electronic dip tests were conducted for inventory reconciliation. Date of last test				
CCME Above Ground Storage Tank Guidelines	Non-smoking sign, Extinguisher, and tank identification present				
MBK SCP	Spill Kits Present				
NWB Part D Item 31	No material stored on Ice of lake or streams.				
NWB Part D Item 32	No equipment stored <30m from high water mark				
NWB Part D Item 22 NWB Part D Item 33	Erosion present / Erosion control in Place				
NWB Part D Item 30	Any rutting or ground disturbance present				
NWB Part D Item 36 NIRB Condition 27	All tanks and piping are not altered from approved construction.				
NWB Part E Item 10	Measures in place to prevent the generation and deposition of dust				
NWB Part H Item 7 MBK OPEP MBK SCP	Copies of current OPEP, ERP, and SCP available at Marshalling area				
NWB Part H Item 8 NIRB Condition 27	Designated area present with measures to collect motor fluids, waste, and contain spills in the case of required emergency maintenance and Servicing.				
NWB Part H Item 8 NIRB Condition 27	Emergency maintenance and servicing is being undertaken in designated areas				

NWB Part I Item 9	Are signs identifying monitoring stations in place and posted in English, Inuktitut and French				
NWB Part I Item 12 (l)	Annual Geotechnical inspection completed				
NIRB Condition 81	Is security in place to ensure safe and secure storage of any hazardous or explosive comp				
MBK Wildlife Management Plan	Any nesting taking place on tanks or stairways of tank farm				
BMP	Are there any additional environmental hazards/potential impacts that require attention?				
MINE ACT	Are there any Health and Safety issues that should be addressed to prevent injury to workers?				

Comments :
Recommendation :

Environmental Personnel Name :

Signature: _____

Actions Corrected:
_____
_____
_____
_____

Site Service Supervisor Name: _____

Signature: _____

Picture 1: Description

Picture 2: Description

Picture 3: Description

Picture 4: Description

Picture 5: Description

Picture 6: Description

Environmental Inspection Report for the Hazardous Material Storage Area

Date: **Inspected By:**

Location: HAZMAT area **Weekly Inspection**

In Compliance with	Subject	Conform	Non-conform	N/A	Comments
NWB Part B Item 15	Sign posted to inform of a waste disposal facility				
NWB Part D Item 29 MBK SCP NIRB Condition 26	Are there any visual spills?				
NWB Part F Item 19	All Hazardous Waste disposal is located 30m from the ordinary high water mark.				
NWB Part H Item 3	Resources in place to prevent any chemicals, petroleum products, or unauthorized Wastes from entering a water body.				
NWB Part H Item 4	Is secondary containment for chemical storage provided.				
NWB Part I Item 9	Monitoring signs are posted in English, French, and Inuktitut.				
MBK SCP	Spill Kits Present				
NWB Part F Item 14	All Hazardous waste generated is sent off site to an approved disposal facility				
NWB Part F Item 15	All Hazardous waste sent off site is manifested				
NWB Part F Item 15	Manifests are sent to Government of Nunavut				
NIRB Condition 26	Ensure that spills, if any, are cleaned up immediately and that the site is kept clean of debris, including wind-				

	blown debris.				
NIRB Condition 25	Management and control waste in a manner that reduces or eliminates the attraction to carnivores and/or raptors.				
NIRB Condition 27	Ensure the hazardous material area is contained using environmentally protective methods based on practical best management practices				
	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?				
BMP	Are there any additional environmental hazards/potential impacts that require attention?				
MINE ACT	Are there any Health and Safety issues that should be addressed to prevent injury to workers?				

Misc.	In the punctured spray can c-can, do we have non-punctured spray can?				
	In the grease c-can, do we have open top drums without top, or screw?				
	In the empty pails c-can, do we have metal pails that should be in the metal recycling c-can?				

Comments/Recommendations :

Environmental Personnel Name: _____ **Signature:** _____

_

Actions Corrected:
_____
_____
_____
_____

Site Service Supervisor Name: _____

Signature: _____

Picture 1: Open c-can doors

Picture 2:

Picture 3:

Appendix B

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 C

General Response Procedures for Spilled Chemical Substances

Explosives

C.1 Ammonium Nitrate

C.2 Ammonium Nitrate Fuel Oil (ANFO)

C.1 Ammonium Nitrate

Agnico Eagle commits to review, modify and approve as required to establish this procedure as appropriate for use at the Meadowbank and Whale Tail sites.

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. Agnico Eagle commits to review and test, and if necessary, modify and update this 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. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination;

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.

C.2 Ammonium Nitrate Fuel Oil (ANFO)

Currently no ANFO is stored at the Meadowbank or Whale Tail sites. ANFO is fabricated on demand using ammonium nitrate and fuel oil. In the event that ANFO would be stored at the sites, Agnico Eagle 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. Agnico Eagle commits to review and test, and if necessary, modify and update this 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 D

General Response Procedures for Spilled Chemical Substances

D.1 Compressed Gases

D.1 Compressed Gases

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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 E

General Response Procedures for Spilled Chemical Substances

E.1 Flammable and Combustible Liquids

E.1 Flammable and Combustible Liquids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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 F

General Response Procedures for Spilled Chemical Substances

Oxidizing Substances

F.1 Liquids

F.2 Solids

F.1 Liquids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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) 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.

F.2 Solids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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 G

General Response Procedures for Spilled Chemical Substances

Poisonous and Toxic Substances

G.1 Sodium Cyanide

G.1 Sodium Cyanide

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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) Impermeable Gloves **as recommended by the MSDS or glove manufacturer;**

   b) TyChem; and

   c) SCBA – Self Contained Breathing Apparatus

   d) Rubber Boots

   Note: For worker safety, maintain readily accessible supply of cyanide response 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;

IMPORTANT: ***It is strictly prohibited to add any chemicals or neutralizing solutions to a Sodium Cyanide Spill near a drainage system, or near or in a water body.***

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 H

General Response Procedures for Spilled Chemical Substances

Corrosive Substances

H.1 Acids, Liquids

H.2 Acids, Solids

H.3 Bases/Alkali, Liquids

H.4 Bases/Alkali, Solids

Response to Spilled Chemicals

IMPORTANT: ***It is strictly prohibited to add any chemicals or neutralizing solutions to a Spilled Chemicals near a drainage system, or near or in a water body.***

H.1 Acids, Liquids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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.

H.2 Acids, Solids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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.

H.3 Bases/Alkali, Liquids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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.

H.4 Bases/Alkali, Solids

Agnico Eagle 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.

Agnico Eagle commits to review and test, and if necessary, modify and update this 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 I

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

Fanny Laporte.

SWAT OILSPILL ISSUES WORKSHOP

Situation Analysis – Truck Rollover

45 000 Litres KM 23

- **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.

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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. ✓ ✓ ✓

SWAT Consulting Inc.

Jeff Pratt

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.

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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

- **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.

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

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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
- **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.

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

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

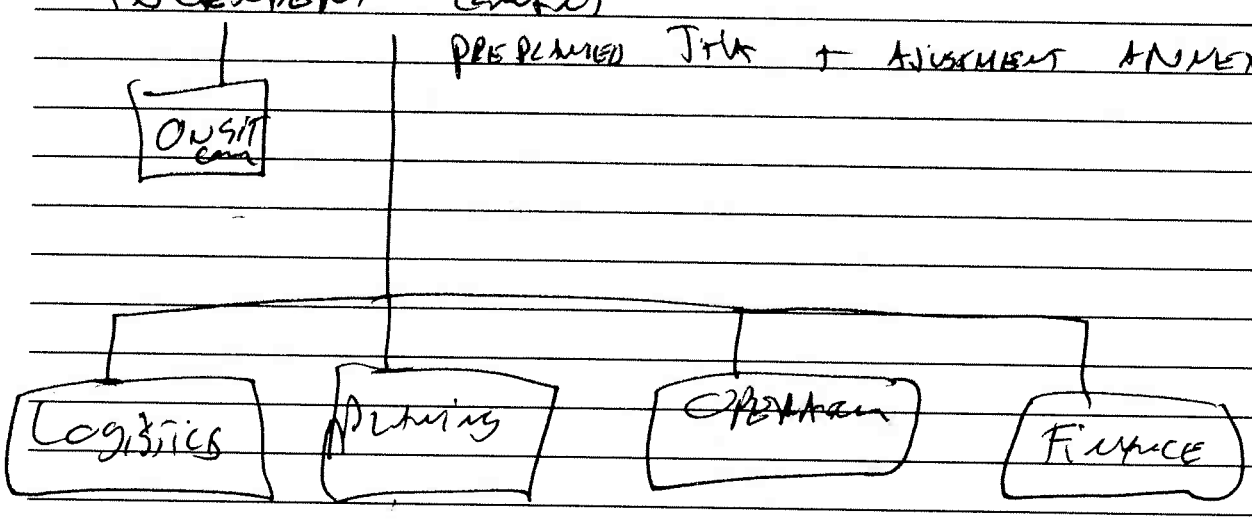
2. What **resources** are required?

- 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

SWAT Consulting Inc.

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
-

SWAT Consulting Inc.

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?

SWAT Consulting Inc.

D. ALEXANDER

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.

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

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

M. BARIBEAU

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.

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.
⇒

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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?

SWAT Consulting Inc.

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

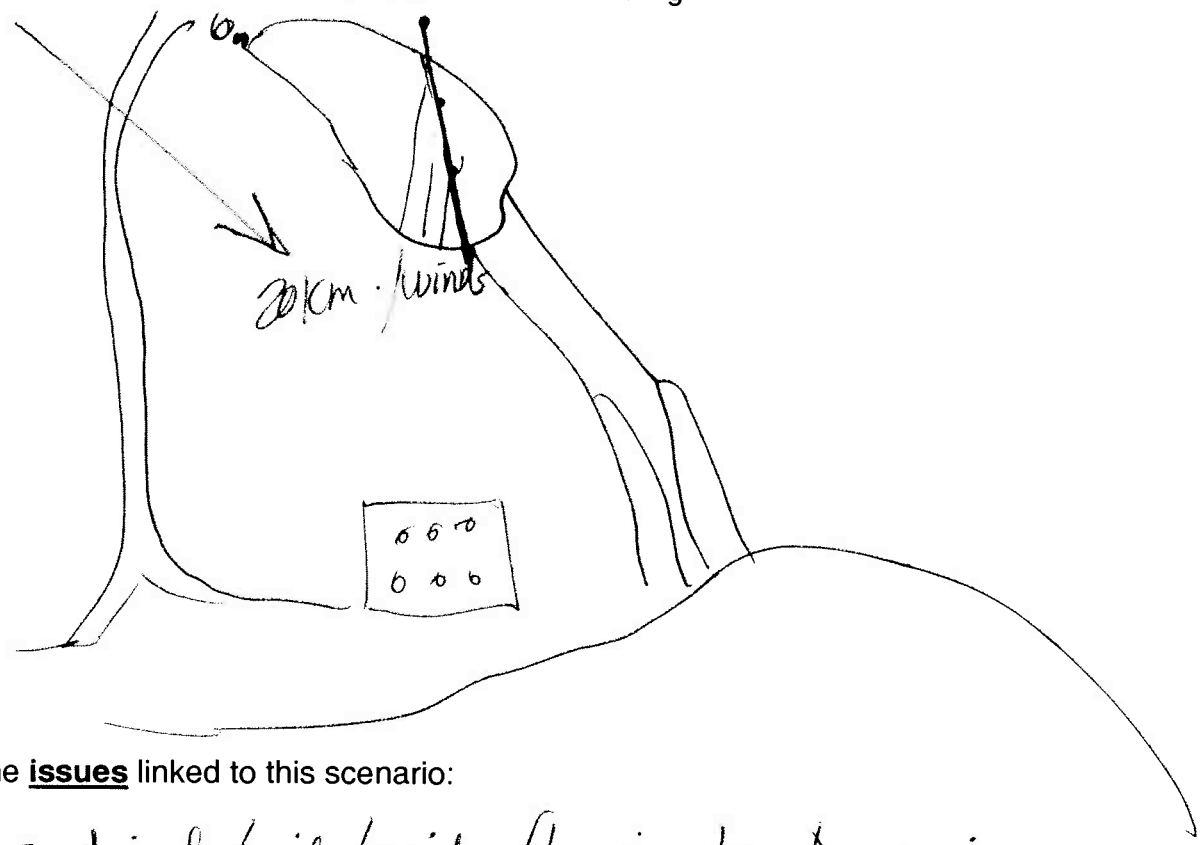
Assessment Codes:
A+: Very Good
A : Good
B : Average
C : Below Average

STÉPHANE LAROSE

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:

→ 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.

SWAT Consulting Inc.

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?

SWAT Consulting Inc.

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

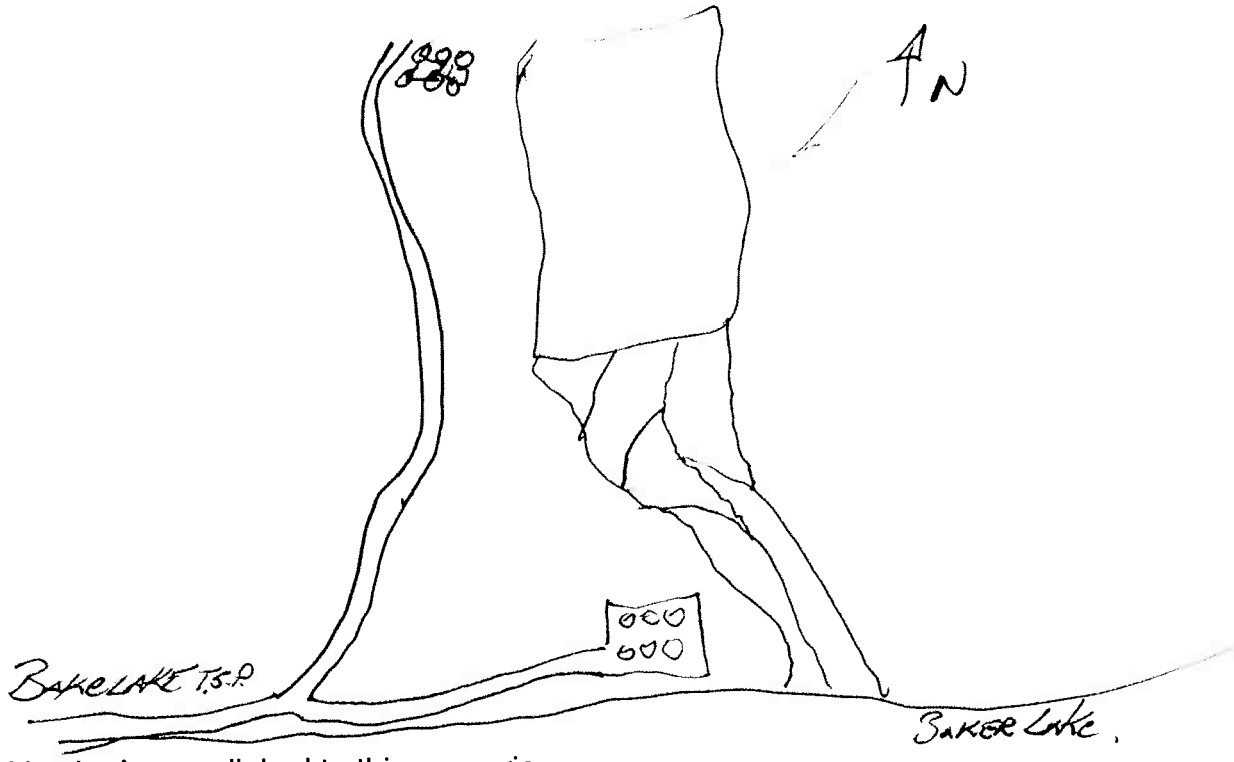
SWAT Consulting Inc.

Dave Holmstrom.

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:

- 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

SWAT Consulting Inc.

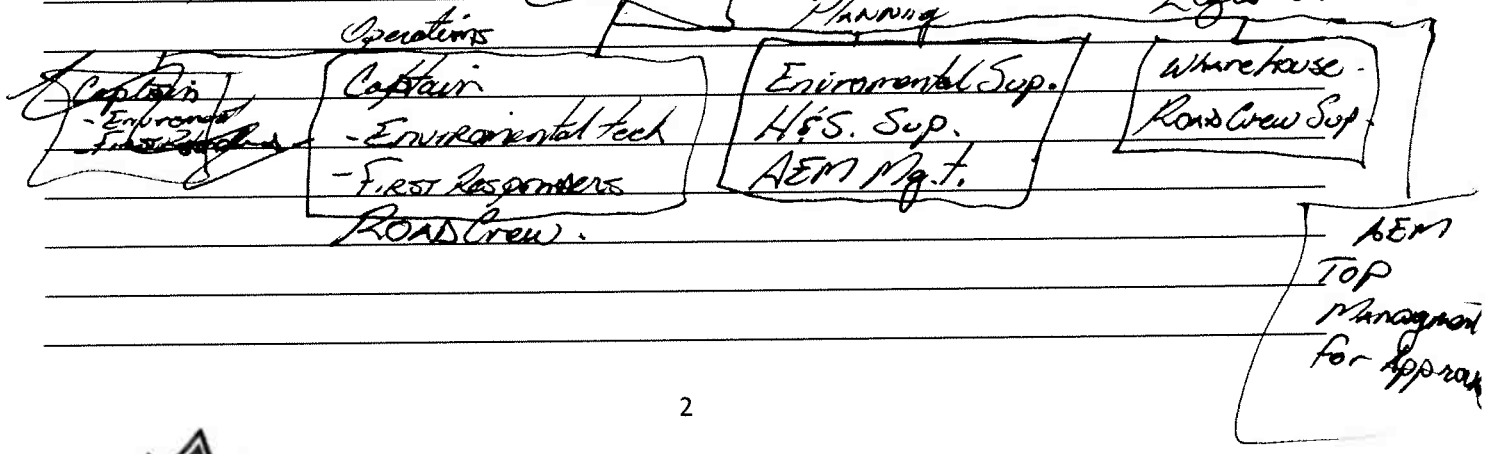
2. What **resources** are required?

- 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



SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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			

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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.

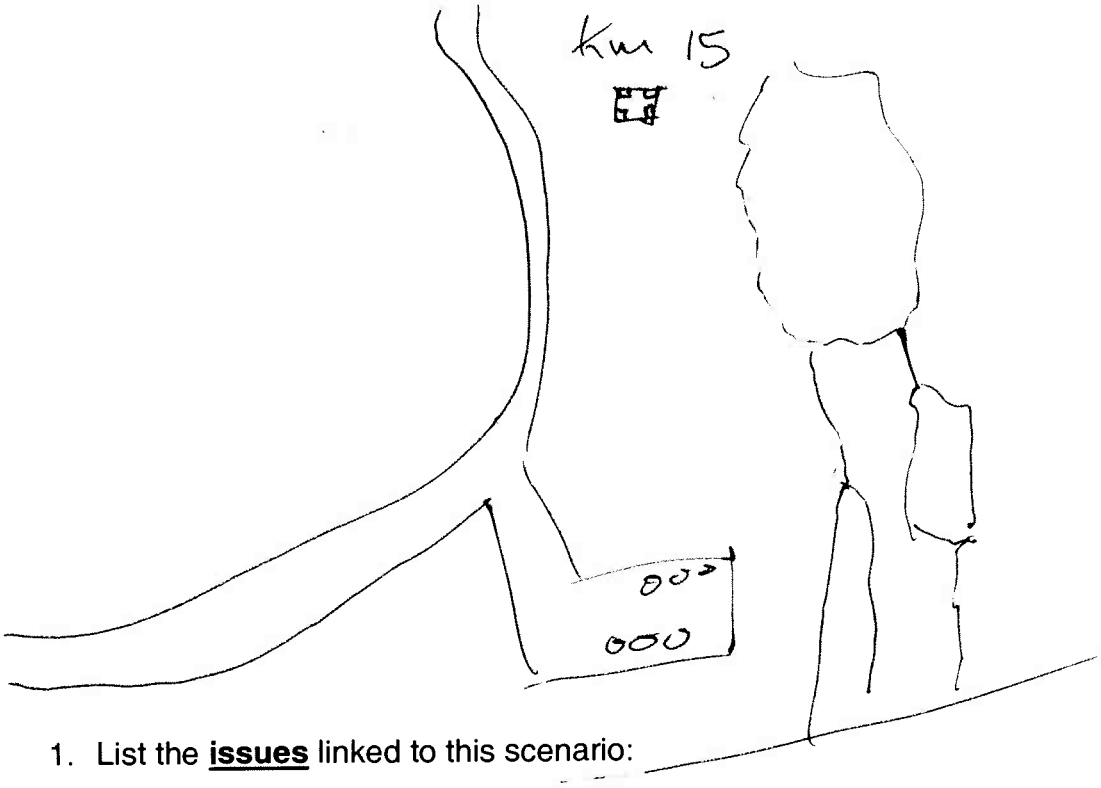
SWAT Consulting Inc.

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
- **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 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

SWAT Consulting Inc.

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.

SWAT Consulting Inc.

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.

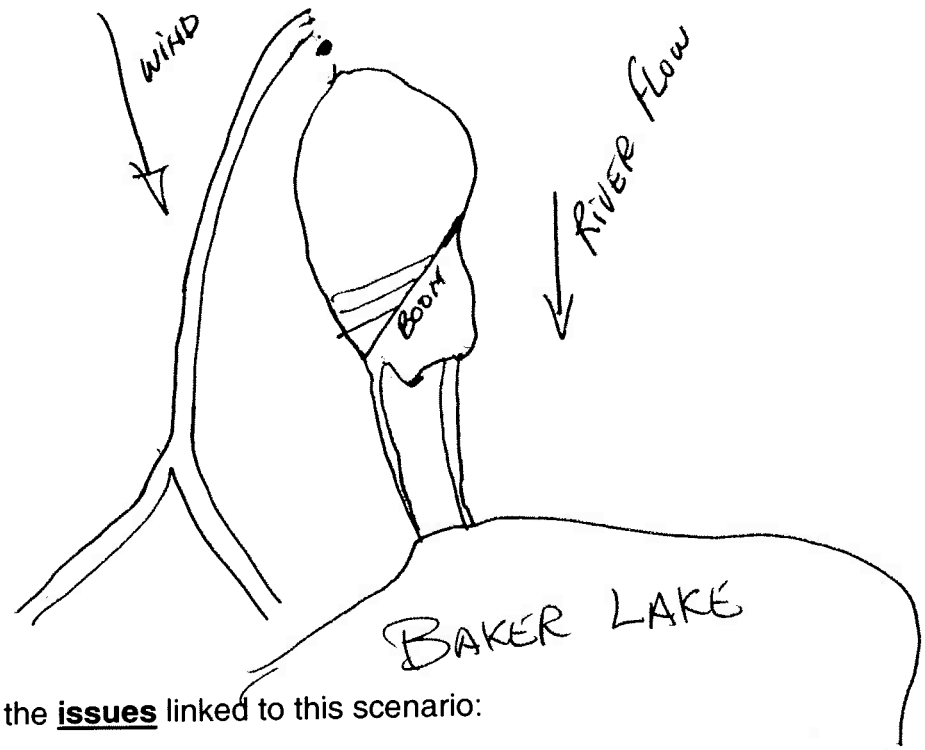
SWAT Consulting Inc.

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.

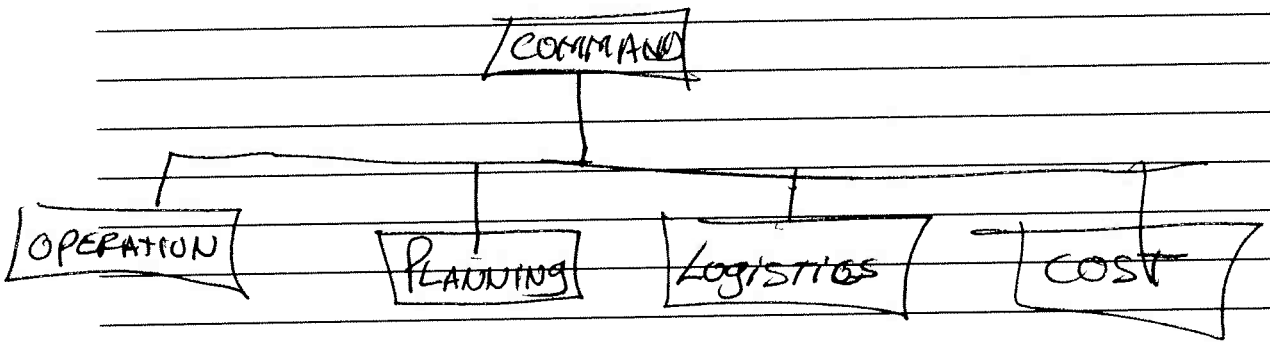
- A TEAM OF RESPONDERS AT THE ACCIDENT TO CONTAIND THE SPILL AT THE SOURCE.
- ANOTHER TEAM FURTHER DOWN STREAM BEFORE THE LAKE TO PREVENT ANY SPILL INTO THE LAKE

- 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



SWAT Consulting Inc.

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

SWAT Consulting Inc.

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

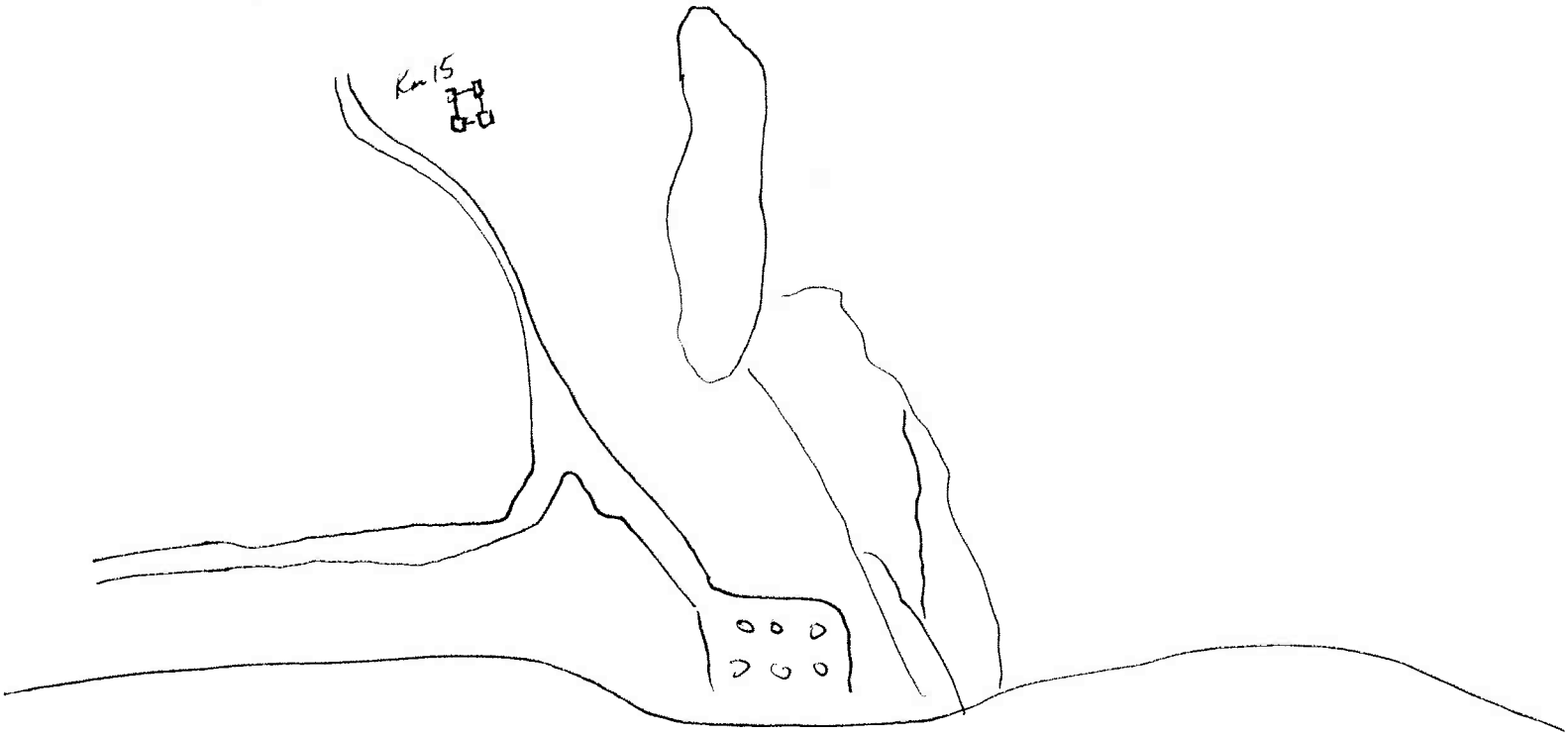
SWAT Consulting Inc.

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

SWAT Consulting Inc.

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

SWAT Consulting Inc.

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?

SWAT Consulting Inc.

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

AGNICO EAGLE
MEADOWBANK

Tool box Meeting attendance sheet

Topic: Spill Response (Baise BL)
Date 02/Aug/2018
Department INTERTEK - PETRONAV - AGNICO

Name (Print)	Signature
STEPHEN EASTERBY	
Ricardo Echeverria	
ARBOSSI NACEUR	
Hugo Ferreira Filho	
Fredy Rivera	
Samuel Plante	

Appendix J

Dyno Nobel Emergency Response Plan

DYNO NOBEL CANADA

EMERGENCY RESPONSE PLAN

AMARUQ NUNAVUT

REVISION STATUS

Revision #	Date	Revision Description	By	Checked by	Approved by	Revision Due
1.0	July 31, 2019	New Standard	P.St-Georges	D. Wall; P. Piprell	T. Medak	
1.1	October 26, 2020	Site Manager change		P.Piprell a& Shanno Ryan	T.Medak	
1.2	October 26, 2021	Review ERP	PSt-G.			October 2022

Approved for release by:

Signature: Patrick Piprell _____ Date: October 22, 2021
Title: Site Supervisor

CONTENTS

1.	Site Information	3
2.	Purpose	3
3.	Scope	3
4.	References	4
5.	Émergencies covered under the plan	4
6.	Hazardous Operations	5
7.	Hazard Chemicals and Materials	5
8.	Emergency Contact Number	6
9.	Emergency Functions and Responsibilities	7
10.	Alarm communication system	8
11.	Emergency Response Equipment	8
12.	Emergency Control Center	8
13.	Emergency Instructions	8
14.	Ammonium Nitrate (E2 Regulation)	15
15.	Traffic Control	20
16.	Protection of Vital Assets / Emergency Shutdown	20
17.	Search and Rescue	21
18.	Recovery Plan	21
19.	Clean up	22
20.	Resumption of Business	22
21.	Crisis Communication Plan	22
22.	Training	24
23.	Information	24
ANX I.	Bomb Threat	28
ANX II.	Employee Acknowledgement, Review & Training Certification Record	29
Security Plan	**See separate Security Plan.**	

All incident involving the manufacturing, importation, exportation, sales or storage of explosives and restricted components, and the use of fireworks, must be reported to the Chief Inspector of Explosives as soon as circumstances permit. For accident involving fatality, serious injuries or major property damage, call 1-855-912-0012 as soon as possible. All other accident/incidents must be reported to 1-613-948-5200. The completed Explosive Incident Report form F07-01 should be sent by email to ERDmms@nrcan.gc.ca or by fax to 613-948-5195. The inspector of explosives responsible for your area should also be contacted.

1.0 SITE INFORMATION

The entrance to the site is south of AMARUQ mine site at the Explosive Manufacturing Road (EMR).
Latitude (North): 65° 23'43.45"N
Longitude (West): 96° 44'1.00"W
Office: +1 819 759-3555 ext 4606806 & 4606808

2.0 PURPOSE

The purpose of the 'Emergency Response Plan' is to provide guidelines for the protection of all employees and company property in the event of an emergency occurring on company premises. It outlines the setting up of emergency control within the site and the emergency procedures in place to ensure the safety and protection of people, property and the environment.

- Notifying all on-site personnel of emergencies.
- Organizing the site based emergency response, where applicable.
- Facilitating communications with Emergency Services.
- The plan provides procedures for:
    - Training of site personnel in emergency response.
    - Reviewing and updating emergency procedures.
    - Facilitating recovery operations.

To provide a management system for Dyno Nobel Canada and stakeholders, to deal with emergencies to protect people, property and the environment.

Objectives:

- To minimize adverse effects on people, property and the environment
- To control or limit the effects of an emergency
- To facilitate an emergency response and to provide appropriate assistance to the emergency services
- To communicate vital information to all relevant persons as soon as possible
- To provide for competency-based training so that a high level of preparedness can be continually maintained
- To provide a basis for updating and reviewing emergency procedures
- To provide a system to manage an emergency
- To link current site plans with the corporate plan
- To identify and utilize an effective communication system

3.0 SCOPE

This plan has been prepared for Dyno Nobel Canada Inc. The plan covers the emergency response requirements for Dyno Nobel's AMARUQ Operations.

SCOPE OF OPERATION

Bulk Explosives Factory Site includes;

Emulsion transferring site
storage of 182,500 NEQ
- 50,000 liters of diesel;

4.0 REFERENCES

- Site Emergency Response Plan (Template)
- Emergency Risk Assessment Worksheet
- IPL HSE MS Element 9.1, Emergency Response Planning
- CSA-Z731-03 Standard – Emergency Procedures
- Regulatory Agencies, Groups, Industry and Community
- Environmental Emergency Regulation – Environment Canada

The regulatory agencies administering explosives are:

- Transportation of Dangerous Goods (TDG)
- Natural Resource Canada (NRC)
- Explosives Regulatory Division (ERD)
- Environment Canada (EC)

5.0 EMERGENCIES COVERED UNDER THE PLAN

Based on a risk assessment conducted the following natural or man made disasters could impact our business:

On-site Emergencies

- White outs
- High Winds
- Explosion – equipment (boiler/fuel or other)
- Fire in plant
- Injury or illness
- Wildlife interaction (wolverine; bear; caribou; other)
- Environmental contamination
- Spills
- Severe weather
- Product shortage
- Raw ingredient shortage
- Critical replacement parts unavailable
- NOX gas release possible.

Off-site Emergencies (including transportation)

- Transportation incident rollover or collision
- Blast pattern incident with drill
- Blast pattern incident near highwall
- Blast patten incident – lightning
- Fire –threat to vehicle
- Fire – toxic fumes
- Explosion – product detonation
- Security
- Injury or illness
- Wildlife interaction (wolverine; bear; caribou; other)
- Spills
- Severe weather
- NOX gas release possible.

6.0 HAZARDOUS OPERATIONS

The following zones, activities and equipment are hazardous and may require an emergency response:
The following is a prioritized list of hazardous operations and storage areas.

	Operation	Comments / Instructions
1.	Emulsion Transfer	Plant
2.	Operating loader	Yard; site access road
3.	Fuel storage area (bulk)	Bulk tank in yard
4.	Product delivery to blast pattern	Plant; Site yard; Mine road; pit
5.	Driving on a pattern	Pit
6.	Transferring chemicals	Plant; Process vehicles
7.	PTW activities	Confined Space Entry; Working at Height; Hot Work; Loading and unloading (Emulsion, Traces, Fuel); Lockout/Tagout; Critical Lifts

7.0 HAZARD CHEMICALS AND MATERIALS

The following is a prioritized list of or hazardous chemicals, materials and intermediates of significant quanities on site or transported by site:

	Chemical / Material	Quanties	Location
1.	Fuel oil	50,000L	Outside plant
2.	Trace 1 (citric acid)	284 L	
3.	Trace 2 (sodium nitrite)	284 L	
4.	ANP	120,000 kg	Outside

8.0 EMERGENCY CONTACT INFORMATION

Dial 6-9-1-1 in an emergency or call CODE 1 – CODE 1 – CODE 1

Non-Emergency Police / Fire

- Baker Lake RCMP (867) 93-1111

Regulatory Contacts: (NRCan via H&S or Regulatory Affairs Coordinator)

- H&S: Seamus Kilcommons Cell: 403 815-4066
- Reg: Pierre St-Georges Cell: 613 677-1051

DN Title	Name	Cell Phone	Work Phone	Home Phone
Manager of the Site	Patrick Piprell & Shannon Ryan	NA	819 759-3555 EXT 4606804	
Operations Manager	Tom Medak	403-818-4434	403-723-7530	
General Manager	Jim O'Brien	913-940-5170	913-940-5170	
HSEC Manager	Seamus Kilcommons	403-837-2685	403-723-7547	
Emergency Supervisor (ES)	Patrick Piprell & Shannon Ryan		819-759-3555 EXT: 4606804	

Local Emergency Services may be required to take control of the emergency situation. Dyno Nobel personnel will assist the Local Emergency Services with information and advice and will ensure that the Emergency Services are briefed with all appropriate information when attempting to take control of the situation.

9.0 EMERGENCY FUNCTIONS AND RESPONSIBILITIES

The following people will participate in emergency planning and crisis management.

Name	Role / Responsibitlies
	Responsible for updating emergency response plan
Patrick Piprell & Shannon Ryan	Site Supervisors will be the EMERGENCY MANAGER, or in his/her absence the next most senior manager on site will assume this role. Responsibilities are to ensure ERP is site specific: Lead drills twice a year
Jim O'Brien	General Manager: Overall reviewer and sign off. General Manager; Media Liaison.
Tom Medak	Operations Manager: responsible to review and ensure adequate: review of drills conducted; Bulk Site Operations Advisor

Seamus Kilcommons	HSEC Manager: responsible to review and ensure adequate: review of drills conducted; Liaison with regulatory authorities
Benoit Choquette	Environment Manager; Liaison with relevant regulatory authorities
Pierre St Georges	Regulatory Affairs Manager; Liaison with all relevant regulatory authorities

Emergency response responsibilities for all personnel on site are describe as follows:

Roles	Responsibilities
Emergency Manager (EM)	This position will usually be filled by the Site Supervisor / Acting Site Supervisor and will be responsible for: • Overall responsibility for management of the emergency. • Contact with other external organizations (e.g. Police) • Contact with employees and relatives • Declaration of "All clear" to approve re-entry • Implementation of the DNA Crisis Communication Plan
Emergency Supervisor (ES)	This position will usually be filled by the one of the operators or designate and will be responsible for: • Liaison with the EM. • Arrange the removal of equipment (e.g. truck explosives). • On-site security. • Collect visitors book during evacuation (if safe to do so) • Conducting head count of all personnel on site In the event that there is only 1 person on site then that person will assume responsibilities of both the EM & ES.
Other personnel on site	This position will usually be filled by any other employee on site. • If safe to do so, personnel holding appropriate licenses will attempt to remove all explosive trucks from the vicinity of the fire and shut down all equipment. • Follow the direction by EM to control the situation (e.g. extinguish fire) if directed • Make their way to the nearest designated evacuation point. • Visitors and contractors must proceed directly to the evacuation / muster point: The scale house.

10.0 ALARM COMMUNICATION SYSTEM

- Type of warning/alarm system (including back-up): Alarms tied into AMARUQ mine site Notified system to security / ERT
- The communication system used: Two way radios and phone
- Location of Alarms: Emulsion plant and office – Internal and external alarms

- We will communicate an on-site in an emergency situation to employees by: Alarm System Bell. In the event of a disaster we will communicate with employees by: Two way radio
- In event no one is on site, the alarm system will activate by: Automatic alarm: sensored for smoke and heat??
- We will test the warning system and record results at least __1___ time per year. Results are recorded by the mine. Mine owns the Dyno Nobel building

11.0 EMERGENCY RESPONSE EQUIPMENT

The following emergency response equipment is located on site:

Location	Equipment
Emulsion plant	**Spill Kits; Fire extinguishers; First Aid Kits**
Process Vehicles	**Spill Kits; Fire extinguishers; First Aid Kits**
Pickup trucks	**Fire extinguishers; First Aid Kits**

EMERGENCY RESPONSE KITS & MATERIAL

All DNCI worksites will maintain the following emergency response equipment, that is appropriately packaged, stored and easily loaded onto a pick-up truck and / or aircraft for immediate transfer to an accident scene:

VERIFY WHAT IS READILY AVAILABLE IN SPILL KITS AS PER LIST BELOW

I - Spill Recovery Material
1000 ft. of 3 inch fluorescent yellow security tape
3 explosion-proof lanterns / flashlights
1 roll (200 ft.) of 10 mil. clear plastic for ground or product cover
3 "explosives" signs plus assorted 1.1 / 1.5 "placards and labels"
4 polyethylene / non-ferrous 45 gal. drums with removable lids
1 doz. large heavy duty garbage bags (to line drums and for trash)
3 non-ferrous shovels
1 spill kit containing 1 - 25 lb. bag of granular absorbent material
30 ft. of 5 in. sorbent booms
10 ft of 3 in. sorbent socks
1 case of sorbent pads
1 - 3 ft. x 3 ft. neoprene sheet (drain seal)

6 heavy-duty cardboard boxes for repackaging broken boxes
2 rolls of 3″ duct tape
2 rolls of 3″ packing tape
1 push broom
6 blank (TDG) shipping documents

II – Personal Protective Equipment
6 reflective safety vests
6 safety "goggles"
6 particulate respirators (dust masks)
1 doz. disposable ear plugs
6 pr. nitrile gloves
6 pr. cotton gloves
Industrial First Aid Kit

(Note: all DNCI Emergency Responders must wear CSA approved protective footwear and Type II (lateral protection) hard hats when on the job. As well, a camera should be readily available to photograph the scene of an accident and remedial measures for inclusion in the accident investigation report).

An inventory list of the emergency response kit/material will be kept with the cache, which must be inspected quarterly, to ensure the contents are present and in good working order (note: Emergency response kit cache may be witness/lock-wired closed, in which case only an annual verification that the contents are present and in good working order is necessary, so long as the witness/lock-wire is present and unbroken).

12.0 EMERGENCY CONTROL CENTER

The Site Manager or Supervisor will nominate the most appropriate location of the Site Emergency Control Centre when all site personnel, contractors and visitors have mustered at the designed evacuation area. The Site Emergency Control Centre will depend upon type and location of the emergency.

In the event of an emergency that requires all personnel to be evacuated from the site, the Site Emergency Control Center will be located at the main gate.

13.0 EMERGENCY INSTRUCTIONS

- Ring the alarm.
- Evacuation Procedure.
- Evacuation of people includes alarms, designation of staging areas and alternative routes/assembly points, and a system of head counts to determine if all individuals have been evacuated.
- Activating the emergency plan.
- Activating the emergency services.

- Terminating the emergency.
- Health and safety functions, such as roll call and search and rescue.
- To identify those responsible for conducting this work and detail procedure to clean and contain spills.

13.1 EXTREME TEMPERATURES

Working in cold environments can be not only hazardous to your health but also life threatening. It is critical that the body be able to preserve core body temperature steady at + 37°C (+ 98.6°F). This thermal balance must be maintained to preserve normal body functioning as well as provide energy for activity (or work!). The body's mechanisms for generating heat (its metabolism) has to meet the challenge presented by low temperature, wind and wetness - the three major challenges of cold environments.

Uncomfortably cold working conditions can lead to lower work efficiency and higher accident rates. Cold impairs the performance of complex mental tasks. Manual tasks are also impaired because the sensitivity and dexterity of fingers are reduced in the cold. At even lower temperatures, the cold affects the deeper muscles resulting in reduced muscular strength and stiffened joints. Mental alertness is reduced due to cold-related discomfort. For all these reasons accidents are more likely to occur in very cold working conditions.

Protective clothing is needed for work at or below 4°C. Clothing should be selected to suit the temperature, weather conditions (e.g., wind speed, rain), the level and duration of activity, and job design. These factors are important to consider so that you can regulate the amount of heat and perspiration you generate while working. If the work pace is too fast or if the type and amount of clothing are not properly selected, excessive sweating may occur. The clothing next to body will become wet and the insulation value of the clothing will decrease dramatically. This increases the risk for cold injuries.

13.2 INJURY/ILLNESS

Medical emergencies may arise due to serious injury caused by machinery, entrapment, heart stoke. Limited first aid is available on site and casualties would likely be transferred by ambulance to nearess Hospital for treatment. A transport vehicle is always readily available on site for transportation needs. The site is accesible to local emergency services at all time.

A means of communication is mandatory for all employees working on site at all time. For emergencies requiring immediate medical attention, quickly assess the scene then call for assistance. Qualified Site First Aiders will assess the casualty, and if required, **call 6911** or CODE 1 – CODE 1 – CODE 1 on Two Way radio

The site has several trained first aid attendants and these people will be the first to assist in an emergency.

FIRST AID ATTENDANTS	EXPIRY DATE
Louis-Philippe Cote	
Chris Paul	
Adrian Friesen	
Foster Bullock	
Dale Wearmouth	
Joe MacLaren	
Kumanaa Autut	
Patrick Piprell	
Shannon Ryan	
Aubrey Chaulk	
Billy Harrison	
Frank Walsh	

*** Report incident details in SHAERS database when the Emergency is over.**

13.3 EXPLOSION / FIRE CONTROL PROCEDURE

EXPLOSION

All site personnel should be evacuated as soon as possible. In the event of an explosion the Emergency Services should be contacted immediately and the evacuated personnel assembled at the Muster area. No personnel should enter the site until at least one hour after the explosion or until the resultant fire has burnt out.

Dyno Nobel personnel should restrict access to the plant and nearby area until the Police and emergency services arrive at which time all access roads should be blocked off at a suitable distance. Emergency services should be advised not to enter the site but if they choose to do so they should be fully briefed before entering.

The Dyno Nobel Compliance Manager shall be notified of any explosion immediately so as to inform Government authorities of any incident that has occurred. There should be no attempt made at clean up or repair of the site until authorisation from the appropriate authorities has been received.

13.3 EXPLOSION / FIRE CONTROL PROCEDURE (Continued)

FIRE CONTROL PROCEDURES

Fires will vary in location and the materials involved. Each kind of fire shall have inherent risks associated with them. In general the following guidelines should be adhered to:

- Do not fight a fire that has become established and involves explosives or precursors used in the manufacture of explosives;
- Proceed with extreme caution when fighting fires involving Oxidizing agents as toxic fumes may be evolved;
- Never fight a fire unless you are comfortable to do so and have the correct equipment;
- Always leave an escape route when approaching or fighting a fire; and
- Always fight a fire from upwind.

IF YOU ARE UNABLE TO CONTAIN THE FIRE WITH A FIRE EXTINGUISHER THEN YOU MUST EVACUATE THE AREA.

13.4 SECURITY

The Site can be secured by a locked gate at the main entrance (main emergency exit and gathering point) of the site. Due to 24 hour operation the gate is not locked to allow access for DYNO personell and mine blasters. A sign in, sign out book is located at the main entrance for visitor and employee manlimits as per the site ERD Factory License. Only Dyno Employee's have keys to the locked gate.

'A' & 'B'. Sign includes ; Danger - Explosives, No Trespassing, Penalty-Section 18, Canada Explosives Act, $ 5,000.00 fine. Man Limit. No smoking. A match/lighter box. PPE requirements, and a 24 hour Emergency Contact Number.

13.5 BOMB THREAT

In the event of a "Bomb" threat the telephone operator or other person receiving the call should obtain as much information as possible. Where practicable the person receiving the call should have access to the "Bomb Threat Checklist".

Action if bomb or other explosive device is found:
If object or parcel, suspected of being a "bomb" or other type of explosive device is found by anyone, the following action should be taken:

- Do not touch, tilt or otherwise tamper with the object, whether it is a bomb, improvised explosive device (IED) or other suspect object.
- Immediately evacuate the area surrounding the object.

13.5 BOMB THREAT (Continued)

- Consider the consequential damage and effect - both on site and off site -if process equipment, storages or pipelines are involved.

Use the following guidelines:

- Evacuate the area concerned.
- The possibility of shrapnel must be considered.
- Evacuate all persons to the emergency evacuation area. Safety perimeters must be maintained until the device is rendered safe.
- Quick detailed observations should be taken of a suspected IED. Time spent near an IED must be kept to absolute minimum.

Observations should include:

- Exact location and proximity to hazards such as dangerous chemicals or substances.
- Size, shape and colour of object.
- Any writings or labels appended to the device.
- Any other peculiarities.
- Notify Police simultaneously with the commencement of evacuation.
- approach police upon their arrival to supply all details of information.
- Police will, upon their arrival, coordinate and control all necessary procedures.

13.6 CHEMICAL SPILL/RELEASE

Spills of materials on site are most likely to originate from damaged containers and drums whilst unloading raw materials. The action taken to deal with a spill is dependent on the type of material spilt and the associated hazards with that material.

Environmental considerations should be taken into account when cleaning up a spill. To ensure that the appropriate action is taken to clean up a spill the MSDS (Material Safety Data Sheet) should always be consulted before any clean up attempt is made.

Care should also be taken that the spill does not mix with other raw materials as violent reactions or the generation of toxic fumes may be possible. In the case of reactions or fume generation the emergency services should be called and the area evacuated.

The Ministry of Environment is to be notified. Contact Dyno Nobel Canada Environmental Manager.

13.7 TRESPASSING/VANDALISM

If there has been a breech of security or obvious signs of trespassers, notify the police. Do not disturb scene.

Determine if there has been any damage or theft. Follow instructions of the mine security or police. If there has been a theft of explosive materials proceed to the appropriate section of this Plan.

Take temporary actions to prevent recurrence until permanent actions can be implemented.

13.8 LOSS/THEFT OF EXPLOSIVES

LOSS

Determine the nature of the loss. **Implement** the appropriate sections of the Notification Plan. **Retrace** all routes of travel. **Verify** security and inventory level with personnel at the place of origin and destination. **If material cannot** be accounted for, the HSE Advisor and Site Manager shall notify ERD & the RCMP.

THEFT OF EXPLOSIVES

Immediately call the police. **Implement** the Emergency Notification Plan.

The Site Manager, HSE Advisor or Regional Operations Manager will call, as soon as possible and within 24 hours, the RCMP & ERD. **Determine** exactly what product, how much and code date(s) was stolen from the magazine(s). **Be careful** not to disturb the magazine or its contents so as not to destroy evidence such as fingerprints, shoe marks, etc. **Do not** handle tools or equipment that may have been used to break in. **Allow** Police personnel access but protect the scene from others that may disturb the evidence.

Do not permit news media personnel or any other non-company personnel (excluding Police) to enter the site. **Do not** make any statements to the media or non-company personnel. Refer the media to the Company Spokesperson. **The** Site Manager shall be the direct liaison between the company and the police and regulatory agencies. **Keep a log,** (documentation), of all activities regarding the break-in investigation for the company record. **The** Regional Operations Manager, HSE Advisor, and Site Manager will review all information and determine prevention measures to be taken to deter future break-ins.

13.9 PROCESS LOSS/INTERRUPTION

The possibility of a power outage on the site is very thin. The site has a generator.

13.11 TRANSPORTATION VEHICLE ACCIDENT

Ensure the accident scene is safe. Check if there are injuries. Whether the victim is conscious. Ask someone to call emergency assistance. Provide First aid and take control of the scene of an accident. Take care of the victims until help arrives.

13.12 TRANSPORTATION VEHICLE BREAKDOWN

Call **911** and contact Regulatory Manager Pierre St-Georges at (613) 677-1051.

13.13 BLAST SITE INCIDENT

If the emergency involves a blasting incident, the crew at the blast site shall follow the emergency instructions outlined in the Blasting Guidelines and Procedures. This site shall implement the appropriate sections of the Notification Plan as directed. The site shall support the blasting crew with personnel and equipment as needed.

13.14 TRANSPORTATION CHEMICAL SPILL

Initiate the ERAP by calling 1-800-367-4629 and call 911. The Emergency Response Advisor will contact the authorities.

Determine what material(s) has spilled or leaked and secure the area. Do not walk through the spilled material. **Put** on appropriate Personal Protective Equipment.

Protect the area from ignition sources. If a vehicle is involved, engage the battery disconnect switch. **Keep** unauthorized persons away.

Make every effort to confine and contain the spill, using spill kit and all available resources. **Determine** the source of the spill, and stop the leak if possible. **Make** every attempt to see that the material does not reach any waterway. **Prevent** rain or water from coming in contact with the product. Diking may be possible with gravel, soil or any ground material. **Use** what resources you have to begin cleaning up the product, outside equipment may be required. **Return** uncontaminated product to the original containers.

If the material has spilled into a waterway, an outside clean-up contractor will be called to assist with the clean-up operation. Call the main office as soon as possible. Seek corporate counsel as soon as the situation is stable.

13.15 TRANSPORTATION FIRE/EXPLOSION INCIDENT

Should there be explosive detonations, or the risk of detonations due to the presence of fire or other detonating factors, advise the First Responders (or anyone within the immediate vicinity if First Responders are not at the scene) of the risk of an explosion. Help organize perimeter guards to prevent people from

entering the evacuation zone. The minimal distance to evacuate for a 20,000 kg tanker is 1.2 km or 4000 feet.

14.0 AMMONIUM NITRATE (E2 REGULATION)

14.1 Physical and chemical properties

Ammonium nitrate in solid form (prill) is of a light or off-light color and is commercially available in small beads of various sizes. It gives off a light ammonia smell. It is considered an oxidizer (risk class 5.1). Its density varies between 0.72 and 1.0 g/cc. Its solubility in water is high at 192 g/100 ml at 20°C. Its boiling point (decomposition) varies between 177 and 210 °C and its fusion point is 170°C.

Ammonium nitrate is stable in normal conditions. However, when involved in a fire, it will give off toxic compounds of nitrogen oxides and may emit ammonia vapors in the air. When confined or exposed at high temperatures, it can explode. It becomes more sensitive to explosion when contaminated by organic matters or other combustible materials.

14.2 Potential environmental impact

Ammonium nitrate is a fertilizer composed of nitrate ion (NO_3^-) and ammonium nitrogen ion (NH_4^+). Nitrate is essential to life. Most crop requires a large quantity of nitrates to support growth. In moderate quantities, nitrate is a harmless component of food and water. The nitrate ions are very soluble in water. They are easily solubilized and transported by surface and groundwater. Ammonium nitrogen is a reduced form of nitrogen which has the potential in water to release ammonia gas and be toxic to aquatic life. This ion is not very mobile in soils. This ion normally stays attached to clay or humus soil particles. Ammonium nitrogen will normally be converted in nitrates by soil bacteria in a few weeks.

A high level of nutrients (nitrates) combined with the presence of phosphorus in water support the rapid growth of algae and aquatic plants in water. It may reduce dissolved oxygen level in water. Insufficient oxygen levels may create dead zones where fish species requiring cold and well oxygenated water could no longer live in. Nitrates can therefore contribute to the eutrophication phenomena of lakes and rivers. The closest water bodies that can be impacted by a spill are located within a kilometer of the plant site and testing is completed by Meadowbank environment regularly. No potable water wells are present at the site.

14.3 What to do in case of a spill

In case of a spill, the product must be recovered rapidly to avoid exposure to water. Protect it with tarp and build berms around it if necessary to avoid exposure to surface water and rain. Avoid any contact with a flame. The product can be recovered manually using plastic shovels or brooms and put into plastic bags or containers. A HEPA filter can also be used if desired. In case of a very large spill, the product can be recovered using a mechanical shovel or loader and put in a sealed steel (20 cubic yards) bin equipped with a cover. The bin must be clean and not contaminated by any organic material.

In low concentrations in water, nitrates will be absorbed by surrounding vegetation and will support their growth. If there are water wells nearby, there is a potential to contaminate the potable water. The drinking water standards for nitrates is 10 mg/l (as N). Therefore, prevent contaminated water to enter sanitary and surface water drains. Recovered product can be re-used if clean, recycled as a fertilizer or disposed off-site as an oxidizer to an approved waste disposal company. Do not fight fires involving ammonium nitrate because of the risks of explosion.

14.4 Maximum quantity planned during the year:

10,000,000 kg.

14.5 Location of the subtance :

In seacans at plant site (EMR)

14.6 Training required for emergency responders

- First aid
- Transportation of Dangerous Goods
- WHMIS
- Emergency Response Plan (this plan)

Emergency Response equipment

- Danger tape
- Tote bags with internal plastic liner
- Plastic shovels
- Drain cover
- Brooms
- Polyethylene tarps

Note: equipment must be readily available at the Quaatuq location.

14.7 Personnel Protective Equipment

- Reflective vests
- Safety Glasses
- Dust masks
- Plastic gloves
- Safety boots
- First aid kit

Note: equipment must be readily available at the Quaatuq site location.

15.0 TRAFFIC CONTROL

In the event of an emergency it is essential that the traffic movements to the site be limited to essential vehicles only. The control of traffic will be achieved by posting sentries at the evacuation point. The sentry shall use the company vehicles onsite so that they can stay in contact via cell phone with the Emergency Manager or Emergency Services Coordinator.

During an emergency the only vehicles that will be allowed to enter the site will be:

- Emergency Services;
- Any equipment providers which have been requested to attend to the emergency; and
- Dyno Nobel personnel that are directly involved in the response effort.

Any other entry to site will require the permission of the Emergency Manager after consultation with the Emergency Services Coordinator.

If an employee or visitor is injured and can safely be transported to the mine without incurring additional harm to the employee/worker, or posing any additional risk to the safety of the person, Dyno vehilces can be used to transport.
Where specific stabilization of an injured person is required, or where moving an injured person may result more serious injury or life threatening concerns, the injured person is to be stabilized as per first aid training and AMARUQ emergency services dispatched to site.

In the event that there is a chance of an explosion or release of toxic fumes roadblocks should be at least **1200m** from the scene.

The Mine security or local Police are the only personnel authorised to close any public roads, as a result, the need to close the road should be established early. The road would need to be closed at a distance of no less than **1200m** from the facility in order to prevent damage to vehicles or people outside the site.

16.0 PROTECTION OF VITAL ASSETS / EMERGENCY SHUTDOWN

Under no circumstance are lives to be put at unacceptable risk in order to preserve material assets or intellectual property.

To avoid knock on effects of an emergency such as escalated destruction or business disruption, consideration should be given to preserve critical company assets by shutdown or removal of equipment such as:

- Mobile Processing Units (MPU's)
- Raw Materials/Handling equipment

Materials handling equipment and energy sources should be shutdown or isolated by activating emergency stop buttons or closing valves on the following systems:

- Electrical

Isolation are clearly identified by color coded labeling. All personnel must know location and operation of these devices.

- Switches

The decision to isolate energy sources or remove assets may be made at the time of evacuation notification or post evacuation by the Emergency Manager or Supervisor. Either way, this action must not be made if it is considered that it will not delay the evacuation process or put personnel at an unacceptable level of risk in terms personal injury or health.

Energy Source / Equipment	Type of Isolation	Location
Electrical Systems & Equipment	Switch	

17.0 SEARCH AND RESCUE

Search and rescue shall be the responsibility of emergency services only as Dyno Nobel are not equipped to carry out search and rescue operations in a safe manner.

Search and rescue operations should only be conducted if it is safe to do so and if there is no potential of an explosion occurring. Very careful consideration should be made to limiting casualties.

Before attempting search and rescue, personnel must be knowledgeable of the following:

- Site layout;
- Hazardous effects from hazardous substances;
- Fumes/poisoning;
- Explosion;
- Burns;
- Use of proper PPE;
- Breathing apparatus;
- Fire extinguishers;
- Recovery gear;
- Practiced search and rescue techniques; and
- Possible casualties.

18.0 RECOVERY PLAN

The Emergency Manager has the responsibility to declare the emergency over after consultation and agreement with Local Emergency Services:

- When the damage is localised to the extent that normal operations could resume in unaffected areas;
- Work in unaffected areas will not contaminate the emergency scene and destroy causal evidence;
- Affected areas are secure with actual or potential energy sources neutralized and controlled; and
- The all clear / re-entry approval should be communicated to all personnel in consideration of any special conditions.

19.0 CLEAN UP

Environmental aspects and impacts need to be considered when dealing with chemical waste and approval for disposal of chemicals must be obtained before disposal.

20.0 RESUMPTION OF BUSINESS

The EM will carry out the following:

- Arrange for appropriate personnel to complete a risk assessment of the area and assess the impact of the emergency; and
- Provide DNA appropriate personnel with an update as soon as practicable.

In conjunction with Dyno Nobel's VP of HSEQ and VP of Operations, the Emergency Manager shall develop an action plan to ensure that:

- The site is secure and safe for all personnel;
- Pollution due to leaking storages and firewater run-off is minimised;
- Production facilities are re-established; and
- Supply contingencies are activated.

Senior Management shall be informed of any loss and they will ensure that the underwriters are informed. It is essential that all costs of recovery and increased costs due to the incident be identified.

21.0 CRISIS COMMUNICATION PLAN

The Site Media plan is only activated if the media has arrived at your site and is asking questions.

If the media is contacting you by phone, fax or email, refer them to Diana Roising, Crisis Media Advisor in Salt Lake City, cell: 801- 321 5338 or office: 801 328 6536

IF THE MEDIA HAS ARRIVED AT YOUR SITE

The First Critical Statement may be made by a trained spokesperson (generally the Manager on Site) who has received permission from a member of the DNA Crisis Management Team. ***In most cases Media contact will be referred to the General Manager, Mike Soter, or his designate.***

If permission is granted, the Supervisor of the Site should fill in the information in the First Critical Statement template

After the statement is presented to the media on site, it is important not to attempt to answer additional questions. All other information will be done at the direction of the DNA Crisis Management Team, unless otherwise directed.

If additional personnel are available, have an assistant to this spokesperson remain behind to gather business cards and write down questions while the spokesperson leaves. This person must NOT answer any questions

Fax/email a copy of the Statement to DNA Crisis Management Team member and wait for further instructions

When the Media Arrives at Your Site Say ONLY the following:

Site Media Statement

At approximately _____ am/pm on _____ we experienced

_____

_____

(Only obvious facts - No explanation - No elaboration)

This is all I can confirm at the present time. I am sure you understand that we are assessing the situation so we can provide the most accurate information.

Our company spokesperson will be in touch with you and other media representatives as soon as possible to provide more information. In the interim, we ask for your patience as we conduct our investigation.

(You are now free to turn and walk away.

(If you are asked additional questions, make the following statement:)

22.0 TRAINING

All Dyno Nobel employees will be trained to cope with an outbreak of fire in the site and MPU operation, at minimum all DNCI employees should be fully trained in the use of fire extinguishers.

All employees shall be trained in the roles they are expected to play during an emergency and/or an evacuation.

Regular evacuation and emergency drills shall be conducted in order to evaluate the effectiveness of the overall strategy and identify any deficiencies in the procedures. Emergency drills should be conducted every six months for DNCI internal drills with at least one of these involving local Emergency Service teams. Local Emergency Service providers shall be briefed on potential site emergencies by the Site Management team.

After conducting drills has a meeting shall be conducted to identify the gaps found during the emergency drill.

Training shall include:

- Fire extinguisher training;
- WHMIS;
- Transportation of Dangerous Goods,
- Emergency Response Training.

23.0 INFORMATION

Emergency procedures are posted on the Safety board. A copy of the Emergency Response Plan was provided to all employees during the Training.

Information on this Emergency Response Plan is recorded electronically on NEXUS.

APPENDIX I – BOMB THREAT

INITIAL INFORMATION:
Date :
Person receiving call:
Exact time of call:
Time of the call end:
Exact words of caller :

QUESTIONS TO ASK	
Where is the bomb?	
When is bomb going to explode?	
What does it look like?	
Did you place the bomb?	
Why?	
Where are you calling from?	
Are you an employee?	
Caller Gender : F / M	Age :

CALLER'S VOICE (circle)				
Calm	Fast	Distinct	Joker	Throat clearing
Angry	Soft	Lisp	Disguised	Deep breathing
Excited	Mocking	Nasal	Loud	Stuttering
Slow	Crying	Irregular	Deep	Mumble

LANGUAGE OF THE CALLER				
Articulate	Educated	Coarse	Irrational	Incoherent
Recorded	Message read by the author of the threat			

BACKGROUND NOISES					
Traffic	Telephone booth	House sound	Music	Motor	Dishes
Soft	Long Distance/Local call	Machinery	Static	None	Animal
Others :					

APPENDIX II – EMPLOYEE ACKNOWLEDGEMENT, REVIEW & TRAINING CERTIFICATION RECORD

Signature indicates that person has been given an opportunity to review and make comments regarding this safe work instruction and revisions. Signature indicates that person has received training about and understands the information contained in this document, related operating procedures, and requirements imposed by this program.

PRINT NAME	SIGNATURE	DATE

Appendix K

MBK-ENV-Pro Spill Reporting Procedure

Spill reporting procedure

f

DOCUMENT ID: MBK-ENV-PRO-Spill reporting	
People concerned: Agnico Eagle employees, contractors, visitors on the Meadowbank and Amaruq sites	**Effective Date:**
This procedure corresponds to the required minimum standard. Each and every one also have to comply with the rules and regulations of the Nunavut Government in terms of health and safety at work.	

Rev #	Date	Description	Initiator
	2015-01-18	MBK-ENV-PRO-Spill reporting	Jamie Kataluk
	2020-03-07	MBK-ENV-PRO-Spill reporting	Louis Dubois
	2021-03-31	MBK-ENV-PRO-Spill reporting	Casandra DeForge

Objective:
As per Meadowbank's Water License we must have and employ a 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. The plan has been designed to facilitate effective communication and the efficient clean-up of spills from potentially hazardous materials. The Plan also specifies the reporting of all spills on site to the Environment Department. The Plan details which spills will be reported to regulators.

Definitions (if applicable)

A) **A <u>Major spill</u> is defined as an accidental release of product into the environment that has the potential for adverse impacts to the receiving environment, AEM property or human health. This can include potential impacts to water, surface and groundwater, land, equipment, buildings, human health and the atmosphere.**

B) **A <u>Minor spill</u> is defined as any spill that does not involve a toxic, reactive, or explosive material in a situation that does not pose a significant risk to the environment, is not human health or AEM property.**

Tool/Equipment Required	PPE Required
• Radio • Phone	• N/A

Specific Training Requirements
• Site induction
1. **<u>All Spills</u>** on the Meadowbank Complex site including and All Weather Access Road and Whale Tail Haul Road regardless of size, quantity, location, or time of spill are to be reported to the Environment department
2. Spills must be immediately reported to the responsible department Supervisor
3. The supervisor will determine if the spill is a major or minor spill a. If the spill is *Major*, supervisor will call CODE 1 to dispatch (Mine, AWAR, AMQ Road or Control room). b. If the spill is *Minor* the supervisor will contact the Environment Department AMQ: On **Surface Channel** or extension **460 6808** MBK: On **Channel 9** or extension **460 6747** or **460 6759** Techs / **460 6980** or **460 6744** Coordinators
4. Whether the spill is major or minor the following must be verbally reported: a. Product description (diesel, hydraulic oil, sodium cyanide) b. Estimated quantity of the product c. Location of Spill d. Area contaminated (#meters x # meters) e. Cause of spill – If this is not yet known best assumption ** if photos can be taken of the spill, please submit to the environment department with spill report
5. For a Major Spill the Supervisor will ensure the area stays safe until the ERT team arrives to intervene. The Environment department will assist the ERT team.
6. For a minor spill the supervisor and the Environment department will then determine the clean-up method and the location in which the contaminated material will be disposed. **Environment department may want to investigate the spill prior to clean up.
7. Using Professional Judgement, the Supervisor will determine if the spill is considered to be an Environmental Emergency as defined in the E2 regulations (Schedule 1 substances) (see Figure 8 in Spill Contingency Plan). If the spill is considered to be an Environmental Emergency it must be reported to ECCC and a written report is to be submitted electronically (Schedule 8) via SWIM.

8. A spill report will need to be completed, ***In Full***, and submitted to the Environment department within ***12 hrs.*** of the spill occurring. Thus allowing time for the Environment department to determine if it needs to be reportable to the Governing bodies.
9. Spills on water must be reported **immediately** to the Environmental Department.

***Spill report is attached below or can be found here:*
http://mymeadowbank/Top%208%20Documents/ENV/AEM%20Internal%20Spill%20Report%20Form_2020.pdf

10. Spills found on site that have not been reported to the Environment department will be deemed as Non-Reported spills.

Related Documentation (if applicable)

- N/A

References (if applicable)

Appendix (if applicable)

- Pictures
- Plans

Authorization (Print Name)

Approved: _____ Date _____
JOHSC Worker Rep.

Approved: _____ Date _____
Department Superintendent/ Delegate

Approved: _____ Date _____
Health & Safety Superintendent/ Delegate

Appendix L

2021 Mock Spill

AGNICO EAGLE
MEADOWBANK COMPLEX

MOCK SPILL - POST EXERCISE REPORT

Baker Lake Fuel Farm Facility

2021 October

Contents

Scenario 2
Personnel involved 2
Timeline 2
Debriefing: 4
Recommendations/Suggestions: 4

Mock Spill Baker Lake

October 9th, 2021

Scenario

Fuel is being transferred from a Vessel to the Agnico Eagle Mines (AEM) Baker Lake Fuel Farm Facility. During the routine hourly inspection of the installation and the lines, Intertek employees noticed a leaking hose.

A water pump was installed (water from the lake) to simulate a diesel spill.

Personnel involved

- AEM Environmental department: Isabelle Couture
  - Role and responsibility: Monitored and documented the actions executed by the on-scene workers during the event in order the ensure protocols are followed and to give recommendations to improve the process if deemed necessary.

- Intertek: Eduardo Donalle
  - Role and responsibility: Inspecting and monitoring the fuel transfer from the manifold through the permanent pipe up to the fuel farm. Respond to any environmental emergency.

- Intertek: Kaden Janzen
  - Role and responsibility: Inspecting and monitoring the fuel transfer from the manifold through the permanent pipe up to the fuel farm. Respond to any environmental emergency.
  -

Timeline

- 13:27 Intertek representatives notice a hose leak while performing their hourly inspection.
  - They immediately call the Kivalliq fuel ship to ask them to stop the fuel discharge;
  - Ask their co-worker to get absorbent pads inside the environmental emergency sea-cans;

- 13:28 Kivalliq fuel ship gives confirmation that the fuel discharge is stopped.
    - A decision is made by Intertek representatives to keep the Manifold (valve) open in case they need to blow the line.

- 13:29 One Intertek representative arrives back to the spill scene with absorbent pads
    - Both representatives deploy absorbent pads downstream of the contaminated area.
    - A trench is excavated below the spill to prevent seeping of the contaminant

- 13:30 One Intertek representative asks the second representative to walk to the Spud barge office and to call their supervisor to let them know about the spill. The representative returns with a radio and is in communication with the environment department and the spud barge personnel.

- 13:30 Intertek asks the fuel ship to drain the line (5 minutes process). Fuel is drained back to the vessel.

- 13:33 The environmental team is made aware of the spill and asks questions about the nature of spill and location. With the information received, the environment department recommends building a trench downstream to contain the spilled fluids

- 13:35 Confirmation is received from the ship that the hose has been drained.

- 13:37 Intertek closes the valve. The leak is now stopped and controlled.

- 13:38 Confirmation is given to the environment department that no contamination has reached a water body. Photos are sent out via cell phone.

  <u>Guidelines given by Environment department</u>

    - *Contaminated soil will have to be collected and bring back to Meadowbank.*
    - *Environment will assess the clean-up in Baker Lake and a team is on their way*

- 13:38 Mock spill is ended as the situation is under control.

Debriefing:
After the mock spill, Agnico Eagle and Intertek representatives conducted a debriefing about the mock spill and discussed ways to improve spill response. Overall, the reaction time from Intertek representatives was quick and it was a good spill response.

A few issues were noticed. The Intertek employees did not have any Agnico Eagle radios to call their supervisor. One of the Intertek employees had to walk to the Agnico office to contact their supervisor. Precious spill response minutes were lost, especially if it would have been a bigger spill. Intertek confirmed that they had an Agnico Eagle issued radio in July and they asked for one in October but none was provided.

The Environment Emergency sea-can organization also makes it difficult to find the needed tool/spill response equipment. A good clean-up and organization will have to be done. The sea-can will also need to be identified from the outside in order to easily distinguish the emergency sea-can.

For the future, Intertek would like a bigger mock spill scenario. This would include the deployment of maritime barrier deployment by boat, involving the staff of the fuel vessel and employees of the Spud barge. In this exercise, the trench was determined by the Intertek crew as the most efficient means of containing the small spill.

Recommendations/Suggestions:
Intertek

- Radio communication: Intertek must have an AEM radio and appropriate training to be able to contact their AEM supervisor/ or, in the event of a Code 1, environmental emergency, or any medical emergency.
- Spill training in Baker Lake: Intertek would like to receive training in Baker Lake prior the first discharge of the season. For example: understanding the location of the spill equipment, how to use it, etc.
- Bigger mock spill in the future years: a mock spill in the lake, more personnel involved, boat, and maritime barrier deployment.

- An emergency list should be posted in the Environment sea can or a laminated business card format should be provided. Training will be given on usage of the Sepura radios.

Environment

- Identification of each environmental emergency sea-can;
- Better organization of the environmental emergency sea-can, improved housekeeping;
- Ensure that the emergency sea-can contains all the required spill response equipment. *Suggestion of putting a seal*: that seal could be included as part of a monthly inspection, if broken, inventory will be inspected, and the sea can sealed again.
- Emergency boat should be inspected and ready to go at all times: battery charged, key available, gasoline, good general condition of the boat and trailer (in this case, it was used by the vessel employees).
- All other operations ongoing should stop, the barge personnel and all the additional resources should be prioritizing the environmental emergency.

Emergency sea-cans

Location of the sea cans at Baker Lake shore

Content of the emergency sea-cans

Appendix M

Product Transfer Area Assessment - Baker Lake Oil Handling Facility

AGNICO EAGLE

Meadowbank Complex

Product Transfer Area Assessment – Baker Lake Oil Handling Facility

February, 2020

Prepared for:

Environment and Climate Changes Canada

Prepared by:

Agnico Eagle Mines Limited – Meadowbank Division

Document Control

Version	Date	Tank/EC number	Section	Revision	Author
1	February 2019	EC# 00025772 and 00026142		Implementation of the Product Transfer Area Assessment – Baker Lake Oil Handling Facility for the ERP	Robin Allard, General Supervisor Environment
2	February 2020	EC# 00025772 and 00026142		Update information to include the seventh fuel tank at Baker Lake	

Prepared by: Environmental Department

Approved By:

Robin Allard
Meadowbank General Supervisor Environment

1 Introduction

The purpose of this document is to satisfy the requirement of Section 15 of the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (STSPPR) (SOR/2008-197) made pursuant to Canadian Environmental Protection Act, 1999 which states:

> ***15 (1)*** *The owner or operator of a storage tank system must ensure that petroleum product and allied petroleum product transfer areas are designed to contain any releases in liquid form in the environment that occur during the transfer process.*

In accordance to the STSPPR, a ''transfer area" means:

> *the area around the connection point between a delivery truck, railcar, aircraft or vessel and a storage tank system in which the tanks have an aggregate capacity of more than 2,500 L.*

Furthermore, Subparagraph 2.1(2) of the STSPPR states:

> *a person must not release - or permit or cause any release of - a petroleum product or allied petroleum product, in liquid form in the environment, during the transfer of the product to or from a storage tank system if, in the case of a system that has a transfer area, the release during transfer reaches outside the transfer area.*

In accordance with the above requirement, the following information intents to be the Product Transfer Area Assessment –for the Baker Lake Oil Handling Facility for both the Jet-A and the Diesel Tanks.

2 Fuel Transfer Area Description

2.1 Baker Lake Oil Handling Facility

Agnico's Oil Handling Facility (OHF) is located in the area of Baker Lake at latitude 64°18 22.778" N and longitude 95°57'33.990" W. The Baker Lake OHF consists of seven (7), ten (10) million liter tanks for diesel fuel, within secondary containment (Figure 1). The steel fuel tanks have been field-erected and built to API-650 standards with each bermed area holding two tanks. This area is capable of containing 110% of the volume of one ten (10) million liter tanks storage tank. Agnico Eagle will install another ten (10) million liter tank in following year. The additional diesel tank will not change the current Product Transfer Area Assessment, as the process for fuel transfer will remain the same, i.e. no additional transfer area will be created.

The OHF also consist of eighteen (18), 100,000L double walled tanks, within secondary containment, for aviation fuel (Jet-A) (Figure 1). The steel fuel tanks have been field-erected and built to API-650 standards with the bermed area holding eighteen tanks. This area is capable of containing >110% of the volume of one 100,000L storage tank. Both Jet-A and Diesel storage area were designed by qualified engineering firm.

The Diesel and Jet-A tanks are refilled during the barge season on an annual basis, generally from July to October.

2.2 Ship to shore transfer area

The Diesel fuel transfer area from ship to tank farm consists of a permanent 6 inches steel pipe, 266m long. Two (2) shipper certified transfer hoses, 4 inches and 178m long, are connected to the shore permanent based pipeline manifold for the transfer of diesel fuel to the diesel tank farm (Photo 1). The diesel transfer rate is 200 m^3/hr. At the connection of the ship's transfer hose to the OHF manifold a portable containment pool is erected and in place during the transfer of product. This pool is capable of holding ~250L of liquid in the case that there is a leak at the flange or residual drips out of the conduit or hard wall pipe. Spill "pop-up" pools are also place under each joint for the transfer hose used to fill the Fuel tanks. These popup pools are only capable of holding 20-50 L of fuel and are in place to catch residual and be a first line of defense in the case of a leak. There is also a permanent watcher at the fuel manifold to detect any leak.

For Jet-A fuel, separate shipper certified hoses are laid out from the vessel to the Jet-A manifold located in the Jet-A Secondary Containment (Photo 2). As detailed in Section 2.1 above, this area is capable of containing >110% of the volume of one 100,000L storage tank. A total of 582m of 4'' certified hose are required to reach the Jet-A transfer area. The Jet-A transfer rate is 100 m^3/hr. Spill "pop-up" pools are place under each joint for the transfer hose used to fill the Fuel tanks. These popup pools are only capable of holding 20-50 L of fuel and are in place to catch residual and be a first line of defense in the case of a leak.

2.3 Refueling station to truck transfer area

For both the Diesel and Jet-A transfer area, there is one loading arm with dry quick connect coupling for tank truck filling operation (Photo 3). Loading arm is connected to an insulated pumping station (Photo 5) and consist of a single continuous 4m x 3 ½ inches pipe from the loading arm to the fuel truck. Both refueling system are equipped of a Scully System. These systems are capable of controlling fills and eliminating spills of tanker trucks. All fuel truck are equipped of a sensor that connected directly with the fuel dispenser. When the volume reach 90% of the truck tank capacity, the sensor stopped the refueling. The flow rate is approximately 715 L/min for both the Jet-A and Diesel. During refueling activities, a portable containment is place under the dry quick connect coupling to capture small spills that may result during disengagement of the loading arm. At the Diesel refueling station, a secondary containment area of 5,000L was constructed.

Location: 64°18’22.76” N, 95°57’33.99” W. Baker Lake, Nunavut
Diesel Tank System ID: EC# 00025772
Jet-A Tank System ID: EC# 00026142

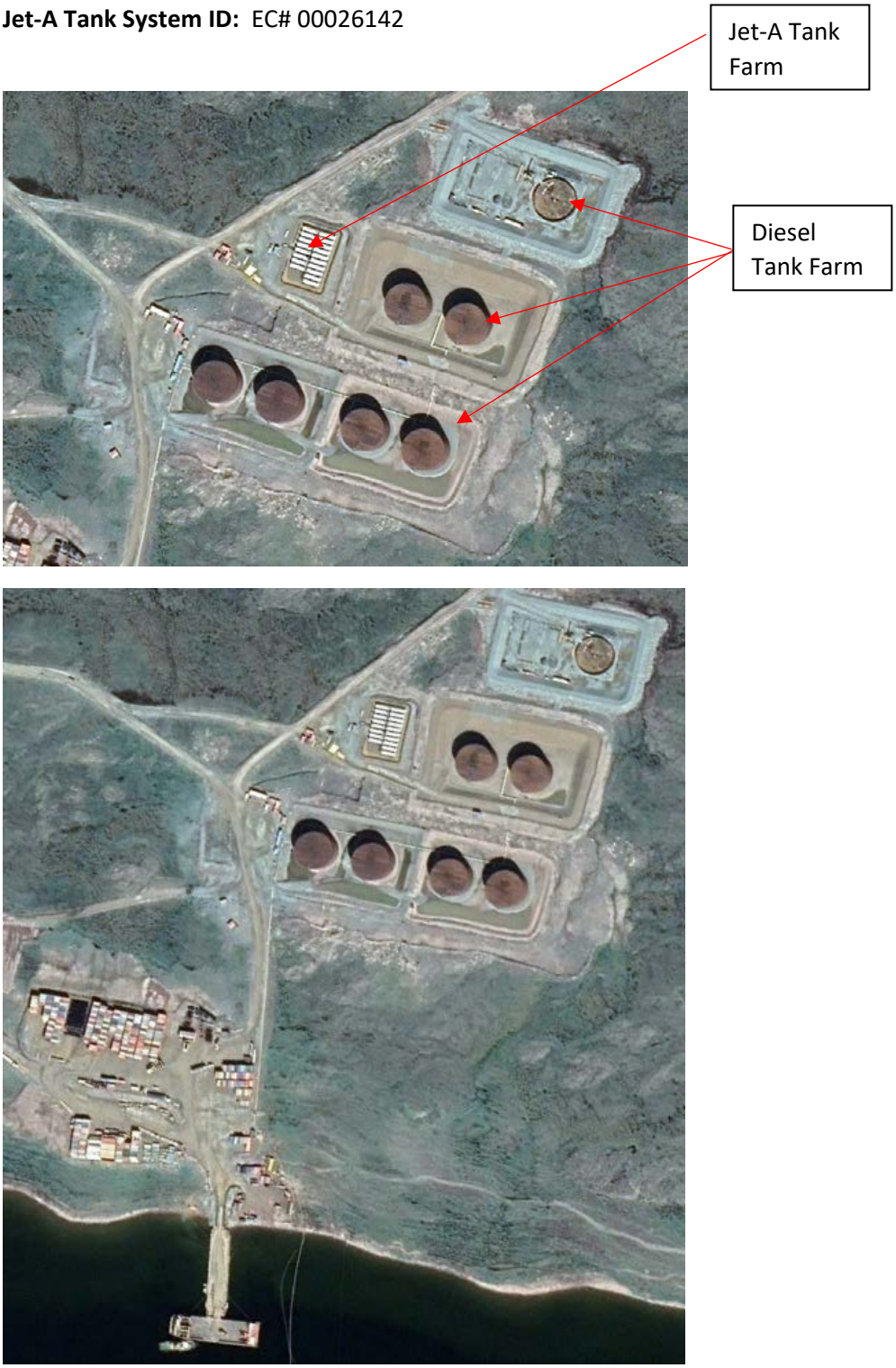


Figure 1: Agnico Eagle Ltd.’s Baker Lake Oil Handling Facility

Photo 1: Diesel Transfer - Connection between shipper transfer hoses and Agnico permanent pipeline

Photo 2: Jet-A Transfer - Connection between shipper transfer hoses and Agnico permanent pipeline

Photo 3: Agnico Eagle Ltd.'s Refueling Station – Loading arm and Scully System

Photo 4: Agnico Eagle Ltd.'s Refueling Station – general view

3 Legislation

3.1 Ship to shore transfer area

Transfer of from ship to shore is performed in conformance with procedures outlined in:

- Canada Shipping Act;
- Response Organizations and Oil Handling Facilities Regulations;
- Vessel Pollution and Dangerous Chemical Regulation;
- Environmental Response Arrangements Regulations;
- Oil Handling Facilities Standards (TP 12402E);
- Response Organization Standards (TP 12401);
- Arctic Waters Oil Transfer Guidelines (TP 10783);
- Environmental Prevention and Response National Preparedness Plan (TP 13585);
- Release and Environmental Emergency Notification Regulations;
- Guidelines for reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants;
- Requirements of the Central & Arctic Regional Response Plan;
- National Fire Code of Canada (NFCC);
- Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations – 2008; and
- Canadian Council of Ministers of the Environment, "Environmental Code of Practice of Aboveground and Underground Storage Tank Systems Containing Petroleum Products and Allied Petroleum Products – 2003 (Updated in 2013).

3.2 Refueling station to truck transfer area

Transfer of fuel into trucks is performed in conformance with procedures outlined in:

- National Fire Code of Canada (NFCC);
- American Petroleum Institute (API) Standard: 2610-94: *"Design, Construction, Operation, Maintenance and Inspection of Terminal and Tank Facilities"*;
- Canadian Petroleum Products Institute (CPPI, 1992*): "Professional Driver's Manual"*;
- Canadian Council of Ministers of Environment (CCME) – Code of Practice (COP) 2003; and
- Agnico Eagle fuel transfer procedure.

4 Analysis of Product Transfer Area Risks

The diesel and Jet-A storage tank system owned by Agnico Eagle Mines, located in Baker Lake, Nunavut, was evaluated in accordance with Environment and Climate Change Canada's (ECCC) approach to transfer area protection. A number of potential incidents, risk and related receiving environments were identified for this product transfer area.

The table below lists potential incidents, outcomes, description of PTA and receiving environments that have been identified for the storage tank system on site. The table also provides an evaluation of identified risks and an assessment on whether further action is required, and a list of mitigation measures.

Table 1: Product Transfer Risk Assessment – Ship to shore

Potential Incident	Outcome	PTA and Receiving Environment	Spill Consequence	Probability	Potential Impact	Evaluation	Mitigation Measures
Leakage if fuel remains in line after offloading and leakage at all couplings in the line (by the boat and outside the connections)	Maximum of ~7,900L of diesel and ~4,800L of Jet-A is released to Baker Lake	Secondary containment Adjacent soil/gravel area within ~10m Baker Lake	Low: the product is confined secondary containment. Moderate: the product reaches bare ground. High: the product reaches a water body.	Moderate	High	No Action Required	Trained Intertek Personal oversee product transfer at all time Line is cleared of fuel following transfer Portable containment used under each transfer hose connection
Coupling/equipment fails at onshore coupling	Maximum of ~7,900L of diesel and ~4,800L of Jet-A is released to Baker Lake			Moderate	High	No Action Required	Ships pumping system shuts off if hose pressure is lost. Trained Intertek Personal oversee product transfer at all time Transfer point is up gradient of pumping point so line does not completely drain if uncoupled Emergency Response Plan and Spill Contingency Plan Oil Pollution Emergency Plan Shipboard Oil Pollution Emergency Plan Marine spill response equipment adjacent to transfer point
Coupling/equipment fails at offshore coupling	Maximum of ~7,900L of diesel and ~4,800L of Jet-A is released to Baker Lake			Moderate	High	No Action Required	Spill contained onboard at pumping area Shipboard Oil Pollution Emergency Plan
Public interference	Transfer hose is damaged by passing boat or			Low	High	No Action Required	Community awareness conducted by Agnico

	transfer impacted by public protest						Boat traffic monitored by Desgagnes and Intertek
Operator spills small amount of fuel while uncoupling hose	~1 L of fuel is captured in secondary containment			High	Low	No Action Required	Portable containment used under each transfer hose connection
Vehicle contact with piping between transfer point and tank	Broken piping releases ~5,000L of fuel to adjacent gravel area, potentially reaching Baker Lake			Low	High	No Action Required	No road where pipes are installed for the transfer Trained Intertek Personal oversee product transfer at all time Fuel lines connected to tank farm can only release contents of the line.

Table 2: Product Transfer Risk Assessment - refueling station to fuel truck

Potential Incident	Outcome	PTA and Receiving Environment	Spill Consequence	Probability	Potential Impact	Evaluation	Mitigation Measures
Overfill during loading of fuel truck	Approximately 95L product is captured in secondary containment	Secondary containment Adjacent soil/gravel area within ~10m Bake Lake	Low: the product is confined secondary containment. Moderate: the product reaches bare ground. High: the product reaches a water body.	Moderate	Low	No Action Required	Secondary containment Scully fitted with optic overfill prevention system Permanent indoor structure with visual display for operator in cold weather Live cameras to Agnico Security Officer office
Overfill device fails	Product flows into secondary containment			Moderate	Low	No Action Required	Shut off button and tanker overfill pipe Scully System Permanent visual contact while refueling
Coupling/equipment fails at pump	Broken piping/hose			Moderate	Moderate	No Action Required	Shut off button, drainage to low point on roadside

station-hose connection.	releases ~121L of fuel to adjacent gravel area.						Emergency Response Plan and Spill Contingency Plan Trained spill response staff and equipment for large spills on site Spill kit
Absence of inspection (pre-op, checklist)	Faulty component or leak is not detected resulting in slow release of ~1L of product			Moderate	Moderate	No Action Required	Pre-op inspection (daily) Standard Operating Procedure (SOP)
Public access	Member of the public attempts to take or release fuel			Low	Low	No Action Required	Signage and surveillance cameras Fuel system security coded Community awareness conducted by Agnico
Vehicle contact with building/equipment	Broken piping releases ~1,000L of fuel to adjacent gravel area.			Low	Moderate	No Action Required	Secondary containment structure protects fuel station from collision by forming a barrier. Fuel lines connected to tank farm can only release contents of the line.
Inappropriate equipment for arctic conditions (arm/valve)	Valves and components fail in arctic conditions releasing ~121L of product			Moderate	Moderate	No Action Required	Valves and hoses suitable for arctic conditions installed. Pre-op inspection (daily)
Operator spills small amount of fuel while uncoupling hose	~1L of fuel is captured in secondary containment			High	Low	No Action Required	Portable containment used under dry quick connection

Please see Appendix A for the calculations relating to the product transfer areas. In summary, potential product spillage, volume has been calculated as follows:

Fueling station: a maximum delivery rate of 715 L/min and an emergency shut off time of 8 seconds would result in a product spillage volume of approximately 95.36L. Based on 8.9 cm hose at 4.06 m in length, a maximum potential spill at the tank / hose connection would result in an additional volume of 25.24 L, for a total 120.6 L of fuel spilled.

Ship to shore: a diesel maximum delivery rate of 3,333 L/min and an emergency shut off time of 8 seconds would result in a product spillage volume of approximately 444.4 L. Based on shipper transfer hose (10 cm diameter/178m in length * 2 hoses) and permanent pipeline (15 cm diameter/266 m in length), a maximum potential spill at the tank / hose connection would result in an additional volume of 7,492.65 L, for a total 7,937 L of diesel spilled.

Ship to shore: a Jet-A maximum delivery rate of 1,667 L/min and an emergency shut off time of 8 seconds would result in a product spillage volume of approximately 222.24 L. Based on 10 cm hose at 582 m in length, a maximum potential spill at the tank / hose connection would result in an additional volume of 4,568.70 L, for a total 4,790.94 L of Jet-A spilled.

5 Mitigation of Risks

5.1 Ship to shore transfer area

In the event of a spill, three (3) potential receiving environments have been identified for the fuel transfer system: the soil/gravel area partially surrounding the transfer area secondary containment and extending a distance of approximately 10 meters, the adjacent soil/ground surface, and the adjacent water body Baker Lake.

Any product amount of 100L or less that spills onto the gravel area can be recovered using the spill kit and shovels/equipment available on site. For spills of over 100 L, the product will likely reach the adjacent soil/ground surface and/or Baker Lake directly via overland surface flow (depending on the season). The following mitigation measures include:

- 250L secondary containment pool at onshore connection point;
- 20-50L spill 'pop-up' pools are also place under each joint for the transfer hose used;
- Pump and 1,000L portable containments on standby during transfer;
- Trained Intertek Personnel oversee product transfer at all time;
- Emergency Response Plan and Spill Contingency Plan on site;
- Oil Pollution Emergency Plan updated annually and review with all personnel involved in the ship to shore fuel transfer;
- Marine spill response equipment on site;
- As the ship to shore transfer only occurred during open water season, there is no potential spill risk during winter;
- Shipboard Oil Pollution Emergency Plan;
- The ship's pumping system is fitted with an emergency shut off system which is activated when pumping pressure is lost; and
- Annual MOCK spill and result analysis.

5.2 Refueling station to truck transfer area

In the event of a spill three (3) potential receiving environments have been identified for the refueling system: the gravel area surrounding the refueling station and extending a distance of approximately 10 meters, the adjacent soil/ground surface, and the adjacent water body Baker Lake.

Any product amount of 1,000L or less that spills onto the gravel area can be recovered using the spill kit and heavy equipment on site. For spills of over 1,000L, the product will likely reach the adjacent soil/ground surface and/or the Baker Lake directly via overland surface flow (depending on the season). During winter, the likely hood of product flowing to the shoreline increases; however, snow berms can be quickly installed. Mitigation measures include;

- Secondary containment for hose storage;
- Secondary containment for refueling of fuel trucks;
- Standard Operating Procedure (SOP);
- Inspection to determine if SOP are followed;
- Trained operators;
- Spill kit at refueling area containing absorbent pads;
- Marine spill response equipment on site;

- Personnel monitor transfer from viewing window in pump station; and
- Scully system - wire optic transfer system to prevent overfill.

6 Standard Operating Procedure (SOP)

6.1 Refueling station to truck transfer area

The Agnico procedure for diesel and Jet-A refueling fuel trucks in summarized as follows;

1. Perform an inspection of the vehicle.
2. Park the vehicle in the vicinity of the refueling tank and shut off your ignition.
3. Install wheel chocks on either side of the tanker tire.
4. Inspect the entire working area including the steps up to the HMI and the area in front of the loading arm and scully system; call your supervisor if there are problems.
5. Install the portable spill containment underneath the connection point.
6. Check the maximum capacity for the tanker being used. Ensure to only fill the tanker at 90% of the capacity to have room for fuel expansion at different temperatures, and a safe level for haulage. Fill the tanker to maximum 40,000L.
7. At the valve control panel, lift all the levers up, and make sure the valves are open.
8. Remove the cap of the scully plug and push and twist it onto the receiving end on the truck. Make sure the green light is on before continuing.
9. Connect the loading arm to the tanker.
10. Make sure the valves are open on each side.
11. Open the valve on the building.
12. Enter the control room and begin to program the fuel loading on the HMI.
13. Enter the applicable Microload identification and load sequence.
14. Enter the volume measure with the pop-up keypad.
15. Select the start button to activate the pump.
16. Once the fueling begins, the operator must monitor the situation diligently; this includes checking for leaks or monitoring any other unusual situations. The operator must be at the connection point at all times during fueling.
17. When finished pumping, close the valve on the building.
18. Disconnect the loading arm first, and then the truck level control.
19. Put the arm back and the truck level control in place. Close the valve.
20. Put the protection bag over the scully and the hose. Verify if the caps are put back on the truck.
21. Put back the portable spill containment.
22. At the valve control panel, pull down all the lever to close valve, and make sure they are closed.
23. Complete the mechanical verification in the pump station. Make sure they have no leaks on the equipment.
24. Before you leave, make sure the three doors are close at the fuel station.
25. Remove the wheel chocks and fully inspect the vehicle before beginning to bring the fuel to the Meadowbank Fuel Tank Farm.
26. If you encounter any emergency or a spill occurs, call your supervisor immediately and the Road supervisor of Agnico Eagle Mine Meadowbank.

6.2 Ship to shore transfer area

For a completed review of procedure during fuel transfer, refer to the Oil Pollution Emergency Plan. The fuel transfer is overseen by Intertek (contracted first responder). The Agnico procedure for refueling diesel and Jet-A tanks in summarized as follows:

1. The Oil Pollution Emergency Plan (OPEP) must be reviewed on an annual basis and updated prior to the first annual discharge. This will include but not limited to:
   a) Reviewing the phone numbers for emergencies
   b) Updating maps
   c) Review and if necessary update equipment lists
   d) Review roles and responsibilities
   e) Update Declaration
2. Contact Canadian Coast Guard and Transport Canada Pollution Prevention and make them aware of plans for transferring of fuel into our Oil Handling Facility (OHF) for that season
3. Complete Inventory report for Spill Response Sea Can at Agnico's Oil Handling Facility in Baker Lake
4. Ensure Shipping Company has provided Hose Testing Annual certification
5. All personnel who will be a part of the fuel transfer (including Baker Lake Supervisor and third part contractor Intertek) must review the OPEP and be familiar with preventive measures to take and with the steps to take in the case of a spill event while fueling
6. Install and monitor secondary containment underneath each connection of conduit on land
7. Ensure there is two-way functional communications between the OHF and the off-loading vessel
8. Ensure there is lighting in place at the transfer flange to provide illumination during any transfers taking place during the low to no light hours
9. Prior to any discharge, Agnico Eagle must receive a copy of the ship/shore checklist completed by the shipping company. Agnico Eagle should also verify this has been completed (as much as realistically possibly without boarding the ship)
10. The Pre-discharge Checklist for Agnico's Oil Handling Facility in Baker Lake must be completed, signed and provided to the Environment Department prior to discharge
11. During the ship-to-shore transfer, Agnico Eagle will have competent personnel on location at all times to monitor the fuel transfer and maintain contact with the tanker's crew
12. Monitor the fuel transfer at the beginning of each transfer and after that on an hourly basis checking the manifold, conduit, tank, and any connection points on land for spills and/or leaks. Communication between shore and ship should take place on an hourly basis
13. Have a fuel spill scenario annually

7 Conclusion

Agnico Eagle have the ability to respond and prevent spill to the fuel transfer area in Baker Lake according to the following management plan and refer the reader to those plan for more details:

- Oil Pollution Emergency Plan
- Spill Contingency Plan
- Shipboard Oil Pollution Emergency Plan
- Product Transfer Area Assessment – Baker Lake Oil Handling Facility

Furthermore, in the event of a spill reaching Baker Lake, a dedicated boat (open water season), containment booms, anchors, trench shovels, absorbent pads, pumps and are accessible year-round, and

regular spill response training is conducted with members of the Meadowbank Emergency Response Team and Environment Department. Meadowbank Environmental Technicians also conduct regular inspections of the Baker Lake OHF in order to ensure proper spill prevention and containment equipment is available, and that proper fuel transfer protocols are followed. All of the measures noted above are in place in order to contain, mitigate and prevent spills during the process of transferring fuel.

Appendix A - Potential Spill Quantities

1- Diesel Ship to shore

Flow rate = 200 m^3/hr (3,333 L/min) maximum rate
Transfer hose length: 17,800 cm, 10 cm diameter
Permanent pipeline: 26,600 cm, 15 cm diameter

Volume of Spill (from time it takes operator to shut off pumping)

3,333L/60s = 55.55 L/s
8s = time it takes for operator to turn off the pump should the tank start to overflow

Volume = 55.55L/s * 8s
= **444.4L**

Volume of the Shipper Transfer Hose

1. Radius = (diameter of the pipe / 2)
   Radius = (10/2)
   = 5

   Volume of a cylinder: V = πr2h
   Volume = 3.14 * 5^2 * 17,800
   = 1,397,300 cm^3

2. 1 Liter = 1,000m^3
   Volume in Liters = (volume in cm^3) * (1L/1,000cm^3)
   Volume = (1,397,300 / 1,000 L)
   = 1,397.3 L

3. Two (2) shipper transfer hose use to connect the permanent pipeline manifold
   = 1,397.3 * 2
   = **2,794.6 L**

Volume of the permanent pipeline

1. Radius = (diameter of the pipe / 2)
   Radius = (15/2)
   = 7.5

2. Volume of a cylinder: V = πr2h
   Volume = 3.14 * 7.5^2 * 26,600
   = 4,698,225 cm^3

3. 1 Liter = 1,000m^3
   Volume in Liters = (volume in cm^3) * (1L/1,000cm^3)
   Volume = (4,698,225 / 1,000 L)
   = 4,698 L

The maximum amount of a potential spill at the site would be **7,937L**.

2- Jet-A Ship to shore

Flow rate = 100 m^3/h (1,667 L/min) maximum rate
Transfer hose length: 58,200 cm, 10 cm diameter

Volume of Spill (from time it takes operator to shut off pumping)

1,667L/60s = 27.78 L/s
8s = time it takes for operator to turn off the pump should the tank start to overflow

Volume = 27.78L/s * 8s
= **222.24L**

Volume of Transfer Hose

1. Radius = (diameter of the pipe / 2)
   Radius = (10/2)
   = 5

   Volume of a cylinder: V = πr2h
   Volume = 3.14 * 5^2 * 58,200
   = 4,568,700 cm^3

2. 1 Liter = 1,000m^3
   Volume in Liters = (volume in cm^3) * (1L/1,000cm^3)
   Volume = (4,568,700 / 1,000 L)
   = **4,568.7 L**

The maximum amount of a potential spill at the site would be **4,790.94 L**.

3- Diesel and Jet-A Fuel Station to Fuel Truck

Flow rate = 715 L/min
Scully arm and hose length: 406cm, 8.9cm diameter

Volume of Spill (from time it takes operator to shut off pumping)

715L/min = 715L/60s = 11.92 L/s
8s = time it takes for operator to turn off the pump should the tank start to overflow

Volume = 11.92L/s * 8s
= **95.36 L**

Volume of Loading Arm

1. Radius = (diameter of the pipe / 2)
   Radius = (8.9/2)

= 4.45

Volume of a cylinder: V = πr2h

Volume = 3.14 * 4.45^2 * 406
= 25,245.02 cm^3

2. 1 Liter = 1,000m^3
   Volume in Liters = (volume in cm^3) * (1L/1,000cm^3)
   Volume = (25,245.02 / 1,000 L)
   = **25.24 L**

The maximum amount of a potential spill at the site would be **<u>120.6L</u>**.

Appendix N

MDMER Emergency Plan Cross Reference Table

MDMER Cross-reference table for section 30(1) to 30(5) for Agnico Eagle Mine

MDMER reference	Information required	Location of information in this emergency plan
s. 30(1)	The owner or operator of a mine shall prepare an emergency response plan that describes the measures to be taken in respect of a deleterious substance within the meaning of subsection 34(1) of the Act to prevent any unauthorized deposit of such a substance or to mitigate the effects of such a deposit.	- Spill Contingency Plan
s. 30(2)	The emergency response plan shall include the following elements:	
s. 30(2)(a)	the identification of any unauthorized deposit that can reasonably be expected to occur at the mine and that can reasonably be expected to result in damage or danger to fish habitat or fish or the use by man of fish, and the identification of the damage or danger;	- Spill Contingency Plan Section 6 Section 10
s. 30(2)(b)	a description of the measures to be used to prevent, prepare for, respond to and recover from a deposit identified under paragraph (a);	- Spill Contingency Plan Section 2, 4 and 5
s. 30(2)(c)	a list of the individuals who are to implement the plan in the event of an unauthorized deposit, and a description of their roles and responsibilities;	- Spill Contingency Plan Section 4 and Table 2
s. 30(2)(d)	the identification of the emergency response training required for each of the individuals listed under paragraph (c);	- Spill Contingency Plan Section 9
s. 30(2)(e)	a list of the emergency response equipment included as part of the plan, and the equipment's location; and	- Spill Contingency Plan Section 8
s. 30(2)(f)	alerting and notification procedures including the measures to be taken to notify members of the public who may be adversely affected by a deposit identified under paragraph (a).	- Spill Contingency Plan Section 4 and 4.7

s. 30(3)	The owner or operator shall complete the emergency response plan and have it available for inspection no later than 60 days after the mine becomes subject to this section.	- Spill Contingency Plan
s. 30(4)	The owner or operator shall update and test the emergency response plan at least once each year to ensure that the plan continues to meet the requirements of subsection (2).	- Spill Contingency Plan Appendix L – 2020 Mock Spill

s. 30(4.1)	The owner or operator of a mine shall, each time the emergency response plan is tested, record the following information and keep the record for at least five years: (a) a summary of the test; (b) the test results; and (c) any modifications that are made to the plan as a consequence of the test.	- Spill Contingency Plan Appendix L – 2020 Mock Spill
s. 30(4.2)	The owner or operator of a mine shall ensure that a copy of the most recent version of the emergency response plan is kept at the mine in a location that is readily available to the individuals who are responsible for implementing the plan.	- Spill Contingency Plan Sent to Distribution List
s. 30(5)	If a mine has not been subject to the requirements of this section for more than one year, a new emergency response plan shall be prepared and completed no later than 60 days after the day on which the mine again becomes subject to this section.	N/A

Appendix O

STSR Emergency Plan Cross Reference Table

Table 1. 1. Cross-reference of STS Regs, s. 30 to 32, to this emergency plan for Diesel Storage Tank System EC-0004848

STS Regs reference	Information required	Location of information in this emergency plan
s. 30(1)	The owner or operator of a storage tank system must prepare an emergency plan taking into consideration the following factors:	
s. 30(1)(a)	- the properties and characteristics of each petroleum product (i.e. Jet A1) or allied petroleum product stored in each tank of the system and	- Spill Contingency Plan (Section 6) - Appendix P - MSDS for Diesel and Jet-A
s. 30(1)(a) continued	- the maximum expected quantity of the petroleum product or allied petroleum product to be stored in the system at any time during any calendar year; and	- Spill Contingency Plan Section 2 and Table 5
s. 30(1)(b)	- the characteristics of the place where the system is located and of the surrounding area that may increase the risk of harm to the environment or of danger to human life or health.	- Spill Contingency Plan Section 2 and 2.1
s. 30(2)	The emergency plan must include:	
s. 30(2)(a)	- a description of the factors considered under s. 30(1)	- See the rows above and Spill Contingency Plan Section 1.1.
s. 30(2)(b)	- a description of the measures to be used to prevent, prepare for, respond to, and recover from any emergency that may cause harm to the environment or danger to human life or health;	- Spill Contingency Plan – Section 2.1 Prevention and Inspection - Spill Contingency Plan – Section 4 Response Organization - Spill Contingency Plan – Section 5 Action Plan - Spill Contingency Plan – Section 7 Potential Spill Analysis
s. 30(2)(c)	- a list of the individuals who are required to carry out the plan and a description of their roles and responsibilities;	- Spill Contingency Plan – Section 4 Response Organization
s. 30(2)(d)	- identification of the training required for each of the individuals listed under s. 30(2)(c);	- Spill Contingency Plan Appendix L Mock scenario - Spill Contingency Plan Section 9 Training and Emergency Spill/Exercise
s. 30(2)(e)	- a list of the emergency response equipment included as part of the plan, and the equipment's location; and	- Spill Contingency Plan Section 8
s. 30(2)(f)	- the measures to be taken to notify members of the public who may be adversely affected by the harm or danger referred to in s. 30(2)(b)	- Spill Contingency Plan Section 4.7
s. 30(3)	The owner or operator of a storage tank system must ensure that the emergency plan is ready to be implemented:	

s. 30(3)(a)	- in the case of a storage tank system that is installed before the coming into force of these Regs, no later than two years after the day on which these Regs come into force (i.e. by 12 Jun 2010); and	Spill Contingency Plan already implemented – See Document Control Section
s. 30(3)(b)	- in any other case, before the day on which the first transfer of petroleum products or allied petroleum products into any tank of the storage tank system occurs.	Spill Contingency Plan already implemented – See Document Control Section
s. 31(1)	The owner or operator of a storage tank system must keep: - the emergency plan up-to-date and - keep a copy of it readily available for the individuals who are required to carry it out, - as well as a copy at the place where the storage tank system is located if that place is a place of work.	- Spill Contingency Plan - hard copy is available at the tank
s. 31(2)	The owner or operator must notify the Minister of the civic address of each location where the emergency plan is kept.	- No civil address. See Spill Contingency Plan Section 2 Project Description
s. 32(1)	If the owner or operator of a storage tank system has prepared an emergency plan with respect to the system on a voluntary basis or for another government or under an Act of Parliament and the plan meets the requirements of s. 30(1) and (2), they may use that plan for the purposes of meeting those requirements.	- Spill Contingency Plan
s. 32(2)	If the plan does not meet all of the requirements of s. 30(1) and (2), the owner or operator may use the plan if they amend it so that it meets all of those requirements.	- Spill Contingency Plan

Table 1. 1. Cross-reference of STS Regs, s. 30 to 32, to this emergency plan for P-50 Diesel Storage Tank System EC-00025772 and Jet-A Storage Tank System EC-00026142

PTA Assessment can be found in Appendix M of the Spill Contingency Plan

STS Regs reference	Information required	Location of information in this emergency plan
s. 30(1)	The owner or operator of a storage tank system must prepare an emergency plan taking into consideration the following factors:	
s. 30(1)(a)	- the properties and characteristics of each petroleum product (i.e. Jet A1) or allied petroleum product stored in each tank of the system and	- Spill Contingency Plan (Section 6) - OPEP Appendix C - MSDS for Diesel and Jet-A
s. 30(1)(a) continued	- the maximum expected quantity of the petroleum product or allied petroleum product to be stored in the system at any time during any calendar year; and	- Spill Contingency Plan Section 2 and Table 5 - Spill Contingency Plan, Appendix M – PTA Assessment Section 2.1
s. 30(1)(b)	- the characteristics of the place where the system is located and of the surrounding area that may increase the risk of harm to the environment or of danger to human life or health.	- Spill Contingency Plan Section 2.1 - Spill Contingency Plan, Appendix M – PTA Assessment Section 2 - OPEP Section 4.3
s. 30(2)	The emergency plan must include:	
s. 30(2)(a)	- a description of the factors considered under s. 30(1)	- See the rows above and Spill Contingency Plan Section 1.1.
s. 30(2)(b)	- a description of the measures to be used to prevent, prepare for, respond to, and recover from any emergency that may cause harm to the environment or danger to human life or health;	- Spill Contingency Plan Appendix M – PTA Assessment - Spill Contingency Plan – Section 4 Response Organization - Spill Contingency Plan – Section 5 Action Plan - Spill Contingency Plan – Section 7 Potential Spill Analysis - OPEP s. 10 Spill Procedures s. 10.2 Spill Reporting s. 11 Spill Scenarios and Responses; s. 12 Preventive Measures
s. 30(2)(c)	- a list of the individuals who are required to carry out the plan and a description of their roles and responsibilities;	- Spill Contingency Plan – Section 4 Response Organization - OPEP: s. 9 Roles and Responsibilities Figure 5. Response Management System.

Table 1. Cross-reference of STS Regs, s. 30 to 32, to this emergency plan (continued)

STS Regs reference	Information required	Location of information in this emergency plan
s. 30(2)(d)	- identification of the training required for each of the individuals listed under s. 30(2)(c);	- Spill Contingency Plan Appendix L Mock scenario- OPEP - Spill Contingency Plan Section 9 Training and Emergency Spill/Exercise - OPEP s. 12.1 Training
s. 30(2)(e)	- a list of the emergency response equipment included as part of the plan, and the equipment's location; and	- Spill Contingency Plan Section 8 - OPEP s. 7 Equipment and PPE
s. 30(2)(f)	- the measures to be taken to notify members of the public who may be adversely affected by the harm or danger referred to in s. 30(2)(b)	- Spill Contingency Plan Section 4.7 - OPEP s. 8.1.1 Communication with the Public
s. 30(3)	The owner or operator of a storage tank system must ensure that the emergency plan is ready to be implemented:	
s. 30(3)(a)	- in the case of a storage tank system that is installed before the coming into force of these Regs, no later than two years after the day on which these Regs come into force (i.e. by 12 Jun 2010); and	Spill Contingency Plan and OPEP already implemented – See Document Control Section
s. 30(3)(b)	- in any other case, before the day on which the first transfer of petroleum products or allied petroleum products into any tank of the storage tank system occurs.	Spill Contingency Plan and OPEP already implemented – See Document Control Section
s. 31(1)	The owner or operator of a storage tank system must keep: - the emergency plan up-to-date and - keep a copy of it readily available for the individuals who are required to carry it out, - as well as a copy at the place where the storage tank system is located if that place is a place of work.	- OPEP is reviewed annually prior every shipping season and a hard copy is available at the Baker Lake Marshalling facility during transfer operations - Spill Contingency Plan - hard copy is available at the at the Baker Lake Marshalling facility during transfer operations
s. 31(2)	The owner or operator must notify the Minister of the civic address of each location where the emergency plan is kept.	- No civil address. See Spill Contingency Plan Section 2 Project Description

Table 1. Cross-reference of STS Regs, s. 30 to 32, to this emergency plan (continued)

STS Regs reference	Information required	Location of information in this emergency plan
s. 32(1)	If the owner or operator of a storage tank system has prepared an emergency plan with respect to the system on a voluntary basis or for another government or under an Act of Parliament and the plan meets the requirements of s. 30(1) and (2), they may use that plan for the purposes of meeting those requirements.	- OPEP and Spill Contingency Plan
s. 32(2)	If the plan does not meet all of the requirements of s. 30(1) and (2), the owner or operator may use the plan if they amend it so that it meets all of those requirements.	- OPEP and Spill Contingency Plan

Appendix P

MSDS Diesel and Jet -A

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DIESEL FUEL
Synonyms	:	Seasonal Diesel, #1 Diesel, #2 Heating Oil, #1 Heating Oil, D50, Arctic Diesel, Farm Diesel, Marine Diesel, Low Sulphur Diesel, LSD, Ultra Low Sulphur Diesel, ULSD, Mining Diesel, Naval Distillate, Dyed Diesel, Marked Diesel, Coloured Diesel, Furnace special, Biodiesel blend, B1, B2, B5, Diesel Low Cloud (LC). Marine Gas Oil
Product code	:	101802, 100107, 100668, 100658, 100911, 100663, 100652, 100460, 100065, 101796, 101793, 101795, 101792, 101794, 101791, 100768, 100643, 100642, 100103, 101798, 101800, 101797, 101788, 101789, 101787, 102531, 100734, 100733, 100640, 100997, 100995, 100732, 100731, 100994

Manufacturer or supplier's details

Petro-Canada
P.O. Box 2844, 150 - 6th Avenue South-West
Calgary Alberta T2P 3E3
Canada

Emergency telephone number

Suncor Energy: +1 403-296-3000;
Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use	:	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining diesels, marine diesels, MDO and naval distillates may have a higher flash point requirement.
Prepared by	:	Product Safety: +1 905-804-4752

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Bright oily liquid.
Colour	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	Mild petroleum oil like.

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Inhalation)	:	Category 4

Petro-Canada is a Suncor Energy business.
™ Trademark of Suncor Energy Inc. Used under licence.

Skin irritation	:	Category 2
Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 2 (Liver, thymus, Bone)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

™ Trademark of Suncor Energy Inc. Used under licence.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Primary Routes of Entry	:	Eye contact Ingestion Inhalation Skin contact Skin Absorption
Target Organs	:	Skin Eyes Respiratory Tract
Inhalation	:	May cause respiratory tract irritation. Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Skin	:	Causes skin irritation.
Eyes	:	Causes eye irritation.
Ingestion	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration hazard if swallowed - can enter lungs and cause damage.
Aggravated Medical Condition	:	None known.

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or

Petro-Canada is a Suncor Energy business. ™ Trademark of Suncor Energy Inc. Used under licence.

equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
kerosine (petroleum), hydrodesulfurized	64742-81-0	70 - 100 %
kerosine (petroleum)	8008-20-6	
fuels, diesel	68334-30-5	
fuel oil no. 2	68476-30-2	
Alkanes, C10-20-branched and linear	928771-01-1	0 - 25 %
Soybean oil, Methyl ester	67784-80-9	0 - 5 %
Rape oil, Methyl ester	73891-99-3	
Fatty acids, tallow, Methyl esters	61788-61-2	

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Seek medical advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Wash clothing before reuse.
Seek medical advice.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

If swallowed : Rinse mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
Seek medical advice.

Most important symptoms : First aider needs to protect himself.

™ Trademark of Suncor Energy Inc. Used under licence.

and effects, both acute and delayed

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Water fog. Foam
Unsuitable extinguishing media	:	Do NOT use water jet.
Specific hazards during firefighting	:	Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), smoke and irritating vapours as products of incomplete combustion.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Non-sparking tools should be used. Ensure adequate ventilation. Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid spark promoters. Ground/bond container and

Petro-Canada is a Suncor Energy business. ™ Trademark of Suncor Energy Inc. Used under licence.

equipment. These alone may be insufficient to remove static electricity.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
kerosine (petroleum), hydrodesulfurized	64742-81-0	TWA	200 mg/m3	ACGIH
kerosine (petroleum)	8008-20-6	TWA	100 mg/m3	NIOSH REL

Engineering measures : Use only in well-ventilated areas.
Ensure that eyewash station and safety shower are proximal to the work-station location.

Personal protective equipment

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

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

Hand protection
Material : neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for

Petro-Canada is a Suncor Energy business. ™ Trademark of Suncor Energy Inc. Used under licence.

		wear and tear. At the first signs of hardening and cracks, they should be changed.
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Protective measures	:	Wash contaminated clothing before re-use.
Hygiene measures	:	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Bright oily liquid.
Colour	:	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	:	Mild petroleum oil like.
Odour Threshold	:	No data available
pH	:	No data available
Pour point	:	No data available
Boiling point/boiling range	:	150 - 371 °C (302 - 700 °F)
Flash point	:	> 40 °C (104 °F) Method: closed cup
Auto-Ignition Temperature	:	225 °C (437 °F)
Evaporation rate	:	No data available
Flammability	:	Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite.
Upper explosion limit	:	6 %(V)
Lower explosion limit	:	0.7 %(V)
Vapour pressure	:	7.5 mmHg (20 °C / 68 °F)

™ Trademark of Suncor Energy Inc. Used under licence.

Relative vapour density	:	4.5
Relative density	:	0.8 - 0.88
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	1.3 - 4.1 cSt (40 °C / 104 °F)
Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Runoff to sewer may create fire or explosion hazard.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Reactive with oxidising agents and acids.
Hazardous decomposition products	:	May release COx, NOx, SOx, H2S, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	Eye contact Ingestion Inhalation Skin contact Skin Absorption

Acute toxicity

Product:

Acute oral toxicity	Remarks: No data available
Acute inhalation toxicity	Remarks: No data available
Acute dermal toxicity	Remarks: No data available

Components:

kerosine (petroleum), hydrodesulfurized:

Acute oral toxicity	LD50 (Rat): > 5,000 mg/kg

™ Trademark of Suncor Energy Inc. Used under licence.

Acute inhalation toxicity	LC50 (Rat): > 5.2 mg/l Exposure time: 4 hrs Test atmosphere: dust/mist
Acute dermal toxicity	LD50 (Rabbit): > 2,000 mg/kg

kerosine (petroleum):

Acute oral toxicity	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	LD50 (Rabbit): > 2,000 mg/kg

fuels, diesel:

Acute oral toxicity	LD50 (Rat): 7,500 mg/kg
Acute dermal toxicity	LD50 (Mouse): 24,500 mg/kg

fuel oil no. 2:

Acute oral toxicity	LD50 (Rat): 12,000 mg/kg
Acute inhalation toxicity	LC50 (Rat): 4.1 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

™ Trademark of Suncor Energy Inc. Used under licence.

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to bacteria	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

SECTION 14. TRANSPORT INFORMATION

International Regulation

™ Trademark of Suncor Energy Inc. Used under licence.

IATA-DGR

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

IMDG-Code

UN number	:	1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no

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

Not applicable for product as supplied.

49 CFR

UN/ID/NA number	:	1202
Proper shipping name	:	Diesel fuel
Class	:	3
Packing group	:	III
Labels	:	3
ERG Code	:	128
Marine pollutant	:	no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

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

DSL	On the inventory, or in compliance with the inventory
TSCA	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
EINECS	On the inventory, or in compliance with the inventory

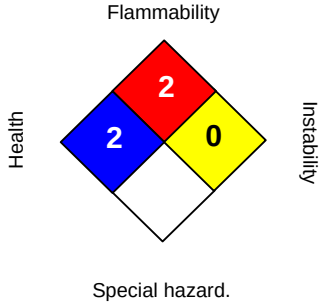
SECTION 16. OTHER INFORMATION

Petro-Canada is a Suncor Energy business.

™ Trademark of Suncor Energy Inc. Used under licence.

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	H

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

For Copy of (M)SDS : Internet: www.petro-canada.ca/msds
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

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

™ Trademark of Suncor Energy Inc. Used under licence.

Material Safety Data Sheet

JET A/A-1 AVIATION TURBINE FUEL

1 . Product and company identification

Product name : JET A/A-1 AVIATION TURBINE FUEL

Synonym : Jet A-1; Jet A-1-DI; Aviation Turbine Kerosene (ATK); JP-8; NATO F-34; Jet F-34; Turbine Fuel, Aviation, Kerosene Type (CAN/CGSB-3.32)

Code : W213, SAP: 149

Material uses : Used as aviation turbine fuel. May contain a fuel system icing inhibitor. In the arctic, Jet A-1 may also be used as diesel fuel (if it contains a lubricity additive) and heating oil.

Manufacturer : PETRO-CANADA
P.O. Box 2844
150 – 6th Avenue South-West
Calgary, Alberta
T2P 3E3

In case of emergency : Petro-Canada: 403-296-3000
Canutec Transportation: 613-996-6666
Poison Control Centre: Consult local telephone directory for emergency number(s).

2 . Hazards identification

Physical state : Clear liquid.

Odour : Kerosene-like.

WHMIS (Canada) :

Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2A: Material causing other toxic effects (Very toxic).

The WHMIS classification of Jet A/A-1 is B3.
The WHMIS classification of Jet A/A-1-DI, JP-8, Jet F-34 and NATO F-34, which all contain FSII (Diethylene Glycol Monomethyl Ether), is B3, D2A.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : CAUTION!

COMBUSTIBLE LIQUID AND VAPOUR. MAY CAUSE EYE AND SKIN IRRITATION. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA.

Combustible liquid. Slightly irritating to the eyes and skin. Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapour or mist. Avoid contact with eyes, skin and clothing. Contains material which may cause birth defects, based on animal data. Avoid exposure during pregnancy. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.

Ingestion : Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract.

Skin : Slightly irritating to the skin.

Eyes : Slightly irritating to the eyes.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

™ Trademark of Suncor Energy Inc. Used under licence.

2 . Hazards identification

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Contains material which may cause birth defects, based on animal data.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure : Repeated skin exposure can produce local skin destruction or dermatitis.

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
Complex mixture of petroleum hydrocarbons (C9-C16)*(Kerosene)	8008-20-6	99.9
Fuel System Icing Inhibitor (FSII) (if added**): (Diethylene Glycol Monomethyl Ether)	111-77-3	0.1 - 0.15
Anti-static, antioxidant and metal deactivator additives	Not applicable	<0.1

*Aromatic content is 25% maximum (benzene: nil).
**Please note that Jet A-1-DI, JP-8, Jet F-34 and NATO F-34 all contain Fuel System Icing Inhibitor.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First-aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Class II - combustible liquid (NFPA).

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

™ **Trademark of Suncor Energy Inc. Used under licence.**

5 . Fire-fighting measures

Products of combustion : Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), smoke and irritating vapours as products of incomplete combustion.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on fire hazards : Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces.

Special remarks on explosion hazards : Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Containers may explode in heat of fire.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

™ Trademark of Suncor Energy Inc. Used under licence.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Ensure the storage containers are grounded/bonded.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Kerosene	**ACGIH TLV (United States). Absorbed through skin.** TWA: 200 mg/m³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: polyvinyl alcohol (PVA), Viton®. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

™ Trademark of Suncor Energy Inc. Used under licence.

8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Clear liquid.

Flash point : Closed cup: ≥38°C (≥100.4°F) [Tag. Closed Cup]

Auto-ignition temperature : 210°C (410°F)

Flammable limits : Lower: 0.7%
Upper: 5%

Colour : Clear and colourless.

Odour : Kerosene-like.

Odour threshold : Not available.

pH : Not available.

Boiling/condensation point : 140 to 300°C (284 to 572°F)

Melting/freezing point : Not available.

Relative density : 0.775 to 0.84 (Water=1)

Vapour pressure : 0.7 kPa (5.25 mm Hg) @ 20°C (68ºF).

Vapour density : 4.5 [Air = 1]

Volatility : Volatile.

Evaporation rate : Not available.

Viscosity : 1.0 - 1.9 cSt @ 40ºC (104ºF)

Pour point : <-51ºC (<-60°F)

Solubility : Insoluble in water. Partially miscible in some alcohols. Miscible with other petroleum solvents.

10 . Stability and reactivity

Chemical stability : The product is stable.

Hazardous polymerisation : Under normal conditions of storage and use, hazardous polymerisation will not occur.

Materials to avoid : Reactive with oxidising agents, acids and alkalis.

Hazardous decomposition products : May release COx, NOx, SOx, aldehydes, acids, ketones, smoke and irritating vapours when heated to decomposition.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Kerosene	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapour	Rat	>5000 mg/m³	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

™ Trademark of Suncor Energy Inc. Used under licence.

11 . Toxicological information

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kerosene	A3	3	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN1863	FUEL, AVIATION, TURBINE ENGINE	3	III		-
DOT Classification	Not available.	Not available.	Not available.	-		-

PG* : Packing group

™ **Trademark of Suncor Energy Inc. Used under licence.**

15 . Regulatory information

United States

HCS Classification : Combustible liquid

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2A: Material causing other toxic effects (Very toxic).

The WHMIS classification of Jet A/A-1 is B3.
The WHMIS classification of Jet A/A-1-DI, JP-8, Jet F-34 and NATO F-34, which all contain FSII (Diethylene Glycol Monomethyl Ether), is B3, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

Canada inventory : All components are listed or exempted.

United States inventory (TSCA 8b) : All components are listed or exempted.

Europe inventory : All components are listed or exempted.

16 . Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOUR. MAY CAUSE EYE AND SKIN IRRITATION. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		2
Physical hazards		0
Personal protection		H

National Fire Protection Association (U.S.A.) :

References : Available upon request.
™ Trademark of Suncor Energy Inc. Used under licence.

Date of printing : **5/24/2012.**

Date of issue : 24 May 2012

Date of previous issue : 5/24/2012.

Responsible name : **Product Safety - DSR**

Indicates information that has changed from previously issued version.

For Copy of (M)SDS : Internet: www.petro-canada.ca/msds

Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228

For Product Safety Information: (905) 804-4752

Notice to reader

™ **Trademark of Suncor Energy Inc. Used under licence.**

16 . Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

™ Trademark of Suncor Energy Inc. Used under licence.

Appendix Q

Environmental Emergency Regulation Plan Cross Reference Table

Cross-reference related to Environmental Emergency Regulations, 2019: SOR/2019-51

EER reference	Information required	Location of information in different management plan
4 (2) (a)	a description of the properties and characteristics of the substance and the maximum expected quantity of the substance at the facility	Maximum excepted quantity - Spill Contingency Plan Section 2 Substance property – Spill Contingency Plan Section 6 and Appendix P for Diesel MSDS
4 (2) (b)	a description of the commercial, manufacturing, processing or other activity involving the substance that takes place at the facility	Spill Contingency Plan Section 2
4 (2) (c)	-a description of the facility and of the area surrounding the facility that may be affected by an environmental emergency referred to in paragraph (d), including any hospitals, schools, residential, commercial or industrial buildings and any highways, public transit infrastructure, parks, forests, wildlife habitats, water sources or water bodies;	Spill Contingency Plan Section 6.1 and 6.2 Appendix M - Product Transfer Area Assessment – Baker Lake Oil Handling Facility
4 (2) (d)	-an identification of any environmental emergency that could reasonably be expected to occur at the facility and that would likely cause harm to the environment or constitute a danger to human life or health, including the environmental emergency referred to in paragraph (e) and, if applicable, the environmental emergency that is more likely to occur than the environmental emergency referred to in paragraph (e) and that would have the longest impact distance outside the boundary of the facility	Spill Contingency Plan Section 5 and Appendix M - Product Transfer Area Assessment – Baker Lake Oil Handling Facility
4 (2) (e) (i)	an identification of the harm to the environment or danger to human life or health that would likely result from an environmental emergency involving the release of the	Spill Contingency Plan Appendix P – MSDS for P-50 Diesel Spill Contingency Plan Section 5, Section 6.1.9 and 6.2.7

	maximum quantity of the substance that could be contained in the container system that has the largest maximum capacity, if a quantity of the substance is in a container system, and	
4 (2) (e) (ii)	an identification of the harm to the environment or danger to human life or health that would likely result from an environmental emergency involving the release of the maximum expected quantity of the substance that will not be in a container system, if a quantity of the substance is not in a container system	Spill Contingency Plan Section 6.3
4 (2) (f)	an identification of the harm to the environment or danger to human life or health that would likely result from the environmental emergency identified under paragraph (d), if any, that is more likely to occur than the environmental emergency referred to in paragraph (e) and would have the longest impact distance outside the boundary of the facility;	Spill Contingency Plan Section 6.3
4 (2) (g)	a description of the measures to be taken to prevent and prepare for the environmental emergencies identified under paragraph (d) and the measures that will be taken to respond to and recover from such emergencies if they were to occur	Spill Contingency Plan Section 1.1, 2.1, 4, 5
4 (2) (h)	a list of the position titles of the persons who will make decisions and take a leadership role in the event of an environmental emergency and a description of their roles and responsibilities	Spill Contingency Plan Section 4
4 (2) (i)	a list of the environmental emergency training that has been or will be provided to prepare personnel at the facility who will respond in the event that an environmental emergency identified	Spill Contingency Plan Section 9

	under paragraph (d) occurs	
4 (2) (j)	a list of the emergency response equipment that is necessary for the measures described in paragraph (g) and the equipment's location	Spill Contingency Plan Section 8
4 (2) (k) (i)	a description of the measures that will be taken by a responsible person or by a responsible person and local authorities, acting jointly, to communicate with the members of the public who may be adversely affected by the environmental emergency referred to in paragraph (f) to inform them, before the environmental emergency occurs, of the possibility that the environmental emergency could occur	Spill Contingency Plan Section 6.3
4 (2) (k) (ii)	a description of the measures that will be taken by a responsible person or by a responsible person and local authorities, acting jointly, to communicate with the members of the public who may be adversely affected by the environmental emergency referred to in paragraph (f) to inform them, before the environmental emergency occurs, of the potential effects of the environmental emergency on the environment and on human life or health, taking into account the factors referred to in paragraphs (a) to (c), and	Spill Contingency Plan Section 6.3
4 (2) (k) (iii)	a description of the measures that will be taken by a responsible person or by a responsible person and local authorities, acting jointly, to communicate with the members of the public who may be adversely affected by the environmental emergency referred to in paragraph (f) to inform them, before the environmental emergency occurs, of the measures that will be taken by the responsible person to protect the	Spill Contingency Plan Section 6.3

	environment and human life or health, and the means by which the responsible person will communicate with them, in the event that the environmental emergency occurs;	
4 (2) (l)	a description of the measures that will be taken by a responsible person or by a responsible person and local authorities, acting jointly, to, in the event that an environmental emergency involving the release of a substance occurs, communicate with the members of the public who may be adversely affected to provide them, during and after its occurrence, with information and guidance concerning the actions that could be taken by them to reduce the potential harm to the environment and danger to human life or health, including an explanation of how those actions may help to reduce the harm or danger;	Spill Contingency Plan Section 4.7
4 (2) (m)	the position title of the person who will communicate with the members of the public referred to in paragraphs (k) and (l);	Spill Contingency Plan Section 4.7
4 (2) (n)	a description of the consultations that a responsible person had with local authorities, if any, with respect to the measures referred to in paragraph (k) and (l); and	Spill Contingency Plan Section 6.3
4 (2) (o)	a plan of the facility showing the location of any substances in relation to the physical features of the facility	Spill Contingency Plan Figure 1-3

Appendix R

Risk Assessments – Environmental Emergency Regulations Designated Substance - Diesel

Risk Assessment Matrix

PMO Rating		Probability				
Consequence		Rare or Improbable 1	Unlikely or Remote 2	Possible or Occasionnal 3	Likely or Probable 4	Almost Certain / Expected 5
Critical	5	Medium	Medium	High	Very High	Very High
Major	4	Low	Medium	High	High	Very High
Moderate	3	Low	Medium	Medium	High	High
Minor	2	Low	Low	Medium	Medium	Medium
Insignificant	1	Low	Low	Low	Low	Medium
Opportunity	-1	Low	Low	Medium	High	High

Before Mitigation		Probability				
Consequence		Rare or Improbable 1	Unlikely or Remote 2	Possible or Occasionnal 3	Likely or Probable 4	Almost Certain / Expected 5
Critical	5	0	1	1	0	1
Major	4	1	2	0	1	0
Moderate	3	0	3	0	1	1
Minor	2	0	2	0	1	0
Insignificant	1	0	0	0	0	0
Opportunity	-1	0	0	0	0	0

After Mitigation		Probability				
Consequence		Rare or Improbable 1	Unlikely or Remote 2	Possible or Occasionnal 3	Likely or Probable 4	Almost Certain / Expected 5
Critical	5	0	2	0	0	0
Major	4	1	3	0	0	0
Moderate	3	0	4	0	0	0
Minor	2	0	3	0	2	0
Insignificant	1	0	0	0	0	0
Opportunity	-1	0	0	0	0	0

Risk Assessment for Baker Lake OHF

Prepared by: Casandra DeForge

Attendees: Casandra DeForge, Alexandre Lavallee, Marie-Pier Marcil, Tom Thomson, and Stephane Larose

Latest update: March 9, 2021

Facilitator: Casandra DeForge

Risk ID #	Project Phase	Category (HS-E-C)	Event (Risk) (Cause-event-cons)	Cause	Consequences	Initial Consequence	Initial Probability	Initial Risk Score C x P	Risk Response:	Owner	Actual Control Measures Planned
1	Operation	Environmental	Diesel spill in transfer area	Overfilling of tanker	soil contamination localized to the area. Remediation required (remove contaminated soil). Spill within contained area (secondary liner)	2	4	8	Accept	Mathieu Grenier	liner, training, SOP, use of secondary containment, inspection checklist
2	Operation	Environmental	Diesel tank leak	Diesel Spill - loss of all tanks (Natural disaster - earthquake)	loss of contents of tank and filling containment area, fuel outside of footprint. Fuel migration into Baker Lake	5	1	5	Accept	Guillaume Gemme	secondary containment, tank inspections, Spill contingency plan, spill material (sea-can), response equipment (boats), third party inspections, and preventative maintenance
3	Operation	Environmental	Diesel spill in Baker Lake (any volume)	Transfer line failure during ship to shore transfer	spill to water, contamination of Hamlet water source, potential fish death. Community relations consequences	3	2	6	Accept	Mathieu Grenier	Training, OPEP, Intertek, inspection checklist, visual inspections (weekly), Mock spill to test plan.
4	Operation	Environmental	Diesel spill in Baker Lake (loss of ship)	Equipment failure, impact with shore/rock	spill to water, contamination of Hamlet water source, potential fish death. Community relations consequences	5	1	5	Accept	Mathieu Grenier	bathymetry in Baker Lake, Training, OPEP, Intertek, inspection checklist, visual inspections, Mock spill to test plan.
5	Operation	Environmental	Diesel Spill	Valve/piping failure (at facility)	soil contamination localized to the area. Remediation required (remove contaminated soil). Spill within contained area (secondary liner)	2	2	4	Accept	Guillaume Gemme	Inspections done weekly, liner (secondary containment), preventative maintenance
6	Operation	Environmental	Diesel Spill	Natural disaster (Tundra fire)	NA						

7	Operation	Environmental	Diesel Spill	Vandalizing (broken line/valve)	soil contamination localized to the area. Remediation required (remove contaminated soil). Spill within contained area (secondary liner)	3	2	6	Accept	Guillaume Gemme	one camera, good relations with community, regular inspections (weekly)
8	Operation	Environmental	Diesel Spill	Fire, ignition of fuel	not likely to occur	1	1	1	Accept	Guillaume Gemme	no ignition sources near facility
9	Operation	Environmental	Diesel Spill	Explosion	not likely to occur	1	1	1	Accept	Guillaume Gemme	no ignition sources near facility
10	Operation	Environmental	Diesel Spill	Extreme weather (permafrost degradation)	loss of contents of tank and filling containment area, fuel outside of footprint. Fuel migration into Baker Lake	5	1	5	Accept	Guillaume Gemme	short life of mine (not expected to see climate issues during life of mine), inspections of facility, spill contingency plan.
11	Operation	Environmental	Diesel Spill	Extreme weather (prolonged extreme cold)	NA						
12	Operation	Environmental	Diesel Spill	Vehicle collision with tank	soil contamination localized to the area. Remediation required (remove contaminated soil). Spill within contained area (secondary liner)	3	1	3	Accept	Guillaume Gemme	secondary containment, design of facility
13	Operation	Environmental	Diesel Spill	Accident on AWAR - loss of full tanker - land	spill to tundra, soil contamination contained to localized area (remove contaminated soil), potential loss of habitat	4	2	8	Accept	Mathieu Grenier	communication on AWAR, training, SOP, road maintenance. Spill kits along AWAR
14	Operation	Environmental	Diesel Spill	Accident on AWAR - loss of full tanker - water	contamination of water, potential to kill fish and fish habitat, community relations issues	5	2	10	Accept	Mathieu Grenier	communication on AWAR, training, SOP, road maintenance. Spill kits along roads (at bridges)

Risk Assessment for Meadowbank

Prepared by: Casandra DeForge

Attendees: Casandra DeForge, Alexandre Lavallee, Marie-Pier Marcil, Tom Thomson, and Stephane Larose

Latest update: March 9, 2021

Facilitator: Casandra DeForge

Risk ID #	Project Phase	Category (HS-E-C)	Event (Risk) (Cause-event-cons)	Cause	Consequences	Initial Consequence	Initial Probability	Initial Risk Score C x P	Risk Response:	Owner	Actual Control Measures Planned
1	Operation	Environmental	Diesel spill in transfer area	Overfilling of tanker	soil contamination localized to the area. Remediation required (remove contaminated soil). Spill within contained area (secondary liner)	2	4	8	Accept	Guillaume Gemme	liner, training, SOP, use of secondary containment, inspection checklist
2	Operation	Environmental	Diesel tank leak	Tank failure	loss of contents of tank and filling containment area (no overfilling of containment area). Diesel would go to stormwater management pond and not lake if containment area failed	2	1	2	Accept	Guillaume Gemme	Regular tank inspections, secondary containment, stormwater management pond, pipe inspections (weekly)
3	Operation	Environmental	Diesel spill in IVR/WT Pit	Equipment failure (hose break)	remediation of area in pit (removal of contaminated soil)	1	5	5	Accept	Guillaume Gemme	Regula PM on equipment, follow cold weather procedures, pre-op checklists, SOP for operating equipment
4	Operation	Environmental	Diesel spill	Spills during transfer from fuel truck (not due to overfilling)	soil contamination localized to the area. Remediation required (remove contaminated soil)	1	4	4	Accept	Guillaume Gemme	SOP, training, secondary containment, refueling checklist
5	Operation	Environmental	Diesel spill	Spills during transfer to equipment (not due to overfilling)	soil contamination localized to the area. Remediation required (remove contaminated soil)	1	5	5	Accept	Guillaume Gemme	SOP, training, secondary containment
6	Operation	Environmental	Diesel spill	Tank- equipment failure (pipe, containment structure, valves)	loss of contents of tank and filling containment area (no overfilling of containment area). Diesel would go to stormwater management pond and not lake if containment area failed	2	2	4	Accept	Guillaume Gemme	inspections, secondary containment, preventative maintenance

7	Operation	Environmental	Diesel spill	Failure of small tanks around site - loss of volume	soil contamination localized to the area. Remediation required (remove contaminated soil) - potential to impact tundra	2	1	2	Accept	Guillaume Gemme	visual inspections, double walled tanks
8	Operation	Environmental	Diesel spill	Leak from small tanks around site	soil contamination localized to the area. Remediation required (remove contaminated soil)	2	2	4	Accept	Guillaume Gemme	visual inspections, double walled tanks
9	Operation	Environmental	Diesel spill	Natural disaster (Tundra fire)	NA						
10	Operation	Environmental	Diesel spill	Fire, ignition of fuel	not likely to occur	1	1	1	Accept	Guillaume Gemme	no ignition sources near facility
11	Operation	Environmental	Diesel spill	Explosion	not likely to occur	1	1	1	Accept	Guillaume Gemme	no ignition sources near facility
12	Operation	Environmental	Diesel spill	Extreme weather (permafrost degradation)	loss of contents of tank and filling containment area, fuel outside of footprint. Fuel migration into Baker Lake	5	1	5	Accept	Guillaume Gemme	Assessing permafrost degradation (check in report), short life of mine, inspections.
13	Operation	Environmental	Diesel spill	Extreme weather (prolonged extreme cold)	NA						
14	Operation	Environmental	Diesel spill	Vehicle collision with tank	soil contamination localized to the area. Remediation required (remove contaminated soil). Spill within contained area (secondary liner)	3	1	3	Accept	Guillaume Gemme	secondary containment, design of facility
15	Operation	Environmental	Diesel spill	Vandalizing	not expected to occur on site by employees						