SPILL CONTINGENCY PLAN

HOPE BAY PROJECT

2000

Prepared by:
Hope Bay Joint Venture

Miramar Hope Bay Ltd.
Cambiex Exploration Inc.

Updated
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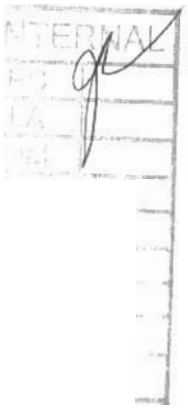

1. INTRODUCTION

1.1 Plan Purpose

Miramar Hope Bay Ltd. and Cambiex Exploration Inc., collectively referred to as the Hope Bay Joint Venture ("HBJV"), acquired the Hope Bay Belt Gold Project from BHP Minerals Canada Ltd. on December 16, 1999.

The centre of the project area is located approximately 450 km west southwest of Gjoa Haven, approximately 170 km southwest of Cambridge Bay and approximately 65 km east of Umingmaktok.

This document, is a review and analysis of the preparedness for events which may occur due to unforeseen circumstances. The plans and predetermined lines of response detail actions to be taken in the event of unintentional materials released from wastewater, sewage treatment, fuel or chemical storage areas during the ongoing 2000 exploration program conducted by the HBJV. This report addresses all project areas within the Hope Bay Belt including camps at Boston, Windy and Wolverine Lakes.

This contingency plan is a living document, intended to be readily amended to accommodate change. The plan describes the main facilities to be operated, followed by contingency measures to support them. On site activities are planned to run from January to September 2000 with limited activity during the balance of 2000.

An abbreviated version of the plan will be posted for all exploration staff and visitors of the HBJV project site as part of the HBJV field orientation program for the Hope Bay Belt.

1.2 HBJV Policy on Initiating Cleanup Activities

It is the policy of the HBJV to initiate clean up activity when, in the opinion of management, the HBJV is clearly associated, or likely associated with the spilled product. The guiding principles of the HBJV Spill Contingency Plan is to comply with existing regulations to ensure protection of the environment, and to keep employees, government officials and the public aware of our plans.

2. PROJECT FACILITY DESCRIPTION

2.1 Existing Facilities and Previous Work

The HBJV acquired existing camps constructed by BHP at Boston (Aimaogaktak Lake), Windy Lake and Wolverine Lake. There are also caches of fuel and other consumables at Windy Lake Camp, Wolverine Camp, North Patch and Doris Lake. A drill service area and workshop is located on the western shore of Patch Lake. At the present time, the Wolverine Camp is not active.

2.2 Domestic Greywater Sewage

The greywater treatment system presently in use at both Windy Lake and Wolverine Camp (when operating) treats non-toilet liquid effluent from the camps. These systems discharge effluent into a natural surface depression on the land some distance from the camps. Other human sewage is deposited in outhouse-style latrines and treated in-situ with off-the-shelf bacterial agents.

At Boston, all domestic greywater and sewage are treated in the Rotating Biological Contactor (RBC) which treats and clarifies effluent prior to discharge on the tundra.

2.3 Solid Waste

Combustible solid wastes generated from the camp facilities are incinerated using commercial incinerators located near each camp. Products such as putrescible domestic and office waste are burned.

Steel or scrap metal waste has been, and will continue to be, stored in drums at appropriate locations for proper disposal in the future. For waste that cannot be incinerated, it is proposed that where practical, it be flown off-site for recycling or disposed of at authorized facilities.

Any waste material determined to be acid producing is stored on the potential acid generating stockpile at the Boston camp. It will also be removed from camps for disposal at authorized facilities.

2.4 Fuel Storage

Diesel fuel is required to generate power on-site, heat buildings and to fuel mobile equipment. The diesel fuel storage requirement for the continuing exploration program by HBJV consists of both bulk storage and storage in drums. The areas that have been selected for fuel storage offer a natural clay loam basin. All bulk tanks and barrels are stored at least 30 metres above the high water mark of any water body.

In addition to diesel, jet fuel and gasoline are also stockpiled in 205 litre barrels at Boston, Windy and Wolverine Camps, as well as the North Patch fuel cache. Specialized oils and greases used by the drilling contractors are also stored at theses caches. Inventories at each fuel cache are dynamic.

As of May 15, 2000 bulk fuel tanks were distributed throughout the Hope Bay Belt as follows:

Location	Tank Capacity
Windy Camp	70,000 litres 50,000 litres
North end of Doris Lake	50,000 litres
Wolverine Camp	70,000 litres
Boston Camp	70,000 litres 70,000 litres
Portable Tanker/sloops: currently stored at Wolverine camp	20,000 litres 20,000 litres

The spill contingency plan and associated response equipment will be available on-site to handle potential spill incidents.

2.5 Chemicals

HBJV is committed to the safe and proper handling of waste materials to ensure minimal environmental impact and land disturbance. Waste chemicals that require special attention and handling are waste oil, hydraulic oil, lubricating oils, calcium hypochlorite, grease and ethylene glycol.

Drained, spent oil filters are incinerated. Waste oil and oil from filters will be recycled offsite or reused as incinerator fuel. Waste oil is temporarily stored in empty fuel barrels on-site and intermittently sent to an authorized recycling and/or waste disposal facility. Used grease is temporarily stored on-site and will be removed at the end of the exploration program. Ethylene glycol is recycled as much as possible. The remaining ethylene glycol will be collected and sent off site to an approved disposal facility. There are no reagents used on site at this time.

Calcium chloride is added to water used for drilling to produce an antifreeze brine solution, and does not warrant environmental concern. Explosive material, when on-site, will be stored in appropriate facilities at designated explosives storage site(s).

Material Safety Data Sheets (MSDS) will be collected and kept at the site for all chemicals and fuel products brought on-site. Appropriate storage and handling of these products will be undertaken. The action plans for spills of diesel fuel, lubricating and hydraulic oils and ethylene glycol are also included at the end of this report.

3. SYSTEM FAILURE AND PREVENTATIVE MEASURES

3.1 Domestic Sewage

The domestic sewage treatment systems are designed to carry a hydraulic load sufficient for 45 persons at 300 L per person per day.

Failures may occur in the domestic sewage system under the following scenarios:

- treatment system malfunction due to changes in the design load;
- power outage;
- pump failure;
- pipeline broken;
- pipeline blockage;
- accidental damage to the pipeline and its components;
- presence of oil and grease in the effluent;
- mechanical breakdown;
- improper maintenance; and
- subsidence of the pipeline supporting structures.

Visual inspection of the treatment system and the pipeline will be carried out on a weekly basis. The operations manual protocols for the sewage treatment plant will be followed.

3.2 Solid Waste

Failures may occur in the treatment of solid waste in the following modes:

- incinerator failure;
- power outage;
- treatment system malfunction due to changes in the design load;
- accidental damage to the incinerator and its components;
- mechanical breakdown; and
- improper maintenance.

Visual inspection of the incinerator and its combustion products will be carried out on a regular basis. The operations manual protocols for the incinerator will be followed.

3.3 Fuel

Fuel spills could potentially occur from:

- fuel storage containment (tanks, barrels) leaks;
- spills during drum transport from aircraft to fuel storage area; and
- spills from vehicles or equipment as a result of accidents.

Spills occurring during fuel handling, transfer or storage operations will be minimized by:

- proper storage of the barrels;
- regular inspections of the barrels;
- training in proper fuel handling procedures;
- spill response training for personnel associated with fuel handling;
- immediate cleanup of minor spills; and
- maintaining fuel storage cache for emergencies.

The potential for spills affecting surface waters is low, as fuel storage and transfer points are located away from watercourses and lakes.

3.4 Chemicals

Any chemicals brought on site are stored in manufacturers approved packaging. These are normally stored indoors. Leaks may occur, causing minor spills of chemical product in storage or during the transfer or from accidental failure of containers.

Chemical spills will be minimized by applying safe handling and storage procedures. Training of staff in product handling and inspection procedures will be carried out.

4. INITIAL ACTIONS

In the event of any leak, spill or system failure, the following steps will be taken by company personnel at the spill site:

1 **Be alert, ensure your safety and the safety of others first**

2. **Assess the hazard to persons in the vicinity of the spill or leak.**

3. **Assess nature and status of the spill, leak or system failure and measures to be taken to bring the situation under control.**

4. **When safe to do so, stop the flow of the spilled material.**

5. **Report the spill, leak or system failure immediately to the Spill Response Co-ordinator so that person can ensure that the responsible regulator is notified by contacting the 24 Hour Spill Line at (867) 920-8130 or fax (867) 873-6924.**

6. **Resume safe, effective actions to contain, stop the flow of spilled product or clean up the incident.**

7. **Record all information on the status of the situation. Take photographs of the site (if possible) before the clean-up and subsequent to clean-up.**

5. SYSTEM MALFUNCTION RESPONSES

5.1 Domestic Sewage and Solid Waste

Any problems in the sewage treatment plant, such as improper operation, pipeline rupture, pump/power breakdown etc., will be immediately reported to the Spill-Response Co-ordinator. Problems encountered with the incinerator will also be reported to the Spill Response Co-ordinator. The Spill Response Co-ordinator will refer to the Operation and Maintenance Manual and the section entitled Trouble Shooting.

In the event of a power failure, the stand-by generator will be put into operation as soon as possible. Similarly, in the case of a pump failure, the back-up pump will be put on-line. Any spillage occurring inside the sewage treatment system will be contained within the facility and if necessary reprocessed. Appropriate safety equipment and contamination protective clothing will be available in the sewage treatment plant.

5.2 Fuel Spill

Fuel spills, leaks at storage facilities or vehicle accidents will be handled by following these steps:

- identify the source of the leak or spill;
- contact the Spill Response Co-ordinator;
- stop leaks from a tank or barrel by:
  - turning off valves;
  - utilizing patching kits to seal leaks;
  - placing plastic sheeting at the foot of the tank or barrel to prevent seepage into the ground; and,
- contain the spill and the source if possible;
- take photographs of the spill site before and after clean-up.

Further information on the handling of fuel spills is detailed in Section 10 of this report.

5.2.1 Fuel Spills on Land

Fuel spills on land (gravel, rock, soil, vegetation) can be contained by:

- Constructing temporary berms and deploying absorbents;
- Stains on rock or tundra should be flushed (if possible) with a fine water mist towards a natural depression to facilitate collection with absorbent mats.
- Stains on rock can be soaked up with absorbent mats. The mats should be placed in empty drums for disposal or incineration; and
- Contaminated soil and vegetation, where appropriate, may be removed from site and disposed of at an approved facility.
- Frozen ground can act as a natural barrier. In this situation, fuel that has ponded on the surface can be collected using absorbent mats.

5.2.2 Fuel Spills on Snow

Snow can work well as a natural absorbent and collect spilled fuel;

- Temporary berms can be made from snow by compacting it and spraying with water to create an ice barrier or lining the snow-berrn with plastic;
- The snow-fuel mixture can be scraped up and stored in a lined area or in drums for future disposal; and

- Mark or stake the area effected by the spill so that the site can be revisited and re-evaluated once the snow has melted.

5.2.3 Fuel Spills on Water

It is important to immediately limit the area of the spill on water. Booms can be drawn in to encircle spilled fuel. The absorbent mats are hydrophobic (absorb hydrocarbons and repel water).

- Deploy booms to contain the spill area. Boom effectiveness will be limited by winds, waves and other factors; and
- Use absorbent mats and similar materials to capture small spills on water.

5.2.4 Fuel Spills on Ice

Where a spill occurs on ice,

- Snow can be compacted around the edge of the spill to serve as a berm. The ice will prevent (or reduce the rate of) seepage of fuel into the water, but the contaminated snow/ice must be scraped up as soon as possible.
- Absorbent mats should be used to collect fuel.
- Fuel may be burned off. Remaining contaminated snow can be placed in drums or in a lined berm (on land);

5.3 Chemical Spills

Assess the hazard of the spilled material by referring to the relevant MSDS sheet and applicable action plan

- If the chemical is hazardous, ensure personal protective equipment is appropriately utilized (latex gloves, eye protection, etc.) before approaching the spill (refer to Section 11 of this report)
- Use absorbents to soak up spilled liquids;
- Plastic sheeting can be utilized to prevent solid chemicals from being blown around;
- Neutralize acids or caustics; and
- Place spilled material, absorbents, and rags in an open-top drum and seal for storage. Drum(s) will be disposed of at an approved location.

6. RESPONSE EQUIPMENT

6.1 General Equipment

Heavy equipment used for exploration drilling and/or bulk sampling operations will be available on-site for emergency use and to respond to spill incidents. Helicopters and fixed-wing aircraft are also available. Presently, the facilities are well equipped to respond to emergencies or spills.

6.2 Spill Kits

Complete spill kits are located as follows:

- Boston Camp
  - bulk fuel storage and handling area
  - drummed fuel storage area
  - generator shack (enviromat only)
  - camp workshop (enviromat only)
  - Procon workshop (enviromat only)
- Windy Lake Camp
  - helicopter pad
  - fuel storage area
  - generator shack
  - camp workshop (enviromat only)
- Drillers workshop and equipment area
- Doris Lake fuel cache
- North Patch fuel cache
- Operating drill rigs

The following items are contained in each Spill Kit:

1 - 45 gal, 16-Gauge Open Top Drum, c/w Bolting Ring & Gasket
1 - 48" x 48' x 1/1 6" Neoprene Pad (Drain Stop)
20- Short Pig Putty Epoxy Sticks
Splash Protection Goggles
2 - PVC Oil Resistant Gloves
1 Pkg. Polyethylene Disposable Bags (5 ml) 10 per Package
1 Shovel (Spark Proof)
1 Case T- 1 2 3" x 1 O' Absorbent Boom, 4 Booms/Case
1 Pkg. Universal Absorbent Mats, 161/2 " x 20", 100 Mats per Package
1 Roll, Oil Only Absorbent Mats, 150'x 33"

6.3 Mobile Environmental Response Unit

A Mobile Environmental Response Unit is believed to be available to HBJV from a major fuel supplier (Shell) in Yellowknife or Cambridge Bay (for phone number, see Contractors in Section 7). This unit can be transported to the site from Cambridge Bay in less than three hours, weather permitting.

7. RESPONSE ORGANIZATION

The members of the Spill Response Organization and their duties are listed below:

Field Contacts:

Spill Response Co-ordinator:	*to be determined during 2002 field season*
Emergency Response Team:	*to be determined during 2002 field season*
Logistics Co-ordinator:	*to be determined during 2002 field season*
Project Manager:	*to be determined during 2002 field season*

Office Contacts:

Exploration Manager:	Adrian Fleming Tel: (720) 746-1290 Fax: (720) 746-1291 e-mail: AWF225@aol.com
Manager, Environmental Affairs:	Hugh Wilson Miramar Mining Corporation Tel: (604) 985-2572 Fax: (604) 980-0731 Tel: (780) 433-8336 (Home) Fax: (780) 988-2186 (home) email: hwilson@miramarmining.com or hugh_r_wilson@hotmail.com
Legal Counsel:	David Long Miramar Mining Corporation Tel: (604) 985-2572 Fax: (604) 980-0731 email: dlong@miramarmining.com Andre leBel Hope Bay Gold Corporation Inc. Tel: (514) 878-3166 *Fax: (514) 878-3324* email: andre_le_bel@cambior.com
Chairman / CEO	Miramar Hope Bay Ltd. Mr. Tony Walsh Tel: (604) 985-2572 Fax: (604) 980-0731 Hope Bay Gold Corporation Inc. Mr. David Fennell Tel: (514) 878-3166 Fax: (514) 878-3324

7.1 Responsibilities

First Responders (All employees):

- Identify the source of the spill.
- Assess the initial severity of the spill and safety concerns.
- Report all spills to immediate Spill Response Co-ordinator as soon as possible.
- Determine the size of the spill and stop or contain it, if possible.
- Participate in spill response as member of cleanup crew.

Emergency Response Team (Spill Cleanup Crew):

- Conduct cleanup of spills under direction of Spill Response Co-ordinator.
- Deploy booms, sorbent and other equipment and materials as required.
- Take appropriate response measures.
- Continue cleanup as directed by Spill Response Co-ordinator or until relieved.

Spill Response Co-ordinator:

- Report spill to Project Manager.
- Obtain photographs of spill site before, during and subsequent to cleanup. If spill occurs on snow, stake or otherwise identify the affected area so that it can be evaluated once the snow melts.
- Assist in initial and ongoing response efforts.
- Supervise Spill Response Team.
- With work crew, take initial action to seal off the source and contain spill.
- Continue actions until relieved or supplemented by other supervisor.
- Decide with Project Manager and Logistics Co-ordinator if mobilization of additional equipment from Spill Response Organization or Contractor is warranted.
- Assess whether burning is a viable cleanup measure.
- Consult with Manager, Environmental Affairs; Miramar Mining Corp.

Logistics Co-ordinator :

- Reports spill to the 24-Hour Spill Report Line at (867) 920-8130.
- Records the time of the report, source of information and details on locations, size, type of spill and any other information and details on the spill report form.
- Together with the Spill Response Co-ordinator and Project Manager determine if additional equipment and manpower is required to contain and cleanup spills. Contacts the Spill Response Organization, if the situation requires.
- Notifies Exploration Manager, Environmental Affairs Manager.
- Oversees completion and distribution of spill report.
- Ensures investigation and identifies measure to prevent similar spills.

Exploration Manager / Designate:

- Ensures cleanup is completed to project objectives and standards
- Provides update to the HBJV Management Committee
- Ensures that copies of all spill reports and follow-up reports are submitted to Nunavut Water Board and Kitikmeot Inuit Association.
- Liaise with Spill Line, Lead Agency (DIAND) and other applicable agencies with regard to on-going cleanup activities.
- Co-ordinate inspections and spill closure by Lead Agency and other applicable agencies

- Conducts ongoing monitoring of cleanup operations leading to close-out.
- Ensures Emergency Response Team is adequately trained in spill response.
- Organizes spill response training and exercises.

Manager, Environmental Affairs / Designate

- Updates and distributes Spill Contingency Plans.
- Provides advice when requested to the Exploration Manager, the Spill Response Co-ordinator.
- Assists in developing effective spill management and prevention practices.
- Provides advice when requested to the Spill Cleanup Supervisor of storage and disposal options.

Legal Counsel:

Advise Exploration Manager and the Manager, Environmental Affairs on matters related to:

- Legislative authority of various government agencies.
- Questions of due diligence.
- Costs/fines and liabilities, including penalties associated with regulations.
- Consults with the corporate insurance co-ordinator and advises on matters related to insurance.

Chairman / CEO or Designate:

- Responsible for all communications outside the normal day to day requirements of their staff that may be directed or initiated by third parties such as the media.

Additional assistance may be obtained as necessary from the following organizations:

Cambiex Contractors:

Discovery Mining Services, Yellowknife Rod Brown	Tel:	(867) 920 4600
Shell Canada, Mobile Environmental Response Steve Bassett	Tel:	(867) 874-2562
J.T. Thomas Drilling, Dick Bangle	Tel:	(250) 847-4361
Fred H. Ross & Associates Heino Zubke	Tel:	(867) 983 2331
Nuna Logistics Ltd. Court Smith, John Zigarlic	Tel:	(604) 682 4667

Local Air Charter

Air Tindi, Dispatch	Tel:	(867) 669-8218
NWT Air (First Air), Dispatch	Tel:	(867) 669-6645
First Air, Dispatch	Tel:	(867) 669-6682
Nunasi Helicopters, Martin Knutsen	Tel:	(867) 873 3306
Summit Air, Jamie Tate	Tel: Cell:	(867) 667 7327 (867) 333 1503

Equipment and Material Suppliers:

Dupont (Fuel Dye) Ray Buckland	Tel:	(905) 821-5660
Frontier Mining (Sorbents)	Tel:	(867) 920-7617
Acklands (Sorbents)	Tel: Pager:	(867) 873-4100 (867) 920-5359

8. REPORTING PROCEDURES

The Spill Response Team must be notified immediately of any spill. Communication on-site will be via radio and to other centres by satellite phone. The Logistics Co-ordinator or his/her designate will ensure that each spill is reported to the 24-Hour Spill Report Line at (867) 920-8130 and that a Spill Report Form (attached at the end of this report) is filled out as completely as possible.

Other Contacts which may be of some assistance:

Nunavut/NWT

Resources, Wildlife & Economic Development (RWED)		
Environmental Protection Services	Tel:	(867) 873-7654
Dept Sustainable Development, Iqaluit		
Earl Baddaloo, Donna Kenneally	Tel:	(867) 979 5076
Workers Compensation Board, Yellowknife	Tel:	(867) 920 3888
Sylvester Wong, Director Prevention Services	Tel:	(867) 669-4408
Peter Bengts, Mine Safety,	Tel:	(867) 669-4408
RWED Regional Superintendent: Larry Adamson	Tel:	(867) 920-6134
RWED Cambridge Bay: Grant Corey	Tel:	(867) 983-7315
	Fax:	(867) 983-2802
RWED Kugluktuk: Andy McMullen	Tel:	(867) 982-7251
	Fax:	(867) 982-3701
Kitikmeot Inuit Association (KIA)	Tel:	(867) 982-3310
Jack Kaniak, Lands Manager	Fax:	(867) 982-3311
Nunavut Water Board	Tel:	(867) 360-6338
Philippe di Pizzo, Executive Director	Fax:	(867) 360-6369
Bruce Stebbing, Office of the Fire Marshall	Tel:	(867) 873-7030
Municipal & Community Affairs		

Federal Government:

RCMP (Yellowknife)	Tel:	(867) 669-1111
	Fax:	(867) 669-5224
RCMP (Cambridge Bay)	Tel:	(867) 983-2111
	Fax:	(867) 983-2498
Resource Management Officer	Tel:	(867) 983 7314
Indian & Northern Affairs Canada (DIAND)		
Magnus Bourque, Environment Canada	Tel:	(867) 920-4700
Margaret Keast, Fisheries and Oceans	Tel:	(867) 979-8000
	Fax:	(867) 989-8039

9. TRAINING AND SPILL EXERCISES

9.1 Training

All members of the Spill Response Team will be trained and be familiar with the spill response equipment, including their location and access, the Spill Contingency Plan and appropriate spill response methodologies. During 2000 the onsite training program for Windy Camp personnel will be initiated at the start of the field program. The training program includes the dissemination of information regarding the Spill Contingency Plan, the NT Environmental Protection and Spill Regulations, the viewing of RWED spill response videos, and the field application of suitable techniques.

All HBJV personnel will be familiar with spill reporting requirements.

Fuel handling crews will be fully trained in the safe operation of these facilities, spill prevention techniques and initial spill response. Similarly, the staff involved in maintaining the wastewater treatment facilities will be trained in the safe and effective operation of these facilities.

9.2 Spill Exercises

HBJV will conduct regular spill exercises to test the response of the Spill Response Team to manage fuel and other system failure spills.

Reports will be made by the Spill Response Co-ordinator noting the response time, personnel, and problems or deficiencies encountered. These reports will be used to evaluate the ability to respond to spills and determine areas necessary for improvement.

10. ACTION PLAN FOR SPILL OF DIESEL FUEL

Initial Spill Response :

- STOP the flow if possible
- CONTAIN flow of oil by constructing dykes to barricade or block flow by any means available. Use earth moving equipment if practical.
- ELIMINATE, open flame ignition sources,
- If flow has reached any natural stream, mobilize team to deploy river boom and sorbent booms,
- If possible, pump fuel into other appropriate tankage/containers.

Hazards:

- Flammable
- Slightly toxic by ingestion, highly toxic if aspirated

Action for fire:

- Use carbon dioxide, dry chemical, foam, or water spray (fog), although water may spread the fire
- Use fog streams to protect rescue teams and trapped people
- Use water to cool surface of tanks
- Divert the diesel fuel to an open area and let it burn off under controlled conditions.
- If the fire is put out before all diesel fuel is consumed, beware of re-ignition
- Where diesel fuel is running downhill, try to contain it as quickly as possible
- Rubber tires are almost impossible to extinguish, remove vehicles from the danger area.

Recovery:

- Unburned diesel fuel can be soaked up by sand and peat mass, or by chemical sorbents such as Graboil or Conwed
- If practical, contaminated soil should be excavated
- Diesel fuel entering the ground can be recovered by digging sumps or trenches
- Diesel fuel on a water surface should be recovered by skimmers and sorbent booms (See Section on Recovery of Oil Spills)

Disposal:

- Incineration under controlled conditions
- Burial at an approved site

Properties:

- Chemical composition mixture of hydrocarbons in the range C9 to C18
- Clear, oily liquid
- Not soluble, floats on water

Environmental Threat:

- Moderately toxic to fish and other aquatic organisms
- Harmful to waterfowl

- May create visual film on water

Containers:

- Transported by appropriate means available to available storage

11. ACTION PLAN FOR LUBRICATING & HYDRAULIC OIL SPILLS

Initial Spill Response:

- STOP the flow is possible
- ELIMINATE, open flame ignition sources
- CONTAIN flow of oil by constructing a dyke to barricade or block flow by any means available. Use earth moving equipment if practical
- If flow has reached any natural stream, mobilize the team to deploy river boom, skimmer and sorbent booms.

Hazards:

- Slightly toxic by ingestion
- Combustible

Action for Fire:

- Use carbon dioxide, dry chemical, foam or water spray (fog), although water may spread the fire
- Use fog streams to protect rescue team and trapped people
- Use water to cool surface of tanks
- Divert the oil to an open area and let it burn off under controlled conditions
- If the fire is put out before all oil is consumed, beware of re-ignition
- Rubber tires are almost impossible to extinguish, remove vehicles from the danger area

Recovery:

- Unburned lubricating and hydraulic oils can be soaked up by sand and peat moss, or by chemical sorbents, such as Graboil or Conwed
- If necessary, contaminated soil should be excavated
- Oil on water should be recovered by skimmers and sorbent booms

Disposal:

- Incineration under controlled conditions
- Burial at an approved site.

Properties

- Chemical composition: mixture of hydrocarbons and conventional industrial oil additives
- Generally viscous liquids, various. colours
- Not soluble, floats on water

Environmental Threat:

- Moderately toxic to fish and other aquatic organisms
- Harmful to waterfowl
- May create visual film on water and shorelines.

Containers:

- Transported by appropriate methods to acceptable storage, (typically 205 litre drums)
- Bulk transportation and storage also.

12. ACTION PLAN FOR ETHYLENE GLYCOL (ANTIFREEZE) SPILL

Initial Spill Response:

- STOP the flow at source if possible
- ELIMINATE open flame ignition sources
- CONTAIN flow of liquid by constructing a dyke to barricade or block flow by any means available
- PREVENT antifreeze from entering any flowing streams

Hazards:

- Moderately toxic by ingestion and inhalation
- Flammable

Action for Fire:

- Use carbon dioxide, dry chemical foam or water spray (fog).

Recovery:

- Ethylene glycol antifreeze can be soaked up by peat moss or by commercial sorbents such as Hazorb
- Access to spilled or recovered ethylene glycol by mammals should be prevented

Disposal:

- Incineration under controlled conditions
- Burial at an approved site