5. ACTION PLAN

The following substances could potentially be spilled at the FOX-5 site:

- Fuel tank bottom sludges;
- Solvents;
- Fuels and lubricating oils;
- Alcohols and glycols;
- PCB containing liquids; and
- Heavy metal containing liquids.

5.1 Environmental Protection Measures

The environmental protection measures outlined in the following sections are to be taken by all workers on-site to reduce the chance of environmental impairment due to a spill, release or other accident.

5.1.1 General Procedures

The following general clean up procedures shall apply for all spill areas.

- Wear protective clothing as required for handling spills.
- Contain spills on soil or rock by constructing earthen dykes using available material. If soil is not available, place sorbent material or boom in path of spill. As the sorbent barrier becomes saturated, continually replace it. Fuel or other liquids lying in pools, trenches or in specially constructed troughs are to be removed with pumps, buckets or skimmers.

- If ground is snow covered, create snow dykes and line with a chemically-compactible liner for containment and recovery of liquid.
- For fuel spills on water, deploy containment booms and recover as much fuel as possible with a work boat and skimmer if the area has less than 1/10 ice cover. If the area is ice infested, burn any fuel spills using igniters.
- Apply sorbents, if necessary.
- Assess potential for disturbance of wildlife, fish, and archaeological sites by spill or clean up operations and notify the relevant authorities.
- Notify environmental authorities to discuss disposal and clean up options.
- Conduct required clean up operations.
- Assess and appropriately treat any areas disturbed by clean up activities.
- Ensure the site has been completely restored and leave the site only when all work is finalized.

5.1.2 Fuel Storage Areas

- Avoid sites that slope towards waterways or other environmentally sensitive areas, exhibit ponding or flooding, or have high groundwater tables, excessive seepage or ice-rich (thaw sensitive) soils. Avoid archaeological resources.
- Conduct fuelling and lubrication of equipment in a manner that avoids spillage of fuels, oils, greases and coolants. When refuelling equipment, operators are to use leak-free containers and reinforced rip and puncture proof hoses and nozzles. Operators are to be in attendance for the duration of the refuelling operation and are to ensure that all storage container outlets are properly sealed after use.

- Store fuel in self-dyking containers, or position over an impervious liner and surround by an impervious dyke of sufficient height to contain not less that 110% of the capacity of the tank.

- Smoking is prohibited within 7.5 metres of the fuel storage facility. Provide appropriate signage.

- Inspect fuel storage facilities at least once each week for the duration of the project. Fire-fighting equipment is to be available for immediate access at each and every fuel storage facility.

- Store all barrels containing fuel and/or other hazardous materials in an elevated position either on their side with the bungs facing the 9 and 3 o'clock position or on pallets, upright, banded and encased in overpack containers.

- All barrels shall be individually identified. The label shall be to industry standards and shall provide all information necessary for health and safety, and environmental purposes. Make available, to all personnel, Material Safety Data Sheets for all materials maintained in the construction camp.

- Treat all waste petroleum products including used oil filters as hazardous material, and handle and dispose of following the requirements as specified in the appropriate regulations.

- Conduct regular inspections of all machinery hydraulic, fuel, and cooling systems. Repair leaks immediately.

- Pre-assemble and maintain emergency spill equipment including as least two fuel pumps, empty 200 litre barrels and absorbent material sufficient to clean up a 1000 litre spill at all permanent fuel storage sites and work camps.

- Remove all barrels, redundant fuel storage facilities and associated materials and equipment from the site at the conclusion of the work.

5.1.3 Hazardous Material Storage Areas

Hazardous waste materials are wastes or materials that are designated as "hazardous" under Northwest Territories or Federal legislation; or as "dangerous goods" under the *Transportation of Dangerous Goods Act* (TDGA). The *Canadian Environmental Protection Act* (CEPA) regulates material containing PCBs at greater than fifty parts per million (ppm).

Hazardous waste materials may be encountered during sorting of site and demolition debris and during the excavation of the landfills. Collect and sort hazardous materials using equipment suitable for the task.

- Locate the hazardous material processing area a minimum of 100 metres from the nearest archaeological site or water body, on ice poor, well drained soil, and as close to the location of work as possible.

- Control movement of vehicles and equipment between the hazardous material processing area and work site to prevent the spread of potentially hazardous material along roadways.

- Store hazardous materials so that each storage area is separated from the nearest water body by a 30 metre buffer zone.

- The *Transportation of Dangerous Goods Act* (TDGA) and the *International Air Transport Association* (IATA) Dangerous Goods Regulations govern the packaging and shipment of hazardous goods within Canada. If shipping out of Canada, Canadian regulations and regulations of the destination country both apply. Requirements of the International Marine Dangerous Goods Code (IMDGC) must be addressed in international waters (e.g. near Greenland).

- Any material classified as hazardous by the TDGA must be accompanied by the appropriate TDG shipping documents. The documents are to state the shipper, the receiver and all

carriers involved in the transport of the shipment. Non-hazardous materials are also to be accompanied by a document indicating ownership and responsibility of the receiver.

- Package all hazardous material in accordance with the Transportation of Dangerous Goods Regulations.

NOTE: MSD Sheets and other information on hazardous materials are to be provided by the Contractor once they begin clean up activities at the site.

5.2 Spill Recovery Success

In order to determine whether a spill has been successfully remediated, samples of soil and/or water are to be collected and tested for the chemical parameters contained in the spill material. If concentrations of the spill chemicals are not detected, or are at concentrations below the applicable Territorial, CCME, or DLCU criteria, the spill clean up will be determined a success.

6. ENVIRONMENTAL MAPPING

Figure 5 is a topographic map segment that shows the location and property boundaries of Qikiqtarjuaq. Drawings 101 and 102 include an overall site plan and the project layout showing the location of the site facilities and construction/clean up camp. Figure 5 and the drawings are included at the end of this section.

7. RESOURCE INVENTORY

The following equipment is typically found on-site during a clean up program. The exact type of equipment found at the FOX-5 site may vary slightly.

- Cat 966 front-end loader or equivalent with buckets, snow plow and forks
- Cat D7 bulldozer or equivalent with blade and ripper
- Cat D3 bulldozer or equivalent with blade and backhoe
- End-dump or body-job gravel trucks
- Fuel truck
- Platform/Flatbed truck
- Crane
- Hitachi 200 Excavator or equivalent.
- Cat C5563 compactor or equivalent
- Tow behind packer (smooth drum or sheep foot)
- Truck/track mounted drill rig (percussion or rotary)
- All terrain vehicles
- Pick-up trucks (1 service truck)
- Generators
- Water truck
- Screening Plant
- Crushing Plant (less common)

Other resources available for use in the event of a spill can be provided by the Hamlet of Qikiqtarjuaq (formerly Broughton Island). The FOX-5 site is located adjacent to this community.

All equipment is generally stored at the construction camp/storage area where the camp personnel are stationed. Some equipment may be stored at the area in which the equipment is being used.

However, because of the relatively compact size of the FOX-5 site, deployment to a potential spill area would be immediate.

All vehicles are to be equipped with absorbent materials, drip trays, shovels and disposal bags.

8. TRAINING AND EXERCISES

The Spill Response Training Program will provide instruction in all aspects of spill response stated in the plan for all on-site personnel.

Spill Response Training will include the following subjects:

- Spill Awareness and Prevention;
- Methods of Detection;
- Storage and Distribution Systems;
- Storage of Products on-site;
- Types of Spills and Seasonal Considerations;
- Reporting Procedures and Initial Responses;
- Spill Response Kit Familiarization;
- Clean up and Site Remediation Methods;
- Occupational Health and Safety; and,
- Post Spill Review Process and Documentation

Instruction in Spill Response Training will be conducted via lectures, audio-visual presentations, and spill simulation and site remediation exercises.

NOTE: The training is to be provided by qualified personnel provided by the Contractor

APPENDIX I

Information Sources

Northwest Territories Water Board. 1987. Guidelines for Contingency Planning. Prepared by the Northwest Territories Water Board Technical Advisory Committee. January 1987.

UMA. 2003. Specifications for the Cleanup of FOX-5 Broughton Island DEW Line Site. Prepared by UMA Engineering Ltd., in association with SGE-Acres Ltd. March 2003.

Figure 1: Emergency Response Team Organization

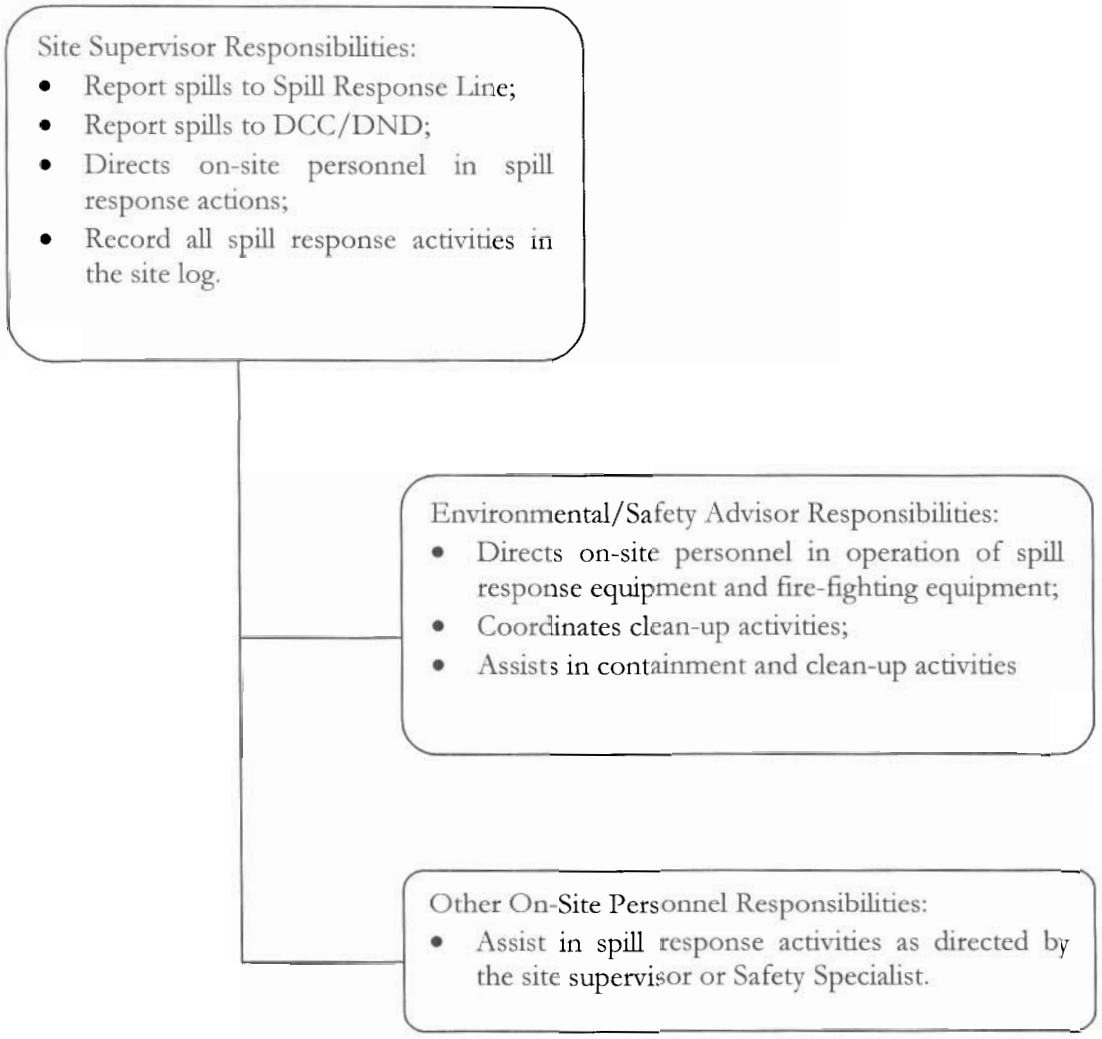

Figure 2: Initial Response Actions

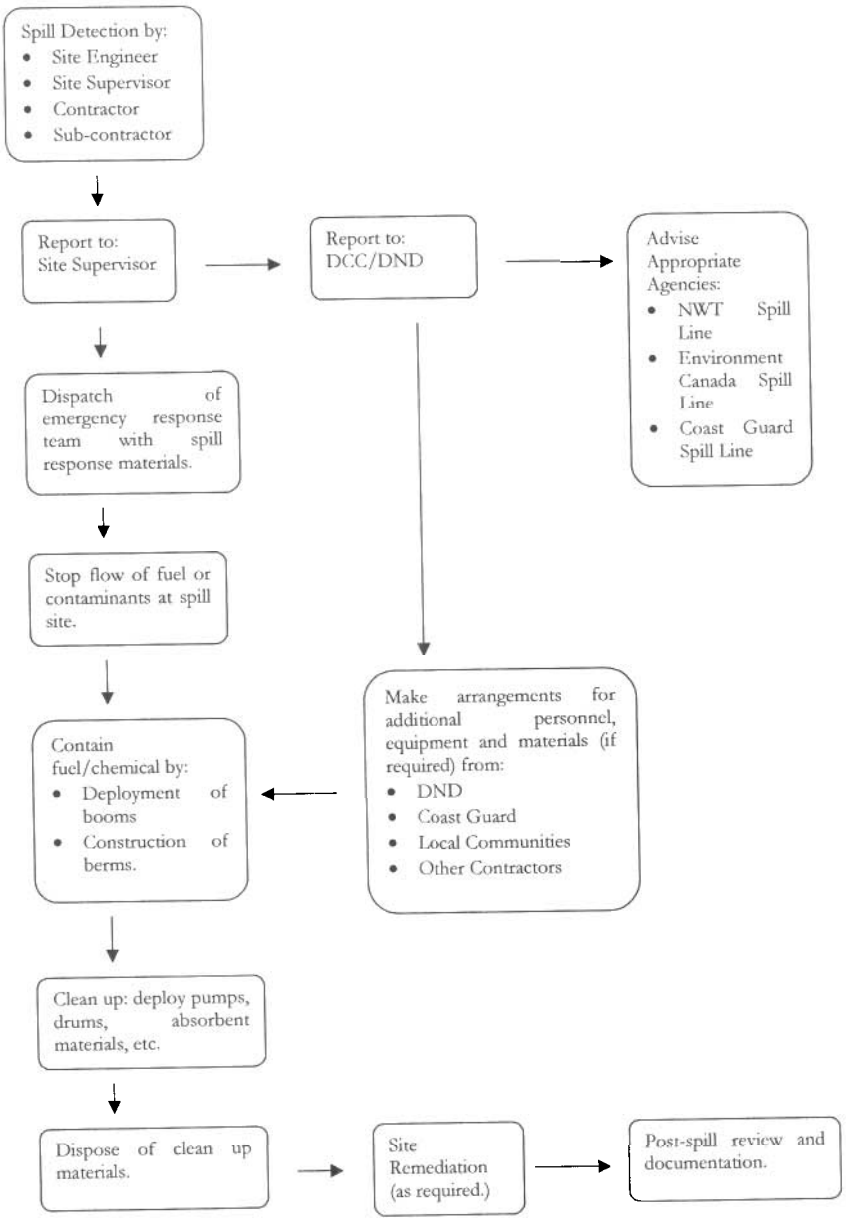

Figure 3: Procedures for Land Spill Response

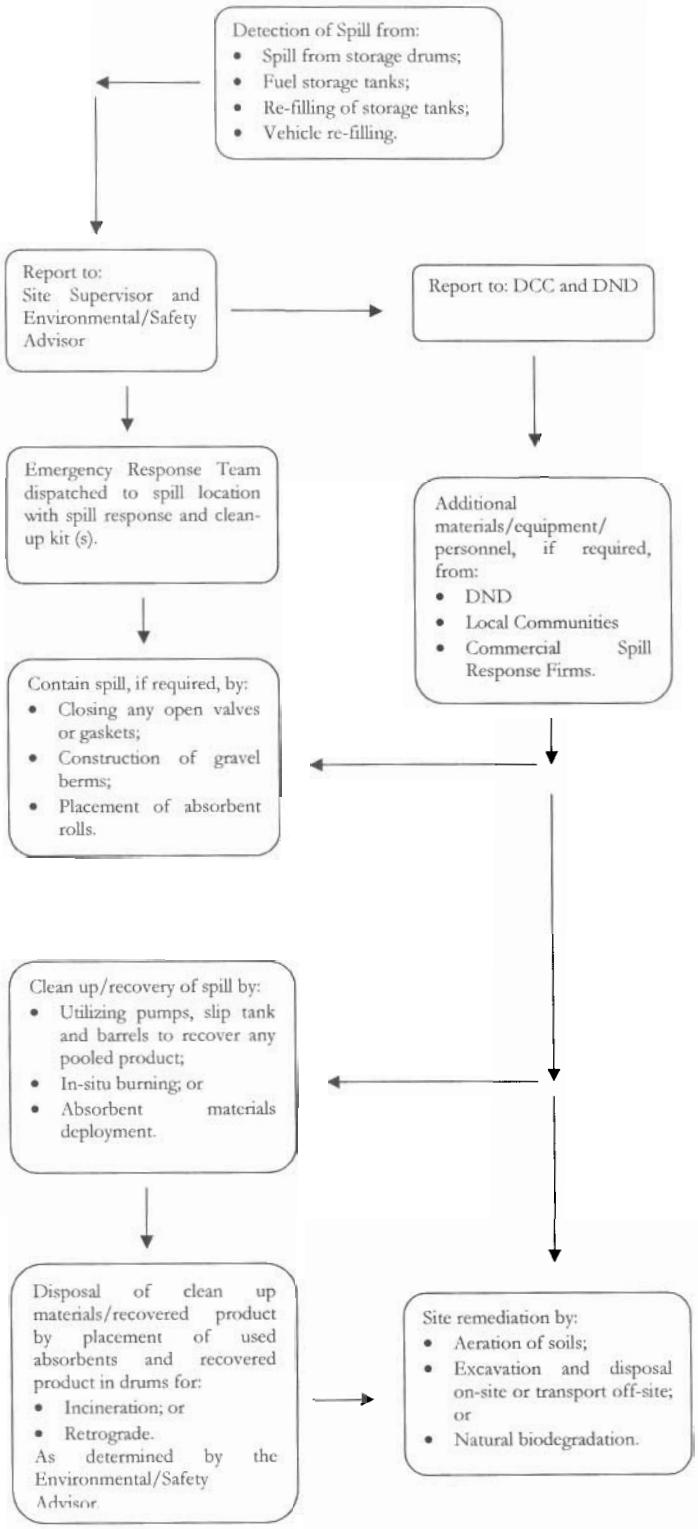

Figure 4: Response Procedures for Freshwater and Marine Spill Response