Manager or designate:

Sewage Line

- Visual inspection of the package sewage treatment plant.
- Visual inspection of the pipeline and heat trace checks at locations along the pipeline.
- Visual inspection of the pump (lift) station at the main camp.

Minewater Sump

- A daily visual inspection shall be conducted of the lined sump and its pipe line to ensure its capacity and integrity. This sump is located outside of the portal and collects/recycles water pumped from underground during drilling activities.

Freshwater Pump and Distribution

- Building heater check; ambient room temperature.
- In-line heater check; discharge water temperature.
- Pump temperature.
- Doors and general condition.

Fuel Storage Facilities

- Visual inspection of the bulk fuel storage facilities at both the main camp and at Camp 3. General condition of the two sites along with fuel transfer record keeping are essential. Fuel lines, valves and transfer aprons are to be checked on a weekly basis. Status of fuel transport vehicles are to be included in the inspections.

5.0 SYSTEM MALFUNCTION – RESPONSE INFORMATION

The Sewage system, the mine water line and sump and the fuel storage facilities are the main components of concern with regard to ongoing activities and in discussing failures and system malfunctions.

5.1 Sewage System

The sewage system is operated at the main camp and consists of a modular Rotating Biological Contactor with effluent discharge to the East Lake basin. The system is checked on a regular basis, however should a failure occur all overflow/releases would report directly to East Lake basin. Problems with the collection system and piping would be a little more widespread as the camp area

has been maintained quite level with a few small depressions and appropriate grading for miscellaneous collection.

Release from East Lake occurs naturally and flows toward Ulu Lake. The majority of flow after spring melt is considered to take place among the boulders in the ouflow channel and below surface. Tentative plans during final construction include the addition of a containment berm to provide an additional barrier prior to reaching Ulu Lake.

If a failure should result along the heat traced two (2) inch pipeline between the camp and East Lake, a shutdown of the system would be required and repairs undertaken.

- for the short term, the sewage effluent may be re-routed to one of the other (proposed) sumps.

Appropriate response team action would have repairs completed to the satisfaction of the supervisor in charge and effluent returning directly to East Lake.

5.2 Mine Water

5.2.1 Uncontrolled Release

In the event of a line break or malfunction along the mine dewatering line the Building & Maintenance Supervisor would initiate a lock out of the pumping system and employ the appropriate Reporting/Response team action.

As the mine dewatering line is located down gradient of the sump, any water remaining in the line would back flow into the mine workings. Likewise, any failure of the line prior to the sump would result in the water simply returning to the mine. With the sump located just outside of the portal, any failure, breach or overflow of the containment berms would result in the contents flowing downhill towards the portal. In the event of a winter failure, there may be the possibility that snow accumulation and buildup from clearing practices impedes the flow of water and it occurs away from the portal, then immediate action to reduce and minimize impacts to water resources in the area are required. Re-establishment of the containment or pipeline integrity is a priority.

Ground Contamination - Any mine water that has escaped from the pipeline and deposited on the surrounding ground would be contained if possible. removed and disposed of within the mine portal (or in an alternate sump when construction has been completed - Ore Storage Pad). Contaminated snow should also be removed to the portal location to allow collection of runoff in the spring.

Water Contamination - Any mine water that has escaped from the system will travel down gradient from the site pad and collect in the East Lake basin, where sampling can determine extent of contamination.

5.3 Petroleum and Chemical Products - Response Information

5.3.1 General

The petroleum and chemical products used at the Ulu Exploration Project, that exist in significant amounts to be concerned with in this Plan, are summarized in Table 1 located within the Appendix I. This table indicates the petroleum/chemical product name, storage location and normal storage container packaging or storage volume utilized.

There are two standard operational procedures where possible spill scenarios may be encountered involving petroleum/chemical products. These are during:

1) receiving/offloading procedures whereby fuel is pumped from tanker trucks to site storage facilities and chemical supplies are removed from transport trucks to their respective storage locations.

2) normal daily operations whereby fuel is pumped from the main tank farm at Camp 3 to the vehicle which refuels the Ulu Camp satellite tanks and when explosives are transported from the storage facilities at Camp 3 to the day storage area at the Ulu Camp.

The measures outlined in the response plans intend to minimize the potential impact to water and land following a petroleum/chemical spill. Keeping in mind that the immediate action is to preserve health and limit environmental damage, the plans deal with the procedures/methods of spill containment, termination, remedial measures and clean-up of spills related to those products used at the mine.

5.3.2 Spill Containment, Recovery and Disposal

The potential exists for spills of both petroleum products and chemical (ammonium nitrate) used at the Ulu Exploration Project. A spill may be in the form of a liquid as in petroleum products, or in the form of a solid as in the ANFO which could be used on a regular basis in the event the existing ramp is extended.

The spill of either form may occur in one or a combination of the following areas; on land, snow, ice or in the water. Various proven practical methods of containment and recovery are well documented for use in northern climates and are summarized below. For additional technical information, one should consult the Environment Canada Report EPS 9/SP/2, December, 1986.

The first initial response is to prevent any direct health risk to response personnel. Persons not directly associated with the clean-up operations are to be directed to leave the immediate area. The area will be isolated and limited to traffic as directed by the response team personnel.

Containment

On Land

Petroleum products spilling onto frozen snow covered ground may be contained by the construction of **snow dykes**. For fast initial containment of smaller spills the dykes can be built manually with shovels. Larger spills may require the use of heavy equipment such as graders and bulldozers.

The impermeability of dykes may be ensured by lining with a polyethylene plastic liner, plastic tarpaulin or similar synthetic material. Alternatively, in freezing temperatures, water may be sprayed or poured over the dykes to further enhance the barrier to the spilled material. This method assumes that water is available or may be accessible from the spill site or camp. Synthetically lined dykes are more effective than just snow or snow and ice-lined dykes.

During warmer months, containment dykes may be constructed from **sand or gravel** if these materials are available in an unfrozen form. Again, for smaller spills, the dykes can be fashioned manually with shovels where for larger spills, trucks or other heavy equipment (frontend loaders) will normally be required to transport and handle sand and gravel.

Trenching or ditching can be used as a method for containing and/or intercepting the flow of liquid spills on land. Ice, snow, loose sand, gravel and surface layers of organic material can usually be scraped or dug away until the underlying frozen substrate is reached. This can be effective in re-directing flow or simple containment prior to pumping or absorbing the spilled material. Trenching in solid frozen ground or rocky substrate is normally neither practical nor possible.

The spillage of solid materials on land is much simpler to contain and recover. During the winter months, spilled material is generally self-contained due to its nature. Some precaution with regard to wind-blown dispersion may be required with lighter materials (ANFO). In these cases, a **layer of snow** placed on top of the spilled material will suffice until removal to appropriate disposal is arranged. In summer months, minor containment berms will be required when there is moisture present or precipitation is occurring or is likely to occur.

On Snow

Containment on snow is readily achieved and is very effective due to its absorbent quality. Liquid spills (petroleum) will become immobile within the snow pack and easily removed for transport for recovery or disposal. Use the snow to its advantage in construction of snow dykes/dams. Whenever possible, the snow pack should be left in place to avoid contaminating the underlying substrate.

On Ice

Spills that occur on ice, from either direct spillage or migration to the ice, are greatly affected by the strength of the ice. If the spill does not penetrate the ice, and the ice is safe to work on, then the methods of containment are similar to that on land. Where the spill has penetrated the ice, the situation should be handled similar to that on open water. If, as in petroleum spills, the material floats, then every effort should focus on the recovery of the material using pumping/suction methods, and absorbents.

On Open Water

A spill occurring on or into open water is very difficult to contain and every effort should be made to prevent the material from entering the water. If in the case of petroleum products, the material floats, then immediate deployment of surface booms should take place to control the spread of material. Pumping is the method of choice for removal of contained material.

Recovery

Spilled petroleum products contained within a dyked or trenched area should be recovered by pumping into a standby tanker, portable storage tank or drums dependent on volume involved, or use of an independent vacuum truck. Pump and suction hoses should be screened to prevent snow, ice or debris from clogging the line or pump.

Any remaining material may be absorbed by use of a variety of natural and commercially available products. Synthetic products such as 3M Brand, Conweb and others are easier to use and more efficient than natural products.

The availability of shovels, rakes and pitchforks are invaluable in any spill clean-up and recovery operation. The use of heavy equipment for larger spill situations such as front-end loaders and haul trucks, make the removal of material easier. It also ensures that all materials, including absorbent sand, snow etc. have been removed from the site.

Disposal

Petroleum products such as fuel or oil that has been recovered by pumping into portable tanks, drums or a standby tanker can often be reclaimed and reused. Water and debris can be separated from the pure fuel by gravimetric means in a tank. In this manner disposal can be minimized and financial losses reduced.

In-situ combustion may be used as a final means of disposal after every effort has been made to remove the spilled fuel/oil etc. **Approval for burning of petroleum products must be obtained prior to combustion.** Burning should never be carried out on land where combustible organics are present and the oil has migrated into the soil. Removal is the method of choice in this case.

The most efficient means of igniting diesel oil for in-situ combustion is with a large size portable propane torch. Other highly flammable products such as gasoline or alcohol, or combustible products, such as wood may also be used to promote ignition of the spilled product. Spilled oil should be ignited where it has pooled naturally or been contained by dykes, trenches or depressions. Oil which has collected in slots in river ice may also be disposed of by in-situ combustion if sufficient holes are drilled in the ice. Once holes are drilled, the oil which collects in the holes may be ignited.

Liquid oil wastes (which cannot be reclaimed), oil contaminated snow and debris and oil residues left after in-situ combustion will be picked up and disposed of at a land disposal site approved by government authorities. Currently, hydrocarbon contaminated materials are removed to either the incinerator or the burn area of the site landfill for ignition. Disposal at local municipal dumps may be an alternative if required, in this case GNWT would be consulted.

Spilled chemical products should be recovered and reused wherever possible. All materials unable to be used are currently collected and incinerated.

5.3.3 Other Concerns

Fire

In the event that the accident/incident is in combination with a fire, extinguishing the fire may be required prior to initiating efforts to stop the spillage.

In order to control the resulting runoff (in cases where water is used), and the subsequent spreading of the spilled material, any indication of slope away from the area of the spill should be dyked for containment.

Petroleum and chemical fires have the potential to generate toxic fumes under poor combustion conditions. Approaching and dealing with any fire from upwind is recommended as well as caution with regard to breathing the vapours

generated from the fire. Ulu personnel have access to the proper Personal Protective Equipment.

In the case where ANFO is the material involved the following action should be taken;

1) rope off the area and control entry
2) evacuate the area and do not attempt to fight the fire
3) the ANFO, or any resulting solution (fire in winter on snow or ice) must not be allowed access to bodies of water, especially flowing streams/rivers
4) fires involving small quantities of ANFO may be fought using water, however if the fire is not a hazard to persons or the surrounding environment, it is generally acceptable to allow the material to burn off, then initiate clean-up measures.

Camp 3 Fuel Tank Farm

In the event of any emergency at the tank farms relating to fire, flooding, spills, etc; any electrical power in the area shall be shut off as quickly as possible to minimize further damage.

6.0 SPILL RESPONSE RESOURCES

A wide variety of spill control/recovery equipment and materials exists at the site for dealing with emergency spills of petroleum products and chemicals. Heavy construction equipment is also available for use on demand.

6.1 Response Equipment

All equipment is stored in such a manner as to be readily available on short notice. The Project Manager would immediately respond to a reported spill site by notifying his on duty equipment operators to move equipment and material necessary to provide control and cleanup measures at the reported spill. Additional operations personnel are available through the mine department if the need arises.

The equipment to be used would consist of a Cat 966D Loader, 2 CAT 769 Heavy Hauler Trucks, a D8N Dozer (or D6H Dozer) and a CAT 14G Grader. A current list of equipment at the Ulu Project Site is available in Appendix I.

Emergency spill containment and recovery materials and supplies are available for immediate mobilization at any time. These materials are located in the designated Sea container labeled Emergency Spill Kit. This kit contains a supply of absorbent pads, floordry absorbent, pumps, hoses, couplings and miscellaneous parts for recovery equipment.

6.2 Response Team

Authorization for deployment of personnel, containment, clean-up and recovery equipment are as per the Figure 1 "Response Team Flowsheet" organizational chart.

The designate/next-in-line authority shall be contacted if management is off site and unavailable.

A telephone listing of Ulu Exploration Project contact personnel is included in Appendix I.

6.3 Training and Exercises

All response team staff will maintain familiarity with the continually updated Spill Contingency Plan by scheduling periodic reviews. For the Department heads, this is completed in conjunction with the review of the site's Emergency Procedures Manual.

All personnel dealing with equipment that would be involved in cleaning up any spills related to the Spill Contingency Plan have extensive experience as heavy equipment operators and, therefore, further training in this area is not seen to be applicable. The daily work routine followed by the surface heavy equipment operators, involves much of the same type of work as would be required when dealing with a dyke failure or a minewater line break. Roadway construction (materials hauling, grading) and snow removal/clearing are all part of day to day activities.

Training with regard to hazardous materials handling will be carried out as required and in conjunction with Transportation of Dangerous Goods Regulations.

WHMIS (Workplace Hazardous Material Information System) training is provided to all new employees as well as in the form of annual refresher courses for current employees. Core WHMIS along with job specific training is covered in these programs. Information through WHMIS is available at each department for "specifics" of that department. As well, master stations are in place which carry the MSDS's for the entire site.

Environmental Awareness Program sessions are held in conjunction with safety sessions which deal with employee environmental responsibility and spill reporting. Initial orientation prior to beginning employment also includes the importance of environmental awareness.

The question of a simulation exercise should be scrutinized because it is our belief that during a simulated exercise, there could be damage caused to the

fragile tundra which may result in extensive long term effects. There may be a need in the future for pumping/transfer of sump water to other holding areas or to the environment which could be done in conjunction with training exercises. Currently, pumping is not required nor seen to be an issue in the near future.

7.0 COMPONENT AND PETROLEUM/CHEMICAL PRODUCT – DETAILED RESPONSE PLANS

The following section contains the Response Plans for the major System Components of the mine site and Petroleum/chemical products stored and used at the Ulu Project.

System Components

a) Sewage Disposal Facility
b) Mine Water and Sump

Petroleum/Chemical Products

c) Diesel Fuel
d) Gasoline and Aviation Fuel
e) Lubricating and Hydraulic Oils
f) Ethylene Glycol Antifreeze
g) Anfo Explosives

SPILL CONTINGENCY PLAN	SECTION: ACTION PLANS
Ulu Exploration Project	SUBJECT: SEWAGE SYSTEMS

In the event of a **SEWAGE SYSTEM FAILURE (TREATMENT FACILITY/PIPING)** the following action plan is to be initiated.

24 HOUR SPILL REPORT LINE (867) 920-8130

INITIAL SPILL RESPONSE

- Notify the Project Manager or designate immediately via radio, phone or in person and initiate the response team. **Spill reported via 24 hour emergency spill line**, above;
- If necessary, direct the initiation of shut down procedures for the pumping system in order to **STOP** the flow of sewage through to the environment (East Lake);
- If the failure is piping related, the sewage discharge will be shut down. Provisions, if in place may provide an alternative/temporary disposal to the mine portal sump for storage.
- A detailed spill report shall be submitted as per Section 2.3

HAZARDS

- the sewage stream from the site contains grey water from all sources (mill and mine drys, all accommodation shower facilities, kitchen and all washroom facilities on site.
- there are no chemicals used in the process;
- due to the nature of the source, health risks are associated with bacterial infections and disease that may be transmitted through exposure.

ACTION FOR FIRE

- Non-flammable
- use CO_2, dry chemical, foam or water spray (fog), although water may spread the contaminant;
- use water to cool other flammable materials;

RECOVERY

- **Ground contamination**; any sewage material that has escaped from the pipeline or containment areas onto surrounding tundra shall be removed, where possible and disposed of within the designated area for burial of sewage sludge;
- If required, esker material and/or crushed wasted rock shall be used to fill any depressions left after excavation of the spill material.
- Solutions, where contained shall be pumped back into the sewage treatment system or sampled and released if suitable;

- **Water contamination**; these areas are difficult to mitigate as movement of contaminated material (and water) may continue long after the initial incident;

- local authorities should be contacted regarding advice for cleanup or additional work to be carried out. DIAND Water Resources or Env. Can. Dept. of Fisheries and Oceans.

DISPOSAL

- contaminated materials are to be disposed of within the designated sewage sludge disposal area.

PROPERTIES

- the exploration site sewage system contains a mixture of camp waters which include camp drys, accommodation washroom facilities and the kitchen.
- water accounts for greater than 90% of the component which is used during day to day activities; the remainder is organic solids which are treated within the package facility.

ENVIRONMENTAL CONCERNS

- solution only mildly toxic to fish and other aquatic organisms due to the low dissolved oxygen that may occur due to biological loading;
- effluents could contain minor amounts of nutrients (nitrogen and phosphate components) that may promote plant growth in downstream water bodies.

CONTAINERS

- N/A

SUPPLIER

- N/A

SPILL CONTINGENCY PLAN	SECTION: ACTION PLANS
Ulu Exploration Project	SUBJECT: MINE WATER LINE AND SUMP FAILURE

In the event of a **MINE WATER PIPELINE or SUMP FAILURE** the following action plan is to be initiated.

24 HOUR SPILL REPORT LINE (867) 920-8130

INITIAL SPILL RESPONSE

- Notify the Project Manager or designate immediately via radio, phone or in person and initiate the response team. **Spill reported via 24 hour emergency spill line**, above;
- The Mine Shift boss is to be notified regarding the potential need for disruption to the pumping system;
- If necessary, direct the initiation of shut down procedures for the pumping system in order to **STOP** the flow of mine water the sump;
- If the failure is piping related, the mine water pumping will be discontinued and recirculated within the mine underground sumps until corrections have been made.
- A detailed spill report shall be submitted as per Section 2.3

HAZARDS

- the mine water stream from underground contains water from all mining activities and a small amount of infiltration water.
- the only additive used is calcium chloride, added for drilling in the upper permafrost areas of the mine;
- due to the nature of activities underground (explosives use), there is ammonia contained in the water from dissolution at active mining areas. This ammonia is relatively stable in the water however it may be released as a gas if it comes in contact with cement, which raises the pH above 9.

ACTION FOR FIRE

- Non-flammable
- use CO_2, dry chemical, foam or water spray (fog), although water may spread the contaminant;
- use water to cool other flammable materials;

RECOVERY

- **Ground contamination**; any mine water that has escaped from the pipeline onto surrounding tundra shall be removed (pumped), where possible, and returned to the mine portal sump.
- If required, esker material and/or crushed wasted rock shall be used to fill any depressions left after excavation of the spill material.

- **Water contamination**; these areas are difficult to mitigate as movement of contaminated material (and water) may continue long after the initial incident;
- local authorities should be contacted regarding advice for cleanup or additional work to be carried out. DIAND Water Resources or Env. Can. Dept. of Fisheries and Oceans.

DISPOSAL

- contaminated materials are to be returned to the portal area or portal sump. Any leaching of contaminants will report back to the mine working via the portal.

PROPERTIES

- the mine site mine water contains a mixture of many naturally occurring elements from the ground being developed. As a result, various metals are present along with naturally occurring chloride from historic water giving the water a high conductivity from the dissolved solids. The pH is generally neutral at 7-7.5.

ENVIRONMENTAL CONCERNS

- solution may be toxic to fish and other aquatic organisms due to the low dissolved oxygen that may occur, ammonia present from underground operations and considerable dissolve solids present;

- effluents could contain minor amounts of nutrients (nitrogen components) that may promote plant growth in downstream water bodies. Ammonia is present from residual blasting agents.

CONTAINERS

- N/A

SUPPLIER

- N/A

SPILL CONTINGENCY PLAN	SECTION: ACTION PLANS
Ulu Exploration Project	SUBJECT: DIESEL FUEL

In the event of a **DIESEL FUEL** spill or where there is reasonable likelihood of a spill occurring, the following action plan is to be initiated.

24 HOUR SPILL REPORT LINE (867) 920-8130 INITIAL SPILL RESPONSE

- Notify the Project Manager or designate immediately via radio, phone or in person and initiate the response team. **Spill reported via 24 hour emergency spill line**, above;
- **STOP** the flow of diesel fuel if possible;
- ELIMINATE open flame ignition sources;
- CONTAIN flow of oil by dyking, barricading or blocking flow by any means available. Use earthmoving equipment if nearby;
- if flow has reached flowing natural stream, mobilize team to deploy river boom, skimmer and sorbent booms.
- A detailed spill report shall be submitted as per Section 2.3

HAZARDS

- low toxicity by ingestion, mildly irritating to eyes
- combustible, low fire hazard;
- avoid contact with oxidizing materials

ACTION FOR FIRE

- use CO_2, 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 diesel fuel to an open area and let it burn off under control;
- 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 after involvement with a fire. Have vehicles with burning tires removed from the danger area.

RECOVERY

- Recovered soils from contaminated fuel can be soaked up by sand and peat moss or snow if available, or by synthetic sorbents such as 3M Brand, Graboil or Conwed;
- if necessary, 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; obtain prior approval.
- burial at an approved site.

PROPERTIES

- chemical composition: mixture of hydrocarbons in the range C_9 to C_{18};
- clear to yellow, bright oily liquid with hydrocarbon odour;
- not soluble, floats on water.

ENVIRONMENTAL CONCERNS

- moderately toxic to fish and other aquatic organisms;
- harmful to waterfowl;
- may create unsightly film on water.

CONTAINERS

- transported by tanker truck and transferred to various storage tanks in the tank farm. See inventory in Appendix I.

SUPPLIER

- As per annual tendering. (eg: Petro-Canada)
- SEE ATTACHED MSDS FOR ADDITIONAL INFORMATION

SPILL CONTINGENCY PLAN	SECTION: ACTION PLANS
Ulu Exploration Project	SUBJECT: GASOLINE/AVIATION FUEL

In the event of a **GASOLINE OR AVIATION FUEL** spill or where there is reasonable likelihood of a spill occurring, the following action plan is to be initiated.

24 HOUR SPILL REPORT LINE (867) 920-8130 INITIAL SPILL RESPONSE

- Notify the Project Manager or designate immediately via radio, phone or in person and initiate the response team. **Spill reported via 24 hour emergency spill line**, above;
- **STOP** the flow of gasoline or aviation fuel if possible;
- ELIMINATE all possible sources of IGNITION, eg. extinguish cigarettes, shut off motors (from a remote location if surrounded by vapours);
- EVACUATE personnel from danger area;
- CAREFULLY CONSIDER the hazards and merits of trying to contain the spill. Contain only if safe to do so, and obvious benefit of containment is apparent (ie. contain if flowing towards a creek or water body). Otherwise leave gasoline to spread and evaporate. Do not attempt to contain a gasoline spill on water. Allow it to spread and evaporate;
- if spilled in an enclosed area, VENTILATE vapours.
- A detailed spill report shall be submitted as per Section 2.3

HAZARDS

- **EXTREME FIRE HAZARD** (Jet A, MODERATE), highly flammable;
- forms explosive mixture with air; is heavier than air and can migrate considerable distances to sources of ignition and flashback;
- easily ignited by flame or spark;
- avoid contact with oxidizing materials (eg. Lead Nitrate, acids);
- moderately toxic by ingestion, highly toxic if aspirated.
- Note: Jet B contains a small amount of Benzene which is a suspect human carcinogen.

ACTION FOR FIRE

- use CO_2, dry chemical, foam or water spray (fog), although water may spread the fire;
- use jet streams to wash away burning gasoline;
- use fog streams to protect rescue team and trapped people;
- use water to cool surface of tanks;
- divert the gasoline to an open area and let it burn off under control;
- if the fire is put out before all gasoline is consumed, beware of re-ignition;
- where gasoline is running downhill, try to contain it at the bottom prior to reaching lakes or streams;
- rubber tires are almost impossible to extinguish after involvement with a fire. Have vehicles with burning tires removed from the danger area.

RECOVERY

- unburned gasoline can be soaked up by sand and peat moss and snow when available, or by synthetic sorbents such as 3M Brand, Graboil or Conwed;

- if necessary, contaminated soil should be excavated;
- gasoline entering the ground can be recovered by digging sumps or trenches.

DISPOSAL

- evaporation;
- incineration under controlled conditions; obtain prior approval.
- burial at an approved site.

PROPERTIES

- chemical composition: mixture of hydrocarbons; Gasoline C4-C12, Jet B C6-C14 and Jet A C9-C16
- light green, clear, amber coloured liquids;
- volatile;
- not soluble, floats on water

ENVIRONMENTAL CONCERNS

- moderately toxic to fish and other aquatic organisms;
- may create unsightly film on water.

CONTAINERS

- Gasoline is transported by tanker trucks and pumped into a storage tank in the satellite tank farm. Drum shipping and storage of various grade fuels is in limited quantities.

SUPPLIERS

- As per annual tendering. (eg. Petro-Canada)
- SEE ATTACHED MSDS FOR ADDITIONAL INFORMATION

In the event of a **LUBRICATING OIL OR HYDRAULIC OIL** spill or where there is reasonable likelihood of a spill occurring, the following action plan is to be initiated.

24 HOUR SPILL REPORT LINE (867) 920-8130 INITIAL SPILL RESPONSE

- Notify the Project Manager or designate immediately via radio, phone or in person and initiate the response team. **Spill reported via 24 hour emergency spill line**, above;
- **STOP** the flow of oil if possible;
- ELIMINATE open flame ignition sources;
- CONTAIN flow of oil by dyking, barricading or blocking flow by any means available. Use earthmoving equipment if nearby;
- A detailed spill report shall be submitted as per Section 2.3

HAZARDS

- low toxicity by ingestion, mildly irritating to eyes
- combustible, low fire hazard;
- avoid contact with oxidizing materials (eg. Lead Nitrate, acids).

ACTION FOR FIRE

- use CO_2, 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 fire exposed containers;
- divert the oil to an open area and let it burn off under control;
- if the fire is put out before all oil is consumed, beware of re-ignition;
- rubber tires are almost impossible to extinguish after involvement with a fire. Have vehicles with burning tires removed from the danger area.

RECOVERY

- after containment, recover as much oil as possible by pumping into drums;
- residual oil may be burned in-situ, upon approval;
- remaining unburned oil can be soaked up by sand, peat moss and snow when available, or by synthetic sorbents such as 3M Brand, Graboil or Conwed;
- if necessary, contaminated soil should be excavated;
- oil on a water surface should be recovered by skimmers and sorbent booms.

DISPOSAL

- incineration under controlled conditions, prior approval required;
- burial at an approved site.
- ship to licensed waste reclaiming facility

PROPERTIES

- chemical composition: mixture of hydrocarbons and conventional industrial oil additives; C20-C66
- generally viscous liquids, light to dark amber colours;
- not soluble, floats on water.

ENVIRONMENTAL CONCERNS

- moderately toxic to fish and other aquatic organisms;
- harmful to waterfowl;
- may create unsightly film on water and shorelines.

CONTAINERS

- transported and stored in steel drums or cubes (these are self-contained units with an 8 drum capacity).

SUPPLIER

- As per annual tendering.
- SEE ATTACHED MSDS FOR ADDITIONAL INFORMATION

In the event of an **ANTIFREEZE (GLYCOL)** spill or where there is reasonable likelihood of a spill occurring, the following action plan is to be initiated.

24 HOUR SPILL REPORT LINE (867) 920-8130 INITIAL SPILL RESPONSE

- Notify the Project Manager or designate immediately via radio, phone or in person and initiate the response team. **Spill reported via 24 hour emergency spill line**, above;
- **STOP** the flow of Antifreeze at source if possible;
- ELIMINATE open flame ignition sources;
- CONTAIN flow of liquid by dyking, barricading or blocking flow by any means available;
- **PREVENT** antifreeze from entering any flowing streams.
- A detailed spill report shall be submitted as per Section 2.3

HAZARDS

- inhalation of mist may cause irritation of nose, throat and headache;
- moderately toxic by ingestion, can be fatal;
- avoid contact with strong oxidizing agents
- flammable, decomposition products include carbon dioxide and/or carbon monoxide.

ACTION FOR FIRE

- use alcohol type or all purpose foam for large fires; CO_2, dry chemical or water spray (fog) for small fires. Do not force solid streams into the burning liquid.

RECOVERY

- ethylene glycol antifreeze can be soaked up by peat moss or snow when available, or by synthetic sorbents such as Hazorb;
- small spills may be washed with copious amounts of water for dilution;
- access to spilled or recovered ethylene glycol by mammals should be prevented.

DISPOSAL

- only incinerate in a furnace under controlled conditions where approved by appropriate federal, provincial and local regulations;
- burial at an approved site.

PROPERTIES

- chemical composition: 96% ethylene glycol (CH_2OHCH_2OH)
- 4% water and rust inhibitors
- clear, syrupy liquid normally contains a dye for identification in water sources;
- 100% soluble in water;
- flammable.