



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: SEWAGE SYSTEM 2 of 2

**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 dries, 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



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: MINEWATER LINE and Sump1 of 2

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**

- Site Supervisor immediately via radio, phone or in person;
- The General Manager or designate shall be informed of the incident and the response team action initiated. **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<sub>2</sub>, 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.



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: MINEWATER LINE and Sump2 of 2

**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 dissolved 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



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: DIESEL FUEL 1 of 2

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**

- The Site Supervisor (General Manager) or designate shall be informed of the incident and the response team action initiated. **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 earth-moving 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<sub>2</sub>, 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.



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS	
	SUBJECT: DIESEL FUEL	2 of 2

**PROPERTIES**

- chemical composition: mixture of hydrocarbons in the range C<sub>9</sub> to C<sub>18</sub>;
- clear to yellow, bright oily liquid with hydrocarbon odour;
- not soluble, floats on water.

**ENVIRONMENTAL CONCERNS**

- moderately toxic to fish and other aquatic organism s;
- 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.

**SUPPLIER**

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



CONTINGENCY PLAN  Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: GASOLINE/ AVIATION FUEL  1 of 2

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

- The Site Supervisor (General Manager or designate) shall be informed of the incident and the response team action initiated. **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 suspected human carcinogen.

##### ACTION FOR FIRE

- use CO<sub>2</sub>, 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.



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: GASOLINE/ AVIATION FUEL 2 of 2

**DISPOSAL**

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

**PROPERTIES**

- chemical composition: mixture of hydrocarbons; Gasoline C<sub>4</sub>-C<sub>12</sub>, Jet B C<sub>6</sub>-C<sub>14</sub> and Jet A C<sub>9</sub>-C<sub>16</sub>
- 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



CONTINGENCY PLAN  Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: LUBRICATING/ HYDRAULIC OILS  1 of 2

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**

- The Site Supervisor (General Manager or designate) shall be informed of the incident and the response team action initiated. **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 earth-moving 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<sub>2</sub>, 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





CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: LUBRICATING/ HYDRAULIC OILS 2 of 2

**PROPERTIES**

- chemical composition: mixture of hydrocarbons and conventional industrial oil additives; C<sub>20</sub>-C<sub>66</sub>
- 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



CONTINGENCY PLAN  Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: ETHYLENE GLYCOL / ANTIFREEZE 1 of 2

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

- The Site Supervisor (General Manager or designate) shall be informed of the incident and the response team action initiated. **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<sub>2</sub>, 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<sub>2</sub>OHCH<sub>2</sub>OH)
- 4% water and rust inhibitors
- clear, syrupy liquid normally contains a dye for identification in water sources;
- 100% soluble in water;
- flammable.



CONTINGENCY PLAN Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: ETHYLENE GLYCOL / ANTIFREEZE 2 of 2

**ENVIRONMENTAL THREAT**

- low to moderate toxicity for fish and other aquatic organism s;
- attractive smell and taste to some mammals, and toxic by ingestion.

**CONTAINERS**

- transported and stored in steel drum s or cubes (which are a self-contained unit with an 8 drum capacity).

**SUPPLIER**

- DOW Chemical of Canada Ltd., Van Waters & Rogers Ltd.
- SEE ATTACHED MSDS FOR ADDITIONAL INFORMATION



CONTINGENCY PLAN  Ulu Exploration Project	SECTION: ACTION PLANS
	SUBJECT: AMMONIUM NITRATE / FUEL OIL; ANFO; 1 of 2

In the event of a **AMMONIUM NITRATE/FUEL 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

- The Site Supervisor (General Manager or designate) shall be informed of the incident and the response team action initiated. **Spill reported via 24 hour emergency spill line,** above;
- **STOP** the spill of ANFO at the source if possible;
- evacuate all non-essential personnel from the area and ensure the health and safety of those remaining;
- **ELIMINATE** all possible sources of ignition;
- **PREVENT** ANFO from contacting water;
- if ANFO does contact water, **CONTAIN** solution to as small an area as possible. Consider dyking with sand or snow to minimize travel;
- **ISOLATE** area of spill preferably by roping off affected area.
- A detailed spill report shall be submitted as per Section 2.3

##### HAZARDS

- may explode under confinement or high temperatures and friction;
- avoid contact with strong oxidizers (ie: Lead Nitrate)
- flammable;
- combustion products are toxic and may include hydrocarbons, oxides of carbon and nitrogen;
- low toxicity.

##### ACTION FOR FIRE

- for fires involving large quantities of ANFO, evacuate and **Do Not Attempt** to fight fires;
- for fires involving small quantities of ANFO, use large amounts of water to extinguish, control runoff;
- ANFO may detonate in fire, under severe impact or confinement.

##### RECOVERY

- spills of ANFO on dry surfaces can simply be shovelled into containers;
- spills of ANFO on wet surfaces or exposed to rain should be shovelled into waterproof containers as soon as possible to minimize the quantity of ammonium nitrate being dissolved;
- ANFO, or a resulting ammonium nitrate solution, **must not be allowed** access to any flowing stream;
- sorbents such as peat moss, Conwed or Graboil should be used to recover any oil emanating from the ANFO spill; snow may be used during the winter months under freezing conditions.
- soil heavily contaminated with ammonium nitrate should be excavated for incineration if the affected groundwater threatens to travel to an adjacent flowing stream.



<b>CONTINGENCY PLAN</b>  Ulu Exploration Project	<b>SECTION: ACTION PLANS</b>
	<b>SUBJECT: AMMONIUM NITRATE / FUEL OIL; ANFO;</b> 2 of 2

**DISPOSAL**

- ANFO recovered from a spill may be used in the mine;
- ammonium nitrate solutions and soil containing ammonium nitrate should be disposed of within the mill tailings system or directly in the tailings pond;
- sorbents used to recover the oil may be incinerated under controlled conditions or buried at an approved site;
- ANFO can be disposed of by detonation or incineration under knowledgeable supervision.

**PROPERTIES**

- comprised of 94% prilled ammonium nitrate ( $\text{NH}_4\text{NO}_3$ ) and 6% No.2 fuel oil, trade name: Amex II
- small porous pellets coated with oil, may be dyed with bright colours (yellow), odour of fuel oil;
- ammonium nitrate is Very Soluble in water; the oil is not soluble and will float;
- strong oxidizing agent;
- flammable.

**ENVIRONMENTAL CONCERNS**

- ammonium nitrate is moderately toxic to fish and other aquatic organisms at low concentrations. Toxicity increases with increased pH and temperature of the water.
- being very water soluble, the ammonium nitrate in the anfo can readily dissolve and enter the natural surface or ground water streams.

**CONTAINERS**

- ANFO is transported and stored in 25 kg polyethylene bags at the main explosives magazine.

**SUPPLIER**

- Explosives Limited (Calgary, Alberta)
- CIL
- SEE ATTACHED MSDS FOR ADDITIONAL INFORMATION

## **APPENDIX I**

**TELEPHONE LISTING****LUPIN MINE, NUNAVUT**  
**(Effective During suspension of Ulu Exploration Project)****24 Hour Emergency****Powerhouse****(Paging for fire crew and mine rescue) . . . . . Bus. Ext-8129****Switchboard . . . . . Bus. 890-7000****Mine Manager****Mr. B. Danyluk . . . . . Bus. Ext-8777****Mine Superintendent****Mr. Eric Setchel . . . . . Bus. Ext-8804****Mill Superintendent****Mr. Bill McCrank . . . . . Bus. Ext-8753****Site Supervisor (Contractor)****Mr. Kirk Keller . . . . . Bus. Ext-8812****Manager, Loss Control and Environmental Affairs****Mr. Hugh Ducasse . . . . . Bus. Ext-8779****Environmental Coordinator****Mr. David Hohnstein . . . . . Bus. Ext-8794**

**It shall be the responsibility of the Mine Manager or his designate to notify the Company Chairman/Chief Executive Officer.**

**Mr. Bill Goodhard, Director Environment and Reclamation . . . . . 1 (303) 714-8821****Mr. Robert Leclerc, Chairman/C.E.O. . . . . 1 (303) 714-8839**

REVISED 09/01

## TELEPHONE LISTING

GOVERNMENT AGENCIES	TELEPHONE	FACSIMILE
24 HOUR SPILL REPORT LINE GNWT - Dept. of Renewable Resources	(867) 920-8130	(867) 873-6924
NUNAVUT WATER BOARD	(867) 360-6338	(867) 360-6369

### GOVERNMENT NWT - Department of Renewable Resources

#### Environmental Protection Division

Mr. Ken Hall; Manager Env. Prot.	(867) 920-6476	(867) 873-0221
Mr. Harvey Gaukel; Hazmat Specialist	(867) 873-7654	

#### Wildlife Management Division

Wildlife Biologist	(867) 920-6190	(867) 873-0293
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### GOVERNMENT OF CANADA

#### Indian and Northern Affairs Canada Land Use and Water Use

Regulatory Approvals, Water Resources	(867) 669-2650	(867) 669-2716
Land Use; Reg. Manager, Land	(867) 669-2763	(867) 669-2731
NUNAVUT District Office; Iqaluit (Water)	(867) 979-4407	(867) 979-6445

#### Environment Canada

Environmental Protection Branch	(867) 669-4728	(867) 873-8185
DFO Fisheries Habitat Biologist (Iqaluit)	(867) 979-8007	(867) 979-8039

### OTHERS

Kitikmeot Inuit Association, Kugluktuk	(867) 982-3310	(867) 982-3311
Kugluktuk Hunters and Trappers Assoc.	(867) 982-4908	(867) 982-4047

Revised 09/01



**ADDITIONAL COMMUNICATIONS****Lupin**

Lupin can be contacted by:

Telephone	780-890-7000 (or 8764)
Fax	780-890-8766
H.F.Radio	4765.0 or 4441.0 MHz

**EMERGENCY CONTACTS**

Dupont ..... 905-821-5660  
EMERGENCY RESPONSE CENTRE (24 HOUR) ..... 1-800-387-2122  
Chemtrec ..... 1-800-424-9300

**Sorbents**

Conweb & Oil Snare Canadian Industries Ltd . .... 780-465-0221  
Alberta Oil Spill Consultants (Booms, sorbents, skimmers) ..... 780-451-0585

## PETROLEUM AND CHEMICAL PRODUCTS INVENTORY MAJOR COMPONENTS

PRODUCT	QUANTITY* (WRRS)	STORAGE UNITS	# OF UNITS SOH (WRRS)	STORAGE LOCATION
P40 FUEL	2,580 IG 500 IG	350000 IG 14,000 IG	2 3	Camp 3 Tank Farm Ulu Camp Tank Farm
P50 FUEL	465 IG 528 IG	14,000 IG 14,000 IG	6 2	Camp 3 Tank Farm Ulu Camp Tank Farm
GASOLINE; AV GAS: Anitfreeze	4,770 IG	45 IG Drum	106	Ulu Camp Tank Farm
RALUBE 40; W30 LUBE OIL	6,650 IG	350 IG Cubes	19	Ulu Camp Tank Farm
ANFO (AMEX)	0 mt	25 kg Bag	0	Camp 3 Magazine

\* Quantity figures indicate the on-site quantity after suspension of Project in September 1997 and current to 09/01.

### TABLE 1

**HEAVY EQUIPMENT INVENTORY  
ECHO BAY MINES LTD. / INDEPENDENT CONTRACTOR  
ULU EXPLORATION PROJECT, NUNAVUT**

Qty	Description
1	JCB Zoom-boom Fork Lift
1	Cat 988B Front End Loader
1	Cat 930 Front End Loader
1	Cat 311 Backhoe
1	Cat Road Packer
1	Mack Fuel Truck
1	Kenworth Water Truck
1	3-Ton Flat Deck Truck; HIAB Crane
1	JDT Truck (26t)
1	Wagner Truck (44t)
1	Cat 824C Rubber Tire Dozer
1	Cat 120G Grader
2	F-350 Pickup Truck
1	Cat 966D Loader
3	Cat 769 Truck
1	Cat D8N Dozer
1	Cat D6H Dozer
1	Cat 15G Grader
1	Volvo Water Truck
1	Peterbilt Tractor with Lowboy Trailer
2	F250 Pickup Truck

Note: Items listed in shading are those of the current surface contractor.

**TABLE 2**

### SPILL CONTAINMENT/RECOVERY MATERIALS

Spill containment/recovery materials located at the Ulu Project within the "Emergency Spill Response Van" container (SeaContainer #9) contains the following inventory:

- 3 Shovels;
- 2 Roll Poly; 4mL, 500 ft.;
- 1 Crate of floordry; (50) 20kg bags;
- 4 booms, 11 ft.;
- 1 Pump; 2" Honda;
- 1 Safety approved 2 gallon gas container;
- 2 20 ft. 2" hoses;
- 10 45 gallon drums (no lids) for collection of contaminated materials;
- 1 100 ft. rope;
- 2 fire extinguishers;
- 1 4 lb sledge;
- 1 Box, dust masks

In addition to the above, the on-site Lupin warehouse maintains a supply of the smaller items such as floordry, absorbent pads, shovels, dust masks. If additional equipment is required during a clean-up procedure warehouse issues are readily available.

TABLE 3

# ULU INVENTORY LIST

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## Sea Containers

No.	General Contents	Loc'n	Weight lbs
1	Bits, steel, hose, chain, drilling supplies, rock bolts...	Portal	
2	Clamps, tee's, elbows, loading sticks, valves, hose, steel, J bolts, signs, small tools...	Portal	
3	Elbows, vic clamps, drill steel, blasting cable...	Portal	
4	Plastic sleds, microwave ovens, sleeping bag, water bkts, oxygen candle, Rescueair emergency kit, chain...	Portal	
5	Phone sets, electrical supplies, plugs, fixtures, fuses, breakers, runway lights, wire cones, strobes...	Elec Office	
6	Heaters, flourescent fixtures, , bear fence supplies, fire pump, fire alarm cable, fire alarm panel, cable hangers, light bulbs...	Receiving	
7	Metal halide light fixtures, rolls heat trace, air strip bulbs, 5hp motor...	Cummins	
8	Various lubes, grease, oils, antifreeze, fuel cans...	Tank Farm	
9	Emergency Spill Kit		
10	Life vests, vapor barrier, roof sealing tape, ducting, wire, bed frames, nails, plumbing fittings...	Weatherhaven	
11	Carpentry supplies, small tools, ABS & copper tubing...	Carpenter Shop	
12	Boxes of testers, repair kits, power packs, pumps, asstd tools, jacks, Honda generator, water pump, outboard motor, welding supl, tool boxes	Mechanical	
13	Quad, ice augers, gas water pumps, unleaded gas	Berm	
14	Gas water pump, hoses	Incinerator	
15	Sleeping bags, emergency survival kits...	Kitchen	
16	empty	Powder Mag	
17	empty	Powder Mag	
18	empty	Powder Mag	
19	empty	Powder Mag	

## Nuna Equipment

3	CAT 769 Trucks (1 burned)	Camp 3
1	CAT D8N Dozer	Camp 3
1	CAT D6H Dozer	Camp 3
1	CAT 966D Loader	Camp 3
1	CAT 14G Grader	Camp 3
1	Volvo water truck	Camp 3
1	Peterbilt Tractor, with lowboy trailer	Camp 3
2	Ford F-250 pickups	Camp 3
1	Lincoln Welder	Camp 3
1	Shop Building	Camp 3
	Numerous boxes of parts	Camp 3

## Stationary Equipment, Misc.

1	Sullair air compressor, 700cfm	
1	Gardiner Denver air compressor, 825cfm	
1	Leroi air compressor, 375cfm	
1	?? air compressor, 800cfm (from Procon)	
2	Cummins generators (A & B), 500kw, mounted in single trailer	
2	CAT generators (C & D), 600kw	
2	Detroit Diesel generators, 250kw	
1	Reed Shotcrete machine	
1	Incinerator	
1	Sewage treatment station	
?	Sea containers scrap metal	Incinerator area
15	1 tonne bags of salt	Ore pad
1	6,000 gallon water tank	NW end of camp
1	14,000 gallon water tank (fire control)	NW end of camp
2	2,500 gallon brine tanks (fibreglass)	Mech. shop
lots	furniture from accomodations and offices	

## Fuel, Oil, Lubes

2	350,000 gal tanks of fuel oil (567,504 litres P-40)	Camp 3 tank farm
6	14,000 gal tanks of fuel oil (102,428 litres P-50)	Camp 3 tank farm
5	14,000 gal tanks of fuel oil (110,004 litres P-40; 116,145 litres P-50)	Ulu tank farm
19	cubes of various lubes (full)	Ulu tank farm
3	cubes of used oil (full)	Ulu tank farm
7	cubes - empty	Ulu tank farm
106	barrels of various oil, gas, avgas, antifreeze	Ulu tank farm
?	barrels - empty	Ulu tank farm

## Laydown Area

2	Portable Mine Rescue Stations	Laydown
6	Pallets 42" vent tube	Laydown
5	Pallets 48" vent tube	Laydown
3	Pallet 48" corrugated vent tubing	Laydown
25	rolls chain link screen	Laydown
700	+ drill steel, various lengths	Laydown
	5ft X 10ft screen	Laydown
1000	+ rock bolts, various lengths	Laydown
	scaling bars	Laydown
13	pails of chain	Laydown
	J-bolts, pipe hangers, rock bolt plates, scaling bars, air and water hoses, air receivers, rock bolt straps	Laydown

## Echo Bay Mobile Equipment

1 Atlas Copco Twin-boom Jumbo	Ulu shop, inside	40,785
1 Tamrock Twin-boom Jumbo	Ulu shop, inside	
1 Tamrock Single-boom Jumbo	Ulu shop, inside	
1 Getman Scissor Lift	Ulu shop, inside	
1 Wagner 3.5 cu. yd. Scooptram	Ulu shop, inside	
1 Wagner 2 cu. yd. Scooptram	Ulu shop, inside	
1 JCB Zoom-boom Forklift	Ulu shop, inside	
1 CAT 988B FEL - 10kV Honda generator in bucket	Ulu shop, inside	
1 CAT 930 FEL	Ulu shop, inside	
1 Wagner 44 ton Truck	Ulu shop, outside	
1 JDT 26 ton Truck	Ulu shop, outside	
1 Elphinstone 7.5 cu. yd. Scooptram	Ulu shop, outside	80,000
1 Wagner 7.5 cu. yd. Scooptram	Ulu shop, outside	82,000
1 CAT 120G Grader	Ulu shop, outside	
1 Kubota Tractor	Ulu shop, outside	
1 Kenworth water truck	Ulu shop, outside	
1 Mack fuel truck	Ulu shop, outside	
1 CAT Road Packer	Ulu shop, outside	
1 48 seat schoolbus	Ulu shop, outside	
1 CAT 311 backhoe	Ulu shop, outside	
1 Ford F-350 pickup truck	Ulu shop, outside	
1 Foremost Commander	Ulu shop, outside	
1 Ford 3-ton flat deck, with Hiab crane	Ulu shop, outside	
1 CAT 824C rubber tire dozer	Ulu shop, outside	
1 Gilson cement mixer	Ulu shop, outside	
1 Ford F-350 pickup truck - Skidoo in back	Airstrip, south end	

## ECHO BAY MINES

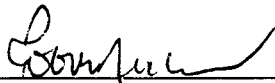


# ENVIRONMENTAL POLICY

*February 15, 1996*

*Echo Bay Mines participated in the development of and subscribes to the environmental principles adopted by the Mining Association of Canada and The Gold Institute (USA), but it believes that it should also state clearly its own principles and practices, which are:*

- ☞ Seek to be environmental leaders in the mining community by integrating responsible environmental management as an essential component of all business decisions.*
- ☞ Assign accountability and responsibility for implementation of the environmental policy and make environmental performance an important factor in the management review process.*
- ☞ Provide adequate resources, personnel and training so that all employees are aware of and able to carry out their environmental responsibilities in accordance with the environmental policy.*
- ☞ Communicate openly with employees, the regulatory community and the public on environmental issues, and address concerns pertaining to potential hazards and impacts.*
- ☞ Design, construct, operate and reclaim all projects in compliance with applicable national and local regulations. In situations where environmental regulations are absent, or less than Echo Bay's standards, apply best management practices to achieve environmental protection.*
- ☞ Conduct operations in an environmentally sound manner, incorporating the efficient use of energy and materials, and minimizing the use and production of hazardous substances.*
- ☞ Assess environmental risks and impacts from all activities. Evaluate the regulatory requirements for each project and schedule their implementation as components of the initial project planning process. Establish and maintain appropriate emergency response plans for all activities and facilities.*
- ☞ Maintain a self-monitoring program at each facility to ensure compliance.*
- ☞ Conduct periodic environmental assessments of all Echo Bay facilities and develop and implement action plans to correct potential deficiencies in a timely manner.*
- ☞ Promote company involvement in environmental enhancement projects and encourage employee participation in such projects.*
- ☞ Support research to develop more effective measures for compliance with environmental regulations and to increase the protection of the environment from mining related impacts.*
- ☞ Work in cooperation with industry, the public and government toward the development of environment policies, laws and regulations which are cost effective and scientifically sound.*



Robert D. Leeler

Chairman and Chief Executive Officer





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