



**SPILL CONTINGENCY PLAN  
EXPLORATION OPERATIONS  
IZOK, HOOD AND GONDOR PROJECTS  
NUNAVUT, CANADA**

March, 2011

Prepared By:	_____	Date:	_____
	Ted Muraro – Operations Manager		
Reviewed By:	_____	Date:	_____
	Greg Duso – Project Manager		
Authorized By:	_____	Date:	_____
	Ian Neill – Exploration Manager		

**Mineral and Metals Group**

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FIGURE 1 – REGIONAL OVERVIEW MAP

FIGURE 2 – IZOK, HOOD AND GONDOR AREA OF INTEREST MAPS

FIGURE 3 – HAM LAKE CAMP LAYOUT



## 1.0 PREAMBLE

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The Spill Contingency Plan is effective from March 15, 2011 to January 15, 2013 and applies to the Izok, Hood and Gondor Projects – Ham camp operated by MMG Resources in the Kitikmeot District of Nunavut, north latitude 65° 40' and west longitude 112° 50'. The project is under agreement with Nunavut Tunngavik Incorporated (NTI). Land Use permits with the Kitikmeot Inuit Association (KIA) and Nunavut Water Board (NWB) are currently in place.

The general location of the projects is shown in Figures 1 and 2, and detail of the Izok resource area in Figure 3. The Ham Camp layout is shown on Figure 3.

The following formal distribution has been made of this plan: ANAC, KIA, NWB, Ian Neill (Exploration Manager, MMG), Greg Duso (Project Manager, MMG), Ted Muraro (Operations Manager, MMG).

## 2.0 INTRODUCTION

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This Spill Contingency Plan is to provides a plan of action for reasonably foreseeable spill events at the Izok, Hood and Gondor Projects – Ham camp considering the nature of the fuels and other hazardous materials that will be handled during the Company’s operations The plan defines the responsibilities of key response personnel and outlines the procedures for responding to spill in a way that will act to minimize potential health and safety hazards, environmental damage and remediation costs. The plan has been prepared to provide ready access to all the information needed in dealing with a spill.

It is MMG policy to comply with all existing laws and regulations to help ensure the protection of the environment, to provide such protection of the environment as is technically feasible, to cooperate with other groups working on protection of the environment and to keep employees, government officials and the public informed.

Personnel will be informed of the plan upon arrival in camp, and be instructed in Spill Response Protocols. Instruction will also be given on how to properly transfer and store fuel and other hazardous substances and on the location of emergency equipment. A more graphical representation of this plan will be posted in common camp areas.

### 3.0 SITE DESCRIPTION

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The camp is located on the South and East Shores of Ham Lake. The camp was established by the previous operator of the exploration project, Inmet Mining Corporation (Inmet). The camp includes an accommodation complex, diamond drill core logging and storage facilities, a shop, and fuel storage facilities. The camp is served by a 2500 foot long gravel air strip. The layout of the camp is shown in Figure 4.

The following is a list of the major components of the camp and ancillary facilities.

#### Major Camp Equipment/Facilities

- 13 – Travco trailer units
- 1 – Oil fired incinerator (serial no. 18162)
- 1 – 10' x 44' Generator Building
- 2 – Cummins 175 kW diesel generators (serial no's. 44670421 and 4460441)
- 1 – Steel garage – 20' x 24'
- 1 – Wood frame workshop
- 2 – Wood frame, steel clad core storage warehouses
- 1 – Wood frame, aluminum clad 12' x 36' skidded core shack
- 1 – Weatherhaven Office 24' x 32'
- 1 – Weatherhaven Large Sleeper 24' x 68'
- 10 – Weatherhaven 4 man Sleepers 14' x 16'
- 1 – Weatherhaven Kitchen 16' x 40'
- 2 – Weatherhaven Camp/Drillers Dry 16' x 24'

#### Fuel Tanks

- 5 – 11,000 L fuel skid mounted fuel tanks

#### Mobile Equipment

- 1 – Caterpillar D-6 Bulldozer
- 1 – Champion Motor Grader
- 1 – Cat Motor Grader
- 1 – JBL ZoomBoom
- 1 – Cat 930 Loader
- 1 – Bobcat
- 1 – Fuel Trailer
- 3 – 1992 Ford Supercab F-350 truck (diesel)



### 3.0 CONTACTS

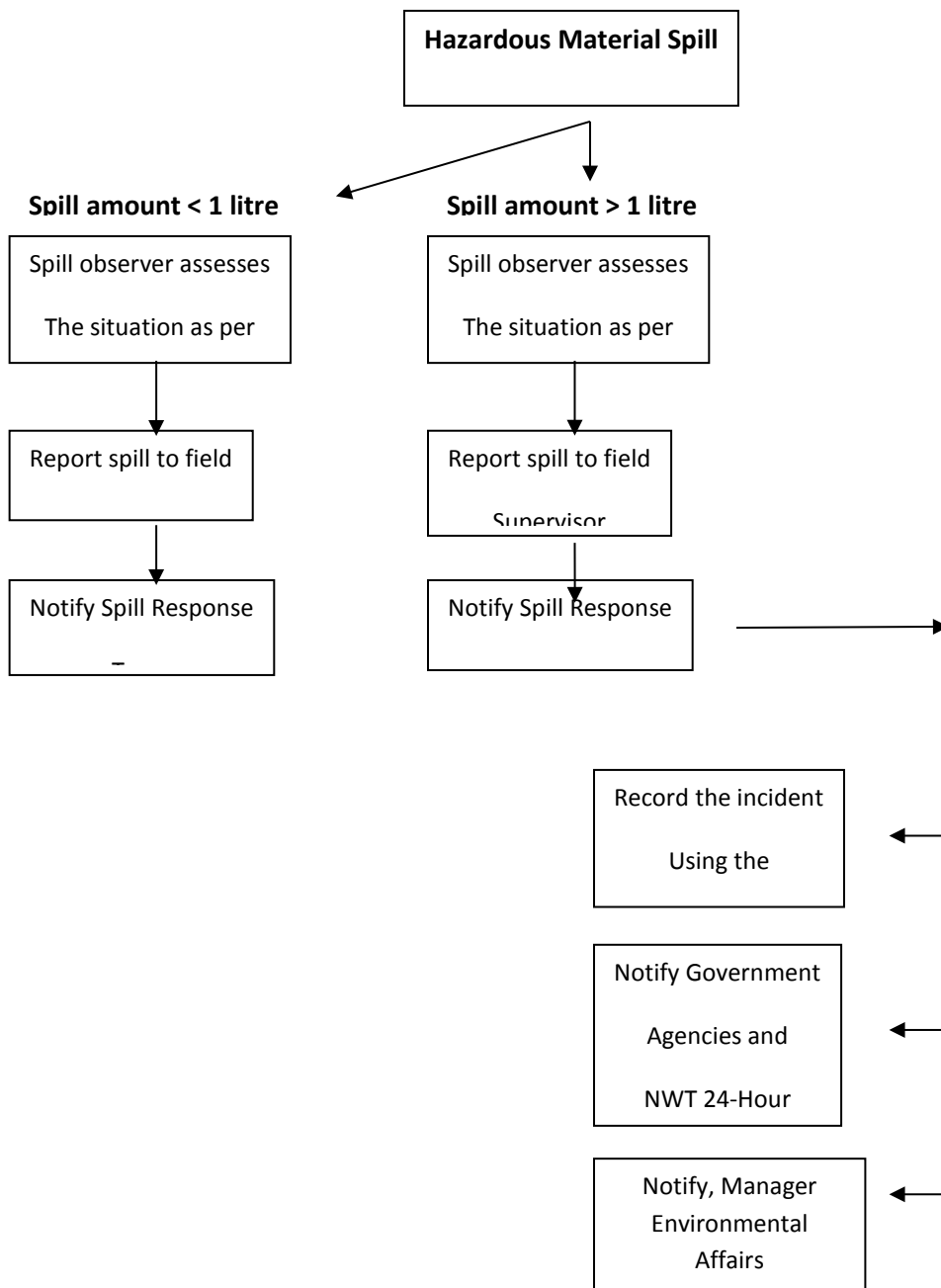
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People and organizations that can be contacted in the event of a spill:

<b>Nunavut Contacts</b>		
Exploration Manager	Ian Neill	778-373-5603
Camp Manager	Randy Oinenon	778-372-2674
Project Manager	Greg Duso	778-372-2679
Operations Manager	Ted Muraro	778-373-5589
MMG Head Office	Sahba Safavi	778-373-5600
Kitikmeot Inuit Association	Stanley Anablak	(867)-982-3310
Nunavut Water Board	Phyllis Beaulieu	(867)-360-6338 (867)-360-6369 (fax)
Spill Report Line (24 hr)		(867)-873-6924
Environment Canada		(867)-669-4644
WCB 24 Hour Accidents		(867)-873-7468
WCB Chief Mines Inspector	Peter Bengts	(867)-920-3888
Kugluktuk Health Center	Janet Carstairs	(867)-982-4531
Kugluktuk RCMP	Franco Radescho	(867)-982-1111 (867)-920-8130 (fax)
Aboriginal and Northern Affairs Inspector	Andrew Keim	(867) 975-4289
<b>NWT Contacts</b>		
Wek'eezhii Land and Water Board	Regulatory Specialist	(867) 713-2500
Aboriginal and Northern Affairs Inspector	Clint Ambrose	(867) 664-2794

## 4.0 RESPONSE ORGANIZATION

The following is a flow chart to illustrate the sequence of events if a hazardous material spill occurs at the Izok, Hood or Gondor Projects.



## 5.0 SPILL RESPONSE TEAM

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All personnel will be informed of the contents of the Spill Contingency Plan and trained in the safe use of relevant spill prevention and clean up equipment. The Field Supervisor will appoint and train two persons to be the Spill Response Team. They will also be responsible to carry out the daily inspections of the fuel storage areas and equipment. Personnel on site will be limited, so for any large spill more people will be brought in to help, from surrounding exploration operations primarily from the High Lake Camp located 75km North of Izok and secondly from Yellowknife.

### Spill Response Team Responsibilities

- Perform daily inspections at the Camp fuel and chemical storage areas and fuel hoses.
- Report any spill to Exploration Manager or designate.
- Containment of the spill and site remediation.

### Field Supervisor Responsibilities

- Assume complete authority over the spill scene and coordinate all personnel involved.
- Evaluate spill situation and develop overall plan of action.
- Activate the spill contingency plan
- Immediately report the spill to the NWT 24-Hour Spill Report Line and regulatory agencies. (For spill greater than 1 litre)
- Fill out the Spill Report Form (for spill greater than 1 litre)
- Report the spill to the Project Manager. (For spill greater than 1 litre)
- If required, obtain additional manpower, equipment, and material if not available on site for spill response.

### Manager, Environmental Affairs Responsibilities

- Provide regulatory agencies and MMG Canada Inc. management with information regarding the status of the cleanup activities.
- Prepare and submit a report on the spill incident to regulatory agencies within 30 days of the event.

## 6.0 INITIAL ACTION

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These instructions are to be followed by the first person on the spill scene.

1. Always be alert and consider your safety first.
2. Wear personal protective equipment
3. Do not smoke and eliminate all source of ignition
4. Assess the hazard to people in the vicinity of the spill.
5. If possible control danger to human life
6. Do not touch, smell, taste or get close to unknown substance.
7. If substance has been identified and if possible and safe to do so, try to stop the flow of material.
  - If filling is in progress, stop at once
  - If seeping through a small hole, use a patch kit if practical to do so.
  - If necessary and practical, pump the fuel from the leaking container into a refuge container
8. Immediately report the spill to the Field Supervisor and Spill Response Team by radio, satellite phone or in person.
9. Resume any effective action to contain, mitigate, or terminate the flow of the spilled material.
10. If in doubt about cleaning procedures or for a very large spill, regulatory agencies can help.

## 7.0 REPORTING

The person who notices the spill must immediately notify the Field Supervisor. As soon as possible the Field Supervisor will report the spill to:

- The 24-Hour Spill Report Line Phone (867) 920-8130, Fax (867) 873-6924
- Fill out the NWT Spill Report Form NWT1752/0202
- Notify the Manager, Environmental Affairs for a spill greater than 5 litres.
- Notify permitting authorities (Nunavut Water Board, Kitikmeot Inuit Association)

						<b>NT-NU SPILL REPORT</b> OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS		NT-NU 24-HOUR SPILL REPORT LINE TEL: (867) 920-8130 FAX: (867) 873-6924 EMAIL: spills@gov.nt.ca	
								REPORT LINE USE ONLY	
A	REPORT DATE: MONTH – DAY – YEAR			REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER _____	
B	OCCURRENCE DATE: MONTH – DAY – YEAR			OCCURRENCE TIME					
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)					
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION						REGION <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS			LONGITUDE DEGREES MINUTES SECONDS					
F	RESPONSIBLE PARTY OR VESSEL NAME			RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION					
G	ANY CONTRACTOR INVOLVED			CONTRACTOR ADDRESS OR OFFICE LOCATION					
H	PRODUCT SPILLED			QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES			U.N. NUMBER		
	SECOND PRODUCT SPILLED (IF APPLICABLE)			QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES			U.N. NUMBER		
I	SPILL SOURCE			SPILL CAUSE			AREA OF CONTAMINATION IN SQUARE METRES		
J	FACTORS AFFECTING SPILL OR RECOVERY			DESCRIBE ANY ASSISTANCE REQUIRED			HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS								
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE				
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT	ALTERNATE TELEPHONE				
REPORT LINE USE ONLY									
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130				
LEAD AGENCY <input type="checkbox"/> E.C. <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> I.A. <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC				SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED			
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS			
LEAD AGENCY									
FIRST SUPPORT AGENCY									
SECOND SUPPORT AGENCY									
THIRD SUPPORT AGENCY									

PAGE 1 OF \_\_\_\_\_

## 8.0 RESOURCE INVENTORY

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A spill kit with a capacity of 240 litres will be located at the fuel tank area and will contain:

- 1 – 360 litre/79 gallon polyethylene drum
- 4 – oil absorbent booms (5" X 10')
- 100 – oil absorbent sheets (16.5" X 20" X 3/8")
- 1 – drain cover (36" X 36" X 1/16")
- 1 – Caution tape (3" X 500')
- 1 – 1 lb plugging compound
- 2 – pair Nitrile gloves
- 2 – pair Safety goggles
- 2 – pair Tyvek coveralls
- 1 – instruction booklet
- 10 – printed disposable bags (24" X 48")
- 1- shovel (in remote spill kit only)
- 1- plastic tarp

Shovels, water pump, plastic pails, garbage bags, extra absorbent pad, drip pans will be placed on the side of the wall at the main office and the kitchen. Fire extinguishers are available throughout the camp facility.

Drill Spill Kits with a capacity of 25 L will contain the following:

- 10- Pads (17"x19"x2/8")
- 3 - Socks (3"x4')
- 1 - Pair of Gloves
- 1 - Disposal Bags
- 1 - Warning Sign
- 1 - Literature (Inventory List, MSDS, Instructions)

## 9.0 HAZARDOUS MATERIAL INVENTORY

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This following section lists for each hazardous substance present on the project area, health hazards, spill procedure and disposal procedures. For more detailed information, refer to the MSDS sheets.

### 9.1 DIESEL FUEL, JET-B, GASOLINE

#### ***DIESEL, JET-B AND GASOLINE ARE HIGHLY FLAMMABLE***

##### *9.1.1 GENERAL PRECAUTIONS*

- Do not smoke
- Will be easily ignited by heat, sparks or flames
- Gasoline and Jet-B are more volatile than diesel
- Explosion hazard indoors, in confined spaces and outdoors
- Vapours may form explosive mixtures with air
- Vapours may travel to source of ignition and flash back
- Most vapours are heavier than air. They will spread along ground and collect in low or confined areas.
- Keep pump or electrical equipment far away, be very careful with metallic tools that could sparks on rocks, wait for vapours to dissipate
- Inhalation may cause central nervous effects
- Aspiration into lungs may cause pneumonitis which can be fatal
- Eye and skin irritation
- Prolonged exposure has caused cancers in laboratory animals

##### *9.1.2 SPILL ON LAND*

- Build a containment berm, downslope, using, peat, moss, and soil material, bags filled with sand or rocks and place a plastic tarp at the foot of the berm to pool the spill. Spill can be pumped if in a large amount
- Soak up spilled substance by using absorbent pads
- Excavate the surface soil if necessary. If large excavation is needed, first contact regulatory agencies for approval.
- Remove spill substance splashed on vegetation by applying a thin dusting of Spag-zorb or other ultra-dry absorbent.
- Dispose hydrocarbons, absorbent pad, contaminated soil and cleaning material in an empty drum, seal it and label it.
- On marshy zones, don't destroy vegetal cover, limit personnel and equipment. Remove pooled oil with absorbent pads and/or skimmer.

### 9.1.3 SPILL ON WATER

- Contain spill as close to release point as possible
- On small spill, deploy hydrophobic absorbent pads
- On larger spill and weather conditions permitting, use containment boom to limit fuel dispersion. Use a skimmer, pump or hydrophobic absorbent pads to remove fuel inside the boom.
- Dispose hydrocarbons, absorbent pad, contaminated soil and cleaning material in an empty drum, seal it and label it.

### 9.1.4 SPILL ON RIVERS AND STREAMS

- Prevent entry into water, if possible, by building a berm or trench.
- Intercept moving slicks in quiet areas using (absorbent) booms.
- Do not use absorbent booms/pads in fast currents and turbulent water.

### 9.1.5 SPILL ON ICE AND SNOW

- Build a containment berm of compacted snow around spill.
- If hydrocarbons are pooling on ice, pump large amount or use hydrophobic absorbent pads.
- Don't delay removing the spill as hydrocarbons could seep through cracks into the water.
- Scrape ice, shovel all contaminated snow in plastic buckets with lids or in drums. Dispose absorbent pads and other contaminated equipment in separated containers. Label and seal the containers.

### 9.1.6 SPILL DISPOSAL

- Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods before disposing of contaminated material.

## 9.2 PROPANE

### **EXTREMELY FLAMMABLE**

### 9.2.1 GENERAL PRECAUTIONS

- Do not smoke
- Cylinders may explode when heated
- Cylinders may rocket if ruptured
- Will be easily ignited by heat, sparks or flames
- Explosion hazard indoors, in confined spaces and outdoors
- Vapours may form explosive mixtures with air
- Vapours may travel to source of ignition and flash back
- Vapours from liquefied gas are initially heavier than air and spread along ground.



- Contact with gas or liquefied gas may cause burns, severe injuries and/or frostbite
- Keep pump or electrical equipment far away, be very careful with metallic tools that could sparks on rocks, wait for vapours to dissipate
- Liquid may cause frostbites and blisters
- Blurred vision if goes in the eyes
- Narcotic aphyxiant
- Dizziness, disorientation, excitation, headache, vomiting, unconsciousness if inhaled

### 9.2.2 *SPILL ON LAND, WATER, ICE AND SNOW*

- Eliminate all source of ignition
- Do not attempt to contain the propane release if not absolutely sure on what to do.
- Do not touch or walk through spilled material
- Stop leak if can be done without risk
- If possible, turn container so that gas escapes rather than liquid.
- Water spray can be used to knock down vapours but don't direct water at spill or source of leak
- Prevent spreading of vapours in confined areas
- If or when possible, confine spill with confinement berm. Throw absorbent pads into spill, retrieved them with gaffs or pitchforks.
- Small fire can be extinguished with dry chemical or CO<sub>2</sub>.
- Dispose contaminated materials in a labeled drum.

### 9.2.3 *SPILL DISPOSAL*

- Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods for detective equipment that resulted in the release.

## 9.3 MOTOR OIL, HYDRAULIC OIL, TRANSMISSION FLUID

### 9.3.1 *GENERAL PRECAUTIONS*

- Avoid breathing mists, may cause lung irritation
- On skin may cause mild irritation

### 9.3.2 *SPILL ACTION*

Soak up with absorbent material

- Disposed contaminated soil and material in sealed and labeled container
- Small amount can be incinerated
- Large amount to be disposed as hazardous waste.

## 9.4 ANTIFREEZE

### 9.4.1 GENERAL PRECAUTIONS

- Respiratory irritation with prolonged exposure.
- Kidney, liver and bladder problems reported in animals

### 9.4.2 SPILL ON LAND

- Soak up by using absorbent pads
- Dispose antifreeze, absorbent pad, contaminated soil and cleaning material in an empty drum, seal it and label it.
- On marshy zones, don't destroy vegetal cover, limit personnel and equipment. If possible remove pooled antifreeze with absorbent pads.

### 9.4.3 SPILL ON RIVERS AND STREAMS

- Prevent entry into water, if possible, by building a berm or trench.

### 9.4.4 SPILL ON ICE AND SNOW

- Build a containment berm of compacted snow around spill.
- If pooling on ice, pump large amount or use absorbent pads.
- Don't delay removing the spill as it can seep through cracks into the water.
- Scrape ice, shovel all contaminated snow into plastic buckets with lids or in drums.
- Dispose absorbent pads and other contaminated equipment in separated containers. Label and seal the containers.

### 9.4.5 SPILL DISPOSAL

- Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods before disposing of contaminated material.

## 9.5 BATTERY ACID

### 9.5.1 GENERAL PRECAUTIONS

- Fire and explosion hazard
- Can be extinguished with dry chemical fire extinguisher.
- Ventilate area
- Remove combustible materials
- Mist inhalation hazard when being charged or spilled
- Acid burns to skin and eyes irritation

### 9.5.2 SPILL ACTION

- Neutralize with soda or lime

- Dispose battery and neutralized contaminated material in a sealed and labeled container
- Dispose as an hazardous waste

## 9.6 POLY-DRILL DR-133

### 9.6.1 GENERAL PRECAUTIONS

- May cause skin and eye irritation

### 9.6.2 SPILL ACTION

- Soak up with absorbent pad
- Dispose residue, contaminated soil and material in labeled containers. Solidify with sand.
- Small amount can be incinerated, otherwise dispose as hazardous waste.

## 9.7 550-X POLYMER

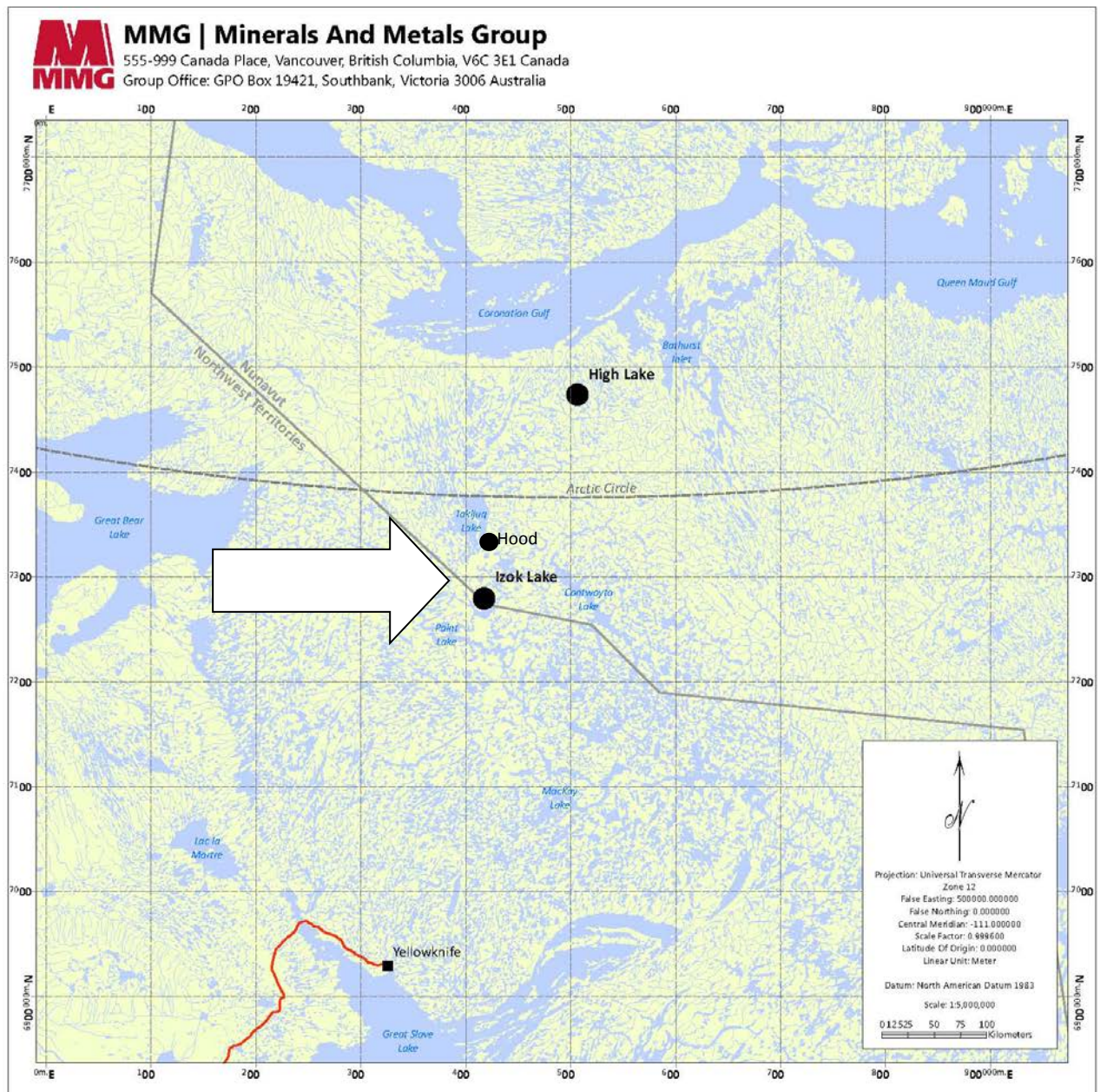
### 9.7.1 GENERAL PRECAUTIONS

- Prolonged skin contact may cause irritation
- Possible eye irritation
- Ingestion may cause nausea, vomiting, cramps, diarrhea

### 9.7.2 SPILL ACTION

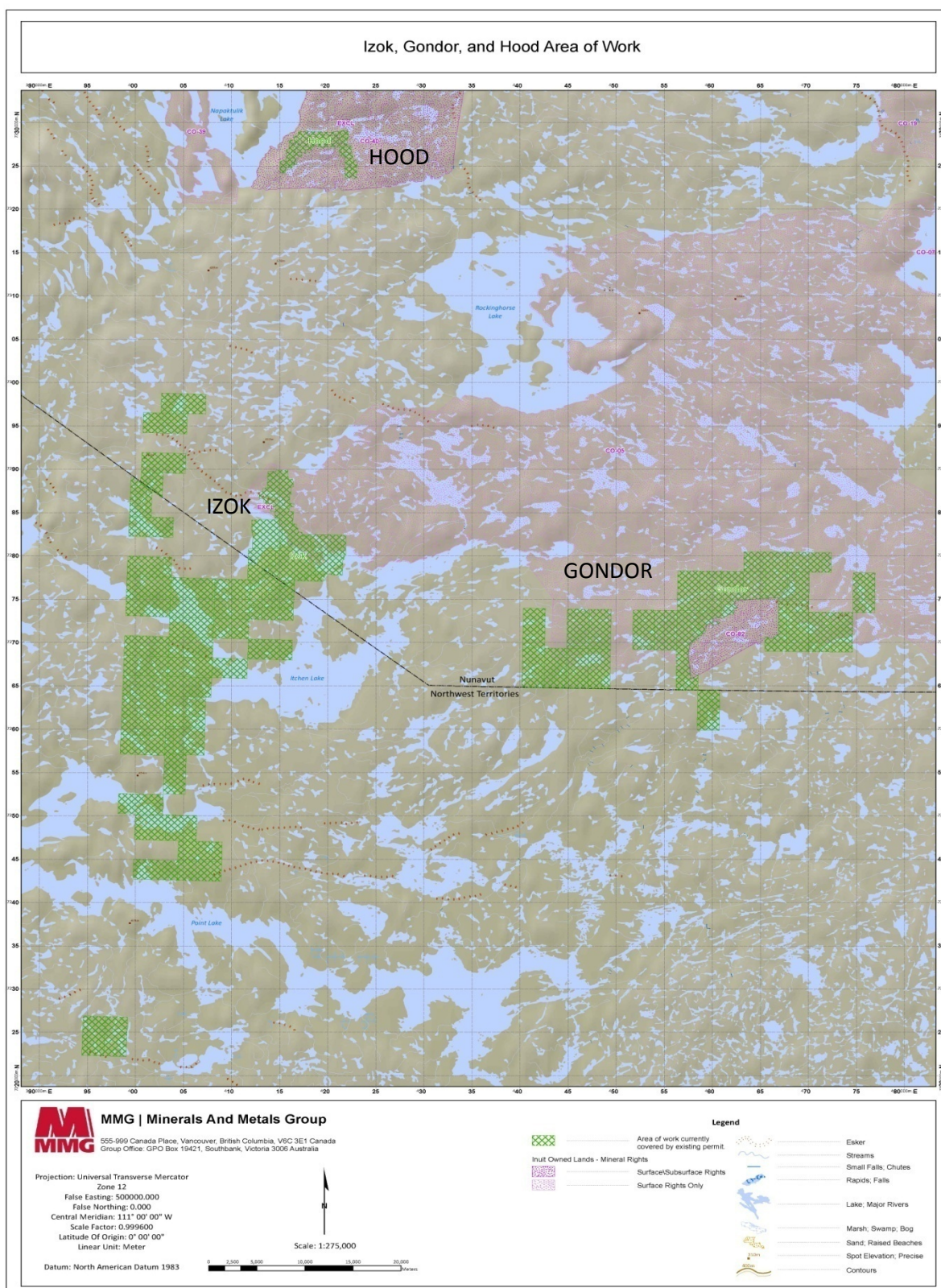
- Clean up spill with gloves. Scrape soil or surface and disposed in labeled containers
- Dispose as hazardous waste

# FIGURES





Izok and Hood Projects





## HAM LAKE CAMP



# MSDS LIST

2 Cycle Motor Oil  
Antifreeze  
Aviation Gas  
Barimol Grease  
Dexron  
Diesel Fuel  
Drill Rod Grease  
Duratran  
Engine Oil  
Fuel Oil  
Jet B  
Kerosene  
Linseed Soap  
Pellets CaCl  
Poly Drill 1330  
Poly Drill 133-x  
Poly Drill OBX  
Propane  
Transmission Fluid  
Unleaded Gasoline

- A complete set of MSDS information is kept in hardcopy on site. This can be provided upon request.