

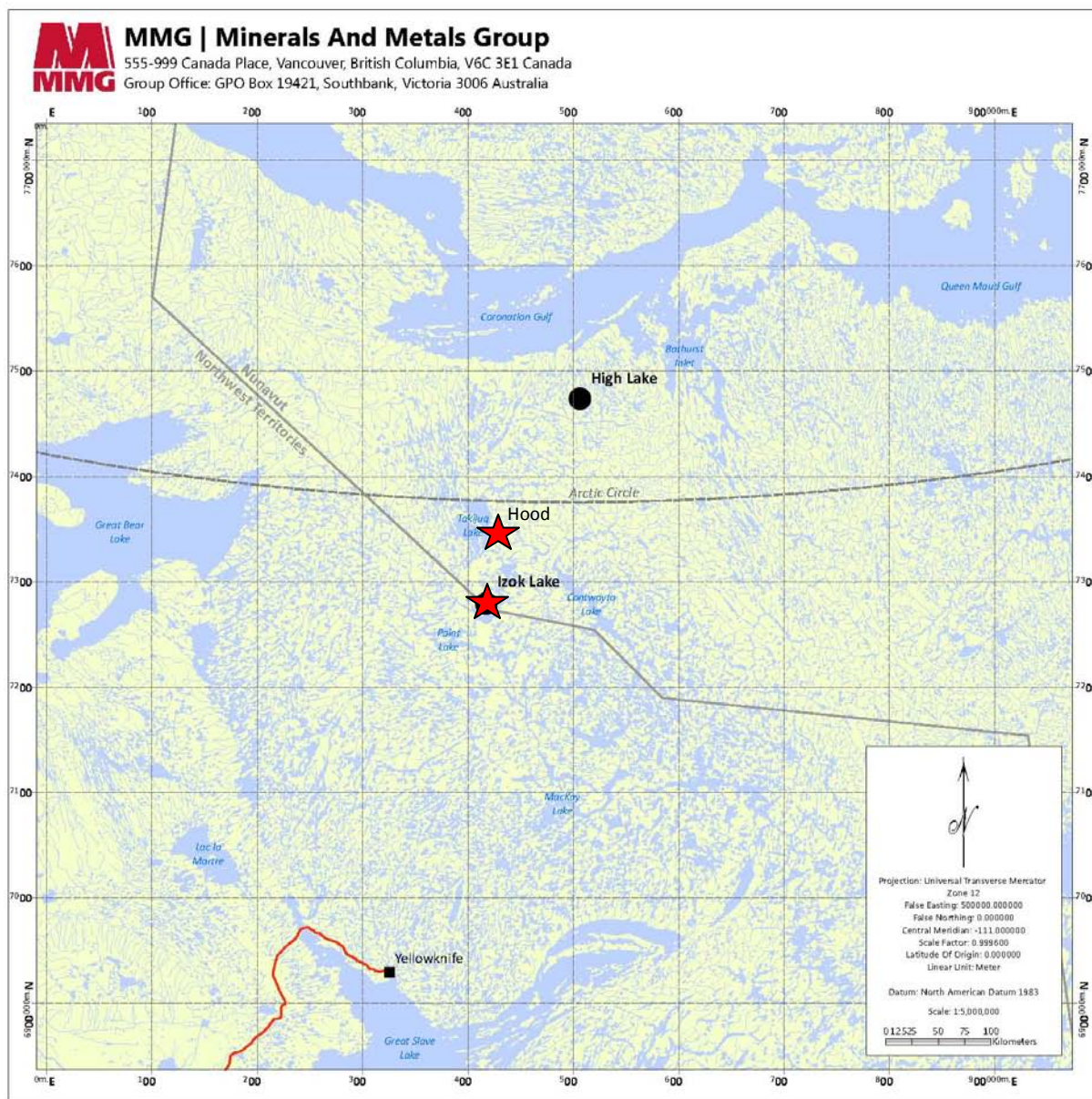
# **IZOK / HOOD**



## **SUPPLEMENTARY TO LAND USE PERMIT APPLICATION**

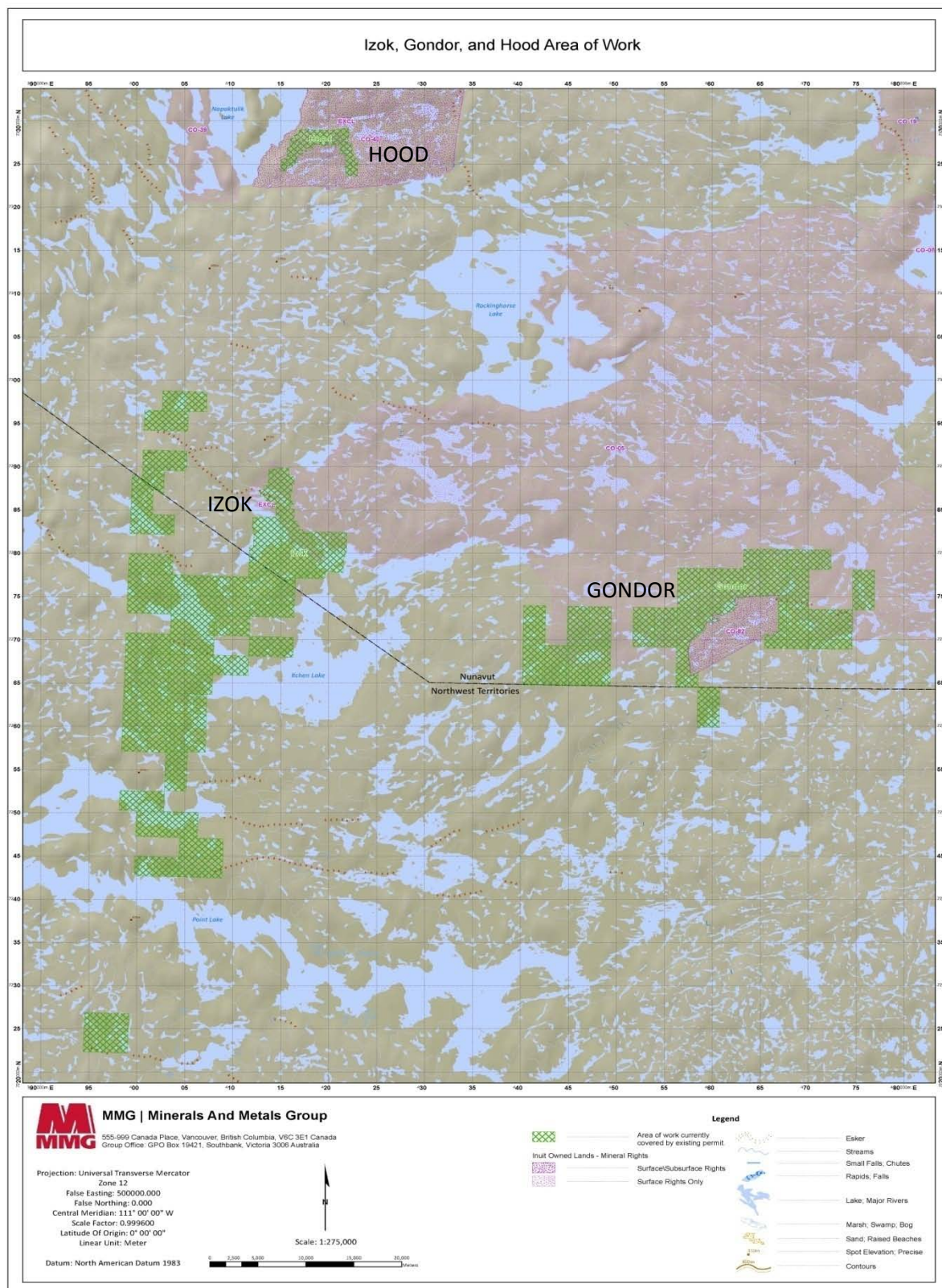
**MINERALS AND METALS GROUP**  
555 – 999 CANADA PLACE, VANCOUVER BC, V6C 3E1  
TEL. 778 373 5600  
FAX 778 373 5598

## GENERAL LOCATION MAP





# AREAS OF INTEREST



### Figure 2: Izok 2011 Drilling

**SEASONAL ICE AIRSTRIP**

**PERMITTED SEASONAL ICE ROAD**

**Inset**

**Legend**

- HEN455: Diamond Drill Collar
- HEN455: Esker
- HEN455: Streams
- Small Falls; Chutes
- Rapids; Falls
- Lake; Major Rivers
- Marsh; Swamp; Bog
- Sand; Raised Beaches
- Spot Elevation; Precise
- Contours

**MMG | Minerals And Metals Group**  
 555-999 Canada Place, Vancouver, British Columbia, V6C 3E1 Canada  
 Group Office: GPO Box 19421, Southbank, Victoria 3006 Australia

**Projection: Universal Transverse Mercator Zone 12**  
 False Easting: 500000.000000  
 False Northing: 0.000000  
 Central Meridian: -111.000000  
 Scale Factor: 0.999600  
 Latitude Of Origin: 0.000000  
 Linear Unit: Meter

**1:20,000**  
 Datum: North American Datum 1983

0 250 500 750 1,000 Meters

## ANTICIPATED ASSOCIATED CONTRACTORS AND STAFF

### **MMG STAFF:**

Ian Neill – Exploration Manager Canada  
555 – 999 Canada Place, Vancouver, BC, V6E 3E1  
Tel. 778 373 5603      Email: [Ian.Neill@mmg.com](mailto:Ian.Neill@mmg.com)

Greg Duso – High Lake Project Manager  
555 – 999 Canada Place, Vancouver, BC, V6E 3E1  
Tel. 778 373 5584      Email: [Greg.Duso@mmg.com](mailto:Greg.Duso@mmg.com)

### **CONTRACTORS / SERVICE PROVIDERS:**

Major Drilling – Provides drilling services  
337 Old Airport Road, Yellowknife, NT, X1A 3T3  
Tel. 867 873 4037

Great Slave Helicopters – Provides rotary wing air support  
106 Dickens St., Yellowknife, NT, X1A 2R3  
Tel. 867 873 2081

Discovery Mining Services – Provides expediting services and logistical support  
101 – 487 Range Lake Road, Yellowknife, NT, X1A 2P6  
Tel. 867 920 4600

Nunavut Ltd. - Provides catering and on site first aid  
PO Box 34, Cambridge Bay, NT, X0B 0C0  
Tel. 604 736 8142

Air Tindi – Provides fixed wing air support  
PO Box 1693, Yellowknife, NT, X1A 2P3  
Tel. 867 669 8200



# MINERAL CLAIMS – MMG

## IZOK , HOOD AND GONDOR PROJECTS:

LEASE	LEASE NAME	TYPE	LOCATION	MAP SHEET	AREA (Ha)
MC_F98472	HW89	MC - Mineral Claim (NWT)	Izok	86H/3	2582.5
MC_K01213	WIZ 1	MC - Mineral Claim(Nunavut)	Izok	86H/10 (NU)	1012
MC_K02257	HW13	MC - Mineral Claim(Nunavut)	Izok	86H/14	2582.5
MC_K02258	HW14	MC - Mineral Claim(Nunavut)	Izok	86H/14	2582.5
MC_K02260	HW16	MC - Mineral Claim(Nunavut)	Izok	86H/11	2582.5
MC_K02262	HW18	MC - Mineral Claim(Nunavut)	Izok	86H/11	1157
MC_K02264	HW20	MC - Mineral Claim (NWT)	Izok	86H/11	2147
MC_K02265	HW21	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02267	HW23	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02268	HW24	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02269	HW25	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02270	HW26	MC - Mineral Claim (NWT)	Izok	86H/10	2066
MC_K02272	HW28	MC - Mineral Claim (NWT)	Izok	86H/10	1549.5
MC_K02273	HW29	MC - Mineral Claim (NWT)	Izok	86H/10	2066
MC_K02274	HW30	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02275	HW31	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02277	HW33	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02278	HW34	MC - Mineral Claim (NWT)	Izok	86H/10	2066
MC_K02281	HW37	MC - Mineral Claim (NWT)	Izok	86H/10	2582.5
MC_K02283	HW39	MC - Mineral Claim (NWT)	Izok	86H/10	2582.5

MC_K02284	HW40	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02285	HW41	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K02286	HW42	MC - Mineral Claim (NWT)	Izok	86H/10	2582.5
MC_K02287	HW43	MC - Mineral Claim (NWT)	Izok	86H/10	2066
MC_K02289	HW45	MC - Mineral Claim (NWT)	Izok	86H/6,7,10	2582.5
MC_K02290	HW46	MC - Mineral Claim (NWT)	Izok	86H/6,11	2582.5
MC_K02291	HW47	MC - Mineral Claim (NWT)	Izok	86H/6	2582.5
MC_K02292	HW48	MC - Mineral Claim (NWT)	Izok	86H/6	2283
MC_K02293	HW49	MC - Mineral Claim (NWT)	Izok	86H/6	1216
MC_K02294	HW50	MC - Mineral Claim (NWT)	Izok	86H/6	2582.5
MC_K02295	HW51	MC - Mineral Claim (NWT)	Izok	86H/6	2582.5
MC_K02296	HW52	MC - Mineral Claim (NWT)	Izok	86H/6	723.1
MC_K02297	HW53	MC - Mineral Claim (NWT)	Izok	86H/6	2582.5
MC_K02305	HW61	MC - Mineral Claim (NWT)	Izok	86H/6	2582.5
MC_K03808	HW102	MC - Mineral Claim (NWT)	Izok	86H/6	2530.85
MC_K03809	HW103	MC - Mineral Claim (NWT)	Izok	86H/6	2582.5
MC_K03814	HW108	MC - Mineral Claim (NWT)	Izok	86H/2	2479.2
MC_K03815	HW109	MC - Mineral Claim (NWT)	Izok	86H/2	2479.2
MC_K03816	HW110	MC - Mineral Claim (NWT)	Izok	86H/2	2582.5
MC_K03817	HW111	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K03818	HW112	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
MC_K03819	HW113	MC - Mineral Claim (NWT)	Izok	86H/11	2582.5
ML_3201	Combined	ML - Mining Lease (Nunavut)	Hood	86I/2	2678.4

ML_3202	Combined	ML - Mining Lease (Nunavut)	Hood	86I/2	2622.6
SL_86I/2-1-11	86I02001 (3057)	SL - Surface Lease (Nunavut)	Hood	86I/2	4.4973
MC_K02186	GW05	MC - Mineral Claim (NWT)	Gondor	86H/8	2582.5
MC_K02187	GW06	MC - Mineral Claim (NWT)	Gondor	86H/8	2582.5
MC_K02189	GW08	MC - Mineral Claim (NWT)	Gondor	86H/7,8	2582.5
MC_K02190	GW09	MC - Mineral Claim (NWT)	Gondor	86H/7	2582.5
MC_K02192	GW11	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02194	GW13	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02195	GW14	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02196	GW15	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02197	GW16	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02198	GW17	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02199	GW18	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02200	GW19	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02201	GW20	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02202	GW21	MC - Mineral Claim(Nunavut)	Gondor	86H/9, 76E/12	2582.5
MC_K02203	GW22	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02204	GW23	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02205	GW24	MC - Mineral Claim(Nunavut)	Gondor	86H/9, 76E/12	2582.5
MC_K02206	GW25	MC - Mineral Claim(Nunavut)	Gondor	86H/9	2582.5
MC_K02207	GW26	MC - Mineral Claim (NWT)	Gondor	86H/8	2582.5
MC_K02208	GW27	MC - Mineral Claim (NWT)	Gondor	86H/8,76E/5	2582.5
MC_K02209	GW28	MC - Mineral Claim (NWT)	Gondor	76E/5	2582.5



MC_K02210	GW29	MC - Mineral Claim(Nunavut)	Gondor	76E/12	1181
MC_K02213	GW32	MC - Mineral Claim (NWT)	Gondor	76E/5	2582.5
MC_K02215	GW34	MC - Mineral Claim (NWT)	Gondor	76E/5	2582.5
MC_K02219	GW38	MC - Mineral Claim(Nunavut)	Gondor	76E/12	1562
MC_K02220	GW39	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02221	GW40	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02222	GW41	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02227	GW46	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02228	GW47	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02229	GW48	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02230	GW49	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02231	GW50	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02232	GW51	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02233	GW52	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02234	GW53	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02237	GW56	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02238	GW57	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2039
MC_K02239	GW58	MC - Mineral Claim(Nunavut)	Gondor	76E/12	1794
MC_K02240	GW59	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2314
MC_K02241	GW60	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02242	GW61	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2582.5
MC_K02243	GW62	MC - Mineral Claim(Nunavut)	Gondor	76E/12	2299
MC_K02244	GW63	MC - Mineral Claim(Nunavut)	Gondor	76E/12	1129

## SUMMARY OF EXPLORATION ACTIVITIES:

MMG has been actively exploring in the Izok Lake area for several years under the active Land Use Permits #N2006C0027 (IZOK) which will expire 3 July 2012, and #N2008C0020 (HOOD/GONDOR) which will expire 13 May 2012. The projects were acquired as the result of a series of corporate takeovers from the previous owners. The “scope” of exploration in terms of infrastructure, equipment, methodology and area under investigation remains unchanged. The existing camp at the Ham Lake site continues to be used as the operational base for exploration activities and there is no current plan to expand the existing facilities. A description of the camp provided below.

The attached general location map shows the camp location relative to Yellowknife. Also included is a more detailed map showing the areas of interest (claims) presently permitted under LUP#2006C0027 and LUP#2008C0020.

Anticipated exploration activities include core drilling and sampling from surface, prospecting and geological mapping, ground and airborne geophysics, as well as environmental baseline and engineering studies. Drill programs are target dependent for the most part, and diamond drills will operate from land or from lake ice. Some geotechnical drilling for engineering studies is anticipated, and up to 3 drills may be involved. The Izok project remains of economic interest to MMG and it is anticipated that exploration work will be ongoing for the foreseeable future. The purpose of these activities is to identify additional mineral resources in the region as well as continue to advance the feasibility of the Izok Lake deposit.

Maps showing the detailed areas of interest at Izok as well as Hood are included.

## HAM LAKE CAMP

Active Land Use Permit 2006C0027 includes the camp located at Ham Lake, which continues to be MMG’s operational base in the region. The Ham Lake site was originally constructed by Inmet in the 1980’s, and consisted of ATCO trailers, several large aluminum clad storage structures, and a fuel tank farm providing for bulk storage of diesel fuel. Heavy equipment and building materials were brought to site using a winter road that linked the site to Lupin. Presently access is by air only. An all weather airstrip was built on the esker south of camp allowing year round access by fixed wing aircraft up to and including (C5 Buffalo and Dash 7/8) out of Yellowknife. A provisional ice air strip on Iznogoudh Lake continues to be built on an annual basis

to allow for seasonal Hercules operations in order to re-supply the site. In 2008 Wolfden/Zinifex added weatherhaven structures with capacity for 50 men, as the original ATCO camp was determined to be unserviceable. The current camp draws water from Ham Lake with a submersible electric pump. Two 175Kw diesel generators provide power to the site. Bulk diesel fuel is stored in 5 double walled portable tanks with 11,000L capacity each. Drum fuel is stored in secondary containment berms in a designated area and stacked in a manner that easily allows for periodic inspection by camp personnel. The camp undergoes yearly inspection by Aboriginal and Northern Affairs Canada field personnel, most recently by Andrew Keim in July of 2011. An access road linking the camp to the airstrip exists under the present permit, and in recent years, an amendment adding a winter ice road linking the Ham Lake camp site to the principal area of work on Izok Lake has also been included (see map).

## WASTE DISPOSAL

Burnable garbage is incinerated on site in a forced air diesel fired furnace built for that purpose. Industrial waste that is not burnable and remnants from the incinerator are sealed in drums and removed from site for proper disposal in Yellowknife, as are used lubricants and petroleum products. Waste arriving in Yellowknife is handled by KBL Environmental, and if required is transported to Edmonton for disposal. Sewage is collected daily from the Pacto style toilet facilities and sealed in plastic bags which are then incinerated on site. Greywater from domestic use runs through a grease trap and a settling tank before draining to a sump location located behind the kitchen and dry facilities. There is very little vegetation in the operational environment, and overburden is not normally disturbed in the course of exploration work. Drill moves are helicopter supported and drill platforms are built on timbers to prevent damage to the tundra surface. Surface vehicle travel is limited to existing permitted gravel roads and seasonal ice roads. Minimizing foot traffic over tundra is company policy on project sites.

## FUEL HANDLING

Fuel is airlifted seasonally into the Izok (Ham Lake Camp) site using First Air's C-130 Hercules aircraft onto the frozen Izok lake surface. The fuel is transported in either standard 205L steel drums or a 7000L bladder. Drummed fuel on pallets is unloaded using a front end loader equipped with forks, and moved to adequate cache sites where secondary containment berms are positioned. A tanker pump truck is used to unload the fuel bladder, and transports bulk fuel to one of 5 double walled 11,000L tanks on

site. Fuel types are separated into different caches. Fuel drums are moved using the loader/helicopter from the cache sites as required to various locations around camp, and out to the drill rig site. A Twin Otter is used to shuttle fuel from the Ham Lake site to other permitted locations if needed (Hood).

Fuel is transferred from drums by manual or electric fuel pumps with flexible hoses, by designated personnel. Bulk fuel is transferred to drums and equipment using electric fuel pumps. Secondary containment and absorbent matting is employed at all fuel transfer locations, and spill kits are close at hand. Staff are trained in spill response protocols and an annual review is conducted during field operations.

## DRILLING

Drilling has traditionally been contracted to Major Drilling, based in Moncton New Brunswick. Drilling operations are helicopter supported; the drill is dismantled and flown piece by piece to the next pad location where it is re-assembled. The drill is positioned on a temporary plank floor constructed over wooden timbers (8"X8"). Drill pads maintain a 60m distance to water bodies. Secondary containment and spill kits are employed at fuel transfer points. Water used for diamond drilling is pumped a source proximal to the pad location. Water source locations are reported annually. Approximately 25% of the water supplied to the drill is actually "consumed" in the drilling process. The remainder returns to surface where it is re-circulated in a closed system and any rock cuttings allowed to settle before being returned to the bit face. At the completion of drilling, water contained in the settling tanks is filtered and inspected before being returned to the environment. Cuttings from the tanks are collected and deposited in sump locations. These locations are normally natural depressions or open fractures in rock that allow for suitable natural containment. If lake-bottom targets are identified, drilling from the frozen lake surface is carried out in the winter months. Lake water is tested prior to and after completion of drill holes in order to ensure that there are no contaminants escaping the closed system. Water samples and photos documenting ice drill platforms are sent to ALS laboratories for analysis and the results are provided annually to the Nunavut Water Board in our annual report. Cuttings are carefully collected and deposited on land in chosen sump locations. Sump locations are reported annually with the completion of drilling. Any disturbed ground is re-seeded.



## SUMMARY OF POTENTIAL IMPACTS

RESOURCE/TOPIC	POTENTIAL IMPACT	PROPOSED MITIGATION
Tundra / Permafrost	Overburden drilling will cause minor disturbance to immediate drilling areas. Contamination of terrain/permafrost and, surface and ground water due to fuel spills. Accidental fuel spills.	Drill rigs will be heli-portable and will not traverse tundra surface. Site will be left in a stable state. Proper storage of fuel containers and use of drip pans and secondary containment. See Attached Spill Contingency Plan.
Hydrology	Water removal required from local water bodies for geotechnical drilling.	Chilled brine will be kept in closed circulation by the drill, minimizing the amount of water used. Additional water will be required if downhole circulation is lost. Lost circulation is un-common and amounts are expected to be minimal.
Hydrology	Water quality changes to groundwater if artesian well is encountered during drilling.	If an artesian well is encountered, drilling will stop, the hole will be plugged, and the location will be recorded and reported .
Surface Water Quality	None – no direct discharge to water bodies, negligible sedimentation.	Minimum 30m distance from surface water bodies enforced for all activities. Use of sumps for depositing settled fines for drill return.
Fish and Fish Habitat	Entrainment of fish and other aquatic life with extraction of water for drilling and domestic camp purposes.	Use of screens over pump intake pipe to prevent entrainment.
Vegetation	Spilled brine during drilling may result in minor damage in immediate vicinity of drill site Minor compaction of vegetation caused by drill.	Implementation of field protocols to ensure there is no brine spillage. Closed system on drill water return. Drill-rig will be heli-portable and will not traverse the ground surface.
Wildlife and Wildlife Habitat	Wildlife: short-term aircraft and drilling noise, human interaction. Habitat: Minor disturbance to vegetation in drilling areas by compaction.	Personnel training on wildlife-human interaction/encounters. Pre-drilling reconnaissance site visit prior to drilling activities will assist in identifying sensitive wildlife habitat.

		<p>Site will be left in a stable state, promoting vegetation re-established.</p> <p>Operations will be modified or suspended if found to be affecting seasonal migration or nesting activities.</p>
Wildlife and Wildlife Habitat	Disturbance of wildlife from low-level aircraft activities.	<p>Low-level fixed wing aircraft activity will be restricted to take off and landing. Likewise helicopter flight will be restricted to the necessary slinging of drill equipment and take off and landing.</p>
Socio-economics	<p>Positive impacts. Local employment and training.</p> <p>Continued employment opportunities for field personnel from the local communities, with the possibility of expansion in the future.</p>	<p>Local employment provides jobs, employment benefits and income to individuals and families in isolated communities with few opportunities. Boosts local economy which in turn has beneficial effects.</p>
Archaeology / Cultural Sites	Minor disturbance to immediate drilling areas.	<p>Pre-drilling terrain mapping and reconnaissance site visit will assist in identifying potential archaeological sites.</p> <p>Personnel training on archaeological resource identification.</p> <p>Standard notification procedures will be followed in the event that archaeological artifacts are encountered, and operations modified or suspended.</p>
Archaeology / Cultural Sites	Disturbance, removal and/or destruction of archaeological specimens or sites.	<p>Project activities that encounter or are found to be impacting an archaeological site or specimen shall be stopped, and the proper regulatory authorities shall be immediately notified.</p> <p>All persons working on site will be made aware of this mitigation procedure and any permit conditions.</p> <p>Archaeological specimens or sites shall not knowingly be removed, disturbed or displaced.</p>

## EXISTING RELATED RIGHTS, LICENSES, AND PERMITS

Permit/License No.	Regulatory Body	Type	Expiry
2BE-IZO0712	Nunavut Water Board	Water License Type B	Dec 31, 2012
N2006C0027	Dept. Indian Affairs and Northern Development	Land Use Permit	May 3, 2012
N2008C0020	Dept. Indian Affairs and Northern Development	Land Use Permit	July 13, 2012
KTL306C019	Kitikmeot Inuit Association	Land Use Agreement	February 15, 2012
W2008C0002	Wek'eezhil Land and Water Board	Land Use Agreement	March 16, 2013

## EQUIPMENT LIST – IZOK (HAM LAKE CAMP)

- 1 Grader - Cat 120 G Ser. # 87V9881
- 1 Grader with 'V' plow - Champion 740 Ser # 740-23-118-13554
- 1 Cat 930 Loader # 41K4570 with bucket and forks
- 1 JCB Zoom Boom # 52567567675 Model 525-67
- 1 Honda EX12D- ECD-1003284
- 1 Water and Fuel Pump Truck Model # TE2-50HA Tusuri
- 1 Bob Cat mod.#T190 ser# 531616486 with bucket and forks
- 2X F350 flat bed pickup trucks
- 1 F350 pickup truck
- 2X Cummins 3 phase Generators 175Kw
- 1 D6 Caterpillar dozer – NOT OPERATIONAL

Ham Lake Camp at Izok



Historic Inmet Camp at Hood site









**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**

555 – 999 Canada Place, Vancouver BC • Tel: 778-373-5600 • Fax: 778-373-5598

# TABLE OF CONTENTS

---

1.0	PREAMBLE .....	1
2.0	INTRODUCTION.....	2
3.0	SITE DESCRIPTION.....	3
4.0	CONTACTS .....	4
5.0	RESPONSE ORGANIZATION.....	5
6.0	SPILL RESPONSE TEAM.....	6
7.0	INITIAL ACTION.....	7
8.0	REPORTING.....	8
9.0	RESOURCE INVENTORY .....	9
10.0	HAZARDOUS MATERIAL INVENTORY .....	10
10.1.	DIESEL FUEL, JET-B, GASOLINE .....	10
10.1.1.	GENERAL PRECAUTIONS.....	10
10.1.2.	SPILL ON LAND.....	10
10.1.3.	SPILL ON WATER.....	11
10.1.4.	SPILL ON RIVERS AND STREAMS.....	11
10.1.5.	SPILL ON ICE AND SNOW .....	11
10.1.6.	SPILL DISPOSAL .....	11
10.2.	PROPANE .....	11
10.2.1.	GENERAL PRECAUTIONS.....	11
10.2.2.	SPILL ON LAND, WATER, ICE AND SNOW .....	12
10.2.3.	SPILL DISPOSAL .....	12
10.3.	MOTOR OIL, HYDRAULIC OIL, TRANSMISSION FLUID .....	12
10.3.1.	GENERAL PRECAUTIONS.....	12
10.3.2.	SPILL ACTION.....	12
10.4.	ANTIFREEZE.....	13
10.4.1.	GENERAL PRECAUTIONS.....	13
10.4.2.	SPILL ON LAND.....	13
10.4.3.	SPILL ON RIVERS AND STREAMS.....	13
10.4.4.	SPILL ON ICE AND SNOW .....	13
10.4.5.	SPILL DISPOSAL .....	13
10.5.	BATTERY ACID .....	13
10.5.1.	GENERAL PRECAUTIONS.....	13
10.5.2.	SPILL ACTION.....	13
10.6.	POLY-DRILL DR-133.....	14
10.6.1.	GENERAL PRECAUTIONS.....	14

## TABLE OF CONTENTS

---

10.6.2.	SPILL ACTION.....	14
10.7.	550-X POLYMER .....	14
10.7.1.	GENERAL PRECAUTIONS.....	14
10.7.2.	SPILL ACTION.....	14

## LIST OF FIGURES

---

FIGURE 1 – REGIONAL OVERVIEW MAP

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

FIGURE 3 – HAM LAKE CAMP LAYOUT





## 1.0 PREAMBLE

---

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

---

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

---

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'
- 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

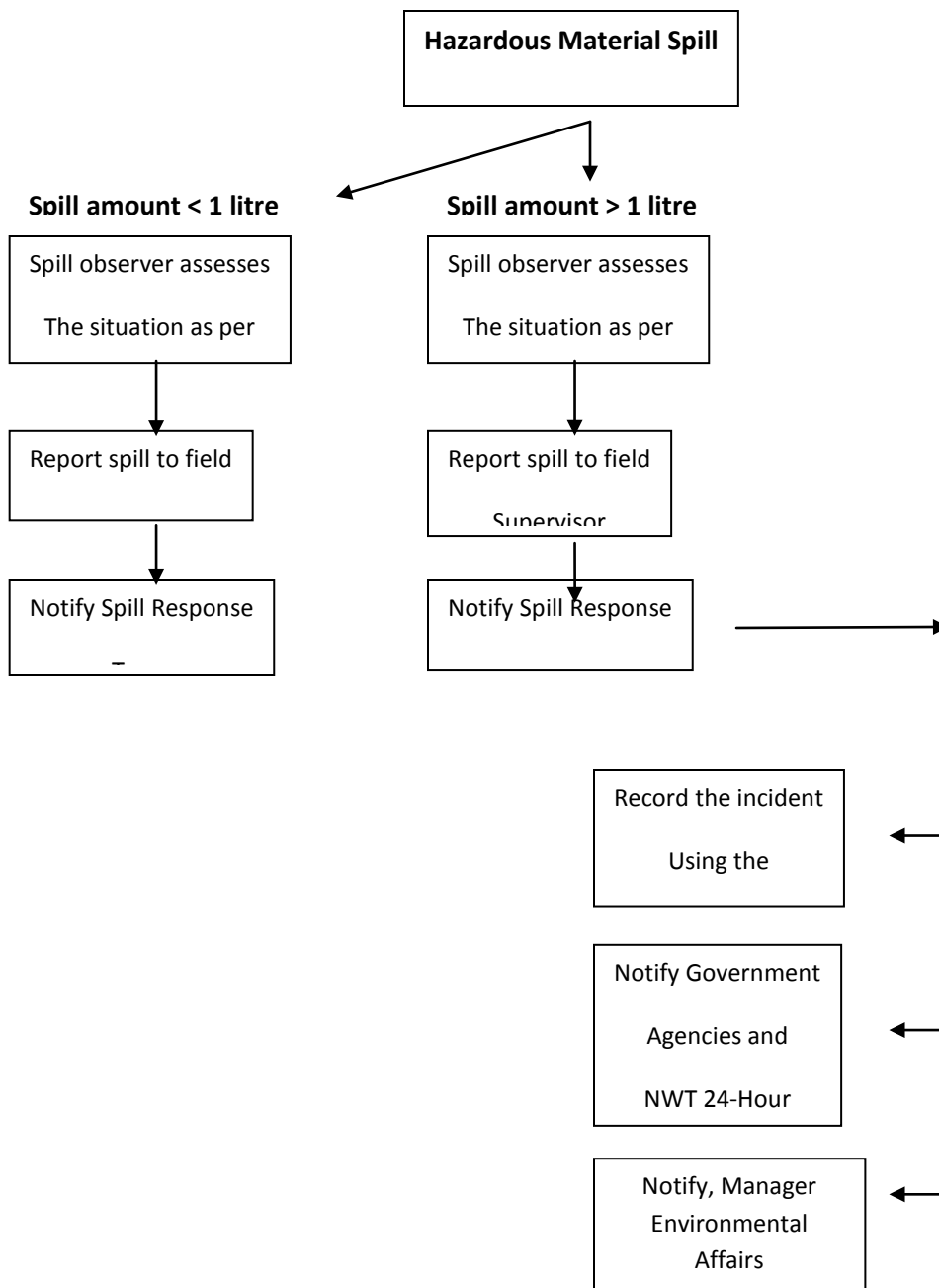
---

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

---

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

---



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	
B	OCCURRENCE DATE: MONTH – DAY – YEAR			OCCURRENCE TIME		<input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	
		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

---

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

---

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*

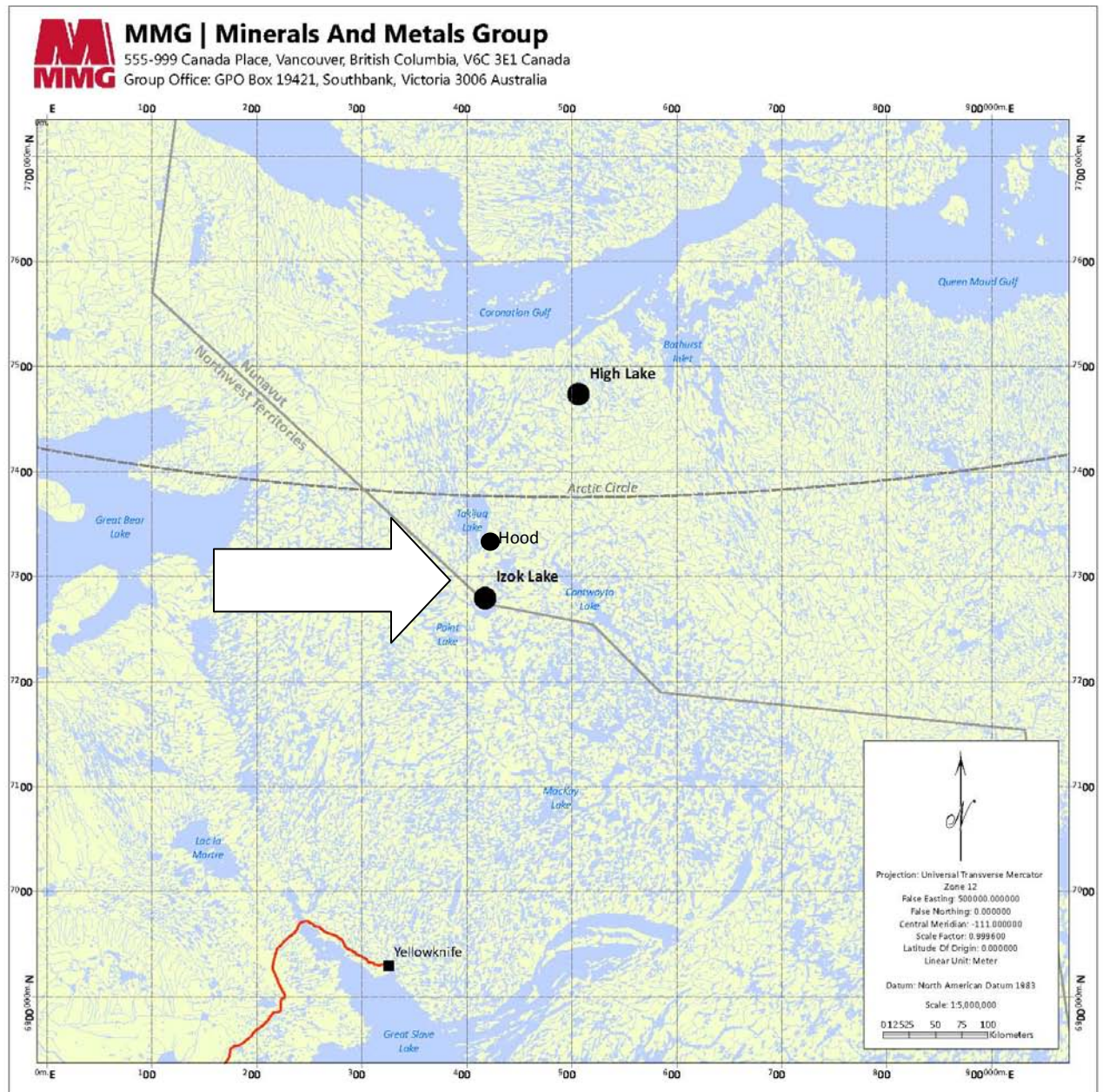
- Prolonged skin contact may cause irritation
- Possible eye irritation
- Ingestion may cause nausea, vomiting, cramps, diarrhea

### 9.7.2 *SPILL ACTION*

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

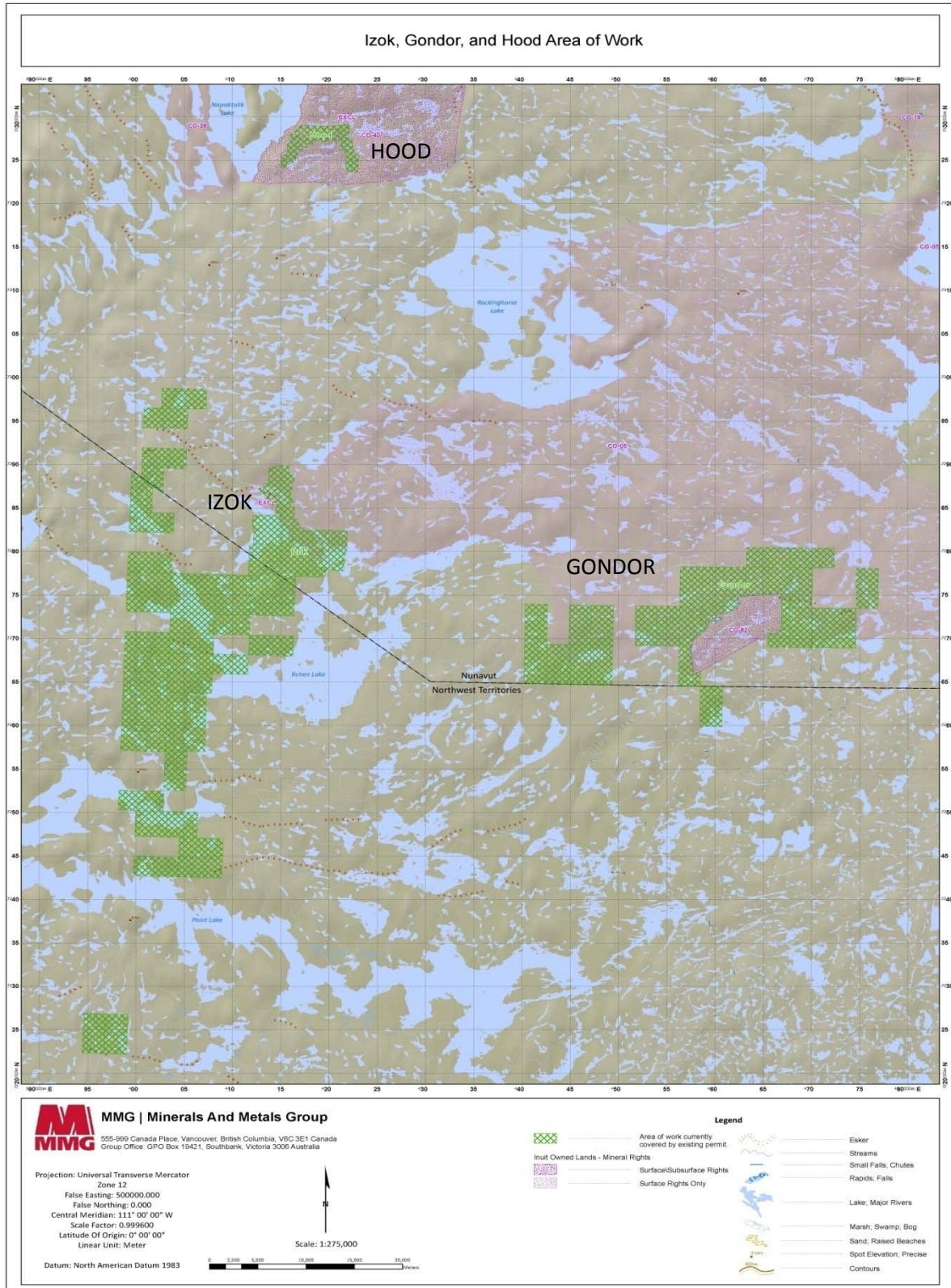
# FIGURES

## Izok and Hood Projects



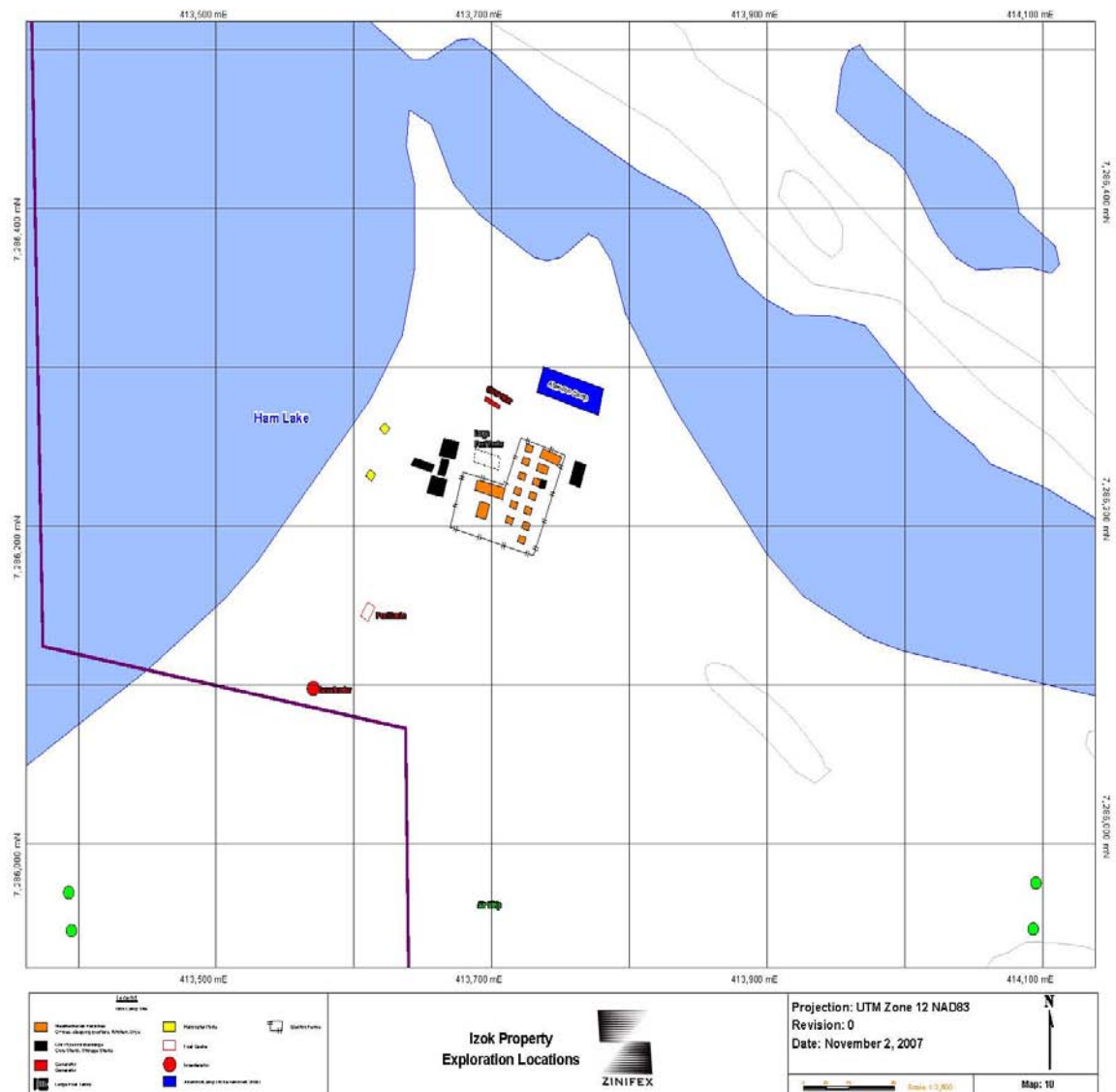


Izok and Hood Projects



Izok and Hood Projects

# HAM LAKE CAMP



# MSDS LIST

2 Cycle Motor Oil  
Antifreeze  
Aviation Gas  
Barimol Grease  
Dexron  
Diesel Fuel  
Drill Rod Grease  
Durafran  
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.





# **ABANDONMENT AND RESTORATION PLAN**

## **IZOK PROJECT**

MARCH 2011

### **Minerals and Metals Group**

555 – 999 Canada Place, Vancouver BC, V6C 3E1

Tel. 787 373 5600

Fax 787 373 5598

# ABANDONMENT AND RESTORATION PLAN EXPLORATION OPERATIONS IZOK, HOOD AND GONDOR PROJECTS NUNAVUT, CANADA

March 5, 2011

Prepared By: \_\_\_\_\_  
Ted Muraro – Operations Manager

Date: March 5, 2011

Reviewed By: \_\_\_\_\_  
Greg Duso - Project Manager

Date: March 5, 2011

Authorized By: \_\_\_\_\_  
Ian Neill – Exploration Manager

Date: March 5, 2011

## **Minerals and Metals Group (MMG)**

555-999 Canada Place, Vancouver BC V6C 3E1 • Tel: 778 373 5600 • Fax: 778 373 5598  
E-mail: [info@mmg.com](mailto:info@mmg.com) • Web: [www.mmg.com](http://www.mmg.com)

## TABLE OF CONTENTS

---

1.0	PREAMBLE .....	3
2.0	INTRODUCTION.....	3
3.0	SCHEDULE .....	4
4.0	SITE INFRASTRUCTURE .....	5
5.0	FINAL ABANDONMENT AND RESTORATION PLANS .....	6
5.1.	BUILDINGS AND CONTENTS.....	6
5.2.	WATER SYSTEM.....	6
5.3.	ELECTRICAL SYSTEM .....	6
5.4.	FUEL AND CHEMICAL STORAGE FACILITIES.....	6
5.5.	WASTE FACILITY AND INCINERATOR.....	7
5.6.	GREYWATER SUMP .....	7
5.7.	BLACKWATER SUMP .....	7
5.8.	HELICOPTER PAD.....	7
5.9.	CAMP SITE.....	7
5.10.	DRILLING AREA RESTORATION.....	7
5.11.	DOCUMENTATION AND INSPECTION .....	8
6.0	SEASONAL SHUTDOWN AND RESTORATION PLAN.....	9
6.1.	BUILDINGS AND CONTENT .....	9
6.2.	WATER SYSTEM.....	9
6.3.	ELECTRICAL SYSTEM .....	9
6.4.	FUEL AND CHEMICAL STORAGE FACILITIES.....	9
6.5.	WASTE FACILITY AND INCINERATOR.....	9
6.6.	GREYWATER SUMP .....	9
6.7.	BLACKWATER SUMP .....	10
6.8.	HELICOPTER PAD.....	10
6.9.	CAMP SITE.....	10
6.10.	DRILLING AREA RESTORATION.....	10
6.11.	DOCUMENTATION .....	10

## LIST OF FIGURES

---

FIGURE 1 – REGIONAL OVERVIEW MAP

FIGURE 2 – PERMITTED OPERATIONAL AREA

FIGURE 3 – HAM CAMP LAYOUT MAP

## 1.0 PREAMBLE

---

The Abandonment and Restoration Plan is effective from March, 2011 to March, 2012 and applies to the Izok/Hood Projects – Ham Lake 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 Permit's with the Kitikmeot Inuit Association (KIA), Indian and Northern Affairs Canada (INAC) and Nunavut Water Board (NWB) have been submitted concurrent with the submission of this document.

The general locations of the Izok and Hood program areas are shown in Figures 1. The Ham Camp layout is shown in Figure 2.

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

## 2.0 INTRODUCTION

---

This abandonment and restoration plan has been prepared as a document for the Ham Lake Camp, and for the drilling program to be carried within the Point Lake-Itchen Lake volcanic belt and the Takiyuak greenstone belt. The fly-in camp is located 265 km south of Kugluktuk and 360 km north of Yellowknife. It is serviced year round by a gravel air strip and seasonally an ice air strip for Hercules operations in Winter. The camp will support a population of up to 40 people in a combination of trailers and weatherhaven style tents, and is open seasonably between March and October.

## 3.0 SCHEDULE

---

The seasonal shutdown of the camp site should take 5 days to complete and will take place after the drilling activities have ceased. The plan will be applied by the Izok/Hood projects personnel under the supervision of the field supervisor.

## 4.0 SITE INFRASTRUCTURE

---

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, garages, fuel storage facilities and is served by a 2,500 foot long gravel air strip. The layout of the camp is shown in Figure 2.

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

### Major Camp Equipment/Facilities

- 13 – Travco trailer units
- 8 – 4' x 44' camp matting
- 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'
- 2 – Wood frame, steel clad core storage warehouses
- 1 – Wood frame, aluminum clad 12' x 36' skidded core shack

### Fuel Tanks

- 7 – 12,000 gal fuel skid mounted fuel tanks

### Mobile Equipment

- 1 – Caterpillar D-6 Bulldozer
- 1 – Champion Motor Grader
- 1 – Cat 140G Motor Grader
- 1 – Cat 930 Loader
- 1 – Bobcat
- 1 – JBC ZoomBoom
- 1 – Fuel Trailer
- 3 – Ford Supercab F-350 trucks (diesel)

A map showing the regional setting of the project areas is provided on Figure 1. This Abandonment and Restoration Plan can be extended to drilling operations that will be carried out at some distance from the camp. The outlines of these areas are shown on Figures 2 and 3. A map showing the layout of the camp and airstrip is provided on Figure 4.

## 5.0 FINAL ABANDONMENT AND RESTORATION PLANS

---

### 5.1. BUILDINGS AND CONTENTS

Reusable equipment including tents, tent metal frames, stoves, foam rubber mats, the kitchen stoves, refrigerators and other appliances and equipment, showers, hot water tank, and other portable components will be packaged and flown out from project site to Yellowknife. The Travco trailers will be disposed of by burning and/or removed from site for use elsewhere or disposal. The wood framed buildings will be burned and the non-combustible hardware will be removed from site.

### 5.2. WATER SYSTEM

Pump, tanks and hoses will be drained, dismantled, packaged and flown out to Yellowknife. The wooden pump shack built to protect the pump will be burned as for the other wood structures.

### 5.3. ELECTRICAL SYSTEM

The generator shed will be inspected for residual hazardous waste (oil, grease) and will be drained of its fuel. Remaining waste fuel and oil will be collected in the containers labeled for that use and used through the summer. The shed will be dismantled and burned. The soil will be inspected for contamination. Electrical wires, sockets, etc...will be taken down and either returned with camp material to Yellowknife, or flown out to an approved municipal discharge.

### 5.4. FUEL AND CHEMICAL STORAGE FACILITIES

Fuel inventory will be managed so as to retain only a minimum quantity of fuel on site to permit closure activities to take place. On full abandonment of the site, remaining fuel will be pumped from the large tank(s) in to drums and removed from site. The large fuel tanks and smaller containers such as drums and day tanks will be scrapped and removed from site or removed from site and sold. Propane cylinders will be flown out as well to source.

Chemical stored on site will consist of drill additives, oil, grease and household cleaners. All drill additives will be stored in or by the drill foreman shed. Household cleaners will mainly be stored in the kitchen. Upon camp closure, any unused drilling additive, oil or grease will be returned to the drilling company warehouse. Half empty containers will be taken off site to be properly disposed in an approved discharge. Empty containers will be disposed with regular garbage.



## 5.5. WASTE FACILITY AND INCINERATOR

Once the camp is entirely dismantled, all remaining combustible waste stored at this site will be burned. The incinerator will be dismantled, reusable parts will be returned to Yellowknife and the barrel will be discarded in an approved municipal discharge.

## 5.6. GREYWATER SUMP

The kitchen-dry greywater sump will be filled back and leveled.

## 5.7. BLACKWATER SUMP

Not applicable. The outhouses consist of “pacto” style toilets where waste is collected in a plastic bag lined container and content burned on a daily basis.

## 5.8. HELICOPTER PAD

The helicopter pad consists of a wooden platform built of a 2x4 base with plywood cover. Soil around the helicopter pad will be inspected for contamination. The wood will be burned as per other wooden structures on site.

## 5.9. CAMP SITE

The camp site will have a final inspection. Areas showing too much wearing evidences will be covered with a layer of peat moss and lightly fertilized to promote natural growth. Drill core to be left on site will be properly stored and secured.

## 5.10. DRILLING AREA RESTORATION

The drill will be dismantled into its main components as per the drilling contractor procedure, packaged and secured along with its ancillary equipment and rods. The drill will be flown out to another project or to a storage site designated by the drilling contractor. All drill sites will be inspected for soil contamination. Any remaining waste will be taken to camp to be burned if possible or to be flown out to

an approved municipal discharge. Greywater and sludge sumps will be filled and leveled. A layer of peat moss will be spread on top and slightly fertilized to promote natural growth. As much as possible, drill sites will be restored immediately after the drill has been moved to the next site and sumps have drained enough to be leveled.

## **5.11. DOCUMENTATION AND INSPECTION**

Photos of camp and drill sites prior to building of drilling will be taken. Monitoring will be done during occupancy and photos taken. Once the site restored, it will again be documented with photos. Soil contaminated by hydrocarbons and unnoticed before abandonment will be treated as per the spill contingency plan. A final site inspection visit with community representatives, Land Use Inspector and in collaboration with NWB staff will be organized by the permit holder.

## 6.0 SEASONAL SHUTDOWN AND RESTORATION PLAN

---

### 6.1. BUILDINGS AND CONTENT

All equipment will be stored inside the wooden buildings to ensure they will withstand the winter season. Canvas tents will be secured and braced internally to ensure they will withstand snow and wind loads. Wood structures will be secured with nailed plywood over windows and doors to prevent inadvertent opening. Snowmachines, argo's and quads will be stored inside the core shacks and shop building.

### 6.2. WATER SYSTEM

Pump, tanks and hoses will be drained and dismantled. Rented equipment will be flown out to owner. Hoses will be rolled and stored in the kitchen.

### 6.3. ELECTRICAL SYSTEM

The generator shed will be inspected for remaining hazardous waste (oil, grease) and will be drained of its fuel. Remaining waste fuel and oil will be collected in the containers labeled for that usage and used through the summer. The generator will be winterized and prepared for startup in spring. The soil surrounding the generator shed will be inspected for impact. Electrical wires, plugs and sockets will be stored in the kitchen.

### 6.4. FUEL AND CHEMICAL STORAGE FACILITIES

An inventory of remaining fuel will be made and full drums will be inspected and secured for the winter. Empty drums will be flown out to source. Empty propane cylinders will be flown out to source. Chemical stored on site will consists of drill additives, oil, grease and household cleaners. All drill additives will be stored in or by the drill foreman shed and secured for the winter. Empty containers will be disposed with regular garbage. The soil of the areas will be inspected for contamination

### 6.5. WASTE FACILITY AND INCINERATOR

Once the camp has been dismantled and remaining buildings secured, all remaining combustible waste stored at this site will be burned. The incinerator will be dismantled and stored in the kitchen. The soil will be inspected for contamination.

### 6.6. GREYWATER SUMP

The greywater sump wood cover will be secured for winter.

## **6.7. BLACKWATER SUMP**

Not applicable. The outhouses consist of “pacto” style toilets where waste is collected in a plastic bag lined container and content burned on a daily basis.

## **6.8. HELICOPTER PAD**

The helicopter pad consists of a wooden platform built of a 2x4 base with plywood cover. Soil around the helicopter pad will be inspected for contamination.

## **6.9. CAMP SITE**

Areas showing too much wearing evidences will be covered with a layer of peat moss and lightly fertilized to promote natural growth. Soil contaminated by hydrocarbons and unnoticed before abandonment will be treated as per the spill contingency plan. Drill core to be left on site will be properly stored and secured in cross stacked piles or wooden cores racks.

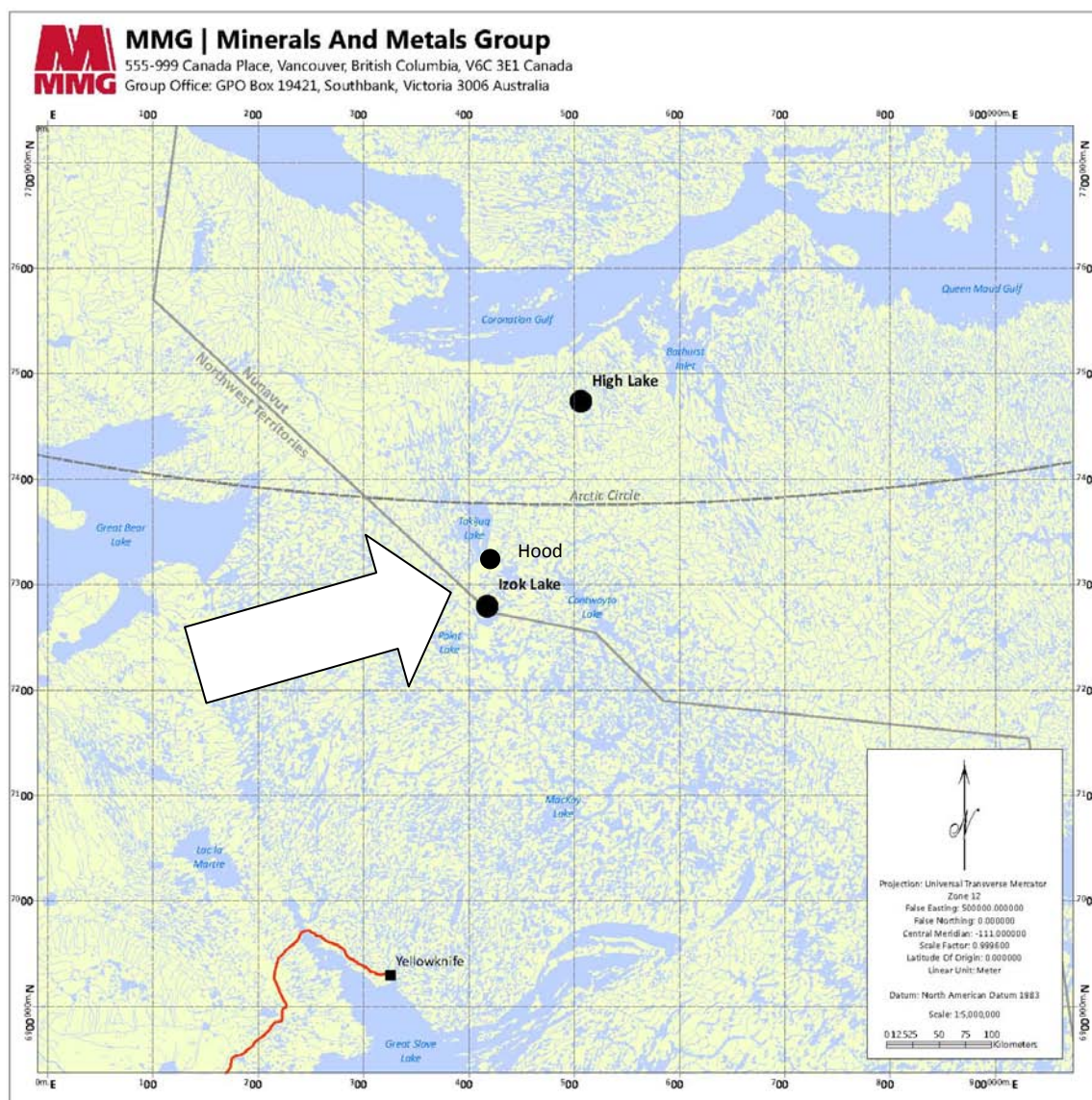
## **6.10. DRILLING AREA RESTORATION**

The drill will be dismantled into its main components as per the drilling contractor procedure, packaged and secured along with its ancillary equipment and rods. The drill will be left on solid ground until next season. All drill sites will be inspected for soil contamination. Any remaining waste will be taken to camp to be burned if possible to be flown out to an approved municipal discharge. Greywater and sludge sumps will be filled and leveled. A layer of peat moss will be spread on top and slightly fertilized to promote natural growth. As much as practical, drill sites will be restored immediately after the drill has been moved to the next site and sumps have drained enough to be leveled.

## **6.11. DOCUMENTATION**

Equipment and buildings left on site will be inventoried. Photos of camp and drill sites prior to drilling will be taken. Monitoring will be done during occupancy and photos taken. Once the site secured for the winter, it will again be documented with photos.

FIGURE 1 : GENERAL LOCATION MAP



**FIGURE 2: (IZOK) HAM LAKE CAMP**

