



# MIRAMAR HOPE BAY LIMITED

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May 21 2006

*via e-mail only:*

Mr. David Hohnstein  
 Technical Advisor Mining  
 Nunavut Water Board,  
 P.O. Box 119  
 Gjoa Haven, NU, X0E 1J0

Dear Mr. Hohnstein,

**Subject: April 2006 Monthly Report for Water License: NWB2HOP0207**

NWB2HOP0207 license covers activities along Hope Bay Belt. These areas are: Windy Lake Camp, Patch Lake, Doris Lake and Roberts Bay Barge landing area. The area is referred to as “Madrid Region” or sometimes known as “Madrid Project”.

Environmental activities at Hope Bay Belt during the month of April focused on activities related to the 2006 expanded Madrid Exploration Project. The Windy Lake Camp is the base camp for all activities carried out under Nunavut Water Board License Number NWB2HOP0207. The camp was fully operational during the month of April.

**ENVIRONMENTAL INCIDENCE:**

There were no reportable spills for the period reported as shown in Table 1.

**Table 1: MHLB Spill Statistics for NWB License # NWB2HOP0207, 2006 Exploration Program**

Spill Statistics for Hope Bay Belt 2006				
MHLB	Spill	Years		Month
Work Areas/Camps	Category	2005	2006	April
Madrid Region	Level 1	6	0	0
	Level 2	2	0	0
	Level 3	0	0	0
Doris Lake	Level 1	0	0	0
	Level 2	0	0	0
	Level 3	0	0	0
Roberts Bay	Level 1	1	0	0
	Level 2	0	0	0
	Level 3	0	0	0
<b>Sub-Totals</b>				
Totals	Minor (L1)	7	0	0
	Moderate (L2)	2	0	0
	Major (L3)	0	0	0
External Reportable		2	0	0
Grand Totals	All Levels	9	0	0

**WATER SAMPLING**

***Domestic Water Source (Part C Item 1)***

Potable water drawn from Windy Lake for camp use is presented in Table 2. The daily usage ranges from 11 to 17 cumes, averaging at 13.7 cumes in the month. Year-to-date water abstraction for camp use at the end of April is 661 m<sup>3</sup>.

Table 2: Windy Lake potable water uptake rate, April 2006

Potable Water Source	April 2006	April	YTD 2006
Windy Lake (Compliance: 50 m <sup>3</sup> daily)	Average Daily (m <sup>3</sup> )	Used Volume (m <sup>3</sup> )	Used Volume (m <sup>3</sup> )
	13.7	411	661

***Lake Water Samples (Part D Item # 6)***

Final analytical results of water samples collected from Doris Lake, Patch Lake and Wolverine Lake were compared with the *Canadian Council of Ministers of the Environment's (CCME) Canadian Water Quality Guidelines, Chapter 3 – Canadian Water Quality Guidelines for the Protection of Aquatic Life*. In circumstances where no guidelines were provided for specific parameter, British Columbia Water Quality Guidelines (Criteria) was used. The summary of results are tabulated in Appendices A, B, and C.

**Wolverine Lake:**

A set of water samples was collected at Wolverine before drilling commenced on ice. Appendix A shows tabulated analytical results compared with the CCME water quality guidelines. The data showed elevated concentrations of cadmium, copper, iron, silver and zinc total fractions compared with the CCME guidelines. All other parameters analyzed were within CCME guideline values.

**Doris Lake:**

Two sets of water samples were collected from Doris Lake; one before drilling and the other after drinking. Unfortunately, the before drilling results are not available for comments. The data will be provided in May's month end report.

Appendix B shows analytical results for a set of water samples collected after drilling ceased at Doris Lake. The data showed elevated concentration of total copper fractions compared with the CCME guidelines. All other parameters analyzed were within CCME guideline values.

**Patch Lake:**

Three sets of water samples were collected from Patch Lake before drilling began on ice. Appendix C shows comparison of tabulated analytical results for each Patch Lake site with that of the CCME guidelines. The data showed elevated concentrations of total fractions for silver and zinc at all three sites. Copper fractions were elevated at Patch #1 and #2 sites, while iron was elevated at Patch #1. All other parameters analyzed were within CCME guideline values.

***Camp Grey Water Analytical Results (Part E Item 4)***

No grey water samples were collected during April at Windy Lake Camp. Samples will be collected during water open season.

Table 3 provides results of water quality samples collected during the report period as requirements of this license. *(No results to report).*

**Table 3: Open water Season Monthly Water Quality – April 2006**

Parameters	Grey Water - Discharge	Lake meets Discharge	Water Intake
Sample Date			
<b>Physical Parameters</b>			
Hydrogen ion - field pH			
Total Suspended Solids (mg/L)			
Field Sample Temperature (°C)			
<b>Bacteriological Tests</b>			
Coliforms - Faecal (CFU/100mL)			
<b>Extractable</b>			
Oil and Grease (No Visible Sheen)			
<b>Organic Parameters</b>			
BOD <sub>5</sub> (mg/L)			
<b>Nutrients</b>			
Orthophosphate as P (mg/L)			
Phosphate, Total (mg/L)			
<b>Subcontracted Nutrients</b>			
Kjeldahl Nitrogen, Total			
Nitrate+Nitrite as N (mg/L)			

**PERMITS/LICENSE APPLICATION STATUS**

An application was submitted to KIA for amendment to Land Use Permit # KIA KTL303C056. Miramar Hope Bay Limit (MHL) as part of its 2006 exploration strategy needs to know more about the resource deposit at Naartok. Operating under KIA permit KTL303C056, MHL is proposing to construct four trenches to expose outcrops previously drilled at Naartok. The trench outcrop mapping is for a period of one year. MHL therefore, finds it necessary to amend the access to Inuit Owned land KIA permit number KTL303C056.

The area where the trenching is proposed has already had diamond drill holes drilled through it over the years. Information collected from these holes did not give adequate information to get a proper interpretation of the mineralization at Naartok. To provide such additional information, it is necessary to expose the outcrop currently covered by dirt. This will be achieved by having a trench cross cutting the identified mineralization. This work will provide MHL with additional data to: (i) better control on geology; (ii) enable channel sampling; and (iii) provide a better link between surface drill information. Closure of the trench sites will follow procedures outlined in MHL’s Exploration Environmental Protection Plan (Section 2.13 – Trenching).

## NON-COMBUSTIBLES SOLID AND HAZARDOUS WASTE MANAGEMENT

### *Windy Lake Camp*

Backhaul logs of camp non-combustible solid waste are shown in Table 4. A total of 10,115 lbs of scrap metals were removed from Windy Lake Camp in April, which gives 90,366 lbs for the year. No empty drums hauled during the month.

Table 4: Windy Lake Camp non-combustible solid waste backhaul for April 2006

Variable	April 30	YTD 2006
Empty Drums (Removal)	0 drums	737 drums
Scrap Metals (in drums - lbs)	10,115 lbs	90,366 lbs

### *Patch Lake*

#### *Fuel Farm Management*

In the absence of sufficient materials in 2005 to cover the whole liner (300 m<sup>3</sup>), the option was to partially cover surveyed areas within the berm required for individual storage tank placement. The material required to complete this task was calculated to be 165 m<sup>3</sup>. Infilling between tanks will be done when suitable material becomes available overtime.

Work commenced on the Patch Lake secondary containment sand pads on April 12 and the project was completed on April 25 2006. Appendix B show photos taken at various stages of the project.

A total of 186 sand bags were purchased and transported from Cambridge Bay using the winter road to Patch Lake, north-east of Windy Lake Camp. The sand was used to construct eight pads within the liner and two walk-in-refueling access ramps (east & west) of the farm.

A backhoe fitted a specially designed mounting was used for snow removal. Care was taken at all times during this process by taking measurement using a wooden rod to measure snow depth as required. Final snow removal was by hand using shovels.

Once a desired length and width of the liner was exposed, sand was spread over the exposed area, leveled and timbers of equal length placed on the pad. Fuel was transferred to an empty tanker before any attempt was made to move an AST tank. During fuel transfer, all other tasks came to a halt.

Snow ramps were built overnight over the berm to ensure it was compact and frozen to protect the liner from being damaged from the tracks of the heavy machineries and dragging of the tank.

A challenger was used to winch in the tanks while a backhoe was used as the anchor and to align the tanks. Once a tank was placed onto the pad, a hand jerk was used to lift the tank, which enabled leveling, and re-alignment of the timbers under the tank.

Eight AST tanks (1 x 50,000 L, 2 x 75,000 L & 5 x 70,000 L) are now within the Patch Lake fuel farm. No spill was reported during fuel transfer from AST tanks outside of the berm to relocated tanks within the berm during the whole duration of the project.

Kitnuna Construction Limited supervised by Biogenie Environmental Engineers carried out the work. MHLB environmental personnel oversaw the whole project from initial stage to completion.

**NEW INFRASTRUCTURE**

Due to the increase in the exploration activities around Madrid Project area, a number of old tents will be removed and replaced. Three sleeping tents and a core sack have been built. A new dry is currently being built for drillers use.

**VISITS AND REQUESTS FROM NWB AND KIA**

No requests were received from either NWB or KIA relating to the above license during the reporting period.

If you have any questions related to this matter, please do not hesitate to contact the undersigned on the above numbers or by e-mail at [mkawei@miramarmining.com](mailto:mkawei@miramarmining.com).

Sincerely,

**Miramar Hope Bay Limited**



Matthew H Kawei,  
Senior Environmental Coordinator - MHBL

CC: Scott Stringer, General Manager, Northern Operations - Miramar Mining Corporation  
John Wakeford, Vice President, Exploration - Miramar Mining Corporation  
Terri Maloof, Manager, Environmental Permits and Auditing – Miramar Mining Corporation  
Darren Lindsay, Exploration Manager, MHBL  
D. Fonseca, MHBL Vancouver - Library

Appendix A: Wolverine Lake before drilling summary of water quality compared with Canadian Water Quality Guidelines for the Protection of Aquatic Life, Canadian Council of Ministers of the Environment, 1999, updated 2001, 2002, 2003, and 2005.

Sampling Site	Parameters	Result	Units	CCME, 2005	Remarks
Wolverine Lake #3 <sup>1</sup> (Taiga Sample ID: 260816)	pH	6.87	pH units	6.5 - 9	
	Turbidity	1.84	NTU	8*	BC Water Criteria
	Total Suspended Solids	<3	mg/L	25*	BC Water Criteria
	Hardness (CaCO <sub>3</sub> )	122	mg/L		
	Aluminum	<30	µg/L	100	@ pH ≥ 6.5
	Antimony	1.0	µg/L	-	No guideline
	Arsenic	0.7	µg/L	5	
	Barium	12.1	µg/L	-	No guideline
	Beryllium	<0.1	µg/L	-	No guideline
	Cadmium	0.2	µg/L	0.017	Interim guideline
	Cesium	<0.1	µg/L	-	No guideline
	Chromium	1.3	µg/L	8.9	
	Cobalt	<0.1	µg/L	-	No guideline
	Copper	8.6	µg/L	2-4	@ CaCO <sub>3</sub> = 120-180
	Iron	322	µg/L	300	
	Lead	2.6	µg/L	1-7	@ CaCO <sub>3</sub> = 120-180
	Lithium	7.0	µg/L	-	No guideline
	Manganese	19.5	µg/L	-	No guideline
	Molybdenum	0.1	µg/L	73	Interim Guideline
	Nickel	1.8	µg/L	25-150	@ CaCO <sub>3</sub> = 120-180
	Rubidium	1.9	µg/L	-	No guideline
	Selenium	<1	µg/L	1.0	
	Silver	0.2	µg/L	0.1	
	Strontium	95.8	µg/L	-	No guideline
	Thallium	<0.1	µg/L	0.8	
	Titanium	0.9	µg/L	-	No guideline
	Uranium	<0.1	µg/L	-	No guideline
	Vanadium	0.1	µg/L	-	No guideline
Zinc	35	µg/L	30		

\* 8 NTU in 24 hours when background is less than or equal to 8; 25 mg/L in 24 hours when background is less than or equal to 25 (using British Columbia approved water quality guidelines (criteria) 1998 edition). Elevated concentrations are in bold.

<sup>1</sup> Water samples collected at Wolverine Lake before lake drilling commence (Before drilling)

Appendix B: Doris Lake after drilling summary of water quality compared with Canadian Water Quality Guidelines for the Protection of Aquatic Life, Canadian Council of Ministers of the Environment, 1999, updated 2001, 2002, 2003, and 2005.

Sampling Site	Parameters	Result	Units	CCME, 2005	Remarks
Doris Lake #1 (Samples collected after drilling ceased at Doris Lake) [Taiga Sample ID:260817]	pH	7.30	pH units	6.5 - 9	
	Turbidity	5.15	NTU	8**	BC Water Criteria
	Total Suspended Solids	<3	mg/L	25**	BC Water Criteria
	Hardness (CaCO <sub>3</sub> )	57.1	mg/L		
	Aluminum	<30	µg/L	100	@ pH ≥ 6.5
	Antimony	0.3	µg/L	-	No guideline
	Arsenic	0.3	µg/L	5	
	Barium	4.1	µg/L	-	No guideline
	Beryllium	<0.1	µg/L	-	No guideline
	Cadmium*	<0.1	µg/L	0.017	Interim guideline
	Cesium	<0.1	µg/L	-	No guideline
	Chromium	0.8	µg/L	8.9	
	Cobalt	<0.1	µg/L	-	No guideline
	Copper	7.0	µg/L	2-4	@ CaCO <sub>3</sub> = 120-180
	Iron	71	µg/L	300	
	Lead	1.4	µg/L	1-7	@ CaCO <sub>3</sub> = 120-180
	Lithium	3.9	µg/L	-	No guideline
	Manganese	2.7	µg/L	-	No guideline
	Molybdenum	0.2	µg/L	73	Interim Guideline
	Nickel	0.7	µg/L	25-150	@ CaCO <sub>3</sub> = 120-180
	Rubidium	2.6	µg/L	-	No guideline
	Selenium	<1	µg/L	1.0	
	Silver*	<0.1	µg/L	0.1	
	Strontium	51.7	µg/L	-	No guideline
	Thallium	<0.1	µg/L	0.8	
	Titanium	0.4	µg/L	-	No guideline
	Uranium	<0.1	µg/L	-	No guideline
	Vanadium	0.1	µg/L	-	No guideline
Zinc	12	µg/L	30		

\* External laboratory analytical detection limit is reported as 0.1 µg/L. \*\* using British Columbia approved water quality guidelines (criteria) 1998 edition. Elevated concentrations are in bold.

Appendix C: Patch Lake before drilling summary of water quality compared with Canadian Water Quality Guidelines for the Protection of Aquatic Life, Canadian Council of Ministers of the Environment, 1999, updated 2001, 2002, 2003, and 2005.

Parameters	Patch #1	Patch #2	Patch #3	Units	CCME, 2005	Remarks
pH	7.44	7.31	7.30	pH units	6.5 - 9	
Turbidity	-	-	-	NTU		Analyses not done
Total Suspended Solids	6	<3	<3	mg/L	25*	BC water criteria
Hardness (CaCO <sub>3</sub> )	-	-	-	mg/L		Analyses not done
Aluminum	68	<30	<30	µg/L	100	@ pH ≥ 6.5
Antimony	0.2	<0.1	<0.1	µg/L	-	No guideline
Arsenic	0.4	0.2	0.4	µg/L	5	
Barium	11.4	7.0	6.4	µg/L	-	No guideline
Beryllium	<0.1	<0.1	<0.1	µg/L	-	No guideline
Bismuth	1.3	7.8	8.3	µg/L	-	No guideline
Boron	47.3	46.1	43.5	µg/L	-	No guideline
Cadmium	<0.1	<0.1	<0.1	µg/L	0.017	Interim guideline
Cesium	<0.1	<0.1	<0.1	µg/L	-	No guideline
Chromium	1.4	0.5	0.4	µg/L	8.9	
Cobalt	0.1	<0.1	<0.1	µg/L	-	No guideline
Copper	7.9	4.3	3.7	µg/L	2-4	@ CaCO <sub>3</sub> = 120-180
Iron	322	86	77	µg/L	300	
Lead	6.6	<0.01	<0.1	µg/L	1-7	@ CaCO <sub>3</sub> = 120-180
Lithium	8.9	8.0	7.6	µg/L	-	No guideline
Manganese	12.2	9.1	6.3	µg/L	-	No guideline
Mercury	0.02	<0.02	<0.02	µg/L	0.026	
Molybdenum	0.4	0.3	0.3	µg/L	73	Interim Guideline
Nickel	1.0	0.5	0.4	µg/L	25-150	@ CaCO <sub>3</sub> = 120-180
Rubidium	5.2	2.8	2.3	µg/L	-	No guideline
Selenium	<1	<1	<1	µg/L	1.0	
Silver	0.9	0.3	0.3	µg/L	0.1	
Strontium	132	118	106	µg/L	-	No guideline
Thallium	0.3	<0.1	<0.1	µg/L	0.8	
Tin	0.2	<0.1	<0.1	µg/L	-	No guideline
Titanium	3.3	0.5	0.7	µg/L	-	No guideline
Uranium	<0.1	<0.1	<0.1	µg/L	-	No guideline
Vanadium	0.3	0.1	0.2	µg/L	-	No guideline
Zinc	138	86	35	µg/L	30	

\* 25 mg/L in 24 hours when background is less than or equal to 25 (using British Columbia approved water quality guidelines (criteria) 1998 edition). Elevated concentrations are in bold.



Appendix B: Pictures of AST Tanks placed in Patch Lake lined secondary fuel containment area, April 2006



Photograph A: Preparing first sand pad. Photograph B: First AST tank (50,000 L) placed on the pad within the farm.



Photograph C: Removing snow with a backhoe. Photograph D: Spreading sand on the next pad before pulling a tank.



Photograph E: Pulling a 70,000 L AST tank onto the pad. Photograph F: All (8) AST tank placed onto the pads within the farm.