

February 05, 2009

Technical Advisor – Mining  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

**Re: January 2009 –Monthly Monitoring Report for Water License 2AM-DOH0713**

The following is the monthly report for January 2009 as required under Doris Water License 2AM-DOH0713. The license was issued on September 19, 2007 and will expire on September 30, 2013. The type A water license was issued for mining, milling and uses associated with the Doris North Project. The quantity of water usages shall not exceed 480,000 cubic meters annually.

This monthly report provides information on Part E (Conditions applying to Water Use) Item 1, Part G (Conditions applying to Waste Management and Waste Management Plans) Item 3, and Part H (Conditions applying to modifications).

Other conditions stipulated in license refer specially to mining and milling processes. Construction of these facilities has been deferred and therefore, no monitoring has taken place at them to comply with the conditions outlined in the water licence. On January 13, 2009, Hope Bay Mining Ltd. (HBML) wrote to the NWB asking that clauses associated with the deferred mining and milling activities originally contemplated by this licence, be put into care and maintenance until final decisions are made on the project. At that time HBML will formally apply to amend the licence.

**1. Part E: Item 1.**

**a. DORIS CAMP WATER USE – SNP STATION ST-7**

During the month of January 2009, Doris Camp was in operation for the whole month. Matrix Temporary Camp has been closed since late October 2008. The water extraction pump is located on the north shore of Doris Lake (ST-7). Table 1 compares the water volume actually used with the allocation allowed under Part E, Item 1 of water license 2AM-DOH0713. All use values were within licensed allocations.

Table 1: Water usage in cubic meters (m<sup>3</sup>) for Monitoring Station ST-7, January 2009

Parameters	ST-7	2AM-DOH0713
Water Source	Doris Lake	Compliance Values – Part E: Item 1
Annual Consumption	435.13	480,000 m <sup>3</sup> Annual
Monthly Cumulative	435.13	40,000 m <sup>3</sup> monthly
Volume Average (Daily)	14.04	1,333 m <sup>3</sup> daily
Median	15.48	1,333 m <sup>3</sup> daily
Maximum	37.7	1,333 m <sup>3</sup> daily
Minimum	0	1,333 m <sup>3</sup> daily

**b. WATER SAMPLING MONITORING PROGRAM**

During the month of January 2009, water samples were collected four times at monitoring stations ST-7 and ST-8. SNP ST-9 was not sampled due to lack of agreement as to where the sample should be taken as drainage from ST-8 does not reach the near shore of Glen Lake. This matter has been discussed with the

INAC inspector and will be resolved in the spring during freshet when maximum flows can be observed. A survey of the area by HBML, revealed very limited drainage pathways to collect sufficient effluent samples to comply with requirements stipulated under Part G: Item 3. This will need to be resolved in order to monitor compliance with the licence.

HBML uses an external certified laboratory to carryout all the analyses for this report. HBML currently uses the QAQC data produced by the ALS laboratory to determine the accuracy and precision of results in this report.

Table 2: Water Quality Data Summary for ST-7 and ST-8 Monitoring Stations, January 2009

Parameter/SNP Sites	ST-7	ST-8	ST-9 <sup>1</sup>	Doris: 2AM-DOH0713
ALS Lab Reference #	L722951-6/L722193-1	L722951-7/L722193-2		Maximum Average Concentration (mg/L)
Field Sample Details	ST-7	ST-8	ST-9	Part G: Item 3
Sample Date/Time	January 5, 2009	January 5, 2009	-	(b)
BOD <sub>5</sub>	<2	<2	-	80 mg/L
TSS (mg/L)	4	<3	-	100 mg/L
Fecal Coliform	<1	<1	-	10,000 CFU/100mL
pH (pH unit)	7.4	Not reported	-	Between 6-9
Oil & Grease (Visibility)	nvs	nvs	-	NVS
Oil & Grease (mg/L)	<1	<1	-	5
ALS Lab Reference #	L724554-1/L724564-1	L724500-1/L724500-3		Compliance Values
Field Sample Details	ST-7	ST-8	ST-9	Part G: Item 3
Sample Date/Time	January 12, 2009	January 12, 2009	-	(b)
BOD <sub>5</sub>	<2	<2	-	80 mg/L
TSS (mg/L)	Not reported	Not reported	-	100 mg/L
Fecal Coliform	<1	<1	-	10,000 CFU/100mL
pH (pH unit)	Not reported	Not reported	-	Between 6-9
Oil & Grease (Visibility)	nvs	nvs	-	NVS
Oil & Grease (mg/L)	<1	1	-	5
ALS Lab Reference #	L726042-1	L726042-2		Compliance Values
Field Sample Details	ST-7	ST-8	ST-9	Part G: Item 3
Sample Date/Time	January 19, 2009	January 19, 2009	-	(b)
BOD <sub>5</sub>	<2	<2	-	80 mg/L
TSS (mg/L)	<3	<3	-	100 mg/L
Fecal Coliform	<1	<1	-	10,000 CFU/100mL
pH (pH unit)	7.5	6.4	-	Between 6-9
Oil & Grease (Visibility)	nvs	nvs	-	NVS
Oil & Grease (mg/L)	<1	<1	-	5
ALS Lab Reference #	L728061-1/L728062-1	L728061-2/L728062-2		Compliance Values
Field Sample Details	ST-7	ST-8	ST-9	Part G: Item 3
Sample Date/Time	January 26, 2009	January 26, 2009	-	(b)
BOD <sub>5</sub>	2	<2	-	80 mg/L
TSS (mg/L)	5	<3	-	100 mg/L
Fecal Coliform	<1	<1	-	10,000 CFU/100mL
pH (pH unit)	7.4	5.3	-	Between 6-9
Oil & Grease (Visibility)	nvs	nvs	-	NVS
Oil & Grease (mg/L)	2	<1	-	5

<sup>1</sup> Sampling was not done due to misunderstanding of the exact location for drainage before entry into Glenn Lake. No suitable sampling site could be found.

### c. **RESULTS**

Doris Lake raw water samples were collected from monitoring station ST-7 located within the main building complex. This sampling point is located just before the main water filtration system and UV treatment equipment. All analytical data from this sampling point is reported in Table 2.

Under the Water Licence, HBML is only required to report on one set of samples per month. The company is however sampling weekly as it has tuned the STP following start up. In the interest of openness, the company is providing the NWB with the complete data set so that the Board has the same data available to the company. Now that the plant has been brought into operational compliance, HBML will make an internal decision on whether or not to continue weekly sampling.

Sampling point ST-8 is located within the Doris Camp Sewer Treatment Plant, which is located directly east of the main building complex. Effluent samples were collected from a tap on a discharge line to the tundra. Effluent samples collected and analysed for January 5, 12, 19 and 26 were within compliance except for January 26<sup>th</sup> when a pH of 5.3 was as reported. (See Table 2). The installation of the Ultra Violet (UV) light disinfection unit on the sewage outfall line has rectified previous discharge issues with faecal coliform levels exceeding compliance values during the start-up and adjustment of the plant.

### **Part G: Conditions applying to Waste Management and Waste Management Plans (Item 3b)**

#### **d. Part G: Item 3e (Treated Sewage Effluent Release in cubic meters)**

The values tabulated in Table 3 for ST-8 capture the volumes of treated effluent released from the Doris Membrane Plant.

Table 3: Treated Sewage Effluent release in cubic meters (m<sup>3</sup>) through Doris Membrane Plant (ST-8), January 2009

<b>Parameters</b>	<b>Doris Membrane Plant ST-8</b>
Water Source	Doris Lake
Annual Cumulative	378 m <sup>3</sup>
Monthly Cumulative	378 m <sup>3</sup>
Volume Average (Daily)	12 m <sup>3</sup>
Median	13 m <sup>3</sup>
Maximum	19 m <sup>3</sup>
Minimum	1 m <sup>3</sup>

## **2. Environmental Incident Reporting**

1. January 25 2009: A level 1 (Insignificant) spill occurred at GeoTech Drill #1 on the ice at Doris Lake. Approximately 20 litres of drilling cuttings overflowed from the polydrill system onto the floor of the drill platform and some flowed off of the platform onto the lake ice. The cutting were frozen immediately and removed after drill move. The polydrill system since been modified to prevent a reoccurrence.
2. January 26 2009: A level 1 (Insignificant) incidence of non-compliance for a monitoring parameter. A pH of 5.3 was recorded at SNP ST-8 for an effluent sample. This is lower than is allowed by the licence, but represents only 1 of 4 samples taken during the month.
3. January 28 2009: A level 2 (minor) incident was reported. Analytical results for potable water samples from all of the taps tested at Doris Camp, except the RO, showed counts of total coliform. While total coliform is not a regulated parameter, it is a biological marker. A follow-up sampling conducted on January 30 also showed the presence of total coliforms in the potable water sampled from all taps except for the RO in the kitchen. Another set of samples will be collected during the first week of February. Possible causes of this incident are: (i) cross contamination of water samples during transportation of samples to the laboratory; (ii) sedimentation in water lines after continuous changing of the filters; or (iii) potable water UV is not working properly. The incident level now has moved to Level 3 (moderate) due to the fact that a second sample recorded hits on coliforms in the system.

The RO continues to provide a safe source of potable water for the camp. Further, HBML has spoken with the NWB technical advisor about a Shock Chlorine treatment for the potable water system. The chlorine would be neutralized before the water is released to the environment.

4. January 30 2009: A level 1 (insignificant) spill was reported at the GeoTech drill site on Doris Lake. A hydraulic hose froze. It went unnoticed until pressure in the oil line built up to the point where the line ruptured. An estimated volume of 10 litres of engine oil was leaked onto the snow. The area was inspected and remediation took place immediately.
5. January 31 2009: A near miss occurred at the 5 m litre fuel tank at Roberts Bay. The main dispensing valve was not locked as it supposed to be on a daily bases after fuel transfers are completed. There was the theoretical potential a spill could take place if for instance, the dispensing nozzle was accidentally damaged. In this instance, fuel might be siphoned from the dispensing tank into the bermed area around the tank. As a result, we will have security check the lock out on the tank on their daily rounds.
6. January 31 2009: A level 1 (insignificant) fuel spill occurred at the main camp complex from a GeoTech flat deck truck carrying a tidy tank containing P50 fuel. Fuel was found dripping from the flat deck onto the snow. Approximately 20 litres of fuel was lost. The effected area was quickly fenced off and reclaimed. As a result of that incident, all pick-up trucks on property that have a tidy tank on the back shall be inspected to insure the tanks are adequately secured and the dispensing hose is place within a secondary containment tray.

Should there be any questions regarding the monthly report for January 2009, please contact Chris Hanks, Director, Environment and Social Responsibility, Hope Bay Mining Limited on phone number: 1-720-917-4489 or email: [Chris.Hanks@Newmont.com](mailto:Chris.Hanks@Newmont.com)

Yours sincerely,

**Chris Hanks**

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