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

**Re: February 2011 –Monthly Monitoring Report for Water License 2AM-DOH0713**

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Following is the monthly report for February 2011 as required under Doris Water License No./Type 2AM-DOH0713 Type “A”. The license was issued on September 19, 2007 and will expire on September 30, 2013. The water license is specific for Mining and Milling and associated uses; the quantity of water usages shall not exceed 480,000 cubic meters annually.

This monthly report provides information on Part D (Conditions Applying to Construction) Item 19, Part E (Conditions applying to Water Use) Item 1, Part G (Conditions Applying to Waste Management and Waste Management Plans) Item 3 and 22 (e), and Part H (Conditions Applying to Modifications). As a result of further recent developments within the Doris North project, additional information pertaining to Part J (Conditions Applying to General and Aquatic Effects Monitoring) Parts 12 and 14 is included. The report also contains the relevant monitoring requirements as set out in Schedule J of the licence, plus additional requirements from INAC.

Other conditions stipulated in the license refer specially to mining and milling processes. These facilities have not been constructed at this time, due to the deferral of the Doris North Project by Hope Bay Mining Ltd. (HBML) and therefore, no monitoring has taken place to comply with conditions. The Nunavut Water Board (NWB) was notified of HBML’s intent to start the construction associated with the Doris North mining and milling facilities on October 29, 2009. As construction activities begin, the required monitoring programs will be implemented.

**1. Part D: Conditions Applying to Construction**

**a. Part D: Item 7. Construction Monitoring**

Construction monitoring is being undertaken and documented. This will be submitted with the annual Construction Monitoring report.

**b. Part D: Item 19. Surface Runoff Effluent Quality Limits**

No surface runoff from construction occurred for sampling during the period.

**2. Part E: Item 1. Conditions Applying to Water Use**

**a. Water Usage**

During the month of February 2011, Doris Camp was in operation for the entire month with water extraction occurring from Doris Lake pump house via SNP Station ST-7, or by direct extraction by water truck from Doris Lake for other infrastructure uses, including construction of ice roads and drilling. Water usage was in

compliance with the licence for the month of February. Water was used for domestic camp use, underground mining brine, drilling/geology, washcars, ice roads, all-weather roads, and construction. Total water usage is detailed in Table 1.

Table 1. Water Usage for Domestic Camp Use, and Other Uses\* in m<sup>3</sup>, February 2011

Parameters	Water Use	2AM-DOH0713
Water Source	Doris Lake	Compliance Values
Geographical Coordinates	On file	Part E: Item 1
Annual Cumulative	4324.7	480,000 m <sup>3</sup> Annually
Monthly Cumulative	2108.7	40,000 m <sup>3</sup> monthly
Volume Average (Daily)	75.3	1,333 m <sup>3</sup> daily
Maximum	289.4	1,333 m <sup>3</sup> daily
Minimum	24.8	1,333 m <sup>3</sup> daily

#### b. Water Quality Monitoring: Schedule J and Special Requirements

Monthly compliance samples in accordance with Schedule J requirements of the licence were taken from monitoring station ST-7 on February 1, 2011. Results of the February monitoring are provided in Table 2.

Table 2. Monthly Compliance Sample Results for SNP Monitoring Station ST-7 in mg/L, February 2011

Parameter/SNP Sites	ST-7	Doris: 2AM-DOH0713
ALS Lab Reference #	L975275-1	Maximum Average Concentration (mg/L)
Field Sample Details	ST-7	Part G: Item 3
Sample Date/Time	Feb 1/11 @ 1500	No Requirement Specified
BOD	<2.0	-
Fecal Coliforms	<1	-
Total Oil and Grease	<1.0	-
pH	7.60	-
TSS	<3.0	-
Ammonia-N	<0.050	-
Nitrate-N	<0.050	-
Nitrite-N	<0.050	-
Orthophosphate-P	<0.010	-
Total Phosphate (as Tot P)	<0.020	-
Total Aluminium	<0.010	-
Total Arsenic	0.00043	-
Total Cadmium	<0.0030	-
Total Copper	0.0018	-
Total Chromium	<0.0050	-
Total Iron	0.020	-
Total Mercury	<0.00010	-
Total Molybdenum	<0.0050	-
Total Nickel	<0.0020	-
Total Lead	0.00014	-
Total Selenium	<0.0020	-
Total Silver	<0.00010	-
Total Thallium	<0.00010	-
Total Zinc	<0.0040	-

Results of the technical review in April 2009 by INAC with regards to the Doris Camp planned water system modifications included recommendations for monthly reporting of sample analysis of the blue-green algae in the raw water from Doris Lake. Results of this sampling for February are provided in Table 3. Additionally, samples collected from the Doris camp potable water system have shown the presence of blue/green algae within the camp distribution system. The water treatment and distribution system was upgraded to filters with

smaller pores which has reduced cell counts to low concentrations post-treatment. On-going monitoring is being conducted in 2011 for the presence of cells throughout the camp water system and an external toxicology consultant has been retained to determine the acceptable human consumption threshold for blue-green algae in the distribution system. Currently; bottled water and reverse osmosis water is being supplied to camp site residents until the issue is resolved.

Table 3. Sampling Results for Blue-green Algae, February 2011

Parameter/SNP Site	ST-7
ALS Lab Reference #	L976886-1
Field Sample Details	PDC10
Sample Date/Time	Feb 8/11 @ 1030
Blue-green Algae	135,000 cells/mL

### 3. Part G: Item 3(b) Conditions Applying to Waste Management and Waste Management Plans.

During the month of February 2011, water samples were collected at monitoring station ST-8.

Sampling point ST-8 is located within the Doris Camp Sewage Treatment Plant, which is located directly east of the main building complex. Effluent samples were collected from two separate taps on the discharge lines from the tandem sewage treatment plants now on-line at the Doris Camp. The taps are located in the lines to the tundra discharge at a location installed after the addition of the UV disinfection systems (ST-8 # 1 and ST-8 # 2). The data reported for February at these stations is within compliance values for all parameters. Analytical results are provided in Table 4.

Table 4: Water Quality Data Summary for Monitoring Station ST-8 # 1 and ST-8 # 2, February 2011

Parameter/SNP Sites	ST-8 # 1	ST-8 # 2	Doris: 2AM-DOH0713
ALS Lab Reference #	L975275-2	L975275-3	Maximum Average Concentration (mg/L)
Field Sample Details	ST81-1Feb11	ST82-1Feb11	Part G: Item 3
Sample Date/Time	Feb 1/11 @ 0730 hrs	Feb 1/11 @ 0800 hrs	(b)
BOD <sub>5</sub>	<2.0	4.1	80 mg/L
TSS (mg/L)	<3.0	<3.0	100 mg/L
Fecal Coliform	<1	<1	10,000 CFU/100mL
pH (pH unit)	6.67	7.00	Between 6-9
Oil & Grease (Visible Sheen)	No	No	No Visible Sheen
Oil & Grease (mg/L)	3.9	1.1	5

HBML acknowledges that discharge point ST-8 was originally intended to be a temporary discharge point that would be moved to the tailings storage facility after such a facility was constructed. HBML has deferred the construction of the tailings storage facility until a production decision is made by HBML. HBML proposes that the ST-8 discharge point remain until the tailings storage is constructed. To alleviate any risks associated with ponding and permafrost degradation HBML is in the process of designing a diffuser for the discharge with the intention of installing the selected diffuser early in 2011. Designs are being prepared by a certified engineer and will be supplied prior to construction.

To enable critical maintenance be performed on the Doris camp sewage treatment plant; an additional MBR (Sanitherm Sanibrane 180) (as is the original plant) was put into service August 17, 2010. This second plant was installed in such a manner, that the flow to the original plant could be by-passed and directed to it. Additionally, with the installation of the second plant, the influent can be distributed between the two, and thereby reduce hydraulic loading during periods of peak flows. The effluent discharge from the second plant is tied in to the effluent line from the original plant.

Station ST-9 was not sampled during the month of February due to freezing conditions.

**4. Part G: Item 22 (e) Conditions Applying to Waste Management and Waste Management Plans.**

During the month of February 2011, water was not discharged from monitoring station ST-6 in the Robert's Bay Fuel Storage and Containment Area, as all accumulated water was removed in July 2010. No monitoring was conducted at ST-5 (bulk fuel storage facility) at Doris Camp as this facility no longer exists at its present location and was replaced by the new Plant Site Fuel Storage and Containment Area completed in 2010.

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

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

Table 5 shows treated effluent released from the Doris Membrane Plant at SNP ST-8.

Table 5: Treated Sewage Effluent released in cubic meters (m<sup>3</sup>) through Doris Membrane Plant (ST-8), February 2011

Parameters	Doris Membrane Plant ST-8
Annual Cumulative	1459 m <sup>3</sup>
Monthly Cumulative	715 m <sup>3</sup>
Volume Average (Daily)	12.8 m <sup>3</sup>
Maximum	25 m <sup>3</sup>
Minimum	3 m <sup>3</sup>

During the month of February, sludge was pressed 27 times from the membrane plant resulting in the removal of approx. 3.06 m<sup>3</sup> of sludge from the plant. Sludge pressed was sent for incineration.

**5. Part J: Conditions Applying to General and Aquatics Effects Monitoring**

**a. Part J: Item 12d (Tonnages of Waste Rock Stored on the Temporary Waste Rock Pad)**

Removal of portal development non-ore waste rock from the mine commenced October 2010. Tonnages of material removed from underground and placed on the Temporary Waste Rock Pad to date are detailed in Table 6.

Table 6: Volume (metric tons) of waste rock stored on the Temporary Waste Rock Pad, February 2011

Parameters	Tonnages on Waste Rock Pad
Previous Stockpile Mass	13,373 (t)
Mass added this month	8,435 (t)
Mass Removed this Month	0
Total Tonnage	21,808 (t)

**b. Part J: Item 14 Thermal Monitoring Program**

Thermistor monitoring undertaken during the month of February is provided in Table 7.

Table 7: Temperature Readings from Thermistor Monitoring, February 2011

Drill Hole Number/ Station	Thermistor String Serial Number	Location	Date of Reading	CHANNEL (Degrees Celsius)							
				1	2	3	4	5	6	7	8
SRK-JT1-09	TS2667	Roberts Bay Jetty	Feb 5/11	-15.61	-12.62	-9.37	-4.00	-2.11	-2.43	-2.93	-3.03
SRK-JT2-09	TS2668	Roberts Bay Jetty	Feb 5/11	-22.55	-19.90	-15.18	-8.25	-3.91	-3.79	-3.89	-4.11

**6. Environmental Incident Reporting**

No environmental incidents were reported during the month of February.

Should there be any questions regarding the monthly report for February 2011, 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**

Director, Environment and Social Responsibility  
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