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January 19, 2010

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

## Re: December 2009 – Monthly Monitoring Report for Water License 2AM-DOH0713

Following is the monthly report for December 2009 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). 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 this deferral on September 11, 2008 and is after ongoing discussions, at this time considering a letter from HBML dated April 21, 2009 outlining the clauses that can not be complied with due to the deferral of the Doris North Project.

#### 1. Part D: Item 19 Conditions Applying to Construction

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 December 2009, Doris Camp was in operation for the entire month with water extraction occurring from Doris Lake via SNP Station ST-7 or by direct extraction by water truck at the Doris Lake pump house shoreline. The workforce was temporarily reduced to approximately nine (9) persons in late November and was primarily focused on care and maintenance during this planned slowdown period. Water usage was in compliance with the licence for the month of December. Total water usage is detailed in Table 1.

**Doris** Camp 2AM-DOH0713 **Parameters Domestic** and Other Use Water Source Doris Lake Compliance Values Geographical Coordinates On file Part E: Item 1 5733.59 480,000 m<sup>3</sup> Annually Annual Cumulative Monthly Cumulative 115.52  $40,000 \text{ m}^3 \text{ monthly}$ Volume Average (Daily) 3.73  $1,333 \text{ m}^3 \text{ daily}$ Maximum 8.5  $1,333 \text{ m}^3 \text{ daily}$ Minimum 1.17 1,333 m<sup>3</sup> daily

Table 1. Water Usage for Domestic Camp Use, Dust Suppression and Other Uses\* in m3, December 2009

# 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 Dec 02/09. Sampling for cyanide is not presently being conducted at this monitoring station as no processes are occurring to generate cyanide at site. Results of the December monitoring are provided in Table 2.

Table 2. Monthly Compliance Sample Results for SNP Monitoring Station ST-7, December 2009

Parameter/SNP Sites	ST-7	Doris: 2AM-DOH0713
ALS Lab Reference #	L845383	Maximum Average
		Concentration (mg/L)
Field Sample Details	ST-7	Part G: Item 3
Sample Date/Time	Dec 02/09 @ 7:00am	No Requirement Specified
BOD	<2.0	-
Fecal Coliforms	<1	-
Total Oil and Grease	<1.0	-
pН	7.51	-
TSS	<3.0	-
Ammonia-N	< 0.050	-
Nitrate-N	< 0.050	-
Nitrite-N	< 0.050	-
Orthophosphate-P	< 0.010	-
Total Phosphate (as P)	< 0.020	-
Total Aluminium	0.019	-
Total Arsenic	0.00065	-
Total Cadmium	< 0.000050	-
Total Copper	0.0019	-
Total Chromium	< 0.0050	-
Total Iron	0.071	-
Total Mercury	< 0.00010	-
Total Molybdenum	< 0.0050	-
Total Nickel	< 0.0020	-
Total Lead	0.00019	-
Total Selenium	0.00061	-
Total Silver	< 0.00010	-
Total Thallium	< 0.00010	-
Total Zinc	< 0.0040	-

<sup>\*</sup> Other uses include core cutting saws, fire truck filling, and washroom facilities at Doris Camp heli pad

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 December are provided in Table 3.

Table 3. Sampling Results for Blue-green Algae, December 2009

Parameter/SNP Site	ST-7
ALS Lab Reference #	L845383
Field Sample Details	ST-7
Sample Date/Time	Dec 02/09 @ 7:00am
Blue-green Algae	43,400 cells/mL

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

During the month of December 2009, water samples were collected once at monitoring station ST-8. Station ST-9 could not be sampled due to frozen conditions.

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 a tap on the discharge line to the tundra at a location installed after the addition of a UV disinfection system (ST-8A). The data reported for December at SNP ST-8A is within compliance values for all parameters with the exception of pH, where a value of 4.89 was reported. Additionally; the STP operator's daily log shows a pH on December 22<sup>nd</sup> of 5.75. On December 23<sup>rd</sup> the operators recorded a pH level of 6.46, and on December 21<sup>st</sup> at 6.78. The STP operators have determined the cause of this low pH was the result of low flows. Daily monitoring has seen the pH remain relatively stable throughout most of the month with an average of 6.54.

HBML acknowledges that discharge point ST-9 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-9 discharge point remain until the tailings storage is constructed.

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

During the month of December 2009, there was no accumulated water and no discharge occurred at monitoring station ST-6 in the Robert's Bay Fuel Storage and Containment Area.

No monitoring was conducted at ST-5 (bulk fuel storage facility) at Doris Camp as there was no accumulation of water and no discharges occurred.

# 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 release in cubic meters (m³) through Doris Membrane Plant (ST-8), December 2009

Parameters	Doris Membrane Plant ST-8
Annual Cumulative	5130.0 m <sup>3</sup>
Monthly Cumulative	93.0m <sup>3</sup>
Volume Average (Daily)	$3.0 \text{ m}^3$
Maximum	$7.0 \text{m}^3$
Minimum	$1.0 \text{ m}^3$

During the month of December, sludge was pressed 3 times from the membrane plant resulting in the removal of approx. 0.33 m<sup>3</sup> of sludge from the plant. Sludge pressed was sent for incineration.

#### 4. Environmental Incident Reporting

A total of 2 environmental incidents were reported during the month of December. A summary of these incidents is provided below:

- December 02, 2009: The pH of the STP final effluent was reported at 4.89. A low camp population was determined the cause.
- December 22, 2009: The pH of the STP final effluent was reported at 5.75. Again; it is suspected to be the result of low camp population. The STP operator's daily log indicated that the pH on December 21st was 6.78, and on December 23rd it was 6.46.

Should there be any questions regarding the monthly report for December 2009, please contact Chris Hanks, Director, Environment and Social Responsibility, Hope Bay Mining Limited on phone number: 1-720-917-4489 or email: <a href="mailto:Chris.Hanks@Newmont.com">Chris.Hanks@Newmont.com</a>

Yours sincerely,

#### Chris Hanks

Director, Environment and Social Responsibility Hope Bay Mining Limited