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Technical Advisor – Mining  
Nunavut Water Board  
P.O. Box 119  
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**Re: January 2011 –Monthly Monitoring Report for Water License 2AM-DOH0713**

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Following is the monthly report for January 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 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 January 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, Patch Lake or Windy Lake for other infrastructure uses. Water usage was in compliance with the licence for the month of January. Total water usage is detailed in Table 1.

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

| Parameters               | Doris Camp Domestic and Other Uses | 2AM-DOH0713                     |
|--------------------------|------------------------------------|---------------------------------|
| Water Source             | Doris Lake/Patch Lake/Windy Lake   | Compliance Values               |
| Geographical Coordinates | On file                            | Part E: Item 1                  |
| Annual Cumulative        | 2,099.22                           | 480,000 m <sup>3</sup> Annually |
| Monthly Cumulative       | 2,099.22                           | 40,000 m <sup>3</sup> monthly   |
| Volume Average (Daily)   | 67.72                              | 1,333 m <sup>3</sup> daily      |
| Maximum                  | 204.88                             | 1,333 m <sup>3</sup> daily      |
| Minimum                  | 13.96                              | 1,333 m <sup>3</sup> daily      |

\* Other uses include core cutting saws, fire truck filling, wash car facilities, ice road construction, dust suppression

#### 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 January 5, 2011. Results of the January monitoring are provided in Table 2.

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

| Parameter/SNP Sites    | ST-7                | Doris: 2AM-DOH0713                   |
|------------------------|---------------------|--------------------------------------|
| ALS Lab Reference #    | L967601-1           | Maximum Average Concentration (mg/L) |
| Field Sample Details   | ST-7                | Part G: Item 3                       |
| Sample Date/Time       | Jan 5/11 @ 0710 hrs | No Requirement Specified             |
| BOD                    | <2.0                | -                                    |
| Fecal Coliforms        | <1                  | -                                    |
| Total Oil and Grease   | <1.0                | -                                    |
| pH                     | 7.73                | -                                    |
| TSS                    | <3.0                | -                                    |
| Ammonia-N              | <0.050              | -                                    |
| Nitrate-N              | <0.050              | -                                    |
| Nitrite-N              | <0.050              | -                                    |
| Orthophosphate-P       | <0.010              | -                                    |
| Total Phosphate (as P) | 0.027               | -                                    |
| Total Aluminium        | <0.010              | -                                    |
| Total Arsenic          | <0.00040            | -                                    |
| Total Cadmium          | <0.000050           | -                                    |
| Total Copper           | 0.0022              | -                                    |
| Total Chromium         | <0.0050             | -                                    |
| Total Iron             | 0.018               | -                                    |
| Total Mercury          | <0.00010            | -                                    |
| Total Molybdenum       | <0.0050             | -                                    |
| Total Nickel           | <0.0020             | -                                    |
| Total Lead             | 0.00015             | -                                    |
| Total Selenium         | <0.00040            | -                                    |
| Total Silver           | <0.00010            | -                                    |
| Total Thallium         | <0.00010            | -                                    |
| Total Zinc             | 0.0845              | -                                    |

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 January 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, January 2011

| Parameter/SNP Site   | ST-7                |
|----------------------|---------------------|
| ALS Lab Reference #  | L967610-1           |
| Field Sample Details | PDC10               |
| Sample Date/Time     | Jan 4/11 @ 1910 hrs |
| Blue-green Algae     | 33,400 cells/mL     |

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

During the month of January 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 January at these stations is within compliance values for all parameters, but an error occurred and no samples for BOD were collected or submitted. Samples will be taken and results provided in the monthly report for February. Analytical results are provided in Table 4.

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

| Parameter/SNP Sites       | ST-8 # 1            | ST-8 # 2            | Doris: 2AM-DOH0713                   |
|---------------------------|---------------------|---------------------|--------------------------------------|
| ALS Lab Reference #       | L967601-2           | L967601-2           | Maximum Average Concentration (mg/L) |
| Field Sample Details      | ST-8 # 1            | ST-8 # 2            | Part G: Item 3                       |
| Sample Date/Time          | Jan 5/11 @ 0730 hrs | Jan 5/11 @ 0800 hrs | (b)                                  |
| BOD <sub>5</sub>          | No sample           | No sample           | 80 mg/L                              |
| TSS (mg/L)                | <3.0                | <3.0                | 100 mg/L                             |
| Fecal Coliform            | <1                  | <1                  | 10,000 CFU/100mL                     |
| pH (pH unit)              | 7.62                | 7.28                | Between 6-9                          |
| Oil & Grease (Visibility) | NVS                 | NVS                 | No Visible Sheen                     |
| Oil & Grease (mg/L)       | <1.0                | 1.9                 | 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 the primary discharge point until the tailings storage is constructed and then remain as the alternate for use when there are upset condition that prevent discharge to Tail Lake Tailing Facility. 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. This will be discussed with the INAC Inspector on his upcoming visit. 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 January due to freezing conditions.

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

During the month of January 2011, no discharge of water occurred at monitoring station ST-6 in the Robert's Bay Fuel Storage and Containment Area, as all accumulated water was removed in July. 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 the new Plant Site Fuel Storage and Containment Area was under construction.

**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), January 2011

| Parameters             | Doris Membrane Plant ST-8 |
|------------------------|---------------------------|
| Annual Cumulative      | 744 m <sup>3</sup>        |
| Monthly Cumulative     | 744 m <sup>3</sup>        |
| Volume Average (Daily) | 12.4 m <sup>3</sup>       |
| Maximum                | 23 m <sup>3</sup>         |
| Minimum                | 2.0 m <sup>3</sup>        |

During the month of January, sludge was pressed 22 times from the membrane plant resulting in the removal of approx. 2.48 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 and during the month of January are detailed in Table 6.

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

| Parameters              | Tonnages on Waste Rock Pad |
|-------------------------|----------------------------|
| October 2010            | 765(t)                     |
| November 2010           | 4636 (t)                   |
| December 2010           | 1382 (t)                   |
| Mass added this month   | 6,657 (t)                  |
| Mass Removed this Month | 0                          |
| Total Tonnage Jan 2011  | 13,373(t)                  |

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

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

Table 7: Temperature Readings from Thermistor Monitoring, January 2011

| Drill Hole Number/<br>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 | Jan 7/11        | -14.40                    | -9.96  | -6.72  | -1.87 | -1.80 | -2.27 | -2.85 | -5.74 |
| SRK-JT2-09                    | TS2668                          | Roberts Bay Jetty | Jan 7/11        | -24.96                    | -19.97 | -13.09 | -4.82 | -3.05 | -3.43 | -3.74 | -4.05 |

## 6. Environmental Incident Reporting

A total of 6 environmental incidents were reported during the month of January. A summary of the incidents is provided below:

- Jan 7/11 - A Manitou Zoom Boom developed a hydraulic oil leak while parked in the Nuna line-up at Rob Bay spilling approximately 10 litres of hydraulic oil. The contaminated snow was shovelled up and delivered for disposal to the waste management area. The machine was removed from service and the hydraulic hose repaired.
- Jan 12/11 - A MacLean Bolter spilled approximately 4 litres of hydraulic oil on the ground at ~ sta 120m on the Portal ramp as a result of a leak in the park brake casing. The contaminated soil was shovelled up and brought to waste management. The bolter was tagged out pending repairs.
- Jan 13/11 - Compressor supporting underground work shutdown and a small amount of oil had come out through the dipstick and onto the ground. Spill pads were placed under the drip, the machine removed for servicing and the contaminated snow cleaned up.
- Jan 21/11 – Frozen hydraulics on water truck caused a leak of <5L at the Doris Camp Kitchen lift station. The spill was cleaned up and contaminated snow removed for disposal.
- Jan 24/11 – Minor leaks of hydraulic fluid detected from drill on percolation holes at North Dam construction. Drill removed for service and replaced. Second drill also experiencing leaks, but catchment was placed beneath and any contaminated snow was cleaned up and removed. Dedicated environmental monitor on site during all further operations until work complete.
- Jan 27/11 – On start-up of the skid steer at Rob Bay waste management facility, <1/8L of hydraulic fluid spilled on the ground from a blown hydraulic hose. The machine was shut down and removed for service and a minor amount of soiled snow was cleaned up and removed.

Should there be any questions regarding the monthly report for January 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**

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