

September 29, 2011

Phyllis Beaulieu, Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

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

---

Following is the monthly report for August 2011 as required under the Doris North Type A Water License No. 2AM-DOH0713. The license was issued on September 19, 2007 and will expire on September 30, 2013. The water license is specific to Mining and Milling and associated uses and water usage shall not exceed 480,000 cubic meters (m<sup>3</sup>) 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);
- Part H (Conditions Applying to Modifications); and
- Part J (Conditions Applying to General and Aquatic Effects Monitoring) Items 12 and 14

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 specifically to mining and milling processes for which the facilities have not yet been constructed. As these facilities are constructed and activities commence, the required monitoring programs will be implemented and reported on.

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

**a. Item 7. Construction Monitoring**

Construction monitoring is being undertaken and documented. A summary of this monitoring will be submitted with the annual Construction Monitoring report.

**b. Item 19. Surface Runoff Effluent Quality Limits**

Surface runoff from construction was sampled by SRK as part of the Waste Rock and Ore, and Quarry Monitoring Management Plans. Results will be included in the annual report.

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

**a. Water Usage**

Water was used for domestic camp use, underground mining and drilling brine, portable wash cars, all-weather road dust suppression, construction, and drilling. Total water usage is reported in Table 1.

Table 1: Water Usage for Doris North (m<sup>3</sup>), August 2011

Parameters	Water Use
Water Source	Doris Lake
Geographical Coordinates	On file
Annual Cumulative	25,118.53
Monthly Cumulative	3,408.41
2AM-DOH0713 Permitted Water Volume (Total Annual)	480,000 m <sup>3</sup>

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

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

Parameter/SNP Sites	ST-7
ALS Lab Reference #	L1039876-5
Sample Date/Time	Aug 2/11 @ 18:21
BOD	<2.0
Fecal Coliforms	<1
Total Oil and Grease	<1.0
pH	7.74
TSS	<3.0
Ammonia-N	-
Nitrate-N	<0.050
Nitrite-N	<0.050
Orthophosphate-P	-
Total Phosphate (as Tot P)	<0.020
Total Aluminum	0.040
Total Arsenic	<0.00040
Total Cadmium	<0.000050
Total Copper	0.0023
Total Chromium	<0.0050
Total Iron	0.107
Total Mercury	<0.00010
Total Molybdenum	<0.0050
Total Nickel	<0.0020
Total Lead	0.00021
Total Selenium	<0.00040
Total Silver	<0.00010
Total Thallium	<0.00010
Total Zinc	0.0073
<b>Additional Parameters</b>	
ALS Lab Reference #	L1038699-1
Sample Date/Time	Aug 1/11 @ 09:02
Blue-green Algae	32,600 cells/mL

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

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 ST-8A and ST-8B (formerly ST-8#1 and ST-8#2 respectively) located on the discharge lines after the UV disinfection system from the tandem sewage treatment plants. The data reported for August at these stations was in compliance for all parameters. Analytical results are provided in Table 3. A notification to move the ST-8 discharge

location was provided to the NWB on June 19, 2011 and the new discharge location is anticipated to be in use in September. Data from sampling at ST-8 is reported in Table 3.

Table 3: Water Quality Data Summary for Monitoring Station ST-8A and ST-8B, August 2011

Parameter/SNP Sites	ST-8A	ST-8B	Doris: 2AM-DOH0713 (Part G: Item 3 (b))	
ALS Lab Reference #	L1039876-6	L1039876-7	Maximum Average Concentration (mg/L)	Maximum Allowable Grab Sample Concentration (mg/L)
Sample Date/Time	Aug 3/11 06:00	Aug 3/11 06:00		
BOD <sub>5</sub>	5.1	3.3	80 mg/L	80 mg/L
TSS (mg/L)	<3.0	<3.0	100 mg/L	100 mg/L
Fecal Coliform	<1	<1	10,000 CFU/100mL	10,000 CFU/100mL
pH (pH unit)	7.46	7.20	Between 6-9	9
Oil & Grease (Visible Sheen)	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil & Grease (mg/L)	<1.0	<1.0	5	10

Station ST-9 was sampled during the month of August. Data from that sampling is shown in Table 4. HBML anticipates that ST-9 will not need to be relocated as a result of the relocation of the ST-8 tundra end-of-pipe discharge.

Table 4: Water Quality Data Summary for Monitoring Station ST-9, August 2011

Parameter/SNP Sites	ST-9*
ALS Lab Reference #	L1039876-4
Sample Date/Time	Aug 2/10 @ 16:30
BOD <sub>5</sub>	5.6
TSS (mg/L)	6.0
Fecal Coliform	2
pH (pH unit)	7.88
Oil & Grease (Visibility)	No visible sheen
Oil & Grease (mg/L)	<1.0

\*No specified water quality criteria

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

During the month of August, no water was discharged from monitoring station ST-5 (Doris Bulk Fuel Storage Facility) as this facility had been discharged in June. Additionally, no water was discharged from ST-6a (Roberts Bay Fuel Storage and Containment Facility), as this facility was discharged in July.

No discharge occurred from the new Robert's Bay Fuel Storage Facility (ST-6b) as this facility was still under construction and there was no accumulation of meteoric precipitation or snow melt for sampling.

#### 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 the volume of treated effluent released from the Doris Membrane Plant at SNP ST-8 and the volume of sludge removed and incinerated.

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

Parameters	Effluent Released ST-8 (m <sup>3</sup> )	Sludge Volume (m <sup>3</sup> )
Annual Cumulative	6369	20.84
Monthly Cumulative	833	2.15

## 5. Part G: Conditions applying to Waste Management and Waste Management Plans (Item 26)

Tables 6-9 show the sampling results for water discharged from the Tailings Impoundment Area (TIA) at monitoring stations TL-1, TL-2, TL-3, and TL-4.

Table 6: Water discharged from Tailings Impoundment Area (TL-1), August 2011

Parameter/ SNP Sites	TL-1								Doris: 2AM-DOH0713 (Part G: Item 26)	
ALS Lab Reference #	L1039876-1	L1041254-1	L1041675-1	L1041675-5	L1043499-1	L1044724-1	L1049686-1	L1051261-1	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Sample Date/ Time	Aug 1/11 @ 16:21	Aug 4/11 @ 10:38	Aug 6/11 @ 08:30	Aug 8/11 @ 08:35	Aug 11/11 @ 08:58	Aug 12/11 @ 08:58	Aug 20/11 @ 08:58	Aug 27/11 @ 20:00		
pH	7.80	-	-	-	7.73	7.68	7.71	7.89	6.0 - 9.5	6.0 - 9.5
TSS (mg/L)	-	<3.0	<3.0	<3.0	-	-	-	<3.0	15	30
Total Arsenic (T-As)	<0.00040	0.00087	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.50	1.00
Total Copper (T-Cu)	0.0022	0.0059	0.0015	0.0025	0.0015	0.0013	0.0013	0.0015	0.30	0.60
Total Cyanide (T-CN)	0.0082	0.0081	<0.0050	0.0086	0.0084	0.0070	<0.0050	<0.0050	1.00	2.00
Total Lead (T-Pb)	<0.00010	0.00181	0.00025	0.00031	0.00019	0.00018	0.00024	0.00021	0.20	0.40
Total Nickel (T-Ni)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.50	1.00
Total Zinc (T-Zn)	<0.0040	0.0321	0.0210	0.0284	0.0228	0.0195	0.0166	0.0165	0.50	1.00
Radium 226	-	-	-	-	-	-	-	-	0.37 Bq/L	1.11 Bq/L
BOD5	-	-	-	-	-	-	-	-	80	160
Fecal Coliforms	-	-	-	-	-	-	-	-	10,000 CFU/100 mL	10,000 CFU/100 mL
Total Ammonia (N)	-	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	6	-

Table 7: Water discharged from Tailings Impoundment Area (TL-2), August 2011

Parameter/ SNP Sites	TL-2								Doris: 2AM-DOH0713 (Part G: Item 26)	
ALS Lab Reference #	L1039876-2	L1041254-2	L1041675-2	L1041675-6	L1043499-2	L1044724-2	L1049686-2	L1051261-2	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Sample Date/ Time	Aug 1/11 @ 15:54	Aug 4/11 @ 11:08	Aug 6/11 @ 08:50	Aug 8/11 @ 09:09	Aug 11/11 @ 09:10	Aug 12/11 @ 09:10	Aug 20/11 @ 09:10	Aug 27/11 @ 19:50		
pH	7.66	-	-	-	7.74	7.73	7.68	7.81	6.0 - 9.5	6.0 - 9.5
TSS (mg/L)	-	<3.0	<3.0	<3.0	-	-	-	5.0	15	30
Total Arsenic (T-As)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.50	1.00
Total Copper (T-Cu)	0.0013	0.0021	0.0015	0.0016	0.0017	0.0017	0.0014	0.0014	0.30	0.60
Total Cyanide (T-CN)	0.0051	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	1.00	2.00
Total Lead (T-Pb)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.20	0.40
Total Nickel (T-Ni)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.50	1.00
Total Zinc (T-Zn)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.50	1.00
Radium 226	-	-	-	-	-	-	-	-	0.37 Bq/L	1.11 Bq/L
BOD5	-	-	-	-	-	-	-	-	80	160
Fecal Coliforms	-	-	-	-	-	-	-	-	10,000 CFU/100 mL	10,000 CFU/100 mL
Total Ammonia (N)	-	<0.050	<0.050	<0.050	-	<0.050	<0.050	-	6	-

Table 8: Water discharged from Tailings Impoundment Area (TL-3), August 2011

Parameter/ SNP Sites	TL-3								Doris: 2AM-DOH0713 (Part G: Item 26)	
ALS Lab Reference #	L1039876-3	L1041254-3	L1041675-3	L1041675-7	L1043499-3	L1044724-3	L1049686-3	L1051261-3	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Sample Date/Time	Aug 1/11 @ 15:29	Aug 4/11 @ 11:32	Aug 6/11 @ 09:00	Aug 8/11 @ 09:15	Aug 11/11 @ 09:35	Aug 12/11 @ 09:35	Aug 22/11 @ 07:30	Aug 27/11 @ 15:30		
pH	7.69	-	-	-	7.75	7.72	7.70	7.82	6.0 - 9.5	6.0 - 9.5
TSS (mg/L)	-	<3.0	<3.0	<3.0	-	-	-	4.0	15	30
Total Arsenic (T-As)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.50	1.00
Total Copper (T-Cu)	0.0013	0.0018	0.0014	0.0016	0.0017	0.0014	0.0014	0.0018	0.30	0.60
Total Cyanide (T-CN)	<0.0050	0.0051	0.0083	0.0056	<0.0050	<0.0050	<0.0050	<0.0050	1.00	2.00
Total Lead (T-Pb)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.20	0.40
Total Nickel (T-Ni)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.50	1.00
Total Zinc (T-Zn)	<0.0040	0.0043	<0.0040	0.0042	0.0043	0.0047	0.0048	0.0056	0.50	1.00
Radium 226	-	-	-	-	-	-	-	-	0.37 Bq/L	1.11 Bq/L
BOD5	-	-	-	-	-	-	-	-	80	160
Fecal Coliforms	-	-	-	-	-	-	-	-	10,000 CFU/100 mL	10,000 CFU/100 mL
Total Ammonia (N)	-	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	-	6	-

Table 9: Water discharged from Tailings Impoundment Area (TL-4), August 2011

Parameter/ SNP Sites	TL-4							Doris: 2AM-DOH0713 (Part G: Item 26)	
ALS Lab Reference #	-	L1041254-4	L1041675-4	L1044724-4	L1049686-4	L1049686-5	L1051261-4	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Sample Date/Time	-	Aug 4/11 @ 11:18	Aug 6/11 @ 09:10	Aug 12/11 @ 12:15	Aug 20/11 @ 10:15	Aug 22/11 @ 09:45	Aug 27/11 @ 20:14		
pH	-	-	-	7.68	7.73	-	7.87	6.0 - 9.5	6.0 - 9.5
TSS (mg/L)	-	<3.0	<3.0	-	-	-	<3.0	15	30
Total Arsenic (T-As)	-	<0.00040	<0.00040	<0.00040	<0.00040	-	<0.00040	0.50	1.00
Total Copper (T-Cu)	-	0.0012	0.0014	0.0010	0.0011	-	0.0010	0.30	0.60
Total Cyanide (T-CN)	-	0.0086	0.0066	0.0061	<0.0050	-	<0.0050	1.00	2.00
Total Lead (T-Pb)	-	0.00013	0.00013	<0.00010	<0.00010	-	<0.00010	0.20	0.40
Total Nickel (T-Ni)	-	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	0.50	1.00
Total Zinc (T-Zn)	-	0.0798	0.0707	0.0946	0.0695	-	0.0687	0.50	1.00
Radium 226	-	-	-	-	-	<0.01	<0.005	0.37 Bq/L	1.11 Bq/L
BOD5	-	-	-	-	<2.0	-	-	80	160
Fecal Coliforms	-	-	-	-	-	-	-	10,000 CFU/100 mL	10,000 CFU/100 mL
Total Ammonia (N)	-	<0.050	<0.050	<0.050	<0.050	-	-	6	-

## 6. 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

Tonnages of waste rock material removed from underground and placed on the Temporary Waste Rock Pad to date are detailed in Table 10.

Table 10: Volume (metric tons) of waste rock stored on the Temporary Waste Rock Pad, August 2011

Parameters	Waste Rock on Pad (tonnes) August
Waste Stockpile Mass as of Month Prior	109,668
Mass Added this Month	20,001
Mass Removed this Month	0
Total Tonnage	129,669

**b. Part J: Item 12g Tail Lake Ice Thickness**

Tail Lake did not have ice cover in August. Ice thickness measurements will resume when ice begins forming.

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

Thermistor monitoring undertaken during the month of August is provided in Table 11.

Table 11: Temperature Readings from Thermistor Monitoring, August 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	Aug 3/11	9.29	9.34	7.92	3.97	1.64	-2.90	-3.58	-6.21
SRK-JT2-09	TS2668	Roberts Bay Jetty	Aug 3/11	11.77	9.54	8.57	5.13	-2.69	-5.13	-5.04	-4.98

**7. Environmental Incident Reporting**

There were two (2) environmental incidents reported during the month of August.

- August 06/11: Level 1 (Insignificant) – A hydraulic hose on a genie lift aerial platform failed resulting in approximately 5 litres of hydraulic oil being spilled on the ground at the Roberts Bay lay down area. The oil contaminated soil was shovelled up and brought to waste management pending proper disposal.
- August 07/11: Level 1 (Insignificant) – A song bird mortality occurred at the Roberts Bay fuel dispensing area as a result of an uncovered fuel drippings bucket at the fuelling area. Metal screening has since been placed on the drip bucket at this location to prevent similar occurrences.

Should there be any questions regarding the monthly report for August 2011, please contact Chris Hanks, VP Environmental Affairs for Hope Bay Mining Limited at (720)917-4489 or [Chris.Hanks@Newmont.com](mailto:Chris.Hanks@Newmont.com).

Yours sincerely,

for

**Chris Hanks**

VP Environmental Affairs  
Hope Bay Mining Limited