372 Bay Street
Suite 901
Toronto, Ontario
M5H 2W9
416-628-0216

June 23, 2014

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

Re: May 2014 – Monthly Monitoring Report for Water Licence 2AM-DOH1323

This report is comprised of monitoring requirements as set out in Part J and Schedule J of water licence 2AM-DOH1323, and additional requirements from AANDC. Licence items include:

- Part E (Conditions applying to Water Use) Item 1;
- Part G (Conditions Applying to Waste Management and Waste Management Plans) Items 1, 3(b) and 23 (a), 24 (c, e), 28, 29, 30, 32;
- Part J (Conditions Applying to General and Aquatic Effects Monitoring) Items 4(a), 8, 12 (a, d, g), 14, 15, 16, 20 and 21(e, f).

Other monitoring requirements stipulated in the licence refer to facilities that have not been constructed. Doris Camp is currently operating in a care and maintenance phase with water management, drill exploration, and environmental compliance being the focus of current activities.

Part E: Conditions Applying to Water Use

Item 1: Water Usage and Part J, Item 12(a) Water Volume

325 m^3 of water was extracted from Windy Lake for Doris Camp domestic use this month as permitted by water licences 2BE-HOP1222 and 2AM-DOH1323. Water usage is presented in Table 1.

Table 1: Water usage from Windy Lake, in cubic meters, May 2014

Water Usage	Domestic Water Use from Windy Lake ST-7a (m^3)
Monthly Total	325
Annual Cumulative	551

Schedule J: Water Quality Monitoring at Water Intake

Monthly water quality samples were taken from monitoring station ST-7a (Windy Lake raw water) in accordance with the Schedule J requirements of the licence (Table 2). Water was not sampled at ST-7 (Doris Lake raw water) as the Doris Lake Pumphouse is not operating.

Table 2: Monthly Compliance Sample Results for ST-7a, May 2014

Sample ID	ST7A-09MAY14	
ALS ID	L1464793-1	
Date Sampled	5/9/2014 9:30	
Parameters	**Units**	**Results**
Hardness (as CaCO3)	uS/cm	91.9
pH	mg/L	7.93
Total Suspended Solids	pH	<3.0
Ammonia, Total (as N)	mg/L	<0.0050
Nitrate (as N)	mg/L	<0.0050
Nitrite (as N)	mg/L	<0.0010
Orthophosphate-Dissolved (as P)	mg/L	<0.0010 *
Phosphorus (P)-Total	mg/L	0.0044
Cyanide, Total	mg/L	<0.0050
Cyanide, Free	mg/L	<0.0050
Fecal Coliforms	CFU/100mL	<1
Total cyanobacterial cell count	cells/mL	3
Aluminum (Al)-Total	cells/mL	<0.0050
Antimony (Sb)-Total	cells/mL	<0.00050
Arsenic (As)-Total	cells/mL	<0.00050
Barium (Ba)-Total	mg/L	<0.020
Beryllium (Be)-Total	mg/L	<0.0010
Boron (B)-Total	mg/L	<0.10
Cadmium (Cd)-Total	mg/L	<0.000010
Calcium (Ca)-Total	mg/L	15.7
Chromium (Cr)-Total	mg/L	<0.0010
Cobalt (Co)-Total	mg/L	<0.00030
Copper (Cu)-Total	mg/L	<0.0010
Iron (Fe)-Total	mg/L	<0.030
Lead (Pb)-Total	mg/L	<0.00050
Lithium (Li)-Total	mg/L	<0.0050
Magnesium (Mg)-Total	mg/L	12.8
Manganese (Mn)-Total	mg/L	0.00078
Mercury (Hg)-Total	mg/L	<0.000010
Molybdenum (Mo)-Total	mg/L	<0.0010
Nickel (Ni)-Total	mg/L	<0.0010
Potassium (K)-Total	mg/L	4.9
Selenium (Se)-Total	mg/L	<0.00010
Silver (Ag)-Total	mg/L	<0.000020
Sodium (Na)-Total	mg/L	70.3
Thallium (Tl)-Total	mg/L	<0.00020
Tin (Sn)-Total	mg/L	<0.00050
Titanium (Ti)-Total	mg/L	<0.010
Uranium (U)-Total	mg/L	0.0002
Vanadium (V)-Total	mg/L	<0.0010
Zinc (Zn)-Total	mg/L	<0.0050
Oil and Grease	mg/L	<5.0
Oil And Grease (Visible Sheen)		No
Microcystin	mg/L	<0.20

Part G: Conditions Applying to Waste Management and Waste Management Plans.

Item 1: Condition to Provide Notice of a Planned Discharge

Notification of planned discharges from facilities under this licence was provided to the Inspector May 24, 2014.

Item 3(b): Conditions Applying to Sewage Effluent Quality and Schedule J, Table 2 Monitoring Requirements: Discharge from Wastewater Treatment Plant in cubic metres.

Monthly compliance samples were taken from monitoring station ST-8 (Wastewater Treatment Plant Effluent) in accordance with the Schedule J requirements of the licence (Table 3). All samples were in compliance with licence discharge criteria.

Table 3: Monthly Compliance Sample Results for ST-8B, May 2014

		Sample ID	ST8B-08MAY14	Part G Item 3 (b)	
		ALS ID	L1453285-1	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
		Sample Date/Time	5/8/2014 19:30		
Parameter	Units		Results		
pH	pH		7.47	6 - 9	9
Total Suspended Solids	mg/L		<3.0	100	100
Biochemical Oxygen Demand (BOD_5)	mg/L		<2	80	80
Oil and Grease	mg/L		<5.0	5	10
Oil And Grease (Visible Sheen)			No	No Visible Sheen	No Visible Sheen
Fecal Coliform	CFU/ 100mL		<1	10,000	10,000

This month, 271 m^3 of sewage effluent was discharged from the sewage treatment plant.

Schedule J, Table 2 Monitoring Requirements: Runoff from Waste Water Treatment Plant Discharge (ST-9)

No water was available for sampling at location ST-9 (prior to entry into Glenn Lake) due to freezing conditions.

Item 23(a): Water Discharged from the Sedimentation Pond (ST-1) and Reagent and Cyanide Storage Facility Sumps (ST-11) and Schedule J, Table 2 Monitoring Requirements

As described in the 2012 Interim Water Management Plan, the Sedimentation Pond (ST-1) is being used as a collection pond for the water that accumulates in the Pollution Control Pond (ST-2), the two Underflow Sumps (ST2S1 and ST2S2), and occasionally from various berms and containments in the project area. The water in ST-1 is transferred to the Tailings Impoundment Area (TIA) when there is enough accumulated water for the pumps to operate effectively. At this time, no ST-1 water is being discharged to the tundra. Transfer of water from ST-1 to the TIA was initiated May 30, 2014 (Table 4). The water quality results for ST-1 are shown in Table 5.

Table 4: Water in cubic meters (m^3) transferred from ST-1 to the TIA, May 2014

Parameters	Water volume transferred from ST-1 to TIA (m^3)
Monthly Cumulative	111.38
Annual Cumulative	111.38

Table 5: Water Quality Data Summary for Monitoring Station ST-1, May 2014

	Sample ID	**ST1-29MAY14**
	ALS ID	**L1463182-4**
	Sample Date/Time	**5/29/2014 11:11**
Parameter	**Unit**	**Results**
Conductivity (EC)	uS/cm	2710
Hardness (as CaCO3)	mg/L	705
pH	pH	7.64
Total Suspended Solids	mg/L	11
Ammonia, Total (as N)	mg/L	10.4
Nitrate (as N)	mg/L	32.7
Nitrite (as N)	mg/L	0.205
Sulfate (SO4)	mg/L	54.6
Cyanide, Total	mg/L	<0.0050
Aluminum (Al)-Total	mg/L	0.34
Antimony (Sb)-Total	mg/L	<0.00050
Arsenic (As)-Total	mg/L	0.0006
Barium (Ba)-Total	mg/L	0.0522
Beryllium (Be)-Total	mg/L	<0.0025
Boron (B)-Total	mg/L	0.102
Cadmium (Cd)-Total	mg/L	0.000073
Calcium (Ca)-Total	mg/L	249
Chromium (Cr)-Total	mg/L	0.0025
Cobalt (Co)-Total	mg/L	<0.0020
Copper (Cu)-Total	mg/L	0.0057
Iron (Fe)-Total	mg/L	0.594
Lead (Pb)-Total	mg/L	0.00027
Lithium (Li)-Total	mg/L	0.032
Magnesium (Mg)-Total	mg/L	34.2
Manganese (Mn)-Total	mg/L	0.556
Mercury (Hg)-Total	mg/L	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050
Nickel (Ni)-Total	mg/L	0.0036
Potassium (K)-Total	mg/L	13.2
Selenium (Se)-Total	mg/L	0.00074
Silver (Ag)-Total	mg/L	<0.000050
Sodium (Na)-Total	mg/L	197
Thallium (Tl)-Total	mg/L	<0.00025
Tin (Sn)-Total	mg/L	<0.050
Titanium (Ti)-Total	mg/L	0.0091
Uranium (U)-Total	mg/L	0.00057
Vanadium (V)-Total	mg/L	0.0016
Zinc (Zn)-Total	mg/L	0.06
Calcium (Ca)-Dissolved	mg/L	231
Magnesium (Mg)-Dissolved	mg/L	31.1
Oil and Grease	mg/L	<1.0
Oil And Grease (Visible Sheen)		no visible sheen

The Reagent and Cyanide Storage Facility Sumps (ST-11) is not constructed. Monitoring was undertaken at the Pollution Control Pond (ST-2) this month in accordance with the requirements of Schedule J, Table 2 of the licence; there is no discharge criteria specified for this monitoring station.

Items 24(c): Landfarm Sump (ST-4) and Schedule J, Table 2 Monitoring Requirements

No water was discharged from the Landfarm (ST-4), this month and no sampling was conducted.

Items 24(e): Fuel Storage and Containment Facility Sumps (ST-5, ST-6a and ST-6b) and Schedule J, Table 2 Monitoring Requirements

Sampling was undertaken at the Doris tank farm (ST-5), and Roberts Bay tank farms (ST-6a and ST-6b) this month. Results are presented in Table 6.

Table 6: Water Quality Data Summary for Monitoring Station ST-5, ST6A and ST6B, May 2014

Sample ID		ST5-28MAY14	ST6A-30MAY14	ST6B-29MAY14	Part G Item 22e	
ALS ID		L1463182-1	L1463182-2	L1463182-3	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Sample Date/Time		5/28/2014 18:35	5/30/2014 7:55	5/29/2014 10:45		
Parameter	**Unit**	**Results**				
pH	pH	7.9	7.93	7.84	6.5 – 9.0	9
Total Suspended Solids	mg/L	11	**18.5**	4.1	15	30
Lead (Pb)-Total	mg/L	0.000393	0.000477	0.000152	0.01	0.02
Oil and Grease	mg/L	<5.0	<5.0	<5.0	5	10
Oil And Grease (Visible Sheen)		No	No	No	-	-
Benzene	mg/L	<0.00050	<0.00050	<0.00050	0.37	-
Ethylbenzene	mg/L	<0.00050	<0.00050	<0.00050	0.09	-
Toluene	mg/L	<0.00050	<0.00050	<0.00050	0.002	

A discharge notification for these facilities was provided to the Inspector May 24/14. All results were in compliance with the licence, with the exception of total suspended solids at Roberts Bay tank farm ST-6a; permission was granted via email by the Inspector June 6/14 to discharge this effluent on the road system for dust suppression. Dewatering of these facilities commenced in June.

Item 28, 29, 30 and Part J Item 8: Water Quality Discharged from Tailings Impoundment Area (TL-1, TL-2, TL-3 or TL-4.)

Dewatering of the Tailings Impoundment Area ended September 6, 2013 and has not yet re-commenced for the 2014 season. Pre-discharge samples were collected at TL-1, TL-2 and TL-3 May 29/14 in anticipation of discharging in early June. Results are provided in Table 7.

Table 7: Water Quality Data Summary for Monitoring Station TL-1, TL-2 and TL-3, May 2014

Sample ID		TL1-29MAY14	TL2-29MAY14	TL3-29MAY14
ALS ID		L1463166-1	L1463166-2	L14463166-3
Sample Date/Time		5/29/2014 14:30	5/29/2014 11:35	5/29/2014 13:50
Parameter	**Units**	**Results**		
Hardness (as CaCO3)	mg/L	20.5	26.1	18.4
pH	pH	7.33	7.46	7.32
Total Suspended Solids	mg/L	6.4	5.7	6.6

Sample ID		TL1-29MAY14	TL2-29MAY14	TL3-29MAY14
ALS ID		L1463166-1	L1463166-2	L14463166-3
Sample Date/Time		5/29/2014 14:30	5/29/2014 11:35	5/29/2014 13:50
Parameter	**Units**	**Results**		
Total Dissolved Solids	mg/L	75	73	74
Ammonia, Total (as N)	mg/L	0.0731	0.16	0.0334
Bromide (Br)	mg/L	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	8.97	7.13	10.7
Fluoride (F)	mg/L	0.023	<0.020	0.047
Nitrate (as N)	mg/L	0.196	0.296	0.0372
Nitrite (as N)	mg/L	0.0013	0.0034	0.0021
Orthophosphate-Dissolved (as P)	mg/L	0.0021	0.0157	0.0514
Phosphorus (P)-Total	mg/L	0.0302	0.0793	0.167
Sulphate (SO_4)	mg/L	2.65	4.17	1.98
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.175	0.427	0.122
Antimony (Sb)-Total	mg/L	<0.00050	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	<0.00050	<0.00050	<0.00050
Barium (Ba)-Total	mg/L	<0.020	<0.020	<0.020
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	<0.000010	0.000011	0.000032
Calcium (Ca)-Total	mg/L	4.9	6.72	4.49
Chromium (Cr)-Total	mg/L	0.0015	0.0023	<0.0010
Cobalt (Co)-Total	mg/L	0.00069	0.0005	<0.00030
Copper (Cu)-Total	mg/L	0.003	0.0067	0.0024
Iron (Fe)-Total	mg/L	0.859	0.678	0.095
Lead (Pb)-Total	mg/L	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	<0.0050	<0.0050	<0.0050
Magnesium (Mg)-Total	mg/L	2	2.26	1.74
Manganese (Mn)-Total	mg/L	0.301	0.0575	0.00299
Mercury (Hg)-Total	mg/L	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	<0.0010	<0.0010	<0.0010
Nickel (Ni)-Total	mg/L	0.0012	0.0018	<0.0010
Potassium (K)-Total	mg/L	<2.0	3.2	3.1
Selenium (Se)-Total	mg/L	<0.00010	<0.00010	<0.00010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	6.2	6.4	6.8
Thallium (Tl)-Total	mg/L	<0.00020	<0.00020	<0.00020
Tin (Sn)-Total	mg/L	<0.00050	<0.00050	<0.00050
Titanium (Ti)-Total	mg/L	<0.010	0.014	<0.010
Uranium (U)-Total	mg/L	<0.00020	<0.00020	<0.00020
Vanadium (V)-Total	mg/L	<0.0010	0.0016	<0.0010
Zinc (Zn)-Total	mg/L	0.0129	0.0052	<0.0050
Hexavalent Chromium	mg/L	-	-	<0.0010
Oil and Grease	mg/L	-	-	<5.0
Oil and Grease (visible sheen)		-	-	No

Item 32: Tailings Impoundment Area Discharge Volume – Comparison of Flows at TL-4 and TL-2

No water was discharged from the TIA this month; a comparison of flows was not conducted.

Schedule J: Tailings Impoundment Area Water Quality (TL-10)

No water was discharged from the TIA this month. Monitoring at TL-10 is not required during Care and Maintenance.

Part J: Conditions Applying to General and Aquatics Effects Monitoring

Item 4(a): TIA Discharge Quality – Water Quality Comparison/Deviations

No water was discharged from the TIA this month and no water quality comparisons were made.

Item 8 and Schedule J, Monitoring Requirements: Acute Lethality Testing (TL-1 and TL-4)

No water was discharged from the TIA this month; acute lethality samples were not collected.in May but are scheduled for collection prior to discharge in June.

Item 12d: Tonnages of Waste Rock Stored on the Temporary Waste Rock Pad

Underground mining did not occur during the month. The total volume of rock on the temporary waste rock pad is 189,607 tonnes, as per the December 2011 survey.

Item 12g: Tail Lake Ice Thickness

Ice thickness measurement at Tail Lake is not required during Care and Maintenance.

Item 14, 15, 16 and Schedule J, Monitoring Requirements: Thermal Monitoring

Thermal monitoring undertaken under this part is reported in the annual Geotechnical Inspection Report.

Item 20: Daily Visual Monitoring of Discharges to Tundra

No planned discharges to tundra occurred during the period. During periods of discharge, monitoring observations will be documented.

Item 21 (e) Daily Visual Assessment of Suspended Sediment at TIA

The facility was still frozen during the month. No visual assessments conducted.

Item 21 (f) Doris North Camp Diversion Berm Effectiveness

Monitoring was not conducted on the Diversion Berm due to near-freezing conditions.

Environmental Incident Reporting

May 31, 2014 - The Doris sump, designed to intercept runoff from pads located south of the Doris Portal, was plugged with ice and not able to effectively capture snow meltwater runoff during the first days of melt for the year. In an attempt to thaw the sump and commission the automated pumping system, water in the sump was pumped out to the tundra. A total of approximately 10 m^3 of water was released to the tundra surrounding the sump. This water should have reported to the Sediment Control Pond for ultimate discharge to the Tailings Impoundment Area, along with other sources of site water. Pumping was ceased shortly after initiation. The sump became functional after further thawing and accumulated water was collected and removed with a vacuum truck to the Sediment Control Pond. The automated sump pump became

operational June 6, 2014. The incident was reported to the Spill Hotline on June 1, 2014 at 9:00 and assigned #14-187.

Should there be any questions regarding this monthly report, please contact Katsky Venter or Léa-Marie Bowes-Lyon at (867) 988-0569 or Katsky.Venter@tmacresources.com or Lea-Marie.Bowes-Lyon@tmacresources.com

Yours sincerely,

Léa-Marie Bowes-Lyon

Digitally signed by Léa-Marie Bowes-Lyon
DN: cn=Léa-Marie Bowes-Lyon, o=TMAC Resources Inc., ou=Environment, email=lea-marie.bowes-lyon@tmacresources.com, c=CA
Date: 2014.06.23 15:30:21 -07'00'

Léa-Marie Bowes-Lyon
Tenure and Permitting Manager
Hope Bay Project

cc. Eva Paul, Water Resources Officer, AANDC