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August 16, 2012

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

Re: July 2012 – Monthly Monitoring Report for Water Licence 2AM-DOH0713

This report is comprised of monitoring requirements as set out in Schedule J of water license 2AM-DOH0713 and additional requirements from AANDC. License items include:

- Part D (Conditions Applying to Construction) Items 7 and 19;
- Part E (Conditions applying to Water Use) Item 1;
- Part G (Conditions Applying to Waste Management and Waste Management Plans) Items 3(e) and 3 (b), Item 21 (a) and 22 (e);
- Part J (Conditions Applying to General and Aquatic Effects Monitoring) Items 12 and 14.

Other monitoring requirements stipulated in the license refer to facilities that have not been constructed.

Part D: Conditions Applying to Construction

Item 7. Construction Monitoring

Construction activities did not take place in this month.

Item 19. Surface Runoff Effluent Quality Limits

There was no runoff from construction areas, therefore, turbidity and total suspended solids samples were not collected.

Part E: Conditions Applying to Water Use

Item 1: Water Usage

Fresh water used for domestic camp use, portable wash cars, and dust suppression is reported in Table 1.

Table 1: Water Usage for Doris North, July 2012

Parameters	Water Use
Water Source	Doris Lake
Geographical Coordinates	68°8'17.04" N, 106°36'52.68"W
Monthly Cumulative	2691 m^3
Annual Cumulative	14,191 m^3
2AM-DOH0713 Permitted Water Volume (Total Annual)	480,000m^3

Schedule J: Water Quality Monitoring at Water Intake

Monthly compliance samples, in accordance with Schedule J requirements of the licence, were taken from monitoring station ST-7 (Table 2). An additional sample was collected during the AANDC inspection on July 10, 2012 following the parameter list provided by the AANDC Inspector.

Table 2: Monthly Compliance Sample Results for SNP Monitoring Station ST-7, July 2012

Parameter	Units	ST7-09JUL12	ST7-10JUL12
ALS ID		**L1174847-1**	**L1178345-2**
Sample Date/Time		**7/9/2012 7:45:00 AM**	**7/10/2012 4:30:00 PM**
Conductivity (EC)	uS/cm	243	-
Hardness (as CaCO3)	mg/L	40.7	51.5
pH	pH	7.39	7.51
Total Suspended Solids	mg/L	<3.0	-
Alkalinity, Total (as CaCO3)	mg/L	-	30.7
Ammonia, Total (as N)	mg/L	<0.050	<0.050
Bicarbonate (HCO3)	mg/L	-	37.5
Carbonate (CO3)	mg/L	-	<5.0
Chloride (Cl)	mg/L	-	64
Conductivity (EC)	uS/cm	-	293
Hardness (as CaCO3)	mg/L	-	47.5
Hydroxide (OH)	mg/L	-	<5.0
Ion Balance	%	-	97.2
Nitrate and Nitrite (as N)	mg/L	-	<0.071
Nitrate (as N)	mg/L	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L	0.0011	-
Phosphorus (P)-Total	mg/L	<0.020	-
TDS (Calculated)	mg/L	-	134
Sulfate (SO4)	mg/L	-	2.48
Cyanide, Total	mg/L	<0.0050	-
Cyanide, Free	mg/L	<0.0050	-
Aluminum (Al)-Total	mg/L	0.0727	0.0515
Antimony (Sb)-Total	mg/L	<0.00040	0.0015
Arsenic (As)-Total	mg/L	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.0032	0.0045
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	8.51	10
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.007	0.0032
Iron (Fe)-Total	mg/L	0.193	0.449
Lead (Pb)-Total	mg/L	0.00063	0.0003
Lithium (Li)-Total	mg/L	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	5.54	6.43
Manganese (Mn)-Total	mg/L	0.0144	0.0747
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050

Parameter	Units	ST7-09JUL12	ST7-10JUL12
ALS ID		**L1174847-1**	**L1178345-2**
Sample Date/Time		**7/9/2012 7:45:00 AM**	**7/10/2012 4:30:00 PM**
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020
Potassium (K)-Total	mg/L	2.05	2.35
Selenium (Se)-Total	mg/L	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	26.9	31.1
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050
Titanium (Ti)-Total	mg/L	0.0019	0.0015
Uranium (U)-Total	mg/L	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.0285	0.0112
Calcium (Ca)-Dissolved	mg/L	7.56	9.1
Magnesium (Mg)-Dissolved	mg/L	5.29	6.01
Potassium (K)-Dissolved	mg/L	-	2.29
Sodium (Na)-Dissolved	mg/L	-	32.1
Biochemical Oxygen Demand	mg/L	<2.0	-
Oil and Grease	mg/L	<1.0	<1.0
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen
Benzene	mg/L	-	<0.00050
Ethylbenzene	mg/L	-	<0.00050
Toluene	mg/L	-	<0.00050
o-Xylene	mg/L	-	<0.00050
m+p-Xylene	mg/L	-	<0.00050
Xylenes	mg/L	-	<0.00071
Fecal Coliforms	CFU/100mL	<1	
ALS ID		**L1174847-1**	
Sample Date/Time		**7/9/2012 7:45:00 AM**	
Blue-green algae	Cells/100 mL	23,700	

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

Item 3(b): Conditions applying to sewage effluent quality

Sampling station ST-8 is located within the Doris Camp sewage treatment plant. Effluent samples were collected from ST-8A and were compliant for all parameters (Table 3). Sampling station ST-8B was taken out of service on November 5, 2011 due to insufficient flow and will be brought back on line when necessary.

Table 3: Water Quality Data Summary for Monitoring Station ST-8A, July 2012

Parameter	Units	ST8B-09JUL12	Doris: 2AM-DOH0713	
ALS ID		L1174847-2	(Part G: Item 3 (b))	
Sample Date/Time		7/9/2012 9:05:00 AM	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
Conductivity (EC)	uS/cm	701		
pH	pH	7.19	6.5 - 9.0	9
Total Suspended Solids	mg/L	<3.0	100	100
Biochemical Oxygen Demand	mg/L	<2.0	80	80
Oil and Grease	mg/L	<1.0	5	10
Oil And Grease (Visible Sheen)		no visible sheen	No Visible Sheen	No Visible Sheen
Fecal Coliform	CFU/100mL	<1	10,000	10,000

Station ST-9 was sampled in June (Table 4).

Table 4: Water Quality Data Summary for Monitoring Station ST-9, July 2012

Parameter	Units	ST9-09JUL12
ALS ID		L1174847-3
Sample Date/Time		7/9/2012 8:37:00 AM
Conductivity (EC)	uS/cm	321
pH	pH	7.77
Total Suspended Solids	mg/L	<3.0
Biochemical Oxygen Demand	mg/L	<2.0
Oil and Grease	mg/L	<1.0
Oil And Grease (Visible Sheen)		no visible sheen
Fecal Coliform	CFU/100mL	<1

Item 3(e): Treated Sewage Effluent Release in cubic meters

The volume of treated effluent released at ST-8 and the volume of sludge removed and incinerated are shown in Table 5.

Table 5: Treated Sewage Effluent released in cubic meters (m^3) through ST-8 and total sludge volume removed

Parameters	Effluent Released ST-8 (m^3)	Sludge Volume (m^3)
Monthly Cumulative	505	4.87
Annual Cumulative	3929	22.26

Item 21 (a) and Items 22 (c), (e): Sedimentation pond, landfarm, and fuel containment sumps

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 accumulated in the Pollution Control Pond (ST-2) and the two Underflow Sumps (STS1 and STS2), and occasionally from various berms and containments in the project area. Water that had been stored in the temporary pollution control pond from the 2011 season was also transferred into ST-1. The water in ST-1 is then transferred to the Tailings Impoundment Area (TIA) when the accumulated volume permits. Water was transferred from ST-1 to the TIA beginning in June 2012 (Table 6). The water quality samples collected from ST-1 are summarized in Table 7, which is provided at the end of this report.

Table 6: Water in cubic meters (m^3) transferred from ST-1 to the TIA, June 2012

Parameters	Water volume transferred from ST-1 to TIA (m^3)
Monthly Cumulative	3223
Annual Cumulative	9107

Water from the land farm (ST-4) was sampled on June 24, 2012. The results were compliant (Table 8) with the water licence criteria and approximately 180 m^3 was used for dust suppression.

Table 8: Water in cubic meters (m^3) removed from ST-4, July 2012

Parameter	Units	ST4-24JUN12A	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
ALS ID		**L1167650-1**		
Sample Date/Time		**6/24/2012 2:30:00 PM**		
Conductivity (EC)	uS/cm	719	-	-
pH	pH	8.22	6.0 - 9.0	9.0
Total Suspended Solids	mg/L	<3.0	15	30
Ammonia, Total (as N)	mg/L	0.427	2.0	4.0
Lead (Pb)-Total	mg/L	<0.00010	0.01	0.02
Oil and Grease	mg/L	<1.0	5	10.0
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen
Benzene	mg/L	<0.00050	0.37	-
Ethylbenzene	mg/L	<0.00050	0.090	-
Toluene	mg/L	<0.00050	0.002	-

Water from the Doris Tank Farm (ST-5) was sampled on 15 May 2012. A visible sheen was detected in the sample, therefore, the oil-water separator was set up and a compliant sample was collected on 31 May 2012. Discharge began on 8 June 2012 via the oil-water separator; 655 m^3 was discharged in June, and a final 6 m^3 was pumped in July. Daily samples were collected during discharge (Table 9).

Table 9: ST-5 (Doris Tank Farm) During-discharge Samples, July 2012

Parameter	Units	ST5-01 JUL 12	ST5-04JUL12	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
ALS ID		**L1171257-1**	**L1174465-1**		
Sample Date/Time		**7/1/2012 3:23:00 PM**	**7/4/2012 2:50:00 PM**		
pH	pH	8.23	8.29	6.5 – 9.0	9.0
Total Suspended Solids	mg/L	<3.0	<3.0	15	30
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	0.01	0.02
Oil and Grease	mg/L	<1.0	<1.0	5	10
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	-	-
Benzene	mg/L	<0.00050	<0.00050	0.37	-
Ethylbenzene	mg/L	<0.00050	<0.00050	0.09	-
Toluene	mg/L	<0.00050	<0.00050	0.002	

Water had not accumulated in the Roberts Bay 5 million litre fuel tank berm (ST-6a) in July.

Water from the Roberts Bay Bulk Fuel Containment (ST-6b) was sampled on 15 May 2012. A visible sheen was detected in the sample, therefore, the oil-water separator was set up and a compliant sample was collected on 31 May 2012. A total of 971 m^3 of water was removed from the berm in June and a final 132 m^3 was removed in the beginning of July; the water was used for dust suppression on the roads.

Item 26, 27, 28 and Part J Item 8: Water Discharged from Tailing Impoundment Area

Water Samples were collected from TL-2, TL-3, TL-4, and TL-10 as per the requirements of the licence. Note that TL-1 is taken from the intake end and TL-4 is taken from the discharge end of the same pipe; therefore, samples collected as TL-4 during the dewatering program also fulfill the sampling requirements for TL-1. Sample results for TL-4 are provided in Table 10, which is provided at the end of this report. As expected, discharged water was well below the discharge criteria in the water licence.

Water from the mine site (ST-1 and ST-2) was discharged into Tail Lake periodically (Table 6 and 7).

Water collected from TL-4 was shown to be non-acutely toxic to trout or daphnia (Table 11).

Table 11: Acute Lethality Test Results for TL-4, July 2012

Parameter	**TL4-14JUN12**	**Analyst Comments**
ALS ID	**L1178343-3**	
Sample Date/Time	**7/12/2012 5:20:00 PM**	
Trout		
LC50	>100%	No effect occurred
LC25	>100%	No effect occurred
Daphnia		
LC50	>100%	No effect occurred
LC25	>100%	No effect occurred
EC50	>100%	No effect occurred
EC25	>100%	No effect occurred

Notes: LC50 = lethal concentration that results in mortality of 50% of the test organisms; LC25 = lethal concentration that results in mortality of 25% of the test organisms; EC50 = effects concentration that results in visible effects (immobility) of 50% of the test organisms; EC25 = effects concentration that results in visible effects (immobility) of 25% of the test organisms.

Sample results for TL-2 (Doris Creek upstream) are presented in Table 12, which is provided at the end of this report. Sample results for TL-3 (Doris Creek downstream) and a comparison of these results to TL-2 sample results is provided in Table 13, which is also provided at the end of this report. As expected, the TL-3 (downstream of discharge) water quality was similar to the TL-2 (upstream Doris Creek background). Water quality samples at TL-3 indicated that aluminum slightly exceeded criteria on July 4.

Item 30: Tailings Impoundment Area Discharge Volume

Dewatering of the Tailings Impoundment Area commenced on 11 June 2012. The daily discharge and maximum permitted discharge volumes are presented in Table 14.

Table 14: Daily Permitted and Actual Discharge Volumes for the TIA Dewatering Program, July 2012

Date	TL-2 Discharge Volume (m^3)	Max. DischargeVolume Allowed - 10% of TL-2 (m^3)†	Total Daily Vol. Discharged (m^3)	Elevation of TIA (m)
July 1, 2012	162430	16243	8907	29.4
July 2, 2012	154660	15466	8733	29.39
July 3, 2012	146880	14688	8814	29.38
July 4, 2012	144290	14429	8701	29.37
July 5, 2012	137380	13738	8837	29.36
July 6, 2012	130460	13046	7445	29.36
July 7, 2012	127870	12787	8745	29.34
July 8, 2012	121820	12182	8800	29.34
July 9, 2012	115780	11578	7295	29.33
July 10, 2012	118110	11811	8542	29.32
July 11, 2012	113960	11396	8338	29.31
July 12, 2012	110060	11006	8471	29.3
July 13, 2012	106390	10639	9146	29.28
July 14, 2012	102970	10297	7269	29.27
July 15, 2012	99790	9979	8756	29.26
July 16, 2012	96850	9685	8545	29.25
July 17, 2012	94160	9416	7963	29.24
July 18, 2012	67400	6740	6428	29.235
July 19, 2012	63400	6340	6928^	29.22
July 20, 2012	59350	5935	5225	29.215
July 21, 2012	55500	5550	4836	29.22
July 22, 2012	51780	5178	4613	29.22
July 23, 2012	48200	4820	21*	29.175
July 24, 2012	60910	6091	0*	29.22
July 25, 2012	56060	5606	0*	29.22
July 26, 2012	55190	5519	4764	29.22
July 27, 2012	45710	4571	3983	29.215
July 28, 2012	45710	4571	4001	29.205
July 29, 2012	45710	4571	4106	29.205
July 30, 2012	49330	4933	4239	29.2
July 31, 2012	47950	4795	4173	29.195
Monthly Total		*283606*	*196625*	
Annual Total		*713178*	*364356*	

Notes: †Data provided by Rescan from the TL-2 continuously monitoring hydrostation. *Pump turned off for servicing. ^Communication gap resulted in night watch turning up pump; pump now labeled to speak to ESR prior to changing pump settings.

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

Water quality at station TL-10 is provided in Table 15.

Table 15: Daily Permitted and Actual Discharge Volumes for the TIA Dewatering Program, July 2012

Parameter	Units	TL10-24JUL12A	TL10-24JUL12B	TL10-24JUL12C
ALS ID		**L1185478-4**	**L1185478-5**	**L1185478-6**
Sample Date/Time		**7/24/2012 9:00:00 AM**	**7/24/2012 9:00:00 AM**	**7/24/2012 9:00:00 AM**
Conductivity (EC)	uS/cm	175	175	175
Hardness (as CaCO3)	mg/L	41.9	41.8	42.1
pH	pH	8	7.82	7.77
Redox Potential	mV	140	145	139
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	103	100	99
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	29.7	29.9	29.8
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	<0.020	<0.020	<0.020
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	0.0109	0.0156	0.0153
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	<0.0030	<0.0030	<0.0030
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	8.2	8.42	8.6
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0011	0.0012	0.0011
Iron (Fe)-Total	mg/L	0.127	0.141	0.145
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	4.68	4.68	4.85
Manganese (Mn)-Total	mg/L	0.0158	0.0156	0.0161
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	1.58	1.3	1.41
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	14.2	13.5	13.7
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	<0.0010	<0.0010	<0.0010

Parameter	Units	TL10-24JUL12A	TL10-24JUL12B	TL10-24JUL12C
ALS ID		L1185478-4	L1185478-5	L1185478-6
Sample Date/Time		7/24/2012 9:00:00 AM	7/24/2012 9:00:00 AM	7/24/2012 9:00:00 AM
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L	8.83	8.79	8.84
Magnesium (Mg)-Dissolved	mg/L	4.83	4.83	4.87

Part J: Conditions Applying to General and Aquatics Effects Monitoring

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

Underground mining is no longer occurring. Waste rock has not been removed from the pile. The total volume of rock on the temporary waste rock pad is 182 716 tonnes, as per the December 2011 survey.

Item 12g Tail Lake Ice Thickness

There was no ice cover on Tail Lake.

Environmental Incident Reporting

There were 2 environmental incidents in this reporting period:

- Fuel in one of the tanks on the Rimpull expanded and came out of the tank around the fill cap. Est. ½ liter spilt onto the gravel pad beneath Rimpull truck. The area was cleaned up and some of the fuel in the tank was sucked out to prevent future overfill expansion related spills. Contaminated materials were taken to waste management for offsite disposal.
- A palletized drum of waste oil was punctured by the tracks of a skid steer which was working in the area. Approximately 30 L of oil was spilt out of the barrel into the berm. The punctured drum was noticed soon after puncture, and oil collected in a bucket until the drum was plugged. The hole in the barrel was plugged, the barrel was removed and drained and all spilt oil and contaminated gravel from the berm surface was removed by Waste Management for off-site disposal. Other nearby drums that had also been scraped by the skid steer tracks (but not punctured) were drained and the oil transferred to new, undamaged, drums.

Should there be any questions regarding this monthly report, please contact Angela Holzapfel, Manager of Environmental Compliance for Hope Bay Mining Limited at (604) 345-3122 or Angela.Holzapfel@Newmont.com.

Yours sincerely,

Angela Holzapfel

Digitally signed by Angela Holzapfel
DN: cn=Angela Holzapfel, o=Hope Bay Mining Ltd, ou=Manager of Environmental Compliance, email=angela.holzapfel@newmont.com, c=CA
Date: 2012.08.16 18:59:40 -06'00'

Angela Holzapfel

Manager of Environmental Compliance

Hope Bay Mining Limited

Table 7: Water Quality Data Summary for Monitoring Station ST-1, July 2012

Parameters	Units	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)	ST1-04JUL12	ST1-10JUL12	ST1-11JUL12	ST1-22JUL12	ST1-29JUL12
				L1174452-1	L1178345-3	L1178348-1	L1182757-1	L1186288-1
				7/4/2012 9:00:00 AM	7/10/2012 4:30:00 PM	7/11/2012 5:00:00 PM	7/22/2012 5:30:00 PM	7/29/2012 11:00:00 AM
Hardness (as CaCO3)	mg/L			2140	2010	2080	1600	-
pH	pH	6.0 - 9.0	9	7.63	7.67	7.77	7.99	8.07
Total Suspended Solids	mg/L	15	30	22	<3.0	10	15	7
Alkalinity, Total (as CaCO3)	mg/L			75.2	-	85.5	122	122
Ammonia, Total (as N)	mg/L	2	4	38.1	30	29.1	22.7	30.7
Bicarbonate (HCO3)	mg/L			91.7	-	104	148	148
Carbonate (CO3)	mg/L			<5.0	-	<5.0	<5.0	<5.0
Chloride (Cl)	mg/L			2250	-	2150	1480	1900
Conductivity (EC)	uS/cm			8170	-	7860	5780	6780
Hardness (as CaCO3)	mg/L			2480	-	1980	1630	1750
Hydroxide (OH)	mg/L			<5.0	-	<5.0	<5.0	<5.0
Nitrate and Nitrite (as N)	mg/L			122	-	120	86.9	109
Nitrate (as N)	mg/L			122	122	120	86.9	109
Nitrite (as N)	mg/L			<0.50	0.55	0.51	<0.50	<0.50
TDS (Calculated)	mg/L			4610	-	4240	3310	3860
Sulfate (SO4)	mg/L			133	147	160	193	177
Cyanide, Total	mg/L	1	2	0.0057	<0.0050	<0.0050	0.0071	0.0198
Aluminum (Al)-Total	mg/L	1	2	0.816	0.386	0.35	0.483	0.224
Antimony (Sb)-Total	mg/L			<0.0016	<0.00080	<0.00080	<0.00080	0.0009
Arsenic (As)-Total	mg/L	0.05	0.1	<0.0016	0.00114	0.00129	0.00162	0.0017
Barium (Ba)-Total	mg/L			0.168	0.191	0.162	0.142	0.157
Beryllium (Be)-Total	mg/L			<0.0040	<0.0020	<0.0020	<0.0020	<0.0020
Boron (B)-Total	mg/L			0.43	0.51	0.46	0.44	0.4
Cadmium (Cd)-Total	mg/L			0.000149	0.000095	0.000132	0.000127	0.000642
Calcium (Ca)-Total	mg/L			713	694	699	516	595
Chromium (Cr)-Total	mg/L			<0.0040	0.0029	0.0021	0.004	0.0023
Cobalt (Co)-Total	mg/L			<0.0080	0.0046	0.0044	0.0048	0.0061
Copper (Cu)-Total	mg/L	0.02	0.3	0.0097	0.009	0.0091	0.0108	0.0094

Table 7 (cont.): Water Quality Data Summary for Monitoring Station ST-1, July 2012

Parameters	Units	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)	ST1-04JUL12	ST1-10JUL12	ST1-11JUL12	ST1-22JUL12	ST1-29JUL12
				L1174452-1	L1178345-3	L1178348-1	L1182757-1	L1186288-1
				7/4/2012 9:00:00 AM	7/10/2012 4:30:00 PM	7/11/2012 5:00:00 PM	7/22/2012 5:30:00 PM	7/29/2012 11:00:00 AM
Iron (Fe)-Total	mg/L	0.3	0.6	1.13	1.92	0.62	1.55	1.18
Lead (Pb)-Total	mg/L	0.01	0.02	<0.00040	0.00067	0.00023	0.00029	0.00079
Lithium (Li)-Total	mg/L			0.118	0.119	0.101	0.091	0.09
Magnesium (Mg)-Total	mg/L			86.7	84.9	81.7	75.4	77.7
Manganese (Mn)-Total	mg/L			0.687	0.481	0.447	0.739	1.17
Mercury (Hg)-Total	mg/L			<0.000020	0.000021	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L			<0.020	<0.010	<0.010	<0.010	<0.010
Nickel (Ni)-Total	mg/L	0.05	0.1	<0.0080	0.005	0.0043	0.007	0.0061
Potassium (K)-Total	mg/L			41	42.1	40.6	32.4	31.1
Selenium (Se)-Total	mg/L			0.0034	0.00332	0.00328	0.00422	0.00363
Silver (Ag)-Total	mg/L			<0.000080	<0.000040	<0.000040	<0.000040	0.000458
Sodium (Na)-Total	mg/L			576	674	643	480	545
Thallium (Tl)-Total	mg/L			<0.00040	<0.00020	<0.00020	<0.00020	0.00056
Tin (Sn)-Total	mg/L			<0.20	<0.10	<0.10	<0.10	<0.10
Titanium (Ti)-Total	mg/L			0.0357	0.0103	0.0139	0.0191	0.0139
Uranium (U)-Total	mg/L			0.00149	0.00151	0.00157	0.00197	0.00207
Vanadium (V)-Total	mg/L			<0.0040	<0.0020	<0.0020	<0.0020	<0.0020
Zinc (Zn)-Total	mg/L	0.01	0.02	0.073	0.185	0.0939	0.064	0.173
Calcium (Ca)-Dissolved	mg/L			841	679	660	528	574
Magnesium (Mg)-Dissolved	mg/L			92.4	77.1	80.9	75.2	76.9
Potassium (K)-Dissolved	mg/L			45	-	38.1	34.6	31.1
Sodium (Na)-Dissolved	mg/L			659	-	568	544	33.8
Oil and Grease	mg/L	5	10	<1.0	<1.0	<1.0	1.1	<1.0
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen

Note: Red text indicates that value is above the discharge criteria when discharging to tundra. All water from ST-1 was discharged to Tail Lake TIA

Table 10: TL-4 Sample Results, July 2012

Parameters	Units	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)	TL4-04JUL12	TL4-12JUL12	TL4-22JUL12	TL4-29JUL12	TL1/TL4 Monthly Average
ALS ID				**L1174461-3**	**L1178343-3**	**L1182755-3**	**L1186283-3**	
Sample Date/Time				**7/4/2012 11:00:00 AM**	**7/12/2012 5:20:00 PM**	**7/22/2012 4:40:00 PM**	**7/29/2012 2:30:00 PM**	
Conductivity (EC)	uS/cm			-	165	189	195	183
Hardness (as CaCO3)	mg/L			44.5	42.3	48.4	-	45.1
pH	pH	6.0 - 9.0	9	-	7.87	8	7.96	7.94
Redox Potential	mV			-	-	155	-	155
Total Suspended Solids	mg/L	15	30	-	<3.0	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L			-	109	135	120	121
Ammonia, Total (as N)	mg/L	6	-	<0.050	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L			-	28.1	32.4	35	31.8
Nitrate (as N)	mg/L			-	<0.050	<0.050	0.055	0.035
Nitrite (as N)	mg/L			-	<0.050	<0.050	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L			<0.0010	<0.0010	0.0012	0.005	0.0018
Phosphorus (P)-Total	mg/L			<0.020	<0.020	<0.020	<0.020	<0.020
Cyanide, Total	mg/L	1	2	<0.0050	<0.0050	<0.0010	0.0135	0.0048
Cyanide, Free	mg/L			<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L			0.0078	0.0338	0.0101	0.0073	0.0148
Antimony (Sb)-Total	mg/L			<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	0.5	1	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L			<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Beryllium (Be)-Total	mg/L			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L			<0.050	<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L			<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L			10.5	9.49	9.92	10.1	10.0
Chromium (Cr)-Total	mg/L			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L			<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.3	0.6	<0.0010	0.0012	0.0011	0.001	0.0010
Iron (Fe)-Total	mg/L			0.154	0.216	0.237	0.195	0.201
Lead (Pb)-Total	mg/L	0.2	0.4	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L			<0.010	<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L			4.46	4.82	4.83	5.04	4.79

Note: TL-1 and TL-4 are opposite ends of the same discharge pipeline, therefore, separate TL-1 samples were not collected

Table 10 (cont): TL-4 Sample Results, July 2012

Parameters	Units	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)	TL4-04JUL12	TL4-12JUL12	TL4-22JUL12	TL4-29JUL12	TL1/TL4 Monthly Average
ALS ID				**L1174461-3**	**L1178343-3**	**L1182755-3**	**L1186283-3**	
Sample Date/Time				**7/4/2012 11:00:00 AM**	**7/12/2012 5:20:00 PM**	**7/22/2012 4:40:00 PM**	**7/29/2012 2:30:00 PM**	
Manganese (Mn)-Total	mg/L			0.0129	0.0195	0.0156	0.0075	0.0139
Mercury (Hg)-Total	mg/L			<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L			<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	0.5	1	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L			1.49	1.55	1.59	1.68	1.58
Selenium (Se)-Total	mg/L			<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L			<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L			13.8	14.8	13.7	15.5	14.5
Thallium (Tl)-Total	mg/L			<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L			<0.050	<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L			<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.5	1	<0.0040	<0.0040	0.0079	<0.0040	0.0035
Calcium (Ca)-Dissolved	mg/L			-	8.92	10.7	10.1	9.9
Magnesium (Mg)-Dissolved	mg/L			-	4.86	5.23	5.12	5.07
Radium-226	Bq/L			-	-	-	<0.005	<0.005
Fecal Coliforms	CFU/100mL	10,000	10,000	-	<1	-	-	<1

Note: TL-1 and TL-4 are opposite ends of the same discharge pipeline, therefore, separate TL-1 samples were not collected

Table 12: TL-2 Sample Results, July 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) - TL-3	TL2-04JUL12	TL2-12JUL12	TL2-22JUL12	TL2-29JUL12
ALS ID			**L1174461-1**	**L1178343-1**	**L1182755-1**	**L1186283-1**
Sample Date/Time			**7/4/2012 10:45:00 AM**	**7/12/2012 5:05:00 PM**	**7/22/2012 11:24:00 AM**	**7/29/2012 2:30:00 PM**
Conductivity (EC)	uS/cm		-	274	269	279
Hardness (as CaCO3)	mg/L		28.7	48.7	46.1	44.7
pH	pH	6.0 - 9.0	-	7.77	7.99	7.82
Total Suspended Solids	mg/L	15	-	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L		-	176	171	163
Ammonia, Total (as N)	mg/L	1.54*	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	150	-	61.2	59.4	63.1
Nitrate (as N)	mg/L	2.9	-	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	0.06	-	<0.050	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L		<0.020	0.02	<0.020	0.028
Cyanide, Total	mg/L	0.01	<0.0050	<0.0050	-	<0.0050
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	-	<0.0050
Aluminum (Al)-Total	mg/L	0.1	0.0928	0.083	0.105	0.0363
Antimony (Sb)-Total	mg/L		<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	0.005	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L		<0.0030	0.0035	0.0043	0.0032
Beryllium (Be)-Total	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L		<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	0.000017	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L		5.28	9.52	7.16	8.62
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L		<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.002	0.0011	0.0014	0.0015	0.0013
Iron (Fe)-Total	mg/L	0.3	0.198	0.367	0.125	0.165
Lead (Pb)-Total	mg/L	0.001	<0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L		<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L		3.78	6.07	5.42	6.15
Manganese (Mn)-Total	mg/L		0.011	0.0568	0.013	0.0264
Mercury (Hg)-Total	mg/L	0.000026	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	0.0073	<0.0050	<0.0050	<0.0050	<0.0050

Note: Ammonia maximum criteria based on pH 7 at 20°C. Red text indicates exceedence of TL-3 (downstream) criteria at TL-2 (upstream)

Table 12 (cont): TL-2 Sample Results, July 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) - TL-3	TL2-04JUL12	TL2-12JUL12	TL2-22JUL12	TL2-29JUL12
ALS ID			**L1174461-1**	**L1178343-1**	**L1182755-1**	**L1186283-1**
Sample Date/Time			**7/4/2012 10:45:00 AM**	**7/12/2012 5:05:00 PM**	**7/22/2012 11:24:00 AM**	**7/29/2012 2:30:00 PM**
Nickel (Ni)-Total	mg/L	0.025	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L		1.2	2.21	1.79	2.28
Selenium (Se)-Total	mg/L	0.001	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	0.00001	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L		17.2	30.8	466	30.1
Thallium (Tl)-Total	mg/L	0.0008	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L		<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L		0.0024	0.0027	0.0033	0.0018
Uranium (U)-Total	mg/L		<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.03	0.0044	0.002	0.002	0.002
Calcium (Ca)-Dissolved	mg/L		-	8.84	8.38	8.2
Magnesium (Mg)-Dissolved	mg/L		-	6.45	6.11	5.88

Note: Ammonia maximum criteria based on pH 7 at 20°C. Red text indicates exceedence of TL-3 (downstream) criteria at TL-2 (upstream)

Table 13: TL-3 Sample Results and Comparison to TL-2 Sample Results, July 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) – TL-3	TL3-04JUL12	TL3-12JUL12	TL3-22JUL12	TL3-29JUL12
ALS ID			**L1174461-2**	**L1178343-2**	**L1182755-2**	**L1186283-2**
Sample Date/Time			**7/4/2012 11:20:00 AM**	**7/12/2012 5:40:00 PM**	**7/22/2012 4:45:00 PM**	**7/29/2012 2:30:00 PM**
Conductivity (EC)	uS/cm		-	267	265	271
Hardness (as CaCO3)	mg/L		31	46.8	47.4	-
pH	pH	6.0 - 9.0	-	7.8	7.75	7.71
Total Suspended Solids	mg/L	15	-	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L		-	169	166	168
Ammonia, Total (as N)	mg/L	1.54	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	150	-	58.6	57.4	61.2
Nitrate (as N)	mg/L	2.9	-	<0.0050	<0.050	<0.050
Nitrite (as N)	mg/L	0.06	-	<0.0010	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L		-	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L		<0.020	<0.020	<0.020	0.02
Cyanide, Total	mg/L	0.01	<0.0050	<0.0050	<0.0010	<0.0050
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.1	0.119	0.0623	0.0985	0.0303
Antimony (Sb)-Total	mg/L		<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	0.005	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L		<0.0030	0.0036	0.0035	0.003
Beryllium (Be)-Total	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L		<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	0.000017	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L		5.88	9.53	7.58	8.7
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L		<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.002	0.0011	0.0015	0.0015	0.0013
Iron (Fe)-Total	mg/L	0.3	0.209	0.327*	0.125	0.162
Lead (Pb)-Total	mg/L	0.001	0.00014	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L		<0.010	<0.010	<0.010	<0.010

Notes: Ammonia maximum criteria based on pH 7 at 20°C. Red text indicates over licence discharge criteria. Red text with a * indicates TL-2 and TL-3 were above the licence discharge criteria on that date. Black text with a * indicates that value is above licence criteria but below TL-2 on that date.

Table 13 (cont): TL-3 Sample Results and Comparison to TL-2 Sample Results, July 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) – TL-3	TL3-04JUL12	TL3-12JUL12	TL3-22JUL12	TL3-29JUL12
ALS ID			**L1174461-2**	**L1178343-2**	**L1182755-2**	**L1186283-2**
Sample Date/Time			**7/4/2012 11:20:00 AM**	**7/12/2012 5:40:00 PM**	**7/22/2012 4:45:00 PM**	**7/29/2012 2:30:00 PM**
Magnesium (Mg)-Total	mg/L		3.97	6.23	5.31	6.09
Manganese (Mn)-Total	mg/L		0.0109	0.0429	0.0131	0.0238
Mercury (Hg)-Total	mg/L	0.000026	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	0.0073	<0.0050	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	0.025	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L		1.4	2.18	1.87	2.14
Selenium (Se)-Total	mg/L	0.001	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	0.00001	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L		19	30.2	25.3	28.1
Thallium (Tl)-Total	mg/L	0.0008	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L		<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L		0.0024	0.0016	0.0037	0.0013
Uranium (U)-Total	mg/L		<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.03	0.0171	<0.0040	<0.0040	<0.0040
Magnesium (Mg)-Dissolved	mg/L		-	6.1	6.2	6.09
Hexavalent Chromium	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Oil and Grease	mg/L	5	<1.0	<1.0	<1.0	<1.0
Oil And Grease (Visible Sheen)			no visible sheen	no visible sheen	no visible sheen	no visible sheen

Notes: Ammonia maximum criteria based on pH 7 at 20°C. Red text indicates over licence discharge criteria. Red text with a * indicates TL-2 and TL-3 were above the licence discharge criteria on that date. Black text with a * indicates that value is above licence criteria but below TL-2 on that date.