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Phyllis Beaulieu, Manager of Licensing
Nunavut Water Board
P.O. Box 119
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Re: August 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, August 2012

Parameters	Water Use
Water Source	Doris Lake
Geographical Coordinates	68°8'17.04" N, 106°36'52.68"W
Monthly Cumulative	1552 m ³
Annual Cumulative	15,743 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).

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

Parameter	Units	ST7-17AUG12
ALS ID		L1195962-1
Sample Date/Time		8/17/2012 8:15:00 AM
Conductivity (EC)	uS/cm	276
Hardness (as CaCO ₃)	mg/L	39.8
pH	pH	7.53
Total Suspended Solids	mg/L	<3.0
Ammonia, Total (as N)	mg/L	<0.050
Nitrate (as N)	mg/L	<0.050
Nitrite (as N)	mg/L	<0.050
Orthophosphate-Dissolved (as P)	mg/L	<0.0010
Phosphorus (P)-Total	mg/L	<0.020
Cyanide, Free	mg/L	<0.0050
Aluminum (Al)-Total	mg/L	0.0381
Antimony (Sb)-Total	mg/L	<0.00040
Arsenic (As)-Total	mg/L	<0.00040
Barium (Ba)-Total	mg/L	0.0033
Beryllium (Be)-Total	mg/L	<0.0010
Boron (B)-Total	mg/L	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010
Calcium (Ca)-Total	mg/L	10.2
Chromium (Cr)-Total	mg/L	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020
Copper (Cu)-Total	mg/L	0.0033
Iron (Fe)-Total	mg/L	0.203
Lead (Pb)-Total	mg/L	0.00046
Lithium (Li)-Total	mg/L	<0.010
Magnesium (Mg)-Total	mg/L	7.02
Manganese (Mn)-Total	mg/L	0.0412
Mercury (Hg)-Total	mg/L	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050
Nickel (Ni)-Total	mg/L	<0.0020
Potassium (K)-Total	mg/L	2.35
Selenium (Se)-Total	mg/L	<0.00040
Silver (Ag)-Total	mg/L	<0.000020
Sodium (Na)-Total	mg/L	34.9
Thallium (Tl)-Total	mg/L	<0.00010
Tin (Sn)-Total	mg/L	<0.050
Titanium (Ti)-Total	mg/L	<0.0010
Uranium (U)-Total	mg/L	<0.00010
Vanadium (V)-Total	mg/L	<0.0010
Zinc (Zn)-Total	mg/L	0.0091
Calcium (Ca)-Dissolved	mg/L	7.45
Magnesium (Mg)-Dissolved	mg/L	5.14

Parameter	Units	ST7-17AUG12
ALS ID		L1195962-1
Sample Date/Time		8/17/2012 8:15:00 AM
Biochemical Oxygen Demand	mg/L	<2.0
Oil and Grease	mg/L	<1.0
Oil And Grease (Visible Sheen)		NO SHEEN PRESENT
ALS ID		L1192935-1
Sample Date/Time		8/13/2012 7:35:00 AM
Blue-green algae	Cells/100 mL	31,100

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-8B and were compliant for all parameters (Table 3). Sampling station ST-8A was phased out of service during June and July.

Table 3: Water Quality Data Summary for Monitoring Station ST-8B, August 2012

Parameter	Units	ST8B-17AUG12	Doris: 2AM-DOH0713	
ALS ID		L1195962-2	(Part G: Item 3 (b))	
Sample Date/Time		8/17/2012 8:10:00 AM	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
Conductivity (EC)	uS/cm	677		
pH	pH	6.87	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 present.	No Visible Sheen	No Visible Sheen
Fecal Coliform	CFU/100mL	<1	10,000	10,000

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

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

Parameter	Units	ST9-12AUG12
ALS ID		L1192919-1
Sample Date/Time		8/12/2012 5:20:00 PM
Conductivity (EC)	uS/cm	384
pH	pH	7.98
Total Suspended Solids	mg/L	30
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	2

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 (m³) through ST-8 and total sludge volume removed

Parameters	Effluent Released ST-8 (m ³)	Sludge Volume (m ³)
Monthly Cumulative	453	3.34
Annual Cumulative	4382	25.60

Item 21 (a) and Items 22 (c), (e): Sedimentation pond, land farm, 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 (m³) transferred from ST-1 to the TIA, August 2012

Parameters	Water volume transferred from ST-1 to TIA (m ³)
Monthly Cumulative	2,561
Annual Cumulative	11,669

No water was accumulated at the Land Farm (ST-4), Doris Tank Farm (ST-5) or Roberts Bay Bulk Fuel Containment berms (ST-6a and ST-6b) during August.

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 8, which is provided at the end of this report. As expected, discharged water was well below the discharge criteria in the water licence.

Water collected from TL-4 was shown to be non-acutely toxic to trout or daphnia (Table 9).

Table 9: Acute Lethality Test Results for TL-4, August 2012

Parameter	TL4-26AUG12	Analyst Comments
ALS ID	L1200382-4 /-5	
Sample Date/Time	8/26/2012 2:15:00 PM	
Trout LC50	>100%	No toxicity observed
Daphnia LC50	>100%	No toxicity observed

Note: LC50 = lethal concentration that results in mortality of 50% of the test organisms

Sample results for TL-2 (Doris Creek upstream) are presented in Table 10, 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 11, 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 TSS exceeded criteria on Aug 19, however TSS at TL-4 was not elevated on that day.

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 for August are presented in Table 12.

Table 12 Daily Permitted and Actual Discharge Volumes for the TIA Dewatering Program, August 2012

Date	TL-2 Discharge Volume (m ³)	Max. Discharge Volume Allowed - 10% of TL-2 (m ³)†	Total Daily Vol. Discharged (m ³)	Elevation of TIA (m)
August 1, 2012	46,570	4657	4172	29.14
August 2, 2012	46,570	4657	4059	29.12
August 3, 2012	42,800	4280	3527	29.12
August 4, 2012	41,480	4148	3525	29.12
August 5, 2012	40,160	4016	3537	29.12
August 6, 2012	39,080	3908	3540	29.10
August 7, 2012	37,800	3780	3557	29.10
August 8, 2012	36,520	3652	3079	29.10
August 9, 2012	35,660	3566	2254	29.10
August 10, 2012	34,960	3496	3380	29.10
August 11, 2012	38,300	3830	3675	29.09
August 12, 2012	37,430	3743	3505	29.09
August 13, 2012	36,600	3660	3581	29.08
August 14, 2012	35,580	3558	3215	29.08
August 15, 2012	34,790	3479	3345	29.07
August 16, 2012	34,020	3402	2951	29.07
August 17, 2012	32,580	3258	2910	29.06
August 18, 2012	31,780	3178	2715	29.06
August 19, 2012	31,010	3101	3121 ^	29.05
August 20, 2012	30,270	3027	3001	29.05
August 21, 2012	29,560	2956	3034 ^	29.05
August 22, 2012	28,870	2887	2813	29.05
August 23, 2012	28,680	2868	2715	29.05
August 24, 2012	28,070	2807	2508	29.05
August 25, 2012	27,480	2748	559	29.05
August 26, 2012	29,200	2920	739	29.05
August 27, 2012	28,910	2891	0*	29.05
August 28, 2012	28,630	2863	0*	29.05
August 29, 2012	29,450	2945	0*	29.05
August 30, 2012	29,280	2928	0*	29.05

Date	TL-2 Discharge Volume (m ³)	Max. Discharge Volume Allowed - 10% of TL-2 (m ³) [†]	Total Daily Vol. Discharged (m ³)	Elevation of TIA (m)
August 31, 2012	29,010	2901	0*	29.05
<i>Monthly Total</i>		<i>106,110</i>	<i>79,017</i>	
<i>Annual Total</i>		<i>819,288</i>	<i>443,372</i>	

Notes: [†]Data provided by Rescan from the TL-2 continuously monitoring hydrostation. *Pump turned off to clarify analytical results from lab re: acute toxicity samples. ^An increase in pump rpm resulted in exceeding the daily volume.

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

Water quality at station TL-10 is provided in Table 13.

Table 13: Water Quality at Surface (S), Mid-Depth (M) and Near Bottom (D) in Tail Lake (TIA), August 2012

Parameter	Units	TL10-19AUG12S	TL10-19AUG12M	TL10-19AUG12D
ALS ID		L1196647-4	L1196647-5	L1196647-6
Sample Date/Time		8/19/2012 12:00:00 AM	8/19/2012 12:00:00 AM	8/19/2012 12:00:00 AM
Conductivity (EC)	uS/cm	182	182	182
Hardness (as CaCO ₃)	mg/L	38.6	41.4	39.0
pH	pH	7.78	7.78	7.78
Redox Potential	mV	150	148	135
Dissolved Oxygen	mg/L	8.84	8.81	8.78
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	130	124	123
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	31.7	31.5	31.4
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, Free	mg/L	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0151	0.0132	0.0143
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	8.39	8.29	8.38
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	0.001	0.0013
Iron (Fe)-Total	mg/L	0.073	0.069	0.072
Lead (Pb)-Total	mg/L	0.00016	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	4.37	4.27	4.36
Manganese (Mn)-Total	mg/L	0.0078	0.0077	0.0076
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020

Parameter	Units	TL10-19AUG12S	TL10-19AUG12M	TL10-19AUG12D
ALS ID		L1196647-4	L1196647-5	L1196647-6
Sample Date/Time		8/19/2012 12:00:00 AM	8/19/2012 12:00:00 AM	8/19/2012 12:00:00 AM
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	1.49	1.47	1.47
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	13.5	13.2	13.1
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
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	8.34	8.85	8.38
Magnesium (Mg)-Dissolved	mg/L	4.32	4.69	4.4

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 was 1 environmental incident in this reporting period:

- Spill #12-359. At the Doris Camp Bulk Fuel Storage Facility within the fuel dispensing area (fully lined within the facility containment berm), while fueling a diesel tanker truck one compartment was overfilled by the operators spilling an estimated 430L of diesel on to the dispensing area surface. Sorbents were deployed to absorb most of the product, and the remaining contaminated gravel was removed by machine, and contained in lined megabags for treatment. Contaminated sorbents were delivered to waste management for proper disposal. The accident was attributed to operator error and procedural review and re-training took place to ensure spotters are used during fueling operations to prevent tank overfills.

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

Manager of Environmental Compliance

Hope Bay Mining Limited

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

Parameters	Units	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)	ST1-12AUG12	ST1-18AUG12	ST1-26AUG12
				L1192901-1	L1196629-1	L1200805-1
				8/12/2012 1:35:00 PM	8/18/2012 3:45:00 PM	8/26/2012 1:50:00 PM
Hardness (as CaCO ₃)	mg/L			1710	2020	2010
Total Suspended Solids	mg/L	15	30	5	6	<3.0
Alkalinity, Total (as CaCO ₃)	mg/L			127	143	127
Ammonia, Total (as N)	mg/L	2	4	28.6	33.9	35.5
Bicarbonate (HCO ₃)	mg/L			155	175	155
Carbonate (CO ₃)	mg/L			<5.0	<5.0	<5.0
Chloride (Cl)	mg/L			1720	1910	2040
Conductivity (EC)	uS/cm			6440	7080	7660
Hardness (as CaCO ₃)	mg/L			1680	1910	2260
Hydroxide (OH)	mg/L			<5.0	<5.0	<5.0
Ion Balance	%			94.5	95.7	107
Nitrate and Nitrite (as N)	mg/L			96.4	101	106
Nitrate (as N)	mg/L			96.4	101	106
Nitrite (as N)	mg/L			<0.50	<0.50	<0.50
pH	pH	6.0 - 9.0	9	7.78	7.81	7.84
TDS (Calculated)	mg/L			3580	3920	4300
Sulfate (SO ₄)	mg/L			191	194	189
Cyanide, Total	mg/L	1	2	0.0053	0.0126	0.0116
Aluminum (Al)-Total	mg/L			0.315	0.083	0.0499
Antimony (Sb)-Total	mg/L			<0.00080	<0.00080	0.00045
Arsenic (As)-Total	mg/L	0.05	0.1	0.00116	0.00120	0.00097
Barium (Ba)-Total	mg/L			0.151	0.155	0.173
Beryllium (Be)-Total	mg/L			<0.0020	<0.0020	<0.0010
Boron (B)-Total	mg/L			0.45	0.41	0.398
Cadmium (Cd)-Total	mg/L			0.000086	0.000160	0.000156
Calcium (Ca)-Total	mg/L			555	661	678
Chromium (Cr)-Total	mg/L			0.0021	<0.0020	<0.0010
Cobalt (Co)-Total	mg/L			0.0043	0.0051	0.0056
Copper (Cu) - Total	mg/L	0.02	0.3	0.0096	0.0095	0.0094

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

Parameters	Units	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)	ST1-12AUG12	ST1-18AUG12	ST1-26AUG12
				L1192901-1	L1196629-1	L1200805-1
				8/12/2012 1:35:00 PM	8/18/2012 3:45:00 PM	8/26/2012 1:50:00 PM
Iron (Fe)-Total	mg/L	0.3	0.6	2.26	1.05	0.739
Lead (Pb)-Total	mg/L	0.01	0.02	0.00075	0.00026	0.00018
Lithium (Li)-Total	mg/L			0.078	0.075	0.084
Magnesium (Mg)-Total	mg/L			78.9	88.9	84.7
Manganese (Mn)-Total	mg/L			0.836	1.13	1.11
Mercury (Hg)-Total	mg/L			0.000196	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L			<0.010	<0.010	<0.0050
Nickel (Ni)-Total	mg/L	0.05	0.1	0.0048	0.0060	0.0066
Potassium (K)-Total	mg/L			33.9	37.7	40.3
Selenium (Se)-Total	mg/L			0.00321	0.00336	0.00334
Silver (Ag)-Total	mg/L			<0.000040	<0.000040	<0.000020
Sodium (Na)-Total	mg/L			524	591	571
Thallium (Tl)-Total	mg/L			<0.00020	<0.00020	0.0001
Tin (Sn)-Total	mg/L			<0.10	<0.10	<0.050
Titanium (Ti)-Total	mg/L			0.0026	<0.0020	0.0025
Uranium (U)-Total	mg/L			0.00179	0.00209	0.00228
Vanadium (V)-Total	mg/L			<0.0020	<0.0020	<0.0010
Zinc (Zn)-Total	mg/L	0.01	0.02	0.186	0.0891	0.0916
Calcium (Ca)-Dissolved	mg/L			546	628	745
Magnesium (Mg)-Dissolved	mg/L			77.8	84.1	96.3
Potassium (K)-Dissolved	mg/L			33.1	34.9	41.3
Sodium (Na)-Dissolved	mg/L			505	540	643
Oil and Grease	mg/L	5	10	<1.0	<1.0	9.9
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	No visible sheen present.	No visible sheen present.	No visible sheen present.

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 8: TL-4 Sample Results, August 2012

Parameters	Units	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)	TL4-12AUG12	TL4-19AUG12	TL4-26AUG12	TL1/TL4 Monthly Average
ALS ID				L1192921-3	L1196647-3	L1200382-3	
Sample Date/Time				8/12/2012 2:30:00 PM	8/19/2012 12:00:00 AM	8/26/2012 2:15:00 PM	
Conductivity (EC)	uS/cm			205	210	208	207
Hardness (as CaCO3)	mg/L			51.6	44.7	60.3	52.2
pH	pH	6.0 - 9.0	9	7.74	7.65	7.76	7.72
Redox Potential	mV			-	171	-	171
Total Suspended Solids	mg/L	15	30	<3.0	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L			121	117	129	122
Ammonia, Total (as N)	mg/L	6	-	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L			34.4	35.5	33	34.3
Nitrate (as N)	mg/L			<0.050	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L			<0.050	<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	<0.020	<0.020	<0.020
Cyanide, Total	mg/L	1	2	<0.0050	-	-	<0.0050
Cyanide, Free	mg/L			<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L			0.0071	0.0059	0.0115	0.0082
Antimony (Sb)-Total	mg/L			<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	0.5	1	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L			<0.0030	<0.0030	<0.0030	<0.0030
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			<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L			12.1	12.9	11	12.0
Chromium (Cr)-Total	mg/L			<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	0.3	0.6	0.001	<0.0010	0.001	0.001
Iron (Fe)-Total	mg/L			0.412	0.232	0.308	0.317
Lead (Pb)-Total	mg/L	0.2	0.4	<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			5.88	5.62	5.17	5.55

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

Table 8 (cont): TL-4 Sample Results, August 2012

Parameters	Units	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)	TL4-12AUG12	TL4-19AUG12	TL4-26AUG12	TL4 (TL1) Monthly Average
ALS ID				L1192921-3	L1196647-3	L1200382-3	
Sample Date/Time				8/12/2012 2:30:00 PM	8/19/2012 12:00:00 AM	8/26/2012 2:15:00 PM	
Manganese (Mn)-Total	mg/L			0.0159	0.016	0.0256	0.0190
Mercury (Hg)-Total	mg/L			<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L			<0.0050	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	0.5	1	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L			2.21	1.92	1.74	1.96
Selenium (Se)-Total	mg/L			<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L			<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L			18	18.2	16.8	17.7
Thallium (Tl)-Total	mg/L			<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			<0.0010	<0.0010	<0.0010	<0.0010
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	0.5	1	0.0106	0.0074	<0.0040	0.007
Calcium (Ca)-Dissolved	mg/L			11.5	10.5	13.4	11.8
Magnesium (Mg)-Dissolved	mg/L			5.59	4.5	6.53	5.54
Radium-226	Bq/L	0.37	1.11	<0.0073	<0.0058	pending	
Biological Oxygen Demand (BOD)	mg/L	80	160	<2.0	-	<2	2
Fecal Coliforms	CFU/100m L	10,000	10,000	<1	-	<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 10: TL-2 Sample Results, August 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) - TL-3	TL2-12AUG12	TL2-19AUG12	TL2-26AUG12
ALS ID			L1192921-1	L1196647-1	L1200382-1
Sample Date/Time			8/12/2012 2:15:00 PM	8/19/2012 12:00:00 AM	8/26/2012 2:15:00 PM
Conductivity (EC)	uS/cm		282	273	279
Hardness (as CaCO3)	mg/L		47.7	40.5	50.5
pH	pH	6.0 - 9.0	7.65	7.75	7.59
Total Suspended Solids	mg/L	15	4	<3.0	<3.0
Total Dissolved Solids	mg/L		156	177	Pending
Ammonia, Total (as N)	mg/L	1.54*	<0.050	<0.050	Pending
Chloride (Cl)	mg/L	150	61.5	59.8	Pending
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	Pending
Phosphorus (P)-Total	mg/L		<0.020	<0.020	Pending
Cyanide, Total	mg/L	0.01	<0.0050	-	-
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.1	0.0418	0.0457	0.0362
Antimony (Sb)-Total	mg/L		<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	0.005	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L		0.0031	<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	0.000017	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L		9.42	7.78	7.99
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L		<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.002	0.0029	0.0013	0.0013
Iron (Fe)-Total	mg/L	0.3	0.141	0.105	0.083
Lead (Pb)-Total	mg/L	0.001	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L		<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L		6.78	5.11	5.46
Manganese (Mn)-Total	mg/L		0.0252	0.0237	0.0152
Mercury (Hg)-Total	mg/L	0.000026	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	0.0073	<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 10 (cont): TL-2 Sample Results, August 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) - TL-3	TL2-12AUG12	TL2-19AUG12	TL2-26AUG12
ALS ID			L1192921-1	L1196647-1	L1200382-1
Sample Date/Time			8/12/2012 2:15:00 PM	8/19/2012 12:00:00 AM	8/26/2012 2:15:00 PM
Nickel (Ni)-Total	mg/L	0.025	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L		2.33	1.84	1.86
Selenium (Se)-Total	mg/L	0.001	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	0.00001	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L		32.6	24.9	28.6
Thallium (Tl)-Total	mg/L	0.0008	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L		<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L		0.0013	0.0012	<0.0010
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	0.03	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L		8.72	7.77	9.16
Magnesium (Mg)-Dissolved	mg/L		6.29	5.12	6.71

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 11: TL-3 Sample Results and Comparison to TL-2 Sample Results, August 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) – TL-3	TL3-12AUG12	TL3-19AUG12	TL3-26AUG12
ALS ID			L1192921-2	L1196647-2	L1200382-2
Sample Date/Time			8/12/2012 2:50:00 PM	8/19/2012 12:00:00 AM	8/26/2012 2:15:00 PM
Conductivity (EC)	uS/cm		270	266	262
Hardness (as CaCO3)	mg/L		48.3	41.5	50.1
pH	pH	6.0 - 9.0	7.69	7.7	7.72
Total Suspended Solids	mg/L	15	3	31	<3.0
Total Dissolved Solids	mg/L		156	177	Pending
Ammonia, Total (as N)	mg/L	1.54	<0.050	<0.050	Pending
Chloride (Cl)	mg/L	150	57.5	57.7	Pending
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	Pending
Phosphorus (P)-Total	mg/L		<0.020	0.033	Pending
Cyanide, Total	mg/L	0.01	<0.0050	-	-
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.1	0.039	0.0454	0.036
Antimony (Sb)-Total	mg/L		<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	0.005	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L		0.0031	0.0032	0.003
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	0.000017	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L		9.65	8.52	9.62
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L		<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.002	0.0015	0.0014	0.0013
Iron (Fe)-Total	mg/L	0.3	0.177	0.141	0.159
Lead (Pb)-Total	mg/L	0.001	<0.00010	0.00011	<0.00010
Lithium (Li)-Total	mg/L		<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 11 (cont): TL-3 Sample Results and Comparison to TL-2 Sample Results, August 2012

Parameter	Units	Maximum Concentration of Any Grab Sample (mg/L) – TL-3	TL3-12AUG12	TL3-19AUG12	TL3-26AUG12
ALS ID			L1192921-2	L1196647-2	L1200382-2
Sample Date/Time			8/12/2012 2:50:00 PM	8/19/2012 12:00:00 AM	8/26/2012 2:15:00 PM
Magnesium (Mg)-Total	mg/L		6.7	5.32	6.05
Manganese (Mn)-Total	mg/L		0.0222	0.0239	0.0186
Mercury (Hg)-Total	mg/L	0.000026	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	0.0073	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	0.025	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L		2.43	1.94	2.04
Selenium (Se)-Total	mg/L	0.001	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	0.00001	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L		30.6	26.4	30
Thallium (Tl)-Total	mg/L	0.0008	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L		<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L		0.001	<0.0010	<0.0010
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	0.03	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L		9.18	8.15	9.64
Magnesium (Mg)-Dissolved	mg/L		6.17	5.13	6.32
Hexavalent Chromium	mg/L		<0.0010	<0.0010	<0.0010
Oil and Grease	mg/L	5	<1.0	1	<1.0
Oil And Grease (Visible Sheen)			No visible sheen present	No visible sheen present	No visible sheen present

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.