

October 28, 2014

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Re: September 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

327m³ 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 was also used for drilling from Doris and Windy Lakes in support of the Doris North mine, and water was used from Doris Lake for dust suppression on site roads. Water usage is presented in Table 1. Dust suppression also utilized compliant berm discharge water when available, reducing freshwater lake use (not reported in Table 1).

Table 1: Water usage, in cubic meters, September 2014

Water Usage	Domestic Water Use from Windy Lake ST-7a (m ³)	Monthly Drill Water Use – Doris and Windy Lakes (m ³)	Dust Suppression (m ³)	Annual Cumulative (m ³)
Monthly Total	327	377	2	4515*

* The Annual Cumulative volume shown above includes all water used from all sources under 2AM-DOH1323 to date, with the exception of water used during Jan – Apr for ice road development.

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. 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, September 2014

Sample ID			ST7A-02SEP14
ALS ID			L1511577-1
Date Sampled			9/2/2014 8:30:00 AM
Parameter	Units	Detection Limit	Water
Hardness (as CaCO ₃)	mg/L	0.5	72
pH	pH	0.1	8.01
Total Suspended Solids	mg/L	3	<3.0
Ammonia, Total (as N)	mg/L	0.005	<0.0050
Nitrate (as N)	mg/L	0.005	<0.0050
Nitrite (as N)	mg/L	0.001	<0.0010
Orthophosphate-Dissolved (as P)	mg/L	0.001	<0.0010
Phosphorus (P)-Total	mg/L	0.002	0.0064
Cyanide, Total	mg/L	0.005	<0.0050
Cyanide, Free	mg/L	0.005	<0.0050
Fecal Coliforms	CFU/100mL	1	<1
Aphanizomenon (Cyanophyceae)	cells/mL	1	11
Total cyanobacterial cell count	cells/mL	1	19
Pseudoanabaena (Cyanophyceae)	cells/mL	1	8
Aluminum (Al)-Total	mg/L	0.005	0.0292
Antimony (Sb)-Total	mg/L	0.0005	<0.00050
Arsenic (As)-Total	mg/L	0.0005	<0.00050
Barium (Ba)-Total	mg/L	0.02	<0.020
Beryllium (Be)-Total	mg/L	0.001	<0.0010
Boron (B)-Total	mg/L	0.1	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	<0.000010
Calcium (Ca)-Total	mg/L	0.1	12.4
Chromium (Cr)-Total	mg/L	0.001	<0.0010
Cobalt (Co)-Total	mg/L	0.0003	<0.00030
Copper (Cu)-Total	mg/L	0.001	<0.0010
Iron (Fe)-Total	mg/L	0.03	<0.030
Lead (Pb)-Total	mg/L	0.0005	<0.00050
Lithium (Li)-Total	mg/L	0.005	<0.0050
Magnesium (Mg)-Total	mg/L	0.1	9.97
Manganese (Mn)-Total	mg/L	0.0003	0.00206
Mercury (Hg)-Total	mg/L	0.00001	<0.000010
Molybdenum (Mo)-Total	mg/L	0.001	<0.0010
Nickel (Ni)-Total	mg/L	0.001	<0.0010
Potassium (K)-Total	mg/L	2	4
Selenium (Se)-Total	mg/L	0.0001	<0.00010
Silver (Ag)-Total	mg/L	0.00002	<0.000020
Sodium (Na)-Total	mg/L	2	53.2
Thallium (Tl)-Total	mg/L	0.0002	<0.00020
Tin (Sn)-Total	mg/L	0.0005	<0.00050
Titanium (Ti)-Total	mg/L	0.01	<0.010
Uranium (U)-Total	mg/L	0.0002	<0.00020
Vanadium (V)-Total	mg/L	0.001	<0.0010
Zinc (Zn)-Total	mg/L	0.005	<0.0050

Sample ID			ST7A-02SEP14
ALS ID			L1511577-1
Date Sampled			9/2/2014 8:30:00 AM
Parameter	Units	Detection Limit	Water
Biochemical Oxygen Demand	mg/L	2	3
Oil and Grease	mg/L	5	<5.0
Oil And Grease (Visible Sheen)		n/a	No
Microcystin	ug/L	0.2	<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). The monthly sample results were within applicable criteria for all parameters. Due to low pH measurements reported from the wastewater treatment plant effluent in August (Sample ST8B-08AUG14A and B documented in the August SNP report), frequency of pH monitoring by site operations was increased and adjustments were made to the plant operation to neutralize the pH of the wastewater effluent. Monthly compliance samples have been within criteria since these changes.

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

Sample ID			ST8B-5SEPT14	Part G Item 3(b)	
ALS ID			L1513588-1	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Date Sampled			09/05/2014 8:35		
Parameter	Units	Detection Limit	Water		
pH	pH	0.1	7.38	6.0 - 9.0	9.0
Total Suspended Solids	mg/L	3	<3.0	100	100
Fecal Coliforms	CFU/100mL	1	<1	10,000	10,000
Biochemical Oxygen Demand (BOD ₅)	CFU/100 mL	1	9	80	80
Oil and Grease	mg/L	5	<5.0	5	10
Oil And Grease (Visible Sheen)		n/a	No	No Visible Sheen	No Visible Sheen

This month, 326 m³ 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)

Monthly compliance samples were taken from monitoring station ST-9 (Runoff from Wastewater Treatment Plant Discharge) in accordance with the Schedule J requirements of the licence (Table 4). Heavy wave action and turbidity in Glenn Lake adjacent to the sampling location was reported during sampling activities. High fecal coliform results may be the result of wave interaction with the shoreline and entrainment of fecal matter from wildlife on land in proximity to the sampling location (e.g. waterfowl or terrestrial mammals). Fecal coliforms were not detected in the end-of-pipe samples for the WWTP discharge at ST-8.

Table 4: Monthly Compliance Sample Results for ST-9, September 2014

Sample ID			ST9-5SEPT14
ALS ID			L1513588-2
Date Sampled			9/5/2014 8:10:00 AM
Parameter	Units	Detection Limit	Water
pH	pH	0.10	7.85
Total Suspended Solids	mg/L	3.00	147
Fecal Coliforms	CFU/ 100mL	1.00	TNTC *
Biochemical Oxygen Demand (BOD ₅)	CFU/100mL	1.00	8
Oil and Grease	mg/L	5.00	<5.0
Oil And Grease (Visible Sheen)		n/a	No

*TNTC - To Numerous To Count

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. In addition, brine water generated during the drilling process is being consolidated within the Pollution Control Pond/Sedimentation Pond. 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. Volumes discharged during the month and the cumulative volume for the year are presented in Table 5. The water quality results for ST-1 are shown in Table 6. Due to freezing conditions, the pumping of water from the Sedimentation Pond (ST-1) to the Tailings Impoundment Area (TIA) was concluded on September 25, 2014.

Table 5: Water in cubic meters (m³) transferred from ST-1 to the TIA, September 2014

Parameters	Water volume transferred from ST-1 to TIA (m ³)
Monthly Cumulative	3226
Annual Cumulative	16467

Table 6: Water Quality Data Summary for Monitoring Station ST-1, September 2014

Sample ID			ST1-15SEP14	Part G Item 23(a)	
ALS ID			L1518737-1	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Date Sampled			9/15/2014 12:00:00 PM		
Parameter	Units	Detection Limit	Water		
Hardness (as CaCO ₃)	mg/L	0.5	1080		
pH	pH	0.1	7.95	6.0 - 9.0	9.0
Total Suspended Solids	mg/L	3	10.6	15.0	30.0
Alkalinity, Total (as CaCO ₃)	mg/L	1	128		
Ammonia, Total (as N)	mg/L	0.005	14.9	2.0	4.0
Bromide (Br)	mg/L	0.5	1.7		
Chloride (Cl)	mg/L	5	1030		
Fluoride (F)	mg/L	0.2	<0.40 *		
Nitrate (as N)	mg/L	0.05	49.9		
Nitrite (as N)	mg/L	0.01	0.276		
Sulfate (SO ₄)	mg/L	5	153		
Cyanide, Total	mg/L	0.005	<0.0050	1.0	2.0
Aluminum (Al)-Total	mg/L	0.005	0.15	1.0	2.0
Antimony (Sb)-Total	mg/L	0.0005	<0.00050		
Arsenic (As)-Total	mg/L	0.0005	0.00112	0.05	0.10
Barium (Ba)-Total	mg/L	0.02	0.102		
Beryllium (Be)-Total	mg/L	0.001	<0.0010		
Boron (B)-Total	mg/L	0.1	0.36		
Cadmium (Cd)-Total	mg/L	0.00001	0.000122		
Calcium (Ca)-Total	mg/L	0.1	354		
Chromium (Cr)-Total	mg/L	0.001	<0.0010		
Cobalt (Co)-Total	mg/L	0.0003	0.00257		
Copper (Cu)-Total	mg/L	0.001	0.0074	0.02	0.30
Iron (Fe)-Total	mg/L	0.03	0.316	0.30	0.60
Lead (Pb)-Total	mg/L	0.0005	<0.00050	0.01	0.02
Lithium (Li)-Total	mg/L	0.005	0.0458		
Magnesium (Mg)-Total	mg/L	0.1	47.9		
Manganese (Mn)-Total	mg/L	0.0003	0.667		
Molybdenum (Mo)-Total	mg/L	0.001	0.0048		
Nickel (Ni)-Total	mg/L	0.001	0.0038	0.05	0.10
Potassium (K)-Total	mg/L	2	19.5		
Selenium (Se)-Total	mg/L	0.0001	0.00191		
Silver (Ag)-Total	mg/L	0.00002	<0.000020		
Sodium (Na)-Total	mg/L	2	330		
Thallium (Tl)-Total	mg/L	0.0002	<0.00020		
Tin (Sn)-Total	mg/L	0.0005	<0.00050		
Titanium (Ti)-Total	mg/L	0.01	0.029		
Uranium (U)-Total	mg/L	0.0002	0.0012		
Vanadium (V)-Total	mg/L	0.001	<0.0020 ^		
Zinc (Zn)-Total	mg/L	0.005	0.101	0.01	0.02
Oil and Grease	mg/L	5	<5.0	5	10
Oil And Grease (Visible Sheen)		n/a	No	No Visible Sheen	No Visible Sheen

Bold/shading indicates exceedance of Part G Item 23(a) Maximum Concentration in a Grab Sample; however no water was discharged to tundra.

* Detection Limit Adjusted due to sample matrix effects.

^ Detection Limit adjusted for required dilution

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. Results are presented in Table 7 below (sample ST2-16SEP14B is a quality assurance duplicate). Due to freezing conditions, the pumping of water from the Pollution Control Pond (ST-2) to the Sedimentation Pond (ST-1) was concluded on September 26, 2014.

Table 7: Water Quality Data Summary for Monitoring Station ST-2, September 2014

Sample ID			ST2-16SEP14A	ST2-16SEP14B
ALS ID			L1518737-2	L1518737-3
Date Sampled			9/16/2014 12:00:00 PM	9/16/2014 12:00:00 PM
Parameter	Units	Detection Limit	Water	Water
Hardness (as CaCO ₃)	mg/L	0.5	2440	2600
pH	pH	0.1	7.62	7.63
Total Suspended Solids	mg/L	3	20.4	24.3
Alkalinity, Total (as CaCO ₃)	mg/L	1	122	122
Ammonia, Total (as N)	mg/L	0.25	23.1	22.6
Bromide (Br)	mg/L	0.05	<2.5 *	<2.5 *
Chloride (Cl)	mg/L	0.5	1340	1370
Fluoride (F)	mg/L	0.02	<1.0 *	<1.0 *
Nitrate (as N)	mg/L	0.025	41.5	42.6
Nitrite (as N)	mg/L	0.001	0.134	0.117
Sulfate (SO ₄)	mg/L	0.5	94	95
Cyanide, Total	mg/L	0.005	0.0069	0.007
Aluminum (Al)-Total	mg/L	0.006	0.239	0.123
Antimony (Sb)-Total	mg/L	0.0005	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	0.0005	0.00133	0.00143
Barium (Ba)-Total	mg/L	0.02	0.748	0.746
Beryllium (Be)-Total	mg/L	0.001	<0.0010	<0.0010
Boron (B)-Total	mg/L	0.1	0.42	0.45
Cadmium (Cd)-Total	mg/L	0.00002	0.000305	0.000323
Calcium (Ca)-Total	mg/L	0.1	860	914
Chromium (Cr)-Total	mg/L	0.001	0.001	<0.0010
Cobalt (Co)-Total	mg/L	0.0003	0.00517	0.0053
Copper (Cu)-Total	mg/L	0.001	0.0099	0.0093
Iron (Fe)-Total	mg/L	0.03	0.768	0.603
Lead (Pb)-Total	mg/L	0.0005	0.00053	0.00051
Lithium (Li)-Total	mg/L	0.005	0.0643	0.0678
Magnesium (Mg)-Total	mg/L	0.1	70.5	76
Manganese (Mn)-Total	mg/L	0.0003	1.11	1.16
Molybdenum (Mo)-Total	mg/L	0.001	0.0078	0.0082
Nickel (Ni)-Total	mg/L	0.001	0.0077	0.0078
Potassium (K)-Total	mg/L	2	33.5	35.2
Selenium (Se)-Total	mg/L	0.0002	0.00229	0.00233
Silver (Ag)-Total	mg/L	0.00002	<0.000050 ^	<0.000050 ^
Sodium (Na)-Total	mg/L	2	459	476
Thallium (Tl)-Total	mg/L	0.0002	<0.00020	<0.00020
Tin (Sn)-Total	mg/L	0.0005	<0.00050	<0.00050
Titanium (Ti)-Total	mg/L	0.01	0.045	0.028
Uranium (U)-Total	mg/L	0.0002	0.00164	0.00167
Vanadium (V)-Total	mg/L	0.002	<0.0050 ^	<0.0050 ^
Zinc (Zn)-Total	mg/L	0.005	0.0074	0.0059
Oil and Grease	mg/L	5	<5.0	<5.0
Oil And Grease (Visible Sheen)		n/a	No	No

* Detection Limit Adjusted due to sample matrix effects.

^ Detection Limit adjusted for required dilution

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

Compliance samples were not required from monitoring station ST-4 (Landfarm Sump) in accordance with the Schedule J requirements of the licence; no water was discharged from the facility during the month.

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 both prior to discharge and daily during discharge from the facilities. Results are presented in Tables 8 through 10 below. All results were in compliance with licence criteria and all facilities were discharged. Total suspended solids at Roberts Bay tank farm ST-6a was elevated but below applicable criteria (Table 9). This water was discharged to the road system for dust suppression.

Table 8: Water Quality Data Summary for Monitoring Station ST-5, September 2014

Sample ID			ST5-08SEPT14	ST5-13SEP14	Part G Item 24(e)	
ALS ID			L1515182-1	L1518746-1	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Date Sampled			9/8/2014 8:41:00 PM	9/13/2014 4:00:00 PM		
Parameter	Units	Detection Limit	Water	Water		
pH	pH	0.1	8.2	8.21	6.0– 9.0	9
Total Suspended Solids	mg/L	3	<3.0	<3.0	15.0	30.0
Lead (Pb)-Total	mg/L	0.00005	<0.000050	<0.000050	0.01	0.02
Oil and Grease	mg/L	5	<5.0	<5.0	5	10
Oil And Grease (Visible Sheen)		n/a	No	No		
Benzene	mg/L	0.0005	<0.00050	<0.00050	0.37	
Ethylbenzene	mg/L	0.0005	<0.00050	<0.00050	0.090	
Toluene	mg/L	0.0005	<0.00050	<0.00050	0.002	
Xylenes	mg/L	0.00075	<0.00075	<0.00075		

Table 9: Water Quality Data Summary for Monitoring Station ST-6A, September 2014

Sample ID			ST6A-08SEPT14	ST6A-13SEP14	Part G Item 24(e)	
ALS ID			L1515182-2	L1518746-2	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Date Sampled			9/8/2014 8:07:00 PM	9/13/2014 3:45:00 PM		
Parameter	Units	Detection Limit	Water	Water		
pH	pH	0.1	8.18	8.24	6.0– 9.0	9
Total Suspended Solids	mg/L	3	21.1	22.3	15.0	30.0
Lead (Pb)-Total	mg/L	0.00005	0.00028	0.00045	0.01	0.02
Oil and Grease	mg/L	5	<5.0	<5.0	5	10
Oil And Grease (Visible Sheen)		n/a	No	No		
Benzene	mg/L	0.0005	<0.00050	<0.00050	0.37	
Ethylbenzene	mg/L	0.0005	<0.00050	<0.00050	0.090	
Toluene	mg/L	0.0005	<0.00050	<0.00050	0.002	
Xylenes	mg/L	0.00075	<0.00075	<0.00075		

Bold/shading indicates exceedance of Part G Item 24(e) Maximum Average Concentration, but samples did not exceed the Maximum Concentration for any Grab Sample. This water was discharged to roads (as previously approved).

Table 10: Water Quality Data Summary for Monitoring Station ST-6B, September 2014

Sample ID			ST6B-08SEPT14	ST6B-13SEP14	Part G Item 24(e)	
ALS ID			L1515182-3	L1518746-3	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Date Sampled			9/8/2014 8:22:00 PM	9/13/2014 3:30:00 PM		
Parameter	Units	Detection Limit	Water	Water		
pH	pH	0.1	8.26	8.3	6.0– 9.0	9
Total Suspended Solids	mg/L	3	<3.0	4.1	15.0	30.0
Lead (Pb)-Total	mg/L	0.00005	0.000055	0.000094	0.01	0.02
Oil and Grease	mg/L	5	<5.0	<5.0	5	10
Oil And Grease (Visible Sheen)		n/a	No	No		
Benzene	mg/L	0.0005	<0.00050	<0.00050	0.37	
Ethylbenzene	mg/L	0.0005	<0.00050	<0.00050	0.090	
Toluene	mg/L	0.0005	<0.00050	<0.00050	0.002	
Xylenes	mg/L	0.00075	<0.00075	<0.00075		

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.)

From September 1 to September 22, water sampling was conducted on a weekly basis at the four stations associated with the TIA discharge (TL-1 through TL-4). Results are provided in Tables 11 through 14 below. An exceedance of the Part G Item 30 criteria for aluminium was noted on one occasion at Doris Creek station TL-3 (TL3-22SEP14), downstream of the TL-4 discharge. However, this concentration was lower than aluminum results upstream of the discharge (at station TL2-22SEP14) indicating concentrations are elevated in the background creek water and likely not a project-related effect. Due to freezing conditions all discharge from the TIA to Doris Creek was concluded on September 25, 2014.

Table 11: Water Quality Data Summary for Monitoring Station TL-1, September 2014

Sample ID			TL1-01SEP14	TL1-09SEPT14	TL1-15SEP14	TL1-22SEP14A	TL1-22SEP14B	BLANKT-22SEP14
ALS ID			L1511567-1	L1515164-1	L1518740-1	L1523154-1	L1523154-5	L1523154-6
Date Sampled			9/1/2014 7:55:00 AM	9/9/2014 9:45:00 AM	9/15/2014 9:25:00 AM	9/22/2014 1:42:00 PM	9/22/2014 1:42:00 PM	9/22/2014 1:42:00 PM
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water	Water
Hardness (as CaCO ₃)	mg/L	0.5	70.5	66.3	65.3	72.9	74.8	<0.50
pH	pH	0.1	7.79	8	8.16	8	7.98	5.41
Redox Potential	mV	-1000	-	-	-	209	182	290
Total Suspended Solids	mg/L	3	<3.0	<3.0	3.2	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	10	174	149	170	185	194	<10
Ammonia, Total (as N)	mg/L	0.005	0.0333	0.06	0.0462	0.0216	0.0224	0.0388 *
Bromide (Br)	mg/L	0.05	0.096	0.101	0.112	0.111	0.113	<0.050
Chloride (Cl)	mg/L	0.5	50.9	49.5	52.1	59.2	59.9	<0.50
Fluoride (F)	mg/L	0.02	0.071	0.063	0.059	0.073	0.073	<0.020
Nitrate (as N)	mg/L	0.005	0.0117	0.282	0.182	0.0522	0.0496	<0.0050
Nitrite (as N)	mg/L	0.001	<0.0010	0.0036	0.002	<0.0010	<0.0010	<0.0010
Orthophosphate-Dissolved (as P)	mg/L	0.001	0.001	<0.0010	<0.0010	0.0023	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	0.002	0.0253	0.012	0.0136	0.0175	0.0152	<0.0020
Sulfate (SO ₄)	mg/L	0.5	4	4.45	4.9	4.61	4.77	<0.50
Cyanide, Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.005	0.008	0.0119	0.0154	0.0306	0.0322	<0.0050
Antimony (Sb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Barium (Ba)-Total	mg/L	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Beryllium (Be)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.1	16	15.3	15	16.2	16.6	<0.10
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Copper (Cu)-Total	mg/L	0.001	0.0012	0.001	<0.0010	0.0026	0.0016	<0.0010
Iron (Fe)-Total	mg/L	0.03	0.406	0.204	0.205	0.194	0.194	<0.030
Lead (Pb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Magnesium (Mg)-Total	mg/L	0.1	7.41	6.81	6.76	7.89	8.11	<0.10
Manganese (Mn)-Total	mg/L	0.0003	0.0581	0.0279	0.025	0.0255	0.0229	<0.00030
Mercury (Hg)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (Ni)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Potassium (K)-Total	mg/L	2	2.4	2.2	2	2.4	2.5	<2.0

Sample ID			TL1-01SEP14	TL1-09SEPT14	TL1-15SEP14	TL1-22SEP14A	TL1-22SEP14B	BLANKT-22SEP14
ALS ID			L1511567-1	L1515164-1	L1518740-1	L1523154-1	L1523154-5	L1523154-6
Date Sampled			9/1/2014 7:55:00 AM	9/9/2014 9:45:00 AM	9/15/2014 9:25:00 AM	9/22/2014 1:42:00 PM	9/22/2014 1:42:00 PM	9/22/2014 1:42:00 PM
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water	Water
Selenium (Se)-Total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Silver (Ag)-Total	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	2	24.8	23.6	23.8	27.2	27.4	<2.0
Thallium (Tl)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Tin (Sn)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Titanium (Ti)-Total	mg/L	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vanadium (V)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

* Reported result verified by repeat analysis.

Table 12: Water Quality Data Summary for Monitoring Station TL-2, September 2014

Sample ID			TL2-01SEP14	TL2-09SEPT14	TL2-15SEP14	TL2-22SEP14	Part G Item 30
ALS ID			L1511567-2	L1515164-2	L1518740-2	L1523154-2	Maximum
Date Sampled			9/1/2014 8:10:00 AM	9/9/2014 9:00:00 AM	9/15/2014 9:35:00 AM	9/22/2014 2:05:00 PM	Concentration
Parameter	Units	Detection Limit	Water	Water	Water	Water	of Any Grab Sample (mg/L)
Hardness (as CaCO ₃)	mg/L	0.5	50.5	52.2	48.2	48	
pH	pH	0.1	7.8	7.98	8.16	8	6.0 - 9.0
Total Suspended Solids	mg/L	3	5	4.2	6.6	11.5	15.0
Total Dissolved Solids	mg/L	10	175	164	173	152	
Ammonia, Total (as N)	mg/L	0.005	0.0502	<0.0050	<0.0050	<0.0050	1.54
Bromide (Br)	mg/L	0.05	0.228	0.214	0.22	0.217	
Chloride (Cl)	mg/L	0.5	64.9	65.5	65.8	65.2	150
Fluoride (F)	mg/L	0.02	0.061	0.057	0.053	0.056	
Nitrate (as N)	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	2.9
Nitrite (as N)	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.060
Orthophosphate-Dissolved (as P)	mg/L	0.001	0.0016	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.002	0.0281	0.0163	0.0298	0.0317	
Sulfate (SO ₄)	mg/L	0.5	2.8	3.08	2.9	2.83	
Cyanide, Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.005	0.0459	0.049	0.0452	0.166	0.100
Antimony (Sb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	
Arsenic (As)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	0.0050
Barium (Ba)-Total	mg/L	0.02	<0.020	<0.020	<0.020	<0.020	
Beryllium (Be)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	0.1	<0.10	<0.10	<0.10	<0.10	
Cadmium (Cd)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	0.1	9.06	9.55	8.85	8.55	
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	
Copper (Cu)-Total	mg/L	0.001	0.0014	0.0014	0.0013	0.0015	0.002
Iron (Fe)-Total	mg/L	0.03	0.075	0.081	0.069	0.264	0.300
Lead (Pb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	0.001
Lithium (Li)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	
Magnesium (Mg)-Total	mg/L	0.1	6.77	6.89	6.33	6.47	
Manganese (Mn)-Total	mg/L	0.0003	0.0136	0.0155	0.013	0.0248	
Mercury (Hg)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	0.000026
Molybdenum (Mo)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.073
Nickel (Ni)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.025
Potassium (K)-Total	mg/L	2	2.4	2.5	2.2	2.3	
Selenium (Se)-Total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	0.0010
Silver (Ag)-Total	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	0.0001

Sample ID			TL2-01SEP14	TL2-09SEPT14	TL2-15SEP14	TL2-22SEP14	Part G Item 30
ALS ID			L1511567-2	L1515164-2	L1518740-2	L1523154-2	Maximum
Date Sampled			9/1/2014 8:10:00 AM	9/9/2014 9:00:00 AM	9/15/2014 9:35:00 AM	9/22/2014 2:05:00 PM	Concentration
Parameter	Units	Detection Limit	Water	Water	Water	Water	of Any Grab Sample (mg/L)
Sodium (Na)-Total	mg/L	2	33.5	34	32.6	32.2	
Thallium (Tl)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	0.0008
Tin (Sn)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	
Titanium (Ti)-Total	mg/L	0.01	<0.010	<0.010	<0.010	<0.010	
Uranium (U)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	
Vanadium (V)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	0.030

Bold/shading indicates exceedance of Part G Item 30 Maximum Concentration in a Grab Sample.

Table 13: Water Quality Data Summary for Monitoring Station TL-3, September 2014

Sample ID			TL3-01SEP14	TL3-09SEPT14	TL3-15SEP14	TL3-22SEP14	BLANKF-22SEP14	Part G Item 30
ALS ID			L1511567-3	L1515164-3	L1518740-3	L1523154-3	L1523154-7	Maximum Concentration of Any Grab Sample (mg/L)
Date Sampled			9/1/2014 8:20:00 AM	9/9/2014 9:30:00 AM	9/15/2014 9:55:00 AM	9/22/2014 2:35:00 PM	9/22/2014 1:45:00 PM	
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water	
Hardness (as CaCO ₃)	mg/L	0.5	51.7	54.7	48.3	48.5	<0.50	
pH	pH	0.1	7.79	7.08	8.11	7.98	5.47	6.0 - 9.0
Total Suspended Solids	mg/L	3	3.4	4.8	6.5	8.2	<3.0	15.0
Total Dissolved Solids	mg/L	10	175	162	170	172	<10	
Ammonia, Total (as N)	mg/L	0.005	0.0064	<0.0050	<0.0050	<0.0050	<0.0050	1.54
Bromide (Br)	mg/L	0.05	0.219	0.203	0.214	0.205	<0.050	
Chloride (Cl)	mg/L	0.5	63.4	63.8	64.3	63.8	<0.50	150
Fluoride (F)	mg/L	0.02	0.063	0.058	0.053	0.058	<0.020	
Nitrate (as N)	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	2.9
Nitrite (as N)	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.060
Orthophosphate-Dissolved (as P)	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.002	0.0207	0.0167	0.0321	0.0333	<0.0020	
Sulfate (SO ₄)	mg/L	0.5	2.8	3.14	2.94	2.83	<0.50	
Cyanide, Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.005	0.0423	0.0412	0.0569	0.134	<0.0050	0.100
Antimony (Sb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Arsenic (As)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0050
Barium (Ba)-Total	mg/L	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	
Beryllium (Be)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	
Cadmium (Cd)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	0.1	9.47	10.3	9.09	8.85	<0.10	
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	
Copper (Cu)-Total	mg/L	0.001	0.0014	0.0013	0.0013	0.0013	<0.0010	0.002
Iron (Fe)-Total	mg/L	0.03	0.096	0.1	0.095	0.206	<0.030	0.300
Lead (Pb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.001
Lithium (Li)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Magnesium (Mg)-Total	mg/L	0.1	6.81	7.02	6.21	6.41	<0.10	
Manganese (Mn)-Total	mg/L	0.0003	0.0163	0.0175	0.0168	0.0189	<0.00030	
Mercury (Hg)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000026
Molybdenum (Mo)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.073
Nickel (Ni)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.025
Potassium (K)-Total	mg/L	2	2.4	2.5	2.1	2.3	<2.0	

Sample ID			TL3-01SEP14	TL3-09SEPT14	TL3-15SEP14	TL3-22SEP14	BLANKF-22SEP14	Part G Item 30
ALS ID			L1511567-3	L1515164-3	L1518740-3	L1523154-3	L1523154-7	Maximum Concentration of Any Grab Sample (mg/L)
Date Sampled			9/1/2014 8:20:00 AM	9/9/2014 9:30:00 AM	9/15/2014 9:55:00 AM	9/22/2014 2:35:00 PM	9/22/2014 1:45:00 PM	
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water	
Selenium (Se)-Total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0010
Silver (Ag)-Total	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	2	32.8	33.3	30.8	31.1	<2.0	
Thallium (Tl)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.0008
Tin (Sn)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Titanium (Ti)-Total	mg/L	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	
Uranium (U)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Vanadium (V)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.030
Hexavalent Chromium	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
Oil and Grease	mg/L	5	<5.0	<5.0	<5.0	<5.0	<5.0	5
Oil And Grease (Visible Sheen)		n/a	No	No	No	No	No	

Bold/shading indicates exceedance of Part G Item 30 - Maximum Concentration in a Grab Sample. However, result is less than the corresponding sample from background station TL2.

Table 14: Water Quality Data Summary for Monitoring Station TL-4, September 2014

Sample ID			TL4-01SEP14	TL4-09SEPT14	TL4-15SEP14	TL4-22SEP14A	TL4-22SEP14B	Part G Item 28	
ALS ID			L1511567-4	L1515164-4	L1518740-4	L1523154-4	L1523154-8	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Date Sampled			9/1/2014 8:30:00 AM	9/9/2014 9:15:00 AM	9/15/2014 9:50:00 AM	9/22/2014 2:17:00 PM	9/22/2014 2:17:00 PM		
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water		
Hardness (as CaCO ₃)	mg/L	0.5	60.5	60.2	59.3	56	55.8		
pH	pH	0.1	7.8	7.73	8.07	7.06	7.36	6.0 - 9.5	6.0 - 9.5
Redox Potential	mV	-1000	-	-	-	-	-		
Total Suspended Solids	mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0	15.00	30.00
Total Dissolved Solids	mg/L	10	155	145	157	146	146		
Ammonia, Total (as N)	mg/L	0.005	0.0222	0.0571	0.0707	0.0197	0.0191	6	
Bromide (Br)	mg/L	0.05	0.098	0.09	0.103	0.096	0.091		
Chloride (Cl)	mg/L	0.5	44.5	46.5	47.1	44.7	44.8		
Fluoride (F)	mg/L	0.02	0.066	0.061	0.057	0.065	0.065		
Nitrate (as N)	mg/L	0.005	0.0531	0.226	0.242	0.0636	0.0643		
Nitrite (as N)	mg/L	0.001	0.0014	0.0028	0.0028	0.0011	0.0012		
Orthophosphate-Dissolved (as P)	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Phosphorus (P)-Total	mg/L	0.002	0.0244	0.0106	0.016	0.0182	0.0187		
Sulfate (SO ₄)	mg/L	0.5	2.55	3.13	3.33	2.54	2.55		
Cyanide, Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	1.00	2.00
Cyanide, Free	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
Fecal Coliforms	CFU/100mL	1	-	<1	-	-	-	10,000	10,000
Aluminum (Al)-Total	mg/L	0.005	0.0141	0.015	0.0179	0.0243	0.0224		
Antimony (Sb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
Arsenic (As)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.50	1.00
Barium (Ba)-Total	mg/L	0.02	<0.020	<0.020	<0.020	<0.020	<0.020		
Beryllium (Be)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Boron (B)-Total	mg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10		
Cadmium (Cd)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Calcium (Ca)-Total	mg/L	0.1	13.6	13.9	13.7	12.5	12.5		
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Cobalt (Co)-Total	mg/L	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030		
Copper (Cu)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	0.001	<0.0010	0.30	0.60
Iron (Fe)-Total	mg/L	0.03	0.219	0.179	0.128	0.144	0.131		
Lead (Pb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.20	0.40
Lithium (Li)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
Magnesium (Mg)-Total	mg/L	0.1	6.46	6.21	6.07	6	5.96		
Manganese (Mn)-Total	mg/L	0.0003	0.0252	0.0214	0.0111	0.0135	0.0132		

Sample ID			TL4-01SEP14	TL4-09SEPT14	TL4-15SEP14	TL4-22SEP14A	TL4-22SEP14B	Part G Item 28	
ALS ID			L1511567-4	L1515164-4	L1518740-4	L1523154-4	L1523154-8	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Date Sampled			9/1/2014 8:30:00 AM	9/9/2014 9:15:00 AM	9/15/2014 9:50:00 AM	9/22/2014 2:17:00 PM	9/22/2014 2:17:00 PM		
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water		
Mercury (Hg)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Molybdenum (Mo)- Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Nickel (Ni)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.50	1.00
Potassium (K)-Total	mg/L	2	2.1	2	<2.0	<2.0	<2.0		
Selenium (Se)-Total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Silver (Ag)-Total	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Sodium (Na)-Total	mg/L	2	20.7	20.6	20.8	19.7	19.4		
Thallium (Tl)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Tin (Sn)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
Titanium (Ti)-Total	mg/L	0.01	<0.010	<0.010	<0.010	<0.010	<0.010		
Uranium (U)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Vanadium (V)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Zinc (Zn)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	0.0229	0.0267	0.50	1.00
BOD (BOD ₅)			-	4	-	-	-	80	160
Radium 226	Bq/L	n/a	< 0.01	<0.01	<0.01	< 0.01	<0.01	0.37	1.11

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

Water was discharged from the TIA starting June 19, 2014 and continued to September 25, 2014 at which time freezing conditions prevented ongoing pumping. The hydrological monitoring station at TL-2 was also removed and Doris creek flow predictions stopped. A comparison of flows is presented in Table 15. Discharge at TL-4 exceeded the 10% allowable discharge to Doris Creek on September 1, 2104, by 58m³. Subsequent discharges during the month were all within allowable volumes.

Table 15: Comparison of Flows at TL-4 and TL-2, September 2014

Date	TL-4 Discharge (m ³)	10% of TL-2 Flow (Predicted) (m ³)
September-01-14	4394.65	4337
September-02-14	4170.36	4241
September-03-14	4145.47	4152
September-04-14	4288.6	4358
September-05-14	4365.43	4431
September-06-14	4490.95	4538
September-07-14	4903.76	4958
September-08-14	5185.87	5239
September-09-14	5542.35	5573
September-10-14	4750.42	4802
September-11-14	4757.36	4768
September-12-14	4674.45	4700
September-13-14	4771.2	4802
September-14-14	4741.99	4767
September-15-14	4692.92	4714
September-16-14	4937.26	4942
September-17-14	4856.58	4886
September-18-14	4819.66	4825
September-19-14	5143.51	5155
September-20-14	5341.06	5370
September-21-14	5592.02	5638
September-22-14	4276.9	4290
September-23-14	4454.24	4493
September-24-14	4449.56	4481
September-25-14	4471.85	4482
September-26-14	0	No prediction*
September-27-14	0	No prediction
September-28-14	0	No prediction
September-29-14	0	No prediction
September-30-14	0	No prediction

*No prediction (hydrological monitoring station decommissioned for winter)

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

Monitoring at TL-10 is not required during Care and Maintenance, but to support Part G, Item 33(b) water samples were collected at this station during August at surface, mid-depth and near the bottom of the deepest portion of Tail Lake. Results for last month's sampling were presented in the August monthly SNP report.

Part J: Conditions Applying to General and Aquatics Effects Monitoring

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

An exceedance of the Part G, Item 30 criteria for aluminium was noted at Doris Creek station TL-3 (downstream) of the TL-4 discharge. However, aluminum concentrations were higher than those measured at TL-3 at TL-2 upstream of the TIA discharge point, indicating aluminum concentrations are naturally elevated in this creek. Furthermore, water discharged from Tail Lake to Doris Creek during the same sampling event as measured at stations TL-1 (Tail Lake discharge intake) and TL-4 (end-of-pipe discharge), was not elevated in aluminum, indicating that concentrations in Doris Creek were most likely not elevated due to TIA discharge.

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

No acute lethality testing was conducted during the month.

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

Discharges to tundra occurred at stations ST-5 and ST-6B. During daily discharge sampling, visual observations were made and no erosion was noted.

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

During sample collection at station TL-1 and during weekly dam inspections, visual assessments were made for suspended sediment at the TIA. During the month, none was noted.

Item 21 (f) Doris North Camp Diversion Berm Effectiveness

During spring melt and after heavy rainfall events, visual observations were made of runoff associated with the diversion berm. No sedimentation was noted and water is effectively routed away from camp facilities.

Environmental Incident Reporting

There were no environmental incidents reported during the month.

Should there be any questions regarding this monthly report, please contact John Roberts at John.Roberts@tmacresources.com.

Yours sincerely,



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