

Appendix NIRB Routine lake surface

A13

Waterbody: A13					
Year:		2016			
Date Sampled		26/06/2016	17/07/2016	07/08/2016	17/09/2016
GPS Coordinates		0539929-6988588	0539929-6988588	0539929-6988588	0539929-6988588
LAB		Multi-Lab	Multi-Lab	Multi-Lab	MAXXAM
Field Measurements					
Water Temperature	oC	14.6	11.6	11	5.4
pH	pH units	8.33	8.25	8.36	8.31
Conductivity	(mS/cm)	0.749	1.014	0.113	1.391
Laboratory-Measured					
Alkalinity, Total (as CaCO ₃)	mg/L	47	53	62	85
Dissolved Aluminum	mg/L				0.0055
Aluminum (Al)-Total	mg/L	0.019	0.023	<0.006	0.0252
Dissolved Antimony	mg/L				<0.00050
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00050
Dissolved Arsenic	mg/L				0.00299
Arsenic (As)-Total	mg/L	0.006	<0.0005	<0.0005	0.00392
Dissolved Barium	mg/L				0.156
Barium (Ba)-Total	mg/L	0.0782	0.1061	0.1294	0.169
Dissolved Beryllium	mg/L				<0.00010
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.00010
Bicarbonate (HCO ₃)	mg/L	47	53	62	84
Dissolved Boron	mg/L				<0.050
Boron (B)-Total	mg/L	<0.01	<0.01	<0.01	<0.050
Dissolved Cadmium	mg/L				0.000017
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	<0.00002	<0.000010
Calcium (Ca)-Dissolved	mg/L				178
Calcium (Ca)-Total	mg/L	94.8	133	143	204
Carbonate (CO ₃)	mg/L	<2	<2	<2	<1.0
Dissolved Chloride	mg/L				390
Chloride	mg/L	192	274	324	
Dissolved Chromium	mg/L				<0.0010
Chromium (Cr)-Total	mg/L	<0.0006	0.0012	0.0017	<0.0010
Conductivity	umhos/	759	1020	1125	1600

	cm				
Dissolved Copper	mg/L				0.00169
Copper (Cu)-Total	mg/L	0.0025	0.0026	0.0052	0.00249
Dissolved Solids	mg/L	506	680	750	1140
Dissolved Hardness	mg/L				539
Hardness (as CaCO3)	mg/L	282	388	434	611
Dissolved Iron	mg/L				0.141
Iron (Fe)-Total	mg/L	0.28	0.66	0.68	0.581
Dissolved Lead	mg/L				<0.00020
Lead (Pb)-Total	mg/L	<0.0003	<0.0003	<0.0003	<0.00020
Dissolved Lithium	mg/L				0.0674
Lithium (Li)-Total	mg/L	0.039	0.043	0.058	0.0743
Magnesium (Mg)-Dissolved	mg/L				23.1
Magnesium (Mg)-Total	mg/L	11	13.7	18.7	24.5
Dissolved Manganese	mg/L				0.0106
Manganese (Mn)-Total	mg/L	0.0156	0.042	0.0363	0.0646
Dissolved Mercury	mg/L				<0.00001
Mercury (Hg)-Total	mg/L	<0.00001	<0.0001	<0.0001	<0.00001
Dissolved Molybdenum	mg/L				<0.0010
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0010
Ammonia nitrogen (NH3-NH4)	mg N/L			0.04	
NH3-Ammonia (non-ionized)	mg N/L	<0.01	<0.01	<0.01	
Dissolved Nickel	mg/L				0.0043
Nickel (Ni)-Total	mg/L	0.006	0.0092	0.0116	0.0048
Nitrate-N	mg/L	0.23	0.02	0.04	<0.10
Nitrite-N	mg/L	0.02	0.03	<0.01	<0.010
Ortho-Phosphate (PO4-P)	mg/L	<0.01	<0.01	<0.01	<0.010
pH	pH units	7.97	7.89	8.36	7.93
Potassium (K)-Dissolved	mg/L				9.33
Potassium (K)-Total	mg/L	4.9	8.96	8.01	10.8
Dissolved Selenium	mg/L				<0.00010
Selenium (Se)-Total	mg/L	0.005	0.006	0.01	<0.00010
Dissolved Silver	mg/L				<0.000020
Silver (Ag)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.000020
Sodium (Na)-Dissolved	mg/L				46.8
Sodium (Na)-Total	mg/L	22.4	30	38.2	48.9
Dissolved Strontium	mg/L				1.61

Strontium (Sr)-Total	mg/L	0.781	1.13	1.17	1.7
Dissolved Sulphate	mg/L				24
Sulfate	mg/L	29.1	29.3	28	
Dissolved Tin	mg/L				<0.0050
Tin (Sn)-Total	mg/L	<0.001	<0.001	<0.001	<0.0050
Dissolved Titanium	mg/L				<0.0050
Titanium (Ti)-Total	mg/L	0.05	0.08	0.1	<0.0050
Total Oil and Grease	mg/L	<1	<1	<1	
Total Suspended Solids	mg/L	<1	2	1	2
Turbidity	NTU	1.75	3.18	2.67	1.9
Dissolved Uranium	mg/L				0.00035
Uranium (U)-Total	mg/L	<0.001	<0.001	<0.001	0.0004
Dissolved Vanadium	mg/L				<0.0050
Vanadium (V)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0050
Dissolved Zinc	mg/L				<0.0050
Zinc (Zn)-Total	mg/L	0.001	0.007	0.005	<0.0050
Ammonia as N	mg/L				0.04
Biochemical Oxygen Demand	mg/L				
Dissolved Bismuth	mg/L				<0.0010
Bismuth (Bi)-Total	mg/L				<0.0010
Cesium (Cs)-Total	mg/L				
Dissolved Cobalt	mg/L				<0.00050
Cobalt (Co)-Total	mg/L				<0.00050
Fluoride	mg/L				
Hydroxide (OH)	mg/L			<2	
Ion balance	%	1.75			
Nitrate and Nitrite as N	mg/L			0.04	
Phosphorus (P)-Total	mg/L			0.04	0.016
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total Reactive	mg/L				
Rubidium (Rb)-Total	mg/L				
Dissolved Silicon	mg/L				0.14
Silicon (Si)-Total	mg/L				0.18
Sodium Adsorption Ratio					
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Dissolved Thallium	mg/L				<0.000050
Thallium (Tl)-Total	mg/L			<0.0008	<0.000050

Thorium (Th)-Total	mg/L				
Total Kjeldahl Nitrogen	mg/L			3.26	0.94
Tungsten (W)-Total	mg/L				
Dissolved Organic Carbon (DOC)	mg/L			19.2	18
Total Organic Carbon (TOC)	mg/L			19.6	18
Cyanide WAD	mg/L			<0.005	
Free Cyanide	mg/L			<0.1	<0.0010
Total Cyanide (CNT)	mg/L			<0.005	<0.0050
Reactive Silica	mg/L			1.2	7.3
Total Sulphur	mg/L				8.5
Dissolved Sulphur	mg/L				10.1
Dissolved Zirconium	mg/L				<0.00050
Zirconium (Zr)-Total	mg/L				<0.00050

A15

Waterbody: A15	Units				
Year		2016			
Date Sampled		26/06/2016	17/07/2016	07/08/2016	17/09/2016
GPS Coordinates		0539753-6988740	0539753-6988740	0539753-6988740	0539753-6988740
LAB		Multi-Lab	Multi-Lab	Multi-Lab	MAXXAM
Field Measurements					
Water Temperature	oC	14.7	11.9	13.2	5.4
pH	pH units	7.77	7.94	7.49	7.76
Conductivity	(mS/cm)	1.578	2.66	4.26	3.62
Laboratory-Measured					
Alkalinity, Total (as CaCO ₃)	mg/L	37	49	58	40
Dissolved Aluminum	mg/L				1.05
Aluminum (Al)-Total	mg/L	0.021	0.017	0.086	0.0127
Dissolved Antimony	mg/L				<0.00050
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00050
Dissolved Arsenic	mg/L				0.00183
Arsenic (As)-Total	mg/L	0.0101	<0.0005	0.002	0.00261
Dissolved Barium	mg/L				0.368
Barium (Ba)-Total	mg/L	0.1732	0.2938	0.5238	0.387
Dissolved Beryllium	mg/L				<0.00010
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.00010
Bicarbonate (HCO ₃)	mg/L	37	49	58	40

Dissolved Boron	mg/L				0.059
Boron (B)-Total	mg/L	0.03	0.02	0.14	0.063
Dissolved Cadmium	mg/L				0.000103
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	<0.00002	0.00009
Calcium (Ca)-Dissolved	mg/L				510
Calcium (Ca)-Total	mg/L	207	377	688	537
Carbonate (CO3)	mg/L	<2	<2	<2	<1.0
Dissolved Chloride	mg/L				1200
Chloride	mg/L	443	824	1503	
Dissolved Chromium	mg/L				0.011
Chromium (Cr)-Total	mg/L	<0.0006	0.0008	0.0026	<0.0010
Conductivity	umhos/cm	1578	2518	3697	4100
Dissolved Copper	mg/L				0.00207
Copper (Cu)-Total	mg/L	0.0026	0.0038	0.0066	0.00217
Dissolved Solids	mg/L	1052	1678	2464	2600
Dissolved Hardness	mg/L				1480
Hardness (as CaCO3)	mg/L	585	1052	1968	1560
Dissolved Iron	mg/L				0.297
Iron (Fe)-Total	mg/L	0.67	0.46	3.12	1.53
Dissolved Lead	mg/L				0.00038
Lead (Pb)-Total	mg/L	0.0013	<0.0003	0.0175	<0.00020
Dissolved Lithium	mg/L				0.291
Lithium (Li)-Total	mg/L	0.222	0.308	0.528	0.292
Magnesium (Mg)-Dissolved	mg/L				50.3
Magnesium (Mg)-Total	mg/L	16.7	27.1	60.9	53.8
Dissolved Manganese	mg/L				0.579
Manganese (Mn)-Total	mg/L	0.0356	0.0216	0.7753	0.629
Dissolved Mercury	mg/L				<0.00001
Mercury (Hg)-Total	mg/L	<0.00001	<0.0001	<0.0001	<0.00001
Dissolved Molybdenum	mg/L				<0.0010
Molybdenum (Mo)-Total	mg/L	<0.0005	0.0005	0.0006	<0.0010
Ammonia Nitrogen (NH3-NH4)	mg N/L			6.3	
NH3-Ammonia (non-ionized)	mg N/L	0.04	0.02	0.05	
Dissolved Nickel	mg/L				0.0133
Nickel (Ni)-Total	mg/L	0.019	0.0256	0.0483	0.0155
Nitrate-N	mg/L	2.23	0.34	7.54	2.12
Nitrite-N	mg/L	0.05	0.07	0.2	0.087
Ortho-Phosphate (PO4-P)	mg/L	0.01	<0.01	0.04	<0.010
pH	pH units	7.59	7.12	7.49	7.55

Potassium (K)-Dissolved	mg/L				20
Potassium (K)-Total	mg/L	9.9	18.8	29.8	23.1
Dissolved Selenium	mg/L				0.00012
Selenium (Se)-Total	mg/L	0.014	0.023	0.054	0.00018
Dissolved Silver	mg/L				<0.000020
Silver (Ag)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.000020
Sodium (Na)-Dissolved	mg/L				102
Sodium (Na)-Total	mg/L	34.3	54.7	144	110
Dissolved Strontium	mg/L				6.46
Strontium (Sr)-Total	mg/L	3.21	5.14	8.4	6.24
Dissolved Sulphate	mg/L				160
Sulfate	mg/L	49.8	65.2	119	
Dissolved Tin	mg/L				<0.0050
Tin (Sn)-Total	mg/L	<0.001	<0.001	<0.001	<0.0050
Dissolved Titanium	mg/L				<0.0050
Titanium (Ti)-Total	mg/L	0.1	0.19	0.32	<0.0050
Total Oil and Grease	mg/L		<1	<1	
Total Suspended Solids	mg/L	5	7	22	5
Turbidity	NTU	3.35	5.74	20.1	8.4
Dissolved Uranium	mg/L				0.00052
Uranium (U)-Total	mg/L	<0.001	<0.001	0.001	0.00065
Dissolved Vanadium	mg/L				<0.0050
Vanadium (V)-Total	mg/L	0.0006	<0.0005	<0.0005	<0.0050
Dissolved Organic Carbon (DOC)	mg/L			19.9	15
Total Organic Carbon (TOC)	mg/L			20.1	16
Cyanide WAD	mg/L			<0.005	
Free Cyanide	mg/L			<0.1	0.001
Total Cyanide (CNt)	mg/L			<0.005	<0.0050
Reactive Silica	mg/L			4.4	5.3
Dissolved Zinc	mg/L				0.0138
Zinc (Zn)-Total	mg/L	0.006	0.014	0.021	0.0073
Ammonia as N	mg/L				4.1
Biochemical Oxygen Demand	mg/L				
Dissolved Bismuth	mg/L				<0.0010
Bismuth (Bi)-Total	mg/L				<0.0010
Cesium (Cs)-Total	mg/L				
Dissolved Cobalt	mg/L				0.00237
Cobalt (Co)-Total	mg/L				0.00249

Fluoride	mg/L				
Hydroxide (OH)	mg/L			<2	
Ion balance	%	3.5			
Nitrate and Nitrite as N	mg/L				
Phosphorus (P)-Total	mg/L			0.04	0.015
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total Reactive	mg/L				
Rubidium (Rb)-Total	mg/L				
Dissolved Silicon	mg/L				2.65
Silicon (Si)-Total	mg/L				3.02
Sodium Adsorption Ratio					
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Dissolved Thallium	mg/L				<0.000050
Thallium (Tl)-Total	mg/L			<0.0008	<0.000050
Thorium (Th)-Total	mg/L				
Total Kjeldahl Nitrogen	mg/L			7.72	5.2
Tungsten (W)-Total	mg/L				
Total Sulphur	mg/L				57.7
Dissolved Sulphur	mg/L				51.8
Dissolved Zirconium	mg/L				<0.00050
Zirconium (Zr)-Total	mg/L				<0.00050

A9

Waterbody: A9	Units				
Year		2016			
Date Sampled		26/06/2016	17/07/2016	07/08/2016	17/09/2016
GPS Coordinates		0540192-6988196	0540192-6988196	0540192-6988196	0540192-6988196
LAB		Multi-Lab	Multi-Lab	Multi-Lab	MAXXAM
Field Measurements					
Water Temperature	oC	14.9	11.7	13.5	6
pH	pH units	7.9	8.27	8.39	8.08
Conductivity	(mS/cm)	0.738	1.108	0.1147	1.195
Laboratory-Measured					
Alkalinity, Total (as CaCO3)	mg/L	62	76	73	88
Dissolved Aluminum	mg/L				0.0052

Aluminum (Al)-Total	mg/L	0.008	0.007	<0.006	0.0079
Ammonia Nitrogen (NH ₃ -NH ₄)	mg N/L			0.02	
Ammonia NH ₃ (non-ionized)	mg N/L	<0.01	<0.0001	<0.01	
Dissolved Antimony	mg/L				<0.00050
Antimony (Sb)-Total	mg/L	<0.0001	0.0033	<0.0001	<0.00050
Dissolved Arsenic	mg/L				0.00348
Arsenic (As)-Total	mg/L	0.0064	0.1198	<0.0005	0.00438
Dissolved Barium	mg/L				0.131
Barium (Ba)-Total	mg/L	0.0808	<0.0005	0.1242	0.134
Dissolved Beryllium	mg/L				<0.00010
Beryllium (Be)-Total	mg/L	<0.0005	76	<0.0005	<0.00010
Bicarbonate (HCO ₃)	mg/L	62	<0.01	73	88
Dissolved Boron	mg/L				<0.050
Boron (B)-Total	mg/L	<0.01	<0.00002	<0.01	<0.050
Dissolved Cadmium	mg/L				0.000011
Cadmium (Cd)-Total	mg/L	<0.00002	141	<0.00002	<0.000010
Calcium (Ca)-Dissolved	mg/L				163
Calcium (Ca)-Total	mg/L	90.2	<2	154	168
Carbonate (CO ₃)	mg/L	<2	277	<2	<1.0
Dissolved Chloride	mg/L				290
Chloride	mg/L	178	0.0012	324	
Dissolved Chromium	mg/L				<0.0010
Chromium (Cr)-Total	mg/L	<0.0006	1102	0.0022	<0.0010
Conductivity	umhos/cm	750	0.0025	1160	1400
Dissolved Copper	mg/L				0.00216
Copper (Cu)-Total	mg/L	0.0021	734	0.0042	0.00211
Dissolved Solids	mg/L	500	419	773	1270
Dissolved Hardness	mg/L				501
Hardness (as CaCO ₃)	mg/L	274	0.46	477	519
Dissolved Iron	mg/L				0.255
Iron (Fe)-Total	mg/L	0.27	<0.0003	0.22	0.353
Dissolved Lead					<0.00020
Lead (Pb)-Total	mg/L	<0.0003	0.027	<0.0003	<0.00020
Dissolved Lithium	mg/L				0.0328
Lithium (Li)-Total	mg/L	0.021	16.4	0.038	0.0352
Magnesium (Mg)-Dissolved	mg/L				23
Magnesium (Mg)-Total	mg/L	12	0.028	22.6	24.4

Dissolved Manganese	mg/L				0.019
Manganese (Mn)-Total	mg/L	0.0122	<0.0001	0.0093	0.0228
Dissolved Mercury	mg/L				<0.00001
Mercury (Hg)-Total	mg/L	0.00396	<0.0005	<0.0001	<0.00001
Dissolved Molybdenum	mg/L				<0.0010
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.01	0.0005	<0.0010
Dissolved Nickel	mg/L				0.0064
Nickel (Ni)-Total	mg/L	0.0069	0.0131	0.0135	0.0065
Nitrate-N	mg/L	0.03	<0.01	0.01	<0.10
Nitrite-N	mg/L	<0.01	0.03	<0.01	<0.010
Ortho-Phosphate (PO4-P)	mg/L	<0.01	<0.01	<0.01	<0.010
pH	pH units	7.91	8.07	8.39	7.95
Potassium (K)-Dissolved	mg/L				7
Potassium (K)-Total	mg/L	4.04	7.66	7.72	7.56
Dissolved Selenium	mg/L				<0.00010
Selenium (Se)-Total	mg/L	0.005	0.006	0.009	<0.00010
Dissolved Silver	mg/L				<0.000020
Silver (Ag)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.000020
Sodium (Na)-Dissolved	mg/L				37.9
Sodium (Na)-Total	mg/L	19.4	27.2	41.7	40.6
Dissolved Strontium	mg/L				1.17
Strontium (Sr)-Total	mg/L	0.641	1.05	1.03	1.17
Dissolved Sulphate	mg/L				86
Sulfate	mg/L	42.8	65.3	60.2	
Dissolved Tin	mg/L				<0.0050
Tin (Sn)-Total	mg/L	<0.001	<0.001	<0.001	<0.0050
Dissolved Titanium	mg/L				<0.0050
Titanium (Ti)-Total	mg/L	0.05	0.07	0.11	<0.0050
Total Oil and Grease	mg/L	<1	<1	<1	
Total Suspended Solids	mg/L	3	21	2	3
Turbidity	NTU	1.49	3.13	3.69	1.1
Dissolved Uranium	mg/L				0.00053
Uranium (U)-Total	mg/L	<0.001	<0.001	<0.001	0.00052
Dissolved Vanadium	mg/L				<0.0050
Vanadium (V)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0050
Dissolved Organic Carbon (DOC)	mg/L			20	17
Total Organic Carbon (TOC)	mg/L			20	17

Cyanide WAD	mg/L			<0.005	
Free Cyanide	mg/L			<0.1	<0.0010
Total Cyanide	mg/L			<0.005	<0.0050
Reactive Silica	mg/L			2.3	4.7
Dissolved Zinc	mg/L				<0.0050
Zinc (Zn)-Total	mg/L	0.002	0.005	0.004	<0.0050
Ammonia as N	mg/L				0.08
Biochemical Oxygen Demand	mg/L				
Dissolved Bismuth	mg/L				<0.0010
Bismuth (Bi)-Total	mg/L				<0.0010
Cesium (Cs)-Total	mg/L				
Dissolved Cobalt	mg/L				<0.00050
Cobalt (Co)-Total	mg/L				<0.00050
Fluoride	mg/L				
Hydroxide (OH)	mg/L			<2	
Nitrate and Nitrite as N	mg/L				
Phosphorus (P)-Total	mg/L			0.02	0.008
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total Reactive	mg/L				
Rubidium (Rb)-Total	mg/L				
Dissolved Silicon	mg/L				1.89
Silicon (Si)-Total	mg/L				1.85
Sodium Adsorption Ratio					
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Dissolved Thallium	mg/L				<0.000050
Thallium (Tl)-Total	mg/L			<0.0008	<0.000050
Thorium (Th)-Total	mg/L				
Total Kjeldahl Nitrogen	mg/L			3.15	0.91
Ion balance	%	5.27			
Tungsten (W)-Total	mg/L				
Total Sulphur	mg/L				32.7
Dissolved Sulphur	mg/L				31.9
Dissolved Zirconium	mg/L				<0.00050
Zirconium (Zr)-Total	mg/L				<0.00050

A38

Waterbody: A38	Units				
Year		2016			
Date Sampled		26/06/2016	17/07/2016	07/08/2016	17/09/2016
GPS Coordinates		0540503-6988260	0540503-6988260	0540503-6988260	0540503-6988260
LAB		Multi-Lab	Multi-Lab	Multi-Lab	MAXXAM
Field Measurements					
Water Temperature	oC	15.4	10.7	12.3	5.2
pH	pH units	8.16	7.68	8.13	7.85
Conductivity	(mS/cm)	1.651	2.17	2.28	2.55
Laboratory-Measured					
Alkalinity, Total (as CaCO ₃)	mg/L	64	55	53	73
Dissolved Aluminum	mg/L				0.007
Aluminum (Al)-Total	mg/L	0.012	0.013	<0.006	0.0217
Dissolved Antimony	mg/L				<0.00050
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00050
Dissolved Arsenic	mg/L				0.00536
Arsenic (As)-Total	mg/L	0.0126	0.0041	0.0051	0.00732
Dissolved Barium	mg/L				0.236
Barium (Ba)-Total	mg/L	0.1363	0.1935	0.2103	0.24
Dissolved Beryllium	mg/L				<0.00010
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.00010
Bicarbonate (HCO ₃)	mg/L	64	55	53	72
Dissolved Boron	mg/L				<0.050
Boron (B)-Total	mg/L	<0.01	<0.01	<0.01	<0.050
Dissolved Cadmium	mg/L				0.000013
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	<0.00002	0.000013
Calcium (Ca)-Dissolved	mg/L				353
Calcium (Ca)-Total	mg/L	220	301	352	414
Carbonate (CO ₃)	mg/L	<2	<2	<2	<1.0
Dissolved Chloride	mg/L				800
Chloride	mg/L	459	654	717	
Dissolved Chromium	mg/L				<0.0010
Chromium (Cr)-Total	mg/L	<0.0006	0.0015	<0.0006	<0.0010
Conductivity	umhos/cm	1649	2085	2155	2900
Dissolved Copper	mg/L				0.00189
Copper (Cu)-Total	mg/L	0.0022	0.0018	0.0034	0.00212
Dissolved Solids	mg/L	1099	1390	1436	2420
Dissolved Hardness	mg/L				1030

Hardness (as CaCO ₃)	mg/L	630	850	1003	1200
Dissolved Iron	mg/L				0.265
Iron (Fe)-Total	mg/L	0.27	0.57	0.55	0.669
Dissolved Lead	mg/L				<0.00020
Lead (Pb)-Total	mg/L	<0.0003	<0.0003	<0.0003	<0.00020
Dissolved Lithium	mg/L				0.117
Lithium (Li)-Total	mg/L	0.071	0.084	0.103	0.123
Magnesium (Mg)-Dissolved	mg/L				37.1
Magnesium (Mg)-Total	mg/L	19.7	24.1	30.2	39.9
Dissolved Manganese	mg/L				0.0709
Manganese (Mn)-Total	mg/L	0.0092	0.1191	0.0261	0.0735
Dissolved Mercury	mg/L				<0.00001
Mercury (Hg)-Total	mg/L	0.00004	<0.0001	<0.0001	<0.00001
Dissolved Molybdenum	mg/L				0.0011
Molybdenum (Mo)-Total	mg/L	<0.0005	0.0012	0.001	0.0012
Ammonia Nitrogen (NH ₃ -NH ₄)	mg N/L			0.57	
NH ₃ -Ammonia (non-ionized)	mg N/L	0.03	0.03	<0.01	
Dissolved Nickel	mg/L				0.0057
Nickel (Ni)-Total	mg/L	0.013	0.0185	0.0244	0.0057
Nitrate-N	mg/L	1.72	0.45	0.16	0.11
Nitrite-N	mg/L	0.11	0.09	0.11	0.035
Ortho-Phosphate (PO ₄ -P)	mg/L	<0.01	0.04	0.05	<0.010
pH	pH units	8.06	7.82	8.13	7.81
Potassium (K)-Dissolved	mg/L				19.3
Potassium (K)-Total	mg/L	10.7	17.7	16.7	22
Dissolved Selenium	mg/L				0.00017
Selenium (Se)-Total	mg/L	0.018	0.024	0.032	<0.00010
Dissolved Silver	mg/L				<0.000020
Silver (Ag)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.000020
Sodium (Na)-Dissolved	mg/L				73.7
Sodium (Na)-Total	mg/L	33	40	66.6	74.8
Dissolved Strontium	mg/L				4.31
Strontium (Sr)-Total	mg/L	2.32	3.4	3.07	4.43
Dissolved Sulphate	mg/L				64
Sulfate	mg/L	53.9	69.2	61.4	
Dissolved Tin	mg/L				<0.0050
Tin (Sn)-Total	mg/L	<0.001	<0.001	<0.001	<0.0050
Dissolved Titanium	mg/L				<0.0050
Titanium (Ti)-Total	mg/L	0.12	0.14	0.29	<0.0050
Total Oil and Grease	mg/L	<1	<1	<1	

Total Suspended Solids	mg/L	<1	<1	49	12
Turbidity	NTU	1.91	4.2	20.7	2.3
Dissolved Uranium	mg/L				0.00131
Uranium (U)-Total	mg/L	0.001	0.001	0.001	0.0014
Dissolved Vanadium	mg/L				<0.0050
Vanadium (V)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0050
Dissolved Organic Carbon (DOC)	mg/L			18.4	18
Total Organic Carbon (TOC)	mg/L			19.6	18
Cyanide WAD	mg/L			<0.005	
Free Cyanide	mg/L			<0.1	0.001
Total Cyanide (CNT)	mg/L			<0.005	<0.0050
Reactive Silica	mg/L			2	1.8
Dissolved Zinc	mg/L				<0.0050
Zinc (Zn)-Total	mg/L	0.005	0.008	0.003	<0.0050
Ammonia as N	mg/L				0.82
Biochemical Oxygen Demand	mg/L				
Dissolved Bismuth	mg/L				<0.0010
Bismuth (Bi)-Total	mg/L				<0.0010
Cesium (Cs)-Total	mg/L				
Dissolved Cobalt	mg/L				0.00061
Cobalt (Co)-Total	mg/L				0.00058
Fluoride	mg/L				
Hydroxide (OH)	mg/L			<2	
Ion balance	%	3.89			
Nitrate and Nitrite as N	mg/L				
Phosphorus (P)-Total	mg/L			0.03	0.022
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total Reactive	mg/L				
Rubidium (Rb)-Total	mg/L				
Dissolved Silicon	mg/L				0.74
Silicon (Si)-Total	mg/L				0.8
Sodium Adsorption Ratio					
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Dissolved Thallium	mg/L				<0.000050
Thallium (Tl)-Total	mg/L			<0.0008	<0.000050
Thorium (Th)-Total	mg/L				

Total Kjeldahl Nitrogen	mg/L			4.38	1.8
Tungsten (W)-Total	mg/L				
Total Sulphur	mg/L				19.8
Dissolved Sulphur	mg/L				24.7
Dissolved Zirconium	mg/L				<0.00050
Zirconium (Zr)-Total	mg/L				<0.00050

A8

Waterbody : A8	Units	A8		
Year		2016		
Date Sampled		17/07/2016	14/08/2016	04/09/2016
GPS Coordinates		0540013 - 6987768	0540013 - 6987768	0540013 - 6987768
LAB		Multi-Lab	Maxxam - CXB971	Multi-Lab
Field Measurements				
Water Temperature	oC	FB	15.9	7
pH	pH units	FB	7.94	8.41
Conductivity	(uS/cm)	FB	271	273
Laboratory-Measured				
Bicarbonate (HCO3)	mg/L	3	45	45
Carbonate (CO3)	mg/L	<2	<1.0	<1.0
Total Ammonia-N	mg/L		<0.01	<0.01
Conductivity	umhos/cm	1	300	300
Total Dissolved Solids (TDS)	mg/L	<1	310	304
Free Cyanide	mg/L		<0.0020	<0.0010
Total Kjeldahl Nitrogen	mg/L		0.23	0.25
Dissolved Organic Carbon	mg/L		4	3.9
Total Organic Carbon (TOC)	mg/L		4.1	3.8
Ortho-Phosphate (PO4-P)	mg/L	<0.01	<0.010	<0.010
pH	pH units	5.56	7.47	7.73
Phosphorus (P)-Total	mg/L		0.011	0.005
Total Suspended Solids	mg/L	<1	8	2
Dissolved Sulphate (SO4)	mg/L		6.7	6.5
Total Cyanide (CN)	mg/L		<0.0050	<0.0050
Turbidity	NTU	1.72	0.6	0.3
Alkalinity, Total (as CaCO3)	mg/L	3	45	45
Dissolved Chloride (Cl)	mg/L		49	47
Nitrite-N	mg/L	<0.01	<0.010	<0.010
Nitrate-N	mg/L	<0.01	<0.10	<0.10
Nitrate and Nitrite as N	mg/L	-	<0.10	<0.10

Mercury (Hg) Atomic Spectro	mg/L		<0.00001	
Dissolved Hardness (CaCO ₃)	mg/L		104	110
Dissolved Aluminum (Al)	mg/L		0.0043	<0.0030
Dissolved Antimony (Sb)	mg/L		<0.00050	<0.00050
Dissolved Arsenic (As)	mg/L		0.00163	0.00155
Dissolved Barium (Ba)	mg/L		0.0262	0.0267
Dissolved Beryllium (Be)	mg/L		<0.00010	<0.00010
Dissolved Boron (B)	mg/L		<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L		<0.000010	<0.000010
Dissolved Chromium (Cr)	mg/L		<0.0010	<0.0010
Dissolved Copper (Cu)	mg/L		0.00057	0.00056
Dissolved Iron (Fe)	mg/L		0.0229	0.0374
Dissolved Lead (Pb)	mg/L		<0.00020	<0.00020
Dissolved Lithium (Li)	mg/L		0.0094	0.009
Dissolved Manganese (Mn)	mg/L		<0.0010	0.0052
Dissolved Mercury (Hg)	mg/L		<0.000050	0.00002
Dissolved Molybdenum (Mo)	mg/L		<0.0010	<0.0010
Dissolved Nickel (Ni)	mg/L		<0.0010	<0.0010
Dissolved Selenium (Se)	mg/L		<0.00010	<0.00010
Dissolved Silver (Ag)	mg/L		<0.000020	<0.000020
Dissolved Strontium (Sr)	mg/L		0.244	0.269
Dissolved Thallium (Tl)	mg/L		<0.000050	<0.000050
Dissolved Tin (Sn)	mg/L		<0.0050	<0.0050
Dissolved Titanium (Ti)	mg/L		<0.0050	<0.0050
Dissolved Uranium (U)	mg/L		<0.00010	<0.00010
Dissolved Vanadium (V)	mg/L		<0.0050	<0.0050
Dissolved Zinc (Zn)	mg/L		<0.0050	<0.0050
Calcium (Ca)-Dissolved	mg/L		34.5	36.5
Magnesium (Mg)-Dissolved	mg/L		4.42	4.5
Potassium (K)-Dissolved	mg/L		2.04	1.94
Sodium (Na)-Dissolved	mg/L		7.31	7.6
Hardness (as CaCO ₃)	mg/L	<1	103	114
Aluminum (Al)-Total	mg/L	<0.006	0.0134	0.0057
Antimony (Sb)-Total	mg/L	<0.0001	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	<0.0005	0.00384	0.00199
Barium (Ba)-Total	mg/L	<0.0005	0.0282	0.0259
Beryllium (Be)-Total	mg/L	<0.0005	<0.00010	<0.00010
Boron (B)-Total	mg/L	<0.01	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	0.00002	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	<0.0006	<0.0010	<0.0010
Copper (Cu)-Total	mg/L	<0.0005	0.00087	<0.00050

Iron (Fe)-Total	mg/L	<0.01	0.302	0.103
Lead (Pb)-Total	mg/L	0.0019	<0.00020	<0.00020
Lithium (Li)-Total	mg/L	<0.005	0.0097	0.0094
Manganese (Mn)-Total	mg/L	<0.0005	0.035	0.0124
Mercury (Hg)-Total	mg/L	<0.0001	<0.000050	<0.00001
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0010	<0.0010
Nickel (Ni)-Total	mg/L	<0.0005	0.0011	<0.0010
Selenium (Se)-Total	mg/L	<0.001	<0.00010	<0.00010
Silver (Ag)-Total	mg/L	<0.0001	<0.000020	<0.000020
Strontium (Sr)-Total	mg/L	<0.005	0.256	0.245
Thallium (Tl)-Total	mg/L		<0.000050	<0.000050
Tin (Sn)-Total	mg/L	<0.001	<0.0050	<0.0050
Titanium (Ti)-Total	mg/L	<0.01	<0.0050	<0.0050
Uranium (U)-Total	mg/L	<0.001	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0005	<0.0050	<0.0050
Zinc (Zn)-Total	mg/L	0.001	<0.0050	<0.0050
Zirconium (Zr)-Total	mg/L			<0.00050
Calcium (Ca)-Total	mg/L	0.11	33.9	37.7
Magnesium (Mg)-Total	mg/L	<0.02	4.52	473
Potassium (K)-Total	mg/L	<0.05	1.95	2.13
Sodium (Na)-Total	mg/L	<0.05	7.8	7.6
Reactive Silica	mg/L		0.66	0.71
Daphnia toxicity				
LC50-48h - %V/V			>100	
EC50-48h - %V/V			>100	
Toxic Units			<1	
Trout toxicity				
LC50-96h - %V/V			>100	
Toxic Units			<1	
Chloride	mg/L	<0.5		
NH3 - Ammonia as N	mg/L	<0.01		
Sulfate	mg/L	0.7		
Total Oil and Grease	mg/L	<1		

A8-7

Waterbody: A8-7	Units				
Year		2016			
Date Sampled		26/06/2016	17/07/2016	07/08/2016	17/09/2016
GPS Coordinates		0540816-6986693	0540789-6986665	0540789-6986665	0540789-6986665

LAB		Multi-Lab	Multi-Lab	Multi-Lab	MAXXAM
Field Measurements					
Water Temperature	oC	12.8	10.8	7.1	4.6
pH	pH units	7.67	6.95	7.99	7.24
Conductivity	(mS/cm)	0.26	0.303	0.328	0.319
Laboratory-Measured					
Alkalinity, Total (as CaCO3)	mg/L	36	47	53	59
Dissolved Aluminum	mg/L				0.004
Aluminum (Al)-Total	mg/L	<0.006	0.009	<0.006	0.0064
Dissolved Antimony	mg/L				<0.00050
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00050
Dissolved Arsenic	mg/L				0.002
Arsenic (As)-Total	mg/L	0.0031	<0.0005	<0.0005	0.00444
Dissolved Barium	mg/L				0.0372
Barium (Ba)-Total	mg/L	0.0293	0.0291	0.0349	0.039
Dissolved Beryllium	mg/L				<0.00010
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.00010
Bicarbonate (HCO3)	mg/L	36	47	53	59
Dissolved Boron	mg/L				<0.050
Boron (B)-Total	mg/L	<0.01	<0.01	<0.01	<0.050
Dissolved Cadmium	mg/L				<0.000010
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	<0.00002	<0.000010
Calcium (Ca)-Dissolved	mg/L				39.7
Calcium (Ca)-Total	mg/L	31.5	39.8	39.8	43.6
Carbonate (CO3)	mg/L	<2	<2	<2	<1.0
Dissolved Chloride	mg/L				58
Chloride	mg/L	55.2	60.7	63.3	
Dissolved Chromium	mg/L				<0.0010
Chromium (Cr)-Total	mg/L	<0.0006	0.0022	<0.0006	<0.0010
Conductivity	umhos/cm	267	312	338	340
Dissolved Copper	mg/L				0.00088
Copper (Cu)-Total	mg/L	0.0005	0.0012	0.0016	0.00087
Dissolved Solids	mg/L	178	208	225	298
Dissolved Hardness	mg/L				122
Hardness (as CaCO3)	mg/L	96	117	121	133
Dissolved Iron	mg/L				0.23
Iron (Fe)-Total	mg/L	0.08	0.08	0.12	0.668
Dissolved Lead	mg/L				<0.00020
Lead (Pb)-Total	mg/L	<0.0003	0.0024	<0.0003	<0.00020

Dissolved Lithium	mg/L				<0.0050
Lithium (Li)-Total	mg/L	0.008	0.005	0.006	0.005
Magnesium (Mg)-Dissolved	mg/L				5.67
Magnesium (Mg)-Total	mg/L	4.25	4.43	5.27	5.74
Dissolved Manganese	mg/L				0.1
Manganese (Mn)-Total	mg/L	0.0063	0.0201	0.1019	0.165
Dissolved Mercury	mg/L				<0.00001
Mercury (Hg)-Total	mg/L	<0.00001	<0.0001	<0.0001	<0.00001
Dissolved Molybdenum	mg/L				<0.0010
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0010
Ammonia Nitrogen (NH ₃ -NH ₄)	mg/L			0.02	
NH ₃ -Ammonia (non-ionized)	mg N/L	<0.01	<0.01	<0.01	
Dissolved Nickel	mg/L				0.0012
Nickel (Ni)-Total	mg/L	0.0007	0.0037	0.0034	0.0016
Nitrate-N	mg/L	<0.01	0.05	0.1	<0.1
Nitrite-N	mg/L	<0.01	<0.01	<0.01	<0.010
Ortho-Phosphate (PO ₄ -P)	mg/L	<0.01	<0.01	<0.01	<0.010
pH	pH units	7.42	6.97	7.99	7.61
Potassium (K)-Dissolved	mg/L				1.73
Potassium (K)-Total	mg/L	1.58	2.05	1.63	1.89
Dissolved Selenium	mg/L				<0.00010
Selenium (Se)-Total	mg/L	0.001	<0.001	0.001	<0.00010
Dissolved Silver	mg/L				<0.000020
Silver (Ag)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.000020
Sodium (Na)-Dissolved	mg/L				8.62
Sodium (Na)-Total	mg/L	6.07	6.06	8.95	8.96
Dissolved Strontium	mg/L				0.225
Strontium (Sr)-Total	mg/L	0.235	0.233	0.213	0.235
Dissolved Sulphate	mg/L				8.1
Sulfate	mg/L	7	6.3	11.3	
Dissolved Tin	mg/L				<0.0050
Tin (Sn)-Total	mg/L	<0.001	<0.001	<0.001	<0.0050
Dissolved Titanium	mg/L				<0.0050
Titanium (Ti)-Total	mg/L	0.01	0.01	0.01	<0.0050
Total Oil and Grease	mg/L	1	<1	<1	
Total Suspended Solids	mg/L	2	<1	3	1
Turbidity	NTU	0.71	0.81	0.79	1.8
Dissolved Uranium	mg/L				<0.00010
Uranium (U)-Total	mg/L	<0.001	<0.001	<0.001	<0.00010
Dissolved Vanadium	mg/L				<0.0050

Vanadium (V)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0050
Dissolved Organic Carbon (DOC)	mg/L			2.1	2.2
Total Dissolved Carbon (TOC)	mg/L			2.2	2.3
Cyanide WAD	mg/L			<0.005	
Free Cyanide	mg/L			<0.1	<0.0010
Total Cyanide (CNT)	mg/L			<0.005	<0.0050
Reactive Silica	mg/L			1.3	1.6
Dissolved Zinc	mg/L				<0.0050
Zinc (Zn)-Total	mg/L	<0.001	0.003	<0.001	<0.0050
Ammonia as N	mg/L				0.01
Biochemical Oxygen Demand	mg/L				
Dissolved Bismuth	mg/L				<0.0010
Bismuth (Bi)-Total	mg/L				<0.0010
Cesium (Cs)-Total	mg/L				
Dissolved Cobalt	mg/L				<0.00050
Cobalt (Co)-Total	mg/L				0.00053
Fluoride	mg/L				
Hydroxide (OH)	mg/L			<2	
Ion balance	%	4.21			
Nitrate and Nitrite as N	mg/L				
Phosphorus (P)-Total	mg/L			0.02	0.005
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total Reactive	mg/L				
Rubidium (Rb)-Total	mg/L				
Dissolved Silicon	mg/L				0.79
Silicon (Si)-Total	mg/L				0.9
Sodium Adsorption Ratio					
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Dissolved Thallium	mg/L				<0.000050
Thallium (Tl)-Total	mg/L			<0.0008	<0.000050
Thorium (Th)-Total	mg/L				
Total Kjeldahl Nitrogen	mg/L			3.75	0.24
Tungsten (W)-Total	mg/L				
Total Sulphur	mg/L				<3.0
Dissolved Sulphur	mg/L				<3.0
Dissolved Zirconium	mg/L				<0.00050

Zirconium (Zr)-Total	mg/L				<0.00050
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E3

Waterbody E3	Units	2016	
Year			
Date Sampled		22/08/2016	16/09/2016
GPS Coordinates		0536753-6990492	0536753-6990492
LAB		MAXXAM	MAXXAM
Field Measurements			
Water Temperature	oC	11	5.1
pH	pH units	8.49	8.27
Conductivity	(µS/cm)	99.4	105.5
Laboratory-Measured			
Alkalinity, Total (as CaCO3)	mg/L	39	42
Aluminum (Al)-Total	mg/L	0.00476	0.0048
Ammonia as N	mg/L	<0.01	<0.01
Antimony (Sb)-Total	mg/L	<0.000020	<0.00050
Arsenic (As)-Total	mg/L	0.000743	0.00068
Barium (Ba)-Total	mg/L	0.0102	0.0109
Beryllium (Be)-Total	mg/L	<0.000010	<0.00010
Bicarbonate (HCO3)	mg/L	38	41
Boron (B)-Total	mg/L	<0.010	<0.050
Cadmium (Cd)-Total	mg/L	<0.0000050	<0.000010
Calcium (Ca)-Total	mg/L	13.5	15.9
Carbonate (CO3)	mg/L	<1.0	<1.0
Dissolved Chloride	mg/L	7.9	8.1
Chromium (Cr)-Total	mg/L	<0.00010	<0.0010
Conductivity	umhos/cm	110	110
Copper (Cu)-Total	mg/L	0.000604	0.00061
Dissolved Aluminium (Al)	mg/L	0.00123	0.0031
Dissolved Antimony (Sb)	mg/L	<0.000020	<0.00050
Dissolved Arsenic (As)	mg/L	0.000638	0.00061
Dissolved Barium (Ba)	mg/L	0.0099	0.0099
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.00010
Dissolved Boron (B)	mg/L	<0.010	<0.050
Dissolved Cadmium (Cd)	mg/L	<0.000005	<0.000010
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.0010
Dissolved Copper (Cu)	mg/L	0.00052	0.00059
Dissolved Iron (Fe)	mg/L	0.0191	0.0368
Dissolved Lead (Pb)	mg/L	0.000007	<0.00020

Dissolved Lithium (Li)	mg/L	0.00104	<0.0050
Dissolved Manganese (Mn)	mg/L	0.000115	0.0038
Dissolved Molybdenum (Mo)	mg/L	0.000204	<0.0010
Dissolved Nickel (Ni)	mg/L	0.000667	<0.0010
Dissolved organic carbon (D.O.C.)	mg/L	4.1	4.4
Dissolved Selenium (Se)	mg/L	<0.000040	<0.00010
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.000020
Dissolved Strontium (Sr)	mg/L	0.066	0.071
Dissolved thallium (Tl)	mg/L	<0.0000020	<0.000050
Dissolved Tin (Sn)	mg/L	<0.00020	<0.0050
Dissolved titanium (Ti)	mg/L	<0.00050	<0.0050
Dissolved Uranium (U)	mg/L	0.000026	<0.00010
Dissolved Vanadium (V)	mg/L	<0.00020	<0.0050
Dissolved Zinc (Zn)	mg/L	0.00035	<0.0050
Dissolved Calcium (Ca)	mg/L	13.4	14.2
Dissolved Hardness (CaCO ₃)	mg/L	39.5	42.8
Hardness (as CaCO ₃)	mg/L	40.2	46.9
Iron (Fe)-Total	mg/L	0.0646	0.076
Kjeldahl Nitrogen	mg/L	0.26	0.29
Lead (Pb)-Total	mg/L	0.000012	<0.00020
Lithium (Li)-Total	mg/L	0.00152	<0.0050
Magnesium (Mg)-Total	mg/L	1.56	1.76
Manganese (Mn)-Total	mg/L	0.00646	0.0074
Dissolved Mercury	mg/L		0.00001
Mercury (Hg)-Total	mg/L	<0.00001	<0.00001
Molybdenum (Mo)-Total	mg/L	0.000226	<0.0010
Nickel (Ni)-Total	mg/L	0.000697	0.0011
Nitrate and Nitrite as N	mg/L	<0.10	<0.10
Ortho-Phosphate (PO ₄ -P)	mg/L	<0.010	<0.010
pH	pH units	7.65	7.7
Potassium (K)-Total	mg/L	0.854	0.983
Reactive Silica (Si)	mg/L	0.81	0.75
Selenium (Se)-Total	mg/L	<0.000040	<0.00010
Sodium (Na)-Total	mg/L	3.55	3.9
Strontium (Sr)-Total	mg/L	0.0685	0.0753
Dissolved Sulfate (SO ₄)	mg/L	3	4
Thallium (Tl)-Total	mg/L	<0.0000020	<0.000050
Tin (Sn)-Total	mg/L	<0.00020	<0.0050
Titanium (Ti)-Total	mg/L	<0.00050	<0.0050
Total organic carbon (T.O.C.)	mg/L	4	4.7
Total Phosphorus (P)-Total	mg/L	0.008	0.013

Total Suspended Solids	mg/L	<1	<1
Turbidity	NTU	0.3	0.4
Uranium (U)-Total	mg/L	0.000034	<0.00010
Vanadium (V)-Total	mg/L	<0.00020	<0.0050
Zinc (Zn)-Total	mg/L	0.00109	<0.0050
Magnesium (Mg)-Dissolved	mg/L	1.48	1.81
Nitrate-N	mg/L	<0.10	<0.10
Nitrite-N	mg/L	<0.010	<0.010
Potassium (K)-Dissolved	mg/L	0.847	1.01
Silver (Ag)-Total	mg/L	<0.0000050	<0.000020
Sodium (Na)-Dissolved	mg/L	3.47	3.85
TDS	mg/L	66	90
Free Cyanide	mg/L	<0.0010	<0.0010
Total Cyanide	mg/L	<0.0050	<0.0050

MEL-RIVER

Waterbody: Meliadine River	Units		
Year		2016	
Date Sampled		26/06/2016	17/07/2017
GPS Coordinates		0544817-6971688	0544817-6971688
LAB		Multi-Lab	Multi-Lab
Field Measurements		Field Measurements	
Water Temperature	oC	7.2	11.3
pH	pH units	8.28	8.19
Conductivity	(mS/cm)	0.0886	0.0943
Laboratory-Measured			
Alkalinity, Total (as CaCO ₃)	mg/L	21	22
Aluminum (Al)-Total	mg/L	0.029	0.022
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001
Arsenic (As)-Total	mg/L	<0.0005	<0.0005
Barium (Ba)-Total	mg/L	0.0085	0.0071
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005
Bicarbonate (HCO ₃)	mg/L	21	22
Boron (B)-Total	mg/L	<0.01	<0.01
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002
Calcium (Ca)-Total	mg/L	7.02	8.39
Carbonate (CO ₃)	mg/L	<2	<2
Chloride	mg/L	11	12
Chromium (Cr)-Total	mg/L	<0.0006	0.0006

Conductivity	umhos/cm	89	94.3
Copper (Cu)-Total	mg/L	0.0008	0.0008
Dissolved Solids	mg/L	59	63
Hardness (as CaCO3)	mg/L	23	25
Iron (Fe)-Total	mg/L	0.1	0.03
Lead (Pb)-Total	mg/L	<0.0003	<0.0003
Lithium (Li)-Total	mg/L	<0.005	<0.005
Magnesium (Mg)-Dissolved	mg/L	1.34	1.22
Manganese (Mn)-Total	mg/L	0.0039	0.0033
Mercury (Hg)-Total	mg/L	<0.00001	<0.0001
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005
NH3 - Ammonia (non-ionized)	mg N/L	<0.01	<0.01
Nickel (Ni)-Total	mg/L	<0.0005	0.0005
Nitrate-N	mg/L	0.01	<0.01
Nitrite-N	mg/L	<0.01	<0.01
Ortho-Phosphate (PO4-P)	mg P/L	<0.01	<0.01
pH	pH units	7.44	7.61
Potassium (K)-Total	mg/L	0.92	1.19
Selenium (Se)-Total	mg/L	<0.001	<0.001
Silver (Ag)-Total	mg/L	<0.0001	<0.0001
Sodium (Na)-Total	mg/L	5.15	5.82
Strontium (Sr)-Total	mg/L	0.041	0.039
Sulfate	mg/L	4.5	7.3
Tin (Sn)-Total	mg/L	<0.001	<0.001
Titanium (Ti)-Total	mg/L	<0.01	<0.01
Total Oil and Grease	mg/L	<1	<1
Total Suspended Solids	mg/L	<1	<1
Turbidity	NTU	1.86	1.69
Uranium (U)-Total	mg/L	<0.001	<0.001
Vanadium (V)-Total	mg/L	<0.0005	<0.0005
Zinc (Zn)-Total	mg/L	<0.001	<0.001
Ammonia as N	mg/L		
Biochemical Oxygen Demand	mg/L		
Bismuth (Bi)-Total	mg/L		
Calcium (Ca)-Dissolved	mg/L		
Cesium (Cs)-Total	mg/L		
Cobalt (Co)-Total	mg/L		
Fluoride	mg/L		
Hydroxide (OH)	mg/L		
Ion balance	%	7.59	

Magnesium (Mg)-Total	mg/L		
Nitrate and Nitrite as N	mg/L		
Phosphorus (P)-Total	mg/L		
Phosphorus (P)-Total	mg/L		
Phosphorus (P)-Total Reactive	mg/L		
Potassium (K)-Dissolved	mg/L		
Rubidium (Rb)-Total	mg/L		
Silicon (Si)-Total	mg/L		
Sodium (Na)-Dissolved	mg/L		
Sodium Adsorption Ratio	%		
TDS (Calculated)	mg/L		
Tellurium (Te)-Total	mg/L		
Thallium (Tl)-Total	mg/L		
Thorium (Th)-Total	mg/L		
Total Kjeldahl Nitrogen	mg/L		
Tungsten (W)-Total	mg/L		
Zirconium (Zr)-Total	mg/L		

MEL-1

Waterbody : Meliadine Lake Station MEL-1	Units				
		2016			
Date Sampled		26/06/2016	17/07/2016	09/08/2016	17/09/2016
GPS Coordinates		0541920- 6989172	0541920- 6989172	0541920- 6989172	0541920- 6989172
LAB		Multi-Lab	Multi-Lab	MAXXAM	MAXXAM
Field Measurements					
Water Temperature	oC	6.1	11.7	12.6	7.9
pH	pH units	8.31	8.02	8.76	8.57
Conductivity	(mS/cm)	0.0842	0.0729	0.0736	0.0851
Laboratory-Measured					
Alkalinity, Total (as CaCO3)	mg/L	16	17	16	14
Dissolved Aluminum (Al)	mg/L			0.0081	<0.0030
Aluminum (Al)-Total	mg/L	0.01	0.017	0.0116	0.0048
Dissolved Antimony (Sb)	mg/L			<0.00050	<0.00050
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.00050	<0.00050
Dissolved Arsenic (As)	mg/L			0.00054	0.00041
Arsenic (As)-Total	mg/L	0.0005	<0.0005	0.00064	0.00042
Dissolved Barium (Ba)	mg/L			0.0067	0.008
Barium (Ba)-Total	mg/L	0.0067	0.0047	0.0073	0.0086
Dissolved Beryllium (Be)	mg/L			<0.0001	<0.00010

Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.00010	<0.00010
Bicarbonate (HCO ₃)	mg/L	16	17	16	16
Dissolved Boron (B)	mg/L			0.05	<0.050
Boron (B)-Total	mg/L	<0.01	<0.01	<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L			<0.000010	<0.000010
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L			7.4	8.7
Calcium (Ca)-Total	mg/L	7.73	6.9	N/A	9.09
Carbonate (CO ₃)	mg/L	<2	<2	ND	<1.0
Chloride	mg/L	12.6	8.8		
Dissolved Chloride	mg/L			9.6	
Dissolved Chromium (Cr)	mg/L			<0.001	<0.0010
Chromium (Cr)-Total	mg/L	<0.0006	0.0011	<0.001	<0.0010
Conductivity	umhos/cm	83	72.9	79	94
Dissolved Copper (Cu)	mg/L			0.00078	0.00078
Copper (Cu)-Total	mg/L	0.0007	0.0027	0.00104	0.00078
Dissolved Solids	mg/L	55	50	84	54
Dissolved Hardness	mg/L			23.4	27.2
Hardness (as CaCO ₃)	mg/L	24	21	22.6	28.4
Dissolved Iron (Fe)	mg/L			0.0095	0.0308
Iron (Fe)-Total	mg/L	0.07	0.09	0.103	0.051
Dissolved Lead (Pb)	mg/L			<0.00020	<0.00020
Lead (Pb)-Total	mg/L	0.0005	<0.0003	<0.00020	<0.00020
Dissolved Lithium (Li)				<0.0050	<0.0050
Lithium (Li)-Total	mg/L	<0.005	<0.005	<0.0050	<0.0050
Magnesium (Mg)-Dissolved	mg/L			1.18	1.32
Magnesium (Mg)-Total	mg/L	1.32	0.97	N/A	1.37
Dissolved Manganese (Mn)	mg/L			<0.001	0.0032
Manganese (Mn)-Total	mg/L	0.0078	0.0153	0.0125	0.0063
Dissolved Mercury	mg/L				<0.00001
Mercury (Hg)-Total	mg/L	<0.00001	<0.0001	ND	<0.00001
Dissolved Molybdenum (Mo)	mg/L			<0.001	<0.0010
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005	<0.001	<0.0010
NH ₃ -Ammonia (non-ionized)	mg N/L	<0.01	<0.01	0.03	
Dissolved Nickel (Ni)	mg/L			<0.001	<0.0010
Nickel (Ni)-Total	mg/L	<0.0005	0.0005	<0.001	<0.0010
Nitrate-N	mg/L	0.06	0.01	ND	<0.10
Nitrite-N	mg/L	<0.01	<0.01	ND	<0.010
Oil & Grease	mg/L	<1	<0.01		
Ortho-Phosphate (PO ₄ -P)	mg/L	<0.01	7.22	ND	<0.010
pH	pH units	7.15	7.9	7.42	7.4

Potassium (K)-Dissolved	mg/L			0.934	0.86
Potassium (K)-Total	mg/L	0.7	<0.001	N/A	0.96
Dissolved Selenium (Se)	mg/L			<0.0001	<0.00010
Selenium (Se)-Total	mg/L	<0.001	<0.0001	<0.0001	<0.00010
Dissolved Silver (Ag)	mg/L			<0.00002	<0.000020
Silver (Ag)-Total	mg/L	<0.0001	3.6	<0.00002	<0.000020
Sodium (Na)-Dissolved	mg/L			4.78	5.1
Sodium (Na)-Total	mg/L	3.18	0.03	N/A	5.31
Dissolved Strontium (Sr)	mg/L			0.0401	0.0593
Strontium (Sr)-Total	mg/L	0.057	5.2	0.0345	0.06
Sulfate	mg/L	3.2	<0.001		
Dissolved Sulphate	mg/L			4.2	4.1
Dissolved Tin (Ti)	mg/L			<0.005	<0.0050
Tin (Sn)-Total	mg/L	<0.001	<0.01	<0.005	<0.0050
Dissolved Titanium (Ti)	mg/L			<0.005	<0.0050
Titanium (Ti)-Total	mg/L	<0.01	<1	<0.005	<0.0050
Total Suspended Solids	mg/L	1	2	3	1
Turbidity	NTU	0.84	2.52	0.4	0.3
Dissolved Uranium (U)	mg/L			<0.0001	<0.00010
Uranium (U)-Total	mg/L	<0.001	<0.001	<0.0001	<0.00010
Dissolved Vanadium (V)	mg/L			<0.005	<0.0050
Vanadium (V)-Total	mg/L	0.0025	<0.0005	<0.005	<0.0050
Dissolved Organic Carbon	mg/L			2.6	3
Total Organic Carbon	mg/L			2.9	3
Dissolved Zinc (Zn)	mg/L			<0.005	<0.0050
Zinc (Zn)-Total	mg/L	0.001	0.003	<0.005	<0.0050
Ammonia as N	mg/L				<0.01
Reactive Silica	mg/L				0.48
Biochemical Oxygen Demand	mg/L				
Dissolved Bismuth	mg/L				<0.0010
Bismuth (Bi)-Total	mg/L				<0.0010
Cesium (Cs)-Total	mg/L				
Dissolved Cobalt	mg/L				<0.00050
Cobalt (Co)-Total	mg/L				<0.00050
E. Coli	mg/L				
Fecal Coliforms	MPN/10 0mL				
Fluoride	mg/L				
Hydroxide (OH)	mg/L				
Ion balance	%	6.84			
Nitrate and Nitrite as N	mg/L			ND	

Phosphorus (P)-Total	mg/L			0.07	0.006
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total	mg/L				
Phosphorus (P)-Total Reactive	mg/L				
Rubidium (Rb)-Total	mg/L				
Dissolved Silicon	mg/L				0.25
Silicon (Si)-Total	mg/L				0.26
Sodium Adsorption Ratio					
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Dissolved Thallium (Tl)	mg/L			<0.00005	<0.000050
Thallium (Tl)-Total	mg/L			<0.00005	<0.000050
Thorium (Th)-Total	mg/L				
Total Coliforms	mg/L				
Total Kjeldahl Nitrogen	mg/L			0.18	0.25
Total Oil and Grease	mg/L				
Dissolved Sulphur	mg/L				<3.0
Total Sulphur	mg/L				<3.0
Tungsten (W)-Total	mg/L				
Dissolved Zirconium	mg/L				<0.00050
Zirconium (Zr)-Total	mg/L				<0.00050
Free Cyanide	mg/L				<0.0010
Total Cyanide	mg/L				<0.0050

H3

Waterbody H3	Units		
Year		2016	2016
Date Sampled		21/08/2016	15/09/2016
GPS Coordinates		0540479-6989416	0540479-6989416
LAB		MAXXAM	MAXXAM
Field Measurements			
Water Temperature	oC	11.5	5.1
pH	pH units	7.86	8.05
Conductivity	(mS/cm)	6.57	5.03
Laboratory-Measured			
Ammonia as N	mg/L	24	21
Total Dissolved Solids (TDS)	mg/L	6840	6
Fluoride	mg/L	<0.10	<0.10
pH	pH units	7.44	7.43

Total Suspended Solids	mg/L	9	5100
Dissolved Sulphate (SO4)	mg/L	86	100
Total Cyanide (CN)	mg/L	<0.0050	<0.0050
Turbidity	NTU	11	9.4
Alkalinity, Total (as CaCO3)	mg/L	31	43
Dissolved Chloride (Cl)	mg/L	2300	1900
Nitrite-N	mg/L	0.474	0.268
Nitrate-N	mg/L	34.6	26.4
Nitrate and Nitrite as N	mg/L	35.1	26.7
Mercury (Hg)-Total	mg/L	0.00002	<0.00001
Hardness (as CaCO3)	mg/L	2470	2430
Aluminum (Al)-Total	mg/L	0.0073	0.0059
Arsenic (As)-Total	mg/L	0.00161	0.00116
Barium (Ba)-Total	mg/L	0.814	0.63
Cadmium (Cd)-Total	mg/L	0.000045	0.000098
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010
Copper (Cu)-Total	mg/L	0.00053	0.00078
Iron (Fe)-Total	mg/L	1.32	1.6
Lead (Pb)-Total	mg/L	<0.00020	<0.00020
Manganese (Mn)-Total	mg/L	0.2	0.237
Molybdenum (Mo)-Total	mg/L	<0.0010	<0.0010
Nickel (Ni)-Total	mg/L	0.004	
Selenium (Se)-Total	mg/L	0.00029	<0.00010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020
Thallium (Tl)-Total	mg/L	0.000066	<0.000050
Zinc (Zn)-Total	mg/L	<0.0050	0.0051

B5

Waterbody B5	Units			
Year		2016		
Date Sampled		23/07/2016	21/08/2016	15/09/2016
GPS Coordinates		0538261-6988535	0538261-6988535	0538261-6988535
LAB		Multi-Lab	MAXXAM	MAXXAM
Field Measurements				
Water Temperature	oC	15	10.6	5.3
pH	pH units	8.2	8.69	8.46
Conductivity	(µS/cm)	139.2	145.1	146.6
Bicarbonate (HCO3)	mg/L	33	37	38
Carbonate (CO3)	mg/L	<2	<1.0	<1.0
Ammonia as N	mg/L	<0.01	<0.01	0.08

Conductivity	umhos/cm	139.2	150	160
Total Dissolved Solids (TDS)	mg/L	92	170	136
Free Cyanide	mg/L		<0.0010	<0.0010
Total Kjeldahl nitrogen (TKN)	mg N/L	0.27	0.26	0.36
Dissolved organic carbon (D.O.C.)	mg/L	2.5	4.2	4
Total organic carbon (T.O.C.)	mg/L	4.2	4	4.2
Ortho-Phosphate (PO ₄ -P)	mg/L	0.03	<0.010	<0.010
pH	pH units	7.65	7.58	7.73
Phosphorus (P)-Total	mg/L	0.03	0.006	0.013
Total Suspended Solids	mg/L	12	2	<1
Dissolved Sulphate (SO ₄)	mg/L		3.2	3.8
Total Cyanide (CN)	mg/L		<0.0050	<0.0050
Turbidity	NTU	3.39	0.4	1.7
Alkalinity, Total (as CaCO ₃)	mg/L	33	37	38
Dissolved Chloride (Cl)	mg/L		21	22
Nitrite-N	mg/L		<0.010	<0.010
Nitrate-N	mg/L		<0.10	<0.10
Nitrate and Nitrite as N	mg/L	0.05	<0.10	<0.10
Mercury (Hg)-Total	mg/L	0.00081	0.00002	<0.00001
Dissolved Mercury (Hg)	mg/L	0.00049		<0.00001
Reactive Silica (Si)	mg/L	0.5	0.84	0.80
Dissolved Hardness (CaCO ₃)	mg/L		59.2	58.9
Dissolved Aluminium (Al)	mg/L	<0.006	0.0055	0.0036
Dissolved Antimony (Sb)	mg/L	<0.0001	<0.00050	<0.00050
Dissolved Arsenic (As)	mg/L	<0.0005	0.00145	0.00121
Dissolved Barium (Ba)	mg/L	0.0124	0.014	0.0148
Dissolved Beryllium (Be)	mg/L	<0.0005	<0.00010	<0.00010
Dissolved Boron (B)	mg/L	<0.01	<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L	<0.00002	<0.000010	<0.000010
Dissolved Chromium (Cr)	mg/L	0.0013	<0.0010	<0.0010
Dissolved Copper (Cu)	mg/L	0.0006	0.0006	0.00064
Dissolved Iron (Fe)	mg/L	0.03		0.0286
Dissolved Lead (Pb)	mg/L	0.0011		<0.00020
Dissolved Lithium (Li)	mg/L	<0.005		<0.0050
Dissolved Manganese (Mn)	mg/L	<0.0005		0.0021
Dissolved Molybdenum (Mo)	mg/L	<0.0005		<0.0010
Dissolved Nickel (Ni)	mg/L	0.0015		<0.0010
Dissolved Selenium (Se)	mg/L	<0.001		<0.00010
Dissolved Silver (Ag)	mg/L			<0.000020
Dissolved Strontium (Sr)	mg/L	0.106		0.114

Dissolved thallium (Tl)	mg/L	<0.0008		<0.000050
Dissolved Tin (Sn)	mg/L	<0.001		<0.0050
Dissolved titanium (Ti)	mg/L	0.01		<0.0050
Dissolved Uranium (U)	mg/L	<0.001		<0.00010
Dissolved Vanadium	mg/L	<0.0005		<0.0050
Dissolved Zinc	mg/L	0.001		<0.0050
Dissolved Calcium (Ca)	mg/L	17.9	19.1	19.3
Magnesium (Mg)-Dissolved	mg/L			2.61
Dissolved Potassium (K)	mg/L			1.25
Sodium (Na)-Dissolved	mg/L			4.95
Hardness (as CaCO3)	mg/L	54	56.3	67.7
Aluminum (Al)-Total	mg/L	0.072	0.0039	0.0082
Antimony (Sb)-Total	mg/L	<0.0001	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	<0.0005	0.00172	0.00157
Barium (Ba)-Total	mg/L	0.0142	0.0151	0.0172
Beryllium (Be)-Total	mg/L	<0.0005	<0.00010	<0.00010
Boron (B)-Total	mg/L	<0.01	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.00002	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	0.0015	<0.0010	<0.0010
Copper (Cu)-Total	mg/L	0.0016	<0.00050	0.00071
Iron (Fe)-Total	mg/L	0.52		0.074
Lead (Pb)-Total	mg/L	0.0035		<0.00020
Lithium (Li)-Total	mg/L	<0.005		0.0052
Manganese (Mn)-Total	mg/L	0.0354		0.0095
Molybdenum (Mo)-Total	mg/L	<0.0005		<0.0010
Nickel (Ni)-Total	mg/L	0.0027		<0.0010
Selenium (Se)-Total	mg/L	<0.001		<0.00010
Silver (Ag)-Total	mg/L			<0.000020
Strontium (Sr)-Total	mg/L	0.106		0.132
Thallium (Tl)-Total	mg/L	<0.0008		<0.000050
Tin (Sn)-Total	mg/L	<0.001		<0.0050
Titanium (Ti)-Total	mg/L	0.01		<0.0050
Uranium (U)-Total	mg/L	<0.001		<0.00010
Vanadium (V)-Total	mg/L	<0.0005		<0.0050
Zinc (Zn)-Total	mg/L	0.011		<0.0050
Calcium (Ca)-Total	mg/L		18.6	22.2
Magnesium (Mg)-Total	mg/L	2.47		3
Potassium (K)-Total	mg/L	0.98		1.29
Sodium (Na)-Total	mg/L	3.83		5.54

Sulfate	mg/L	9.5		
Chloride	mg/L	20.5		
NH3 (nonionized)	mg N/L	<0.01		

G2

Waterbody G2	Units			
Year		2016		
Date Sampled		23/07/2016	21/08/2016	15/09/2016
GPS Coordinates		0538840-6990498	0538840-6990498	0538840-6990498
LAB		Multi-Lab	MAXXAM	MAXXAM
Field Measurements				
Water Temperature	oC	14.9	11.5	5.4
pH	pH units	8.36	8.7	8.61
Conductivity	(µS/cm)	60.9	66.5	72
Laboratory-Measured				
Bicarbonate (HCO3)	mg/L	24	29	30
Carbonate (CO3)	mg/L	<2	<1.0	<1.0
Ammonia as N	mg/L	0.01	<0.01	<0.01
Conductivity	umhos/cm	6090	71	78
Total Dissolved Solids	mg/L	41	72	26
Free Cyanide	mg/L		<0.0010	<0.0010
Total Kjeldahl Nitrogen (TKN)	mg/L	0.4	0.26	0.34
Dissolved organic carbon (D.O.C.)	mg/L	3.3	4.9	4.7
Total organic carbon (T.O.C.)	mg/L	5.2	4.9	4.8
Ortho-Phosphate (PO4-P)	mg/L	<0.01	<0.010	<0.010
pH	pH units	7.66	7.55	7.62
Total Phosphorus (P)-Total	mg/L	<0.01	0.006	0.005
Total Suspended Solids	mg/L	4	1	<1
Dissolved Sulphate (SO4)	mg/L		<1.0	1.1
Total Cyanide (CN)	mg/L		<0.0050	<0.0050
Turbidity	NTU	1.51	0.6	0.5
Alkalinity, Total (as CaCO3)	mg/L	24	29	30
Dissolved Chloride (Cl)	mg/L		3.3	4.3
Nitrite-N	mg/L		<0.010	<0.010
Nitrate-N	mg/L		<0.10	<0.10
Nitrate and Nitrite as N	mg/L	<0.01	<0.10	<0.10
Mercury (Hg)-Total	mg/L	0.00078	<0.00001	<0.00001
Dissolved Mercury (Hg)	mg/L	0.00059		<0.00001
Reactive Silica (Si)	mg/L	0.3	0.37	0.3

Dissolved Hardness (CaCO ₃)	mg/L		29.5	30.9
Dissolved Aluminium (Al)	mg/L	0.007	0.0111	0.0033
Dissolved Antimony (Sb)	mg/L	<0.0001	<0.00050	<0.00050
Dissolved Arsenic (As)	mg/L	<0.0005	0.00105	0.00076
Dissolved Barium (Ba)	mg/L	0.0096	0.0125	0.0138
Dissolved Beryllium (Be)	mg/L	<0.0005	<0.00010	<0.00010
Dissolved Boron (B)	mg/L	<0.01	<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L	<0.00002	<0.000010	<0.000010
Dissolved Chromium (Cr)	mg/L	0.0013	<0.0010	<0.0010
Dissolved Copper (Cu)	mg/L	0.0008	0.00108	0.00085
Dissolved Iron (Fe)	mg/L	0.02		0.024
Dissolved Lead (Pb)	mg/L	<0.0003		<0.00020
Dissolved Lithium (Li)	mg/L	<0.005		<0.0050
Dissolved Manganese (Mn)	mg/L	<0.0005		<0.0010
Dissolved Molybdenum (Mo)	mg/L	<0.0005		<0.0010
Dissolved Nickel (Ni)	mg/L	0.0011		<0.0010
Dissolved Selenium (Se)	mg/L	<0.001		<0.00010
Dissolved Silver (Ag)	mg/L			<0.000020
Dissolved Strontium (Sr)	mg/L	0.044		0.0519
Dissolved thallium (Tl)	mg/L	<0.0008		<0.000050
Dissolved Tin (Sn)	mg/L	<0.001		<0.0050
Dissolved titanium (Ti)	mg/L	<0.01		<0.0050
Dissolved Uranium (U)	mg/L	<0.001		<0.00010
Dissolved Vanadium	mg/L	<0.0005		<0.0050
Dissolved Zinc	mg/L	<0.001		<0.0050
Dissolved - Calcium (Ca)	mg/L		9.83	10.4
Magnesium (Mg)-Dissolved	mg/L			1.21
Potassium (K)-Dissolved	mg/L			1.04
Sodium (Na)-Dissolved	mg/L			2.1
Hardness (as CaCO ₃)	mg/L	25	28.3	30.7
Aluminum (Al)-Total	mg/L	0.029	0.0074	0.0085
Antimony (Sb)-Total	mg/L	<0.0001	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	<0.0005	0.00118	0.0009
Barium (Ba)-Total	mg/L	0.0099	0.0132	0.0149
Beryllium (Be)-Total	mg/L	<0.0005	<0.00010	<0.00010
Boron (B)-Total	mg/L	<0.01	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.00002	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	0.0013	<0.0010	<0.0010
Copper (Cu)-Total	mg/L	0.0009	0.00059	0.00135
Iron (Fe)-Total	mg/L	0.13		0.106

Lead (Pb)-Total	mg/L	0.0004		<0.00020
Lithium (Li)-Total	mg/L	<0.005		<0.0050
Manganese (Mn)-Total	mg/L	0.0073		0.0065
Molybdenum (Mo)-Total	mg/L	<0.0005		<0.0010
Nickel (Ni)-Total	mg/L	0.001		0.003
Selenium (Se)-Total	mg/L	<0.001		<0.00010
Silver (Ag)-Total	mg/L			<0.000020
Strontium (Sr)-Total	mg/L	0.044		0.0495
Thallium (Tl)-Total	mg/L	<0.0008		<0.000050
Tin (Sn)-Total	mg/L	<0.001		<0.0050
Titanium (Ti)-Total	mg/L	<0.01		<0.0050
Uranium (U)-Total	mg/L	<0.001		<0.00010
Vanadium (V)-Total	mg/L	<0.0005		<0.0050
Zinc (Zn)-Total	mg/L	0.001		<0.0050
Calcium (Ca)-Total	mg/L	8.69	9.5	10.4
Magnesium (Mg)-Total	mg/L	1.04		1.12
Potassium (K)-Total	mg/L	0.78		1.03
Sodium (Na)-Total	mg/L	1.57		2.07
Biochemical Oxygen Demand	mg/L			
Bismuth (Bi)-Total	mg/L			
Cesium (Cs)-Total	mg/L			
Chloride	mg/L	3.9		
Cobalt (Co)-Total	mg/L			
Fluoride	mg/L			
Hydroxide (OH)	mg/L			
Ion balance	%			
NH3 (nonionized)	mg/L	<0.01		
Phosphorus (P)-Total	mg/L			
Phosphorus (P)-Total Reactive	mg/L			
Rubidium (Rb)-Total	mg/L			
Silicon (Si)-Total	mg/L			
Sodium Adsorption Ratio				
Sulfate	mg/L	11.3		

H1

Waterbody H1	Units			
Year		2016		
Date Sampled		31 july 2016 08:58	07/08/2016	15/09/2016
GPS Coordinates				540685-

				6989588
LAB		Multilab	Multi-Lab	MAXXAM
Field Measurements				
Water Temperature	oC	14.3	11.5	5
pH	pH units	8.51	11.5	7.88
Conductivity	(µS/cm)		324	4890
Laboratory-Measured				
Bicarbonate (HCO ₃)	mg/L	46	50	36
Carbonate (CO ₃)	mg/L	<2	<2	<1.0
Ammonia Nitrogen (NH ₃ -NH ₄)			0.51	17
Conductivity	umhos/cm	310	543	5600
Total Dissolved Solids (TDS)	mg/L		362	4120
Free Cyanide	mg/L		<0.1	<0.0010
Total Kjeldahl Nitrogen	mg/L		3.5	16
Dissolved organic carbon (D.O.C.) mg/L	mg/L	6.5	10.4	9.8
Total organic carbon (T.O.C.) mg/L	mg/L	12.2	10.4	11
Ortho-Phosphate (PO ₄ -P)	mg/L	0.5	<0.01	<0.010
pH	pH units	7.48	7.87	7.1
Phosphorus (P)-Total	mg/L		0.01	0.01
Total Suspended Solids	mg/L	<1	<1	5
Dissolved Sulphate (SO ₄)	mg/L			77
Total Cyanide (CNt)	mg/L		<0.005	<0.0050
Turbidity	NTU	1.28	2.47	8
Alkalinity, Total (as CaCO ₃)	mg/L	46	50	36
Dissolved Chloride (Cl)	mg/L			1700
Nitrite-N	mg/L	<0.01	0.03	0.381
Nitrate-N	mg/L	0.03	1.24	23.4
Nitrate and Nitrite as N	mg/L	0.03	1.27	23.8
Mercury (Hg)-Total	mg/L	<0.0001	<0.0001	0.00001
Dissolved Mercury (Hg) mg/L	mg/L	<0.0001		<0.00001
Reactive Silica	mg/L	0.9	1.5	14
Dissolved Hardness (CaCO ₃)	mg/L			2130
Dissolved Aluminium (Al) mg/L	mg/L	<0.006		0.0059
Dissolved Antimony (Sb) mg/L	mg/L	<0.0001		<0.00050
Dissolved Arsenic (As) mg/L	mg/L	<0.0005		0.00066
Dissolved Barium (Ba) mg/L	mg/L	0.0251		0.692
Dissolved Beryllium (Be) mg/L	mg/L	<0.0005		<0.00010
Dissolved Boron (B) mg/L	mg/L	<0.01		0.168
Dissolved Cadmium (Cd) mg/L	mg/L	<0.00002		0.000032

Dissolved Chromium (Cr) mg/L	mg/L	<0.0006		<0.0010
Dissolved Copper (Cu) mg/L	mg/L	0.001		0.00062
Dissolved Iron (Fe) mg/L	mg/L	0.04		0.428
Dissolved Lead (Pb) mg/L	mg/L	<0.0003		<0.00020
Dissolved Lithium (Li) mg/L	mg/L	0.007		0.827
Dissolved Manganese (Mn) mg/L	mg/L	0.0005		0.334
Dissolved Molybdenum (Mo) mg/L	mg/L	<0.0005		<0.0010
Dissolved Nickel (Ni)	mg/L			0.0047
Dissolved Selenium (Se) mg/L	mg/L	0.001		<0.00010
Dissolved Silver (Ag)	mg/L			<0.000020
Dissolved Strontium (Sr) mg/L	mg/L	0.315		11.3
Dissolved thallium (Tl) mg/L	mg/L	<0.0008		<0.000050
Dissolved Tin (Sn) mg/L	mg/L	<0.001		<0.0050
Dissolved titanium (Ti) mg/L	mg/L	0.02		<0.0050
Dissolved Uranium (U) mg/L	mg/L	<0.001		0.00028
Dissolved Vanadium mg/L	mg/L	0.0007		<0.0050
Dissolved Zinc mg/L	mg/L	<0.001		<0.0050
Calcium (Ca)-Dissolved	mg/L			744
Magnesium (Mg)-Dissolved	mg/L			65.7
Potassium (K)-Dissolved	mg/L			38
Sodium (Na)-Dissolved	mg/L			192
Hardness (as CaCO3)	mg/L	115	197	2100
Aluminum (Al)-Total	mg/L	<0.006	<0.006	0.0056
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.00050
Arsenic (As)-Total	mg/L	<0.0005	<0.0005	0.00111
Barium (Ba)-Total	mg/L	0.0288	0.0542	0.67
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.00010
Boron (B)-Total	mg/L	<0.01	<0.01	0.106
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	0.000045
Chromium (Cr)-Total	mg/L	0.0007	<0.0006	<0.0010
Copper (Cu)-Total	mg/L	0.0009	0.0011	0.00091
Iron (Fe)-Total	mg/L	0.32	0.51	1.27
Lead (Pb)-Total	mg/L	<0.0003	<0.0003	<0.00020
Lithium (Li)-Total	mg/L	0.008	0.038	0.772
Manganese (Mn)-Total	mg/L	0.0531	0.0594	0.284
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005	<0.0010
Nickel (Ni)-Total	mg/L	0.0033	0.005	0.0042
Selenium (Se)-Total	mg/L	0.001	0.004	<0.00010
Silver (Ag)-Total	mg/L		<0.0001	<0.000020
Strontium (Sr)-Total	mg/L	0.323	0.674	12
Thallium (Tl)-Total	mg/L	<0.0008	<0.0008	<0.000050

Tin (Sn)-Total	mg/L	<0.001	<0.001	<0.0050
Titanium (Ti)-Total	mg/L	0.02	0.05	<0.0050
Uranium (U)-Total	mg/L	<0.001	<0.001	0.0003
Vanadium (V)-Total	mg/L	0.0043	<0.0005	<0.0050
Zinc (Zn)-Total	mg/L	<0.001	0.001	<0.0050
Calcium (Ca)-Total	mg/L	39.2	68.8	749
Magnesium (Mg)-Total	mg/L	4.29	6.32	55.9
Potassium (K)-Total	mg/L	2.35	3.07	33.4
Sodium (Na)-Total	mg/L	7.94	14.1	168
Ammonia as N	mg/L			
Ammonia NH3 (non-ionized)			0.01	
Biochemical Oxygen Demand	mg/L			
Bismuth (Bi)-Total	mg/L			
Cesium (Cs)-Total	mg/L			
Chloride	mg/L	58.3	124	
Cobalt (Co)-Total	mg/L			
Cyanide WAD	mg/L		<0.005	
Dissolved Solids mg/L	mg/L	216		
Fluoride	mg/L			
Hydroxide (OH)	mg/L		<2	
Ion balance	%			
Phosphorus (P)-Total	mg/L			
Phosphorus (P)-Total Reactive	mg/L			
Rubidium (Rb)-Total	mg/L			
Silicon (Si)-Total	mg/L			
Sodium Adsorption Ratio				
Sulfate	mg/L	3.7	7.8	
Tellurium (Te)-Total	mg/L			
Thorium (Th)-Total	mg/L			
Total Oil and Grease	mg/L		<1	

H17

Waterbody H17	Units		
Year		2016	
Date Sampled		31 july 2016 09:48	07/08/2016
GPS Coordinates			
LAB		Multi-Lab	Multi-Lab
Field Measurements			
Water Temperature	oC	14.4	12.5

pH	pH units	8.77	7.88
Conductivity	(µS/cm)		121.2
Laboratory-Measured			
Alkalinity, Total (as CaCO ₃)	mg/L	36	36
Aluminum (Al)-Total	mg/L	<0.006	<0.006
Ammonia as N (NH ₃)	mg/L	<0.01	
Ammonia Nitrogen (NH ₃ -NH ₄)		0.12	<0.01
Antimony (Sb)-Total	mg/L	<0.0001	
Arsenic (As)-Total	mg/L	<0.0005	<0.0005
Barium (Ba)-Total	mg/L	0.0103	0.0121
Beryllium (Be)-Total	mg/L	<0.0005	
Bicarbonate (HCO ₃)	mg/L	36	
Biochemical Oxygen Demand	mg/L		
Bismuth (Bi)-Total	mg/L		
Boron (B)-Total	mg/L	<0.01	
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002
Calcium (Ca)-Dissolved	mg/L		
Calcium (Ca)-Total	mg/L	11.4	
Carbonate (CO ₃)	mg/L	<2	
Cesium (Cs)-Total	mg/L		
Chloride	mg/L	9.9	16.1
Chromium (Cr)-Total	mg/L	0.0013	0.0011
Cobalt (Co)-Total	mg/L		
Conductivity	umhos/cm	110	121.2
Copper (Cu)-Total	mg/L	0.0012	0.0048
Dissolved Solids			79
Fluoride	mg/L		0.04
Hardness (as CaCO ₃)	mg/L	38	43
Hydroxide (OH)	mg/L		
Ion balance	%		
Iron (Fe)-Total	mg/L	0.19	0.12
Lead (Pb)-Total	mg/L	<0.0003	<0.0003
Lithium (Li)-Total	mg/L	<0.005	
Magnesium (Mg)-Dissolved	mg/L		
Magnesium (Mg)-Total	mg/L	2.55	
Manganese (Mn)-Total	mg/L	0.0102	0.004
Mercury (Hg)-Total	mg/L	<0.0001	<0.0001
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005
Nickel (Ni)-Total	mg/L	0.0011	0.0015
Nitrate and Nitrite as N	mg/L	0.02	
Nitrate-N	mg/L	0.02	0.02
Nitrite-N	mg/L	<0.01	<0.01

Ortho-Phosphate (PO ₄ -P)	mg/L	<0.01	<0.01
pH	pH units	7.93	8.03
Phosphorus (P)-Total	mg/L		
Phosphorus (P)-Total	mg/L	0.01	0.02
Phosphorus (P)-Total Reactive	mg/L		
Potassium (K)-Dissolved	mg/L		
Potassium (K)-Total	mg/L	1.29	
Rubidium (Rb)-Total	mg/L		
Selenium (Se)-Total	mg/L	<0.001	<0.001
Silicon (Si)-Total	mg/L		
Silver (Ag)-Total	mg/L		<0.0001
Sodium (Na)-Dissolved	mg/L		
Sodium (Na)-Total	mg/L	4.33	
Sodium Adsorption Ratio	mg/L		
Strontium (Sr)-Total	mg/L	0.1	
Sulfate	mg/L	6.7	2.9
TDS (Calculated)	mg/L		
Tellurium (Te)-Total	mg/L		
Thallium (Tl)-Total	mg/L	<0.0008	<0.0008
Thorium (Th)-Total	mg/L		
Tin (Sn)-Total	mg/L	<0.001	
Titanium (Ti)-Total	mg/L	<0.01	
Total Cyanide (CNt)	mg/L		<0.005
Total Kjeldahl Nitrogen	mg/L	0.38	
Total Suspended Solids	mg/L	2	1
Tungsten (W)-Total	mg/L		
Turbidity	NTU	0.76	0.75
Uranium (U)-Total	mg/L	<0.001	
Vanadium (V)-Total	mg/L	0.003	
Zinc (Zn)-Total	mg/L	<0.001	0.001
Zirconium (Zr)-Total	mg/L		
Dissolved Aluminium (Al) mg/L	mg/L	<0.006	
Dissolved Antimony (Sb) mg/L	mg/L	<0.0001	
Dissolved Arsenic (As) mg/L	mg/L	<0.0005	
Dissolved Barium (Ba) mg/L	mg/L	0.0106	
Dissolved Beryllium (Be) mg/L	mg/L	<0.0005	
Dissolved Boron (B) mg/L	mg/L	<0.01	
Dissolved Cadmium (Cd) mg/L	mg/L	<0.00002	
Dissolved Chromium (Cr) mg/L	mg/L	<0.0006	
Dissolved Copper (Cu) mg/L	mg/L	0.0009	
Dissolved Iron (Fe) mg/L	mg/L	0.01	

Dissolved Lead (Pb) mg/L	mg/L	<0.0003	
Dissolved Lithium (Li) mg/L	mg/L	<0.005	
Dissolved Manganese (Mn) mg/L	mg/L	<0.0005	
Dissolved Mercury (Hg) mg/L	mg/L	<0.0001	
Dissolved Molybdenum (Mo) mg/L	mg/L	<0.0005	
Dissolved organic carbon (D.O.C.) mg/L	mg/L	4.5	
Dissolved Selenium (Se) mg/L	mg/L	<0.001	
Dissolved Solids mg/L	mg/L	75	
Dissolved Strontium (Sr) mg/L	mg/L	0.086	
Dissolved thallium (Tl) mg/L	mg/L	<0.0008	
Dissolved Tin (Sn) mg/L	mg/L	<0.001	
Dissolved titanium (Ti) mg/L	mg/L	<0.01	
Dissolved Uranium (U) mg/L	mg/L	<0.001	
Dissolved Vanadium mg/L	mg/L	0.002	
Dissolved Zinc mg/L	mg/L	<0.001	
Reactive Silica (Si) mg/L	mg/L	0.3	
Total organic carbon (T.O.C.) mg/L	mg/L	6	

H19

Waterbody H19	Units				
Year		2016			
Date Sampled		31 july 2016 09:08	07/08/2016	28/08/2016	15/09/2016
GPS Coordinates					540519- 6989203
LAB		Multilab	Multi-Lab	MAXXAM	MAXXAM
Field Measurements					
Water Temperature	oC	14.2	12.2	10.4	5
pH	pH units	8.4	7.69	8.92	8.54
Conductivity	(µS/cm)	?	244	270	283
Laboratory-Measured					
Alkalinity, Total (as CaCO3)	mg/L	41	42	50	53
Aluminum (Al)-Total	mg/L	<0.006	<0.006	0.0059	0.013
Ammonia as N (NH3)	mg/L	<0.01			
Ammonia Nitrogen (NH3-NH4)		0.07	<0.01	<0.01	0.01
Antimony (Sb)-Total	mg/L	<0.0001		-	
Arsenic (As)-Total	mg/L	<0.0005	<0.0005	0.00177	0.00169
Barium (Ba)-Total	mg/L	0.0175	0.0193	0.0243	0.0257
Beryllium (Be)-Total	mg/L	<0.0005		-	
Bicarbonate (HCO3)	mg/L	41			

Biochemical Oxygen Demand	mg/L				
Bismuth (Bi)-Total	mg/L				
Boron (B)-Total	mg/L	<0.01		-	
Cadmium (Cd)-Total	mg/L	<0.00002	<0.00002	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L				
Calcium (Ca)-Total	mg/L	20.3		-	
Carbonate (CO3)	mg/L	<2			
Cesium (Cs)-Total	mg/L				
Chloride	mg/L	44.1	48.9		
Dissolved Chloride (Cl)	mg/L			45	49
Chromium (Cr)-Total	mg/L	<0.0006	0.0009	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L				
Conductivity	umhos/cm	240	244		
Copper (Cu)-Total	mg/L	0.0025	0.0074	0.00106	0.00125
Dissolved Solids		167	202	252	276
Fluoride	mg/L		0.05	<0.10	<0.10
Hardness (as CaCO3)	mg/L	71	77	87.8	94.3
Hydroxide (OH)	mg/L				
Ion balance	%				
Iron (Fe)-Total	mg/L	0.14	0.2	0.124	0.192
Lead (Pb)-Total	mg/L	<0.0003	<0.0003	<0.00020	<0.00020
Lithium (Li)-Total	mg/L	<0.005		-	
Magnesium (Mg)-Dissolved	mg/L				
Magnesium (Mg)-Total	mg/L	4.96		-	
Manganese (Mn)-Total	mg/L	0.0082	0.0085	0.0053	0.0078
Mercury (Hg)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00001
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005	<0.0010	<0.0010
Nickel (Ni)-Total	mg/L	0.0024	0.0029	0.0016	
Nitrate and Nitrite as N	mg/L	0.03		<0.10	<0.10
Nitrate-N	mg/L	0.01	0.01	<0.10	<0.10
Nitrite-N	mg/L	0.02	<0.01	<0.010	<0.010
Ortho-Phosphate (PO4-P)	mg/L	0.03	<0.01		
pH	pH units	7.94	7.93	7.57	7.66
Phosphorus (P)-Total	mg/L	0.01			
Phosphorus (P)-Total	mg/L		0.02		
Phosphorus (P)-Total Reactive	mg/L				
Potassium (K)-Dissolved	mg/L				
Potassium (K)-Total	mg/L	1.52		-	
Rubidium (Rb)-Total	mg/L				
Selenium (Se)-Total	mg/L	<0.001	0.002	<0.00010	<0.00010

Silicon (Si)-Total	mg/L				
Silver (Ag)-Total	mg/L		<0.0001	<0.000020	<0.000020
Sodium (Na)-Dissolved	mg/L				
Sodium (Na)-Total	mg/L	13.1		-	
Sodium Adsorption Ratio					
Strontium (Sr)-Total	mg/L	0.128		-	
Total Sulfate (SO4)	mg/L	7.1	4.7		
Dissolved Sulphate (SO4)	mg/L			4.5	5.1
TDS (Calculated)	mg/L				
Tellurium (Te)-Total	mg/L				
Thallium (Tl)-Total	mg/L	<0.0008	<0.0008	<0.000050	<0.000050
Thorium (Th)-Total	mg/L				
Tin (Sn)-Total	mg/L	<0.001		-	
Titanium (Ti)-Total	mg/L	<0.01		-	
Total Cyanide (CNt)			<0.005	<0.0050	<0.0050
Total Kjeldahl Nitrogen	mg/L	0.77			
Total Suspended Solids	mg/L	<1	<1	<1	<1
Tungsten (W)-Total	mg/L				
Turbidity	NTU	2.88	2.52	0.4	0.4
Uranium (U)-Total	mg/L	<0.001		-	
Vanadium (V)-Total	mg/L	0.0068		-	
Zinc (Zn)-Total	mg/L	<0.001	<0.001	0.0918	<0.0050
Zirconium (Zr)-Total	mg/L				
Dissolved Aluminium (Al) mg/L	mg/L	<0.006			
Dissolved Antimony (Sb) mg/L	mg/L	<0.0001			
Dissolved Arsenic (As) mg/L	mg/L	<0.0005			
Dissolved Barium (Ba) mg/L	mg/L	0.0181			
Dissolved Beryllium (Be) mg/L	mg/L	<0.0005			
Dissolved Boron (B) mg/L	mg/L	<0.01			
Dissolved Cadmium (Cd) mg/L	mg/L	<0.00002			
Dissolved Chromium (Cr) mg/L	mg/L	<0.0006			
Dissolved Copper (Cu) mg/L	mg/L	0.0007			
Dissolved Iron (Fe) mg/L	mg/L	0.01			
Dissolved Lead (Pb) mg/L	mg/L	<0.0003			
Dissolved Lithium (Li) mg/L	mg/L	<0.005			
Dissolved Manganese (Mn) mg/L	mg/L	<0.0005			
Dissolved Mercury (Hg) mg/L	mg/L	<0.0001			
Dissolved Molybdenum (Mo) mg/L	mg/L	<0.0005			

Dissolved organic carbon (D.O.C.) mg/L	mg/L	10.1			
Dissolved Selenium (Se) mg/L	mg/L	<0.001			
Dissolved Strontium (Sr) mg/L	mg/L	0.127			
Dissolved thallium (Tl) mg/L	mg/L	<0.0008			
Dissolved Tin (Sn) mg/L	mg/L	<0.001			
Dissolved titanium (Ti) mg/L	mg/L	<0.01			
Dissolved Uranium (U) mg/L	mg/L	<0.001			
Dissolved Vanadium mg/L	mg/L	0.0047			
Dissolved Zinc mg/L	mg/L	<0.001			
Reactive Silica (Si) mg/L	mg/L	0.2			
Total organic carbon (T.O.C.) mg/L	mg/L	12.1			

CONTROL LAKE

Waterbody CTRL lake	Units	CCME				
Year			2016			
Date Sampled			25/06/2016	23/07/2016	15/08/2016	16/09/2016
GPS Coordinates			0534504-6987051	0534504-6987051	0534504-6987051	0534504-6987051
LAB			Multi-Lab	Multi-Lab	MAXXAM	MAXXAM
Field Measurements						
Water Temperature	oC		8.4	15.5	17.3	5.2
pH	pH units		7.92	8.58	8.3	8.44
Conductivity	(mS/cm)		0.0787	0.0758	0.0813	0.0884
Laboratory-Measured						
Reactive Silica	mg/L				0.19	0.19
Alkalinity, Total (as CaCO3)	mg/L		23	23	25	26
Aluminum (Al)-Total	mg/L	0.1	0.014	0.041	0.0122	0.0213
Antimony (Sb)-Total	mg/L		<0.0001	<0.0001	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	0.005	0.0011	<0.0005	0.0006	0.00055
Barium (Ba)-Total	mg/L		0.0088	0.006	0.008	0.0078
Beryllium (Be)-Total	mg/L		<0.0005	<0.0005	<0.00010	<0.00010
Bicarbonate (HCO3)	mg/L		23	23	25	26
Boron (B)-Total	mg/L	1.5	<0.01	0.01	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	Equation	0.00056	<0.00002	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L		7.4	8.98	9.46	9.4

Carbonate (CO ₃)	mg/L		<2	<2	<1.0	<1.0
Chloride	mg/L		7.5	8.9		
Dissolved Chloride (Cl)	mg/L				9.3	9.7
Chromium (Cr)-Total	mg/L		<0.0006	0.002	<0.0010	<0.0010
Conductivity	umhos/cm		78	96	89	88
Copper (Cu)-Total	mg/L	Equation	0.0011	0.0031	0.0008	0.001
Dissolved Sulphate (SO ₄)	mg/L				2.8	2.7
Dissolved Solids	mg/L		52	64	58	44
Dissolved Organic Carbon	mg/L				3.4	3.2
Total Organic Carbon (TOC)	mg/L				3.4	3.6
Free Cyanide	mg/L				<0.0010	<0.0010
Total Cyanide (CN)	mg/L				<0.0050	<0.0050
Dissolved Hardness (CaCO ₃)	mg/L				28.9	29.5
Hardness (as CaCO ₃)	mg/L		22	28	28.3	28
Iron (Fe)-Total	mg/L	0.3	0.12	0.15	0.067	0.063
Lead (Pb)-Total	mg/L	Equation	0.0024	<0.0003	<0.00020	<0.00020
Lithium (Li)-Total	mg/L		<0.005	<0.005	<0.0050	<0.0050
Magnesium (Mg)-Total	mg/L		1.04	1.37	1.12	1.09
Manganese (Mn)-Total	mg/L		0.0079	0.0102	0.0061	0.0058
Dissolved Mercury	mg/L					0.00001
Mercury (Hg)-Total	mg/L	0.000026	<0.00001	0.00078	<0.00001	<0.00001
Molybdenum (Mo)-Total	mg/L	0.073	<0.0005	<0.0005	<0.0010	<0.0010
NH ₃ -Ammonia (non-ionized)	mg N/L		<0.01	<0.01		
Total Ammonia-N	mg/L				<0.01	<0.01
Nickel (Ni)-Total	mg/L	Equation	<0.0005	0.0013	<0.0010	<0.0010
Nitrate-N	mg/L	13	0.02	<0.01	<0.10	<0.1
Nitrite-N	mg/L	0.197	<0.01	<0.01	<0.010	<0.010
Nitrate + Nitrite (N)	mg/L				<0.10	<0.10
Ortho-Phosphate (PO ₄ -P)	mg/L		<0.01	<0.01	<0.010	<0.010
pH	pH	6.5-9.0	7.23	7.68	7.32	7.26

	units					
Potassium (K)-Total	mg/L		0.78	1.23	1.10	0.986
Selenium (Se)-Total	mg/L	0.001	<0.001	<0.001	<0.00010	<0.00010
Silver (Ag)-Total	mg/L	0.0001	<0.0001	<0.0001	<0.000020	<0.000020
Sodium (Na)-Total	mg/L		3.49	5.29	4.81	4.76
Strontium (Sr)-Total	mg/L		0.028	0.072	0.0324	0.0294
Sulfate	mg/L		3.6	1.1		
Tin (Sn)-Total	mg/L		<0.001	<0.001	<0.0050	<0.0050
Titanium (Ti)-Total	mg/L		<0.01	<0.01	<0.0050	<0.0050
Total Oil and Grease	mg/L		<1	<1		
Total Suspended Solids	mg/L		2	8	2	1
Turbidity	NTU		0.87	2.15	0.5	<0.1
Uranium (U)-Total	mg/L	0.015	<0.001	<0.001	<0.00010	<0.00010
Vanadium (V)-Total	mg/L		<0.0005	<0.0005	<0.0050	<0.0050
Zinc (Zn)-Total	mg/L	0.03	0.008	0.001	<0.0050	<0.0050
Total Sulphur (S)	mg/L				<3.0	
Biochemical Oxygen Demand	mg/L					
Bismuth (Bi)-Total	mg/L					
Calcium (Ca)-Dissolved	mg/L				9.75	9.89
Cesium (Cs)-Total	mg/L					
Cobalt (Co)-Total	mg/L					
Fluoride	mg/L	0.12				
Zirconium (Zr)-Total	mg/L					
Tungsten (W)-Total	mg/L					
Total Kjeldahl Nitrogen	mg/L				0.3	0.3
TDS (Calculated)	mg/L					
Tellurium (Te)-Total	mg/L					
Thallium (Tl)-Total	mg/L	0.0008			<0.000050	<0.000050
Thorium (Th)-Total	mg/L					
Sodium Adsorption Ratio		0.03				
Ion balance	%		8.81			
Sodium (Na)-Dissolved	mg/L				5.08	5.16
Silicon (Si)-Total	mg/L					
Rubidium (Rb)-Total	mg/L					
Phosphorus (P)-Total	mg/L	0.004 - 0.01			0.007	0.01

Phosphorus (P)-Total	mg/L					
Phosphorus (P)-Total Reactive	mg/L					
Potassium (K)-Dissolved	mg/L				1.1	1.12
Nitrate and Nitrite as N	mg/L					
Magnesium (Mg)-Dissolved	mg/L				1.1	1.16
Hydroxide (OH)	mg/L					
NH3 - Ammonia as N	mg/L	2.33				
Dissolved Aluminum (Al)	mg/L				0.0069	0.0033
Dissolved Antimony (Sb)	mg/L				<0.00050	<0.00050
Dissolved Arsenic (As)	mg/L				0.00052	0.00044
Dissolved Barium (Ba)	mg/L				0.0071	0.0072
Dissolved Beryllium (Be)	mg/L				<0.00010	<0.00010
Dissolved Boron (B)	mg/L				<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L				<0.000010	<0.000010
Dissolved Chromium (Cr)	mg/L				<0.0010	<0.0010
Dissolved Copper (Cu)	mg/L				0.00077	0.0008
Dissolved Iron (Fe)	mg/L				0.0109	0.0092
Dissolved Lead (Pb)	mg/L				<0.00020	<0.00020
Dissolved Lithium (Li)	mg/L				<0.0050	<0.0050
Dissolved Manganese (Mn)	mg/L				<0.0010	<0.0010
Dissolved Molybdenum (Mo)	mg/L				<0.0010	<0.0010
Dissolved Nickel (Ni)	mg/L				<0.0010	<0.0010
Dissolved Selenium (Se)	mg/L				<0.00010	<0.00010
Dissolved Silver (Ag)	mg/L				<0.000020	<0.000020
Dissolved Strontium (Sr)	mg/L				0.0318	0.0311
Dissolved Thallium (Tl)	mg/L				<0.000050	<0.000050
Dissolved Tin (Sn)	mg/L				<0.0050	<0.0050
Dissolved Titanium (Ti)	mg/L				<0.0050	<0.0050
Dissolved Uranium (U)	mg/L				<0.00010	<0.00010

Dissolved Vanadium (V)	mg/L				<0.0050	<0.0050
Dissolved Zinc (Zn)	mg/L				<0.0050	<0.0050
Dissolved Sulphur (S)	mg/L				<3.0	

NIPISSAR LAKE

Waterbody NIPPISAR LAKE	Units	
Year		2016
Date Sampled		16/08/2016
GPS Coordinates		
LAB		Maxxam
Field Measurements		
Water Temperature	oC	17.4
pH	pH units	8.48
Conductivity	(mS/cm)	203
Laboratory-Measured		
Alkalinity, Total (as CaCO ₃)	mg/L	41
Bicarbonate (HCO ₃)	mg/L	41
Carbonate (CO ₃)	mg/L	<1.0
Dissolved Organic Carbon	mg/L	3.9
Total Organic Carbon (TOC)	mg/L	4.1
Dissolved Chloride (Cl)	mg/L	31
Chloride	mg/L	
Conductivity	umhos/cm	230
Free Cyanide	mg/L	<0.0010
Total Cyanide (CN)	mg/L	<0.0050
Dissolved Solids	mg/L	150
Dissolved Hardness (CaCO ₃)	mg/L	56.5
Hardness (as CaCO ₃)	mg/L	54.4
Mercury (Hg)-Total	mg/L	<0.00001
NH ₃ -Ammonia (non-ionized)	mg N/L	
Nitrate-N	mg/L	<0.10
Nitrite-N	mg/L	<0.010
Nitrate + Nitrite (N)	mg/L	<0.10
Ortho-Phosphate (PO ₄ -P)	mg/L	<0.010
pH	pH units	7.61
Sulfate	mg/L	
Dissolved Sulphate (SO ₄)	mg/L	17
Total Oil and Grease	mg/L	
Reactive Silica	mg/L	<0.050

Total Suspended Solids	mg/L	3
Turbidity	NTU	0.7
Biochemical Oxygen Demand	mg/L	
Fluoride	mg/L	
Total Kjeldahl Nitrogen	mg/L	0.34
TDS (Calculated)	mg/L	
Sodium Adsorption Ratio		
Ion balance	%	
Phosphorus (P)-Total Reactive	mg/L	
Nitrate and Nitrite as N	mg/L	
Hydroxide (OH)	mg/L	
NH3 - Ammonia as N	mg/L	
Aluminum (Al)-Dissolved	mg/L	0.0091
Antimony (Sb)-Dissolved	mg/L	<0.00050
Arsenic (As)-Dissolved	mg/L	0.00067
Barium (Ba)-Dissolved	mg/L	0.0155
Beryllium (Be)-Dissolved	mg/L	<0.00010
Bismuth (Bi)-Dissolved	mg/L	
Boron (B)-Dissolved	mg/L	<0.050
Cadmium (Cd)-Dissolved	mg/L	<0.000010
Calcium (Ca)-Dissolved	mg/L	16.1
Cesium (Cs)-Dissolved	mg/L	
Chromium (Cr)-Dissolved	mg/L	<0.0010
Cobalt (Co)-Dissolved	mg/L	
Copper (Cu)-Dissolved	mg/L	0.00086
Iron (Fe)-Dissolved	mg/L	<0.0050
Lead (Pb)-Dissolved	mg/L	<0.00020
Lithium (Li)-Dissolved	mg/L	<0.0050
Magnesium (Mg)-Dissolved	mg/L	3.95
Manganese (Mn)-Dissolved	mg/L	<0.0010
Molybdenum (Mo)-Dissolved	mg/L	<0.0010
Nickel (Ni)-Dissolved	mg/L	<0.0010
Phosphorus (P)-Dissolved	mg/L	
Potassium (K)-Dissolved	mg/L	1.96
Rubidium (Rb)-Dissolved	mg/L	
Selenium (Se)-Dissolved	mg/L	<0.00010
Silicon (Si)-Dissolved	mg/L	
Silver (Ag)-Dissolved	mg/L	<0.000020
Sodium (Na)-Dissolved	mg/L	19
Strontium (Sr)-Dissolved	mg/L	0.0746

Sulphur (S)- Dissolved	mg/L	5.7
Tellurium (Te)-Dissolved	mg/L	
Thallium (Tl)-Dissolved	mg/L	<0.000050
Thorium (Th)-Dissolved	mg/L	
Tin (Sn)-Dissolved	mg/L	<0.0050
Titanium (Ti)-Dissolved	mg/L	<0.0050
Tungsten (W)-Dissolved	mg/L	
Uranium (U)-Dissolved	mg/L	0.00012
Vanadium (V)-Dissolved	mg/L	<0.0050
Zinc (Zn)-Dissolved	mg/L	<0.0050
Zirconium (Zr)-Dissolved	mg/L	
Ammonia-N-Total	mg/L	<0.01
Aluminum (Al)-Total	mg/L	0.027
Antimony (Sb)-Total	mg/L	<0.00050
Arsenic (As)-Total	mg/L	0.00073
Barium (Ba)-Total	mg/L	0.0154
Beryllium (Be)-Total	mg/L	<0.00010
Bismuth (Bi)-Total	mg/L	
Boron (B)-Total	mg/L	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010
Calcium (Ca)-Total	mg/L	15.4
Cesium (Cs)-Total	mg/L	
Chromium (Cr)-Total	mg/L	<0.0010
Cobalt (Co)-Total	mg/L	
Copper (Cu)-Total	mg/L	0.00126
Iron (Fe)-Total	mg/L	0.052
Lead (Pb)-Total	mg/L	<0.00020
Lithium (Li)-Total	mg/L	<0.0050
Magnesium (Mg)-Total	mg/L	3.88
Manganese (Mn)-Total	mg/L	0.0138
Molybdenum (Mo)-Total	mg/L	<0.0010
Nickel (Ni)-Total	mg/L	<0.0010
Phosphorus (P)-Total	mg/L	0.015
Potassium (K)-Total	mg/L	2.07
Rubidium (Rb)-Total	mg/L	
Selenium (Se)-Total	mg/L	<0.00010
Silicon (Si)-Total	mg/L	
Silver (Ag)-Total	mg/L	<0.000020
Sodium (Na)-Total	mg/L	19.7
Strontium (Sr)-Total	mg/L	0.0756
Sulphur (S)-Total	mg/L	5.7

Tellurium (Te)-Total	mg/L	
Thallium (Tl)-Total	mg/L	<0.000050
Thorium (Th)-Total	mg/L	
Tin (Sn)-Total	mg/L	<0.0050
Titanium (Ti)-Total	mg/L	<0.0050
Tungsten (W)-Total	mg/L	
Uranium (U)-Total	mg/L	0.00016
Vanadium (V)-Total	mg/L	<0.0050
Zinc (Zn)-Total	mg/L	<0.0050
Zirconium (Zr)-Total	mg/L	
Phosphorus (P)-Total	mg/L	
Phosphorus (P)-Total Reactive	mg/L	

LITTLE MELIADINE LAKE

Waterbody LITTLE MELIADINE LAKE	Units	
Year		2016
Date Sampled		15/08/2016
GPS Coordinates		0539813-6976661
LAB		MAXXAM
Field Measurements		
Water Temperature	oC	16.2
pH	pH units	8.75
Conductivity	(mS/cm)	0.0865
Laboratory-Measured		
Reactive Silica	mg/L	0.47
Total Ammonia-N	mg/L	
Alkalinity, Total (as CaCO3)	mg/L	22
Bicarbonate (HCO3)	mg/L	22
Carbonate (CO3)	mg/L	<1.0
Chloride	mg/L	
Dissolved Chloride (Cl)	mg/L	12
Conductivity	umhos/cm	94
Dissolved Solids	mg/L	
Dissolved Hardness	mg/L	28.4
Hardness (as CaCO3)	mg/L	27.5
Mercury (Hg)-Total	mg/L	<0.00001
NH3-Ammonia (non-ionized)	mg N/L	
Nitrate-N	mg/L	<0.010
Nitrite-N	mg/L	<0.10
Nitrate + Nitrite (N)	mg/L	<0.10

Ortho-Phosphate (PO ₄ -P)	mg/L	<0.010
pH	pH units	7.19
Sulfate	mg/L	
Total Oil and Grease	mg/L	
Free Cyanide	mg/L	<0.0010
Total Cyanide (CN)	mg/L	<0.0050
Dissolved Organic Carbon	mg/L	2.7
Total Organic Carbon (TOC)	mg/L	3.0
Total Suspended Solids	mg/L	1
Dissolved Sulphate (SO ₄)	mg/L	4.2
Turbidity	NTU	0.4
Biochemical Oxygen Demand	mg/L	
Fluoride	mg/L	
Total Kjeldahl Nitrogen	mg/L	0.25
TDS (Calculated)	mg/L	24
Sodium Adsorption Ratio		
Ion balance	%	
Phosphorus (P)-Total Reactive	mg/L	
Nitrate and Nitrite as N	mg/L	
Hydroxide (OH)	mg/L	
NH ₃ - Ammonia as N	mg/L	
Aluminum (Al)-Dissolved	mg/L	0.0056
Antimony (Sb)-Dissolved	mg/L	<0.00050
Arsenic (As)-Dissolved	mg/L	0.0003
Barium (Ba)-Dissolved	mg/L	0.0093
Beryllium (Be)-Dissolved	mg/L	<0.00010
Bismuth (Bi)-Dissolved	mg/L	
Boron (B)-Dissolved	mg/L	<0.050
Cadmium (Cd)-Dissolved	mg/L	<0.000010
Calcium (Ca)-Dissolved	mg/L	8.99
Cesium (Cs)-Dissolved	mg/L	
Chromium (Cr)-Dissolved	mg/L	<0.0010
Cobalt (Co)-Dissolved	mg/L	
Copper (Cu)-Dissolved	mg/L	0.00074
Iron (Fe)-Dissolved	mg/L	<0.0050
Lead (Pb)-Dissolved	mg/L	<0.00020
Lithium (Li)-Dissolved	mg/L	<0.0050
Magnesium (Mg)-Dissolved	mg/L	1.45
Manganese (Mn)-Dissolved	mg/L	<0.0010
Molybdenum (Mo)-Dissolved	mg/L	<0.0010

Nickel (Ni)-Dissolved	mg/L	<0.0010
Phosphorus (P)-Dissolved	mg/L	
Potassium (K)-Dissolved	mg/L	1.25
Rubidium (Rb)-Dissolved	mg/L	
Selenium (Se)-Dissolved	mg/L	<0.00010
Silicon (Si)-Dissolved	mg/L	
Silver (Ag)-Dissolved	mg/L	<0.000020
Sodium (Na)-Dissolved	mg/L	5.88
Strontium (Sr)-Dissolved	mg/L	0.0466
Dissolved Sulphur (S)	mg/L	<3.0
Tellurium (Te)-Dissolved	mg/L	
Thallium (Tl)-Dissolved	mg/L	<0.000050
Thorium (Th)-Dissolved	mg/L	
Tin (Sn)-Dissolved	mg/L	<0.0050
Titanium (Ti)-Dissolved	mg/L	<0.0050
Tungsten (W)-Dissolved	mg/L	
Uranium (U)-Dissolved	mg/L	<0.00010
Vanadium (V)-Dissolved	mg/L	<0.0050
Zinc (Zn)-Dissolved	mg/L	<0.0050
Zirconium (Zr)-Dissolved	mg/L	
Aluminum (Al)-Total	mg/L	0.0115
Antimony (Sb)-Total	mg/L	<0.00050
Arsenic (As)-Total	mg/L	0.00027
Barium (Ba)-Total	mg/L	0.0101
Beryllium (Be)-Total	mg/L	<0.00010
Bismuth (Bi)-Total	mg/L	
Boron (B)-Total	mg/L	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010
Calcium (Ca)-Total	mg/L	8.75
Cesium (Cs)-Total	mg/L	
Chromium (Cr)-Total	mg/L	<0.0010
Cobalt (Co)-Total	mg/L	
Copper (Cu)-Total	mg/L	0.00082
Iron (Fe)-Total	mg/L	0.049
Lead (Pb)-Total	mg/L	<0.00020
Lithium (Li)-Total	mg/L	<0.0050
Magnesium (Mg)-Total	mg/L	1.38
Manganese (Mn)-Total	mg/L	0.0066
Molybdenum (Mo)-Total	mg/L	<0.0010
Nickel (Ni)-Total	mg/L	<0.0010
Phosphorus (P)-Total	mg/L	0.007

Potassium (K)-Total	mg/L	1.16
Rubidium (Rb)-Total	mg/L	
Selenium (Se)-Total	mg/L	<0.00010
Silicon (Si)-Total	mg/L	
Silver (Ag)-Total	mg/L	<0.000020
Sodium (Na)-Total	mg/L	5.56
Strontium (Sr)-Total	mg/L	0.0437
Total Sulphur (S)	mg/L	<3.0
Tellurium (Te)-Total	mg/L	
Thallium (Tl)-Total	mg/L	<0.000050
Thorium (Th)-Total	mg/L	
Tin (Sn)-Total	mg/L	<0.0050
Titanium (Ti)-Total	mg/L	<0.0050
Tungsten (W)-Total	mg/L	
Uranium (U)-Total	mg/L	<0.00010
Vanadium (V)-Total	mg/L	<0.0050
Zinc (Zn)-Total	mg/L	<0.0050
Zirconium (Zr)-Total	mg/L	
Phosphorus (P)-Total	mg/L	
Phosphorus (P)-Total Reactive	mg/L	

A54

Waterbody: A54	Units																					
Year		2016																				
Date Sampled		07/06/2016	14/06/2016	19/06/2016	22/06/2016	26/06/2016	05/07/2016	10/07/2016	19/07/2016	26/07/2016	07/08/2016	09/08/2016	16/08/2016	23/08/2016	30/08/2016	06/09/2016	13/09/2016	19/09/2016	27/09/2016	9/27/2016 (DUP)	9/27/2016 (FB)	10/13/2016
GPS Coordinates		540219 - 6988854	540219 - 6988854	540219 - 6988854	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988825	0540120-6988826	0540120-6988826	0540120-6988826	0540120-6988827
LAB		Multilab	Multilab	Multilab	Multi-Lab	Multi-Lab	Multi-Lab	Multi-Lab	Multi-Lab	Multi-Lab	Multi-Lab	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM	MAXXAM
Field Measurements																						
Water Temperature	oC	4.1	8.1	11	14.1	17.8	14.2	24	18	17.3	13.3	13.4	14.3	16.5	13.7	11.6	8.6	7.5	5.5			Custom parameter
pH	pH units	7.1	7.7	8.15	8.13	7.98	8.17	8.28	8.26	8.3	8.33	8.02	7.81	8.23	6.46	7.84	7.94	7.99	8.05			asked
Conductivity	(mS/cm)				2.41	2.78	2.41				3.41	5.06	3.38	3.56	4.02	3.76	5.92	5.19	3.84			Jennifer Brown
Laboratory-Measured																						
Bicarbona	mg/L	41	50	55	54	54	41	37	31	27	28	35	29	29	28	38	43	60	41	43	<0.1	

te (HCO3)																						
Carbonate (CO3)	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<0.1	<0.1	
Ammonia as N (NH3-NH4)	mg/L	0.06	0.07	8.9	0.04	8.34	Requested , not done						0.52	0.39	1.2	4.5	11	15	11	15	0.02	
Conductivity	umhos/cm	1413	1698	2510	2331	2747	2802	2870	3150	3230	3151	5700	4000	4100	4400	4500	7000	5800	4800	5700	2.3	4900
Dissolved solids - TDS (Calculated)	mg/L	942	1132	1673	1554	1831	1868	1913	1873	1697	2100	4400	2910	2630	3540	3400	4340	3660	3630	3900	<10	
Free Cyanide	mg/L										<0.1		0.0011	0.0013	0.0010	0.0016	0.0013	0.0016	0.0023	0.003	<0.0010	
Total Kjeldahl Nitrogen	mg/L					8.78					3.1	11	2.3	2.2	3.5	6.4	14	14	11	16	<0.10	
Dissolved Organic Carbon (DOC)	mg/L					10.4					10.5	10	10	9.3	9.2	9.9	10	10	9.6	9.7	<0.20	
Total Organic Carbon (TOC)	mg/L					10.4					11.8	12	9.5	9.4	11	9.4	10	11	9	9.3	0.25	
Ortho-Phosphate (PO4-P)	mg/L	<0.01	<0.01		<0.01	<0.01	0.03	---	<0.01	<0.01	<0.01	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH	pH units	7.48	7.62	7.76	7.78	7.98	7.71	8.28	8.26	8.3	7.73	7.6	7.43	7.46	7.39	7.59	7.56	7.67	7.58	7.58	6.22	7.4
Phosphor	mg/L										0.01	0.009	0.008	0.006	0.007	0.009	0.009	0.016	0.01	0.01	<0.0	

us (P)- Total																				2	04	
Total Suspende d Solids	mg/L	1	1	2	1	4	1	1	<1	3	2	6	5	5	3	4	2	3	4	4	<1	
Dissolved Sulphate	mg/L											140	130	130	140	140	200	190	140	160	<1.0	180
Total Cyanide (Cnt)	mg/L										<0.00 5		<0.00 50	<0.00 50	<0.00 50	<0.00 50	<0.00 50	<0.00 50	<0.00 50	<0.0 050	<0.0 050	
Turbidity	NTU	1.57	5.11	1.31	1.36	1.38	1.51	1.42	1.35	1.04	0.61	0.4	0.3	<0.1	0.3	0.3	0.4	1.1	0.4	0.4	<0.1	
Alkalinity, Total (as CaCO3)	mg/L	41	50	55	54	54	41	37	31	27	28	36	29	29	28	38	44	60	41	44	<1.0	
Dissolved Chloride	mg/L											1600	1100	1200	1300	1300	2200	1700	1400	1700	<1.0	
Nitrite-N	mg/L	0.4	0.31	0.36	0.3	0.31	0.45	0.46	0.69	0.86	0.89	0.936	0.549	0.478	0.363	0.314	0.628	0.353	0.575	0.70 2	<0.0 10	
Nitrate-N	mg/L	7.14	7.27	72.1	31	12.8	10.6	8.84	10.9	10.9	12.4	18.1	11.4	12.7	13.1	13.7	26.5	27.3	21.8	31.8	<0.1 0	
Nitrate and Nitrite as N	mg/L										13.3	19.1	12	13.1	13.5	14	27.1	27.6	22.4	32.5	<0.1 0	
Mercury (Hg)-Total	mg/L	<0.00 001	<0.00 001	<0.00 01	<0.00 001	<0.00 001	<0.00 01	0.000 86	<0.00 01	0.000 56	<0.00 01	ND	<0.00 001	<0.00 001	<0.00 001	<0.00 001	<0.00 001	0.000 01	<0.00 001	<0.0 0001	<0.0 0001	
Dissolved Mercury (Hg)	mg/L										<0.00 01					<0.00 001	<0.00 001	0.000 01	<0.00 001	0.00 001	0.00 002	
BTEX & F1 Hydrocarb ons																						
Benzene	ug/L												<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2 0	<0.2 0	

[illegible]

F4 (C34-C50)																						
Reached Baseline at C50	ug/L												Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Surrogate Recovery (%)																						
1,4-Difluorobenzene	%												103	98	97	90	100	102	100	100	102	
4-Bromofluorobenzene	%												110	100	94	92	103	105	97	96	97	
D10-Ethylbenzene	%												87	125	118	129	122	101	105	104	109	
D4-1,2-Dichloroethane	%												92	102	104	94	93	99	102	99	102	
o-Terphenyl	%												98	98	102	98	113	103	105	105	104	
Reactive Silica (SiO2)	mg/L					4.4					6.4		8.8	11	7.9	6.9	6.6	19	5.4	5.5	<0.5	
Dissolved Hardness	mg/L											2050	150	1690	1710	1820	2680	2180	1500	1530	<0.5	1930
Dissolved Aluminum (Al)	mg/L										<0.006	0.0068	0.0042	0.0033	0.0057	0.0057	0.0065	0.0076	0.0088	0.0078	<0.0030	0.0087
Dissolved Antimony (Sb)	mg/L										<0.0001	<0.00050	<0.00050	0.00017	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved	mg/L										<0.00	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.00	<0.0	0.002

Arsenic (As)											05	43	37	17	00	8	09	49	08	219	0010	51
Dissolved Barium (Ba)	mg/L										0.245	0.305	0.242	0.242	0.248	0.245	0.334	0.231	0.201	0.204	<0.0010	0.279
Dissolved Beryllium (Be)	mg/L										<0.0005	<0.00010	<0.00010	<0.000050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Boron (B)	mg/L										0.11	0.149	0.089	<0.050	0.055	0.08	0.196	0.389	0.17	0.189	<0.050	0.193
Dissolved Cadmium (Cd)	mg/L										<0.00002	0.00009	0.000018	<0.000025	0.000016	0.000051	0.000128	0.000087	0.00005	0.000047	<0.000010	0.000061
Dissolved Chromium (Cr)	mg/L										<0.0006	<0.0001	<0.00010	<0.000050	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Copper (Cu)	mg/L										0.0009	0.00098	0.00074	0.0008	0.00075	0.00093	0.0009	0.0003	0.0001	0.000161	<0.00020	0.000238
Dissolved Iron (Fe)	mg/L										0.07	0.0295	0.0125	0.0116	0.0104	0.0693	0.05	0.0413	0.0568	0.0594	<0.00050	0.252
Dissolved Lead (Pb)	mg/L										<0.0003	<0.00020	<0.00020	0.000042	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)	mg/L										0.282	0.641	0.22	0.241	0.284	0.345	0.913	0.939	0.438	0.434	<0.00050	0.412
Dissolved Manganese (Mn)	mg/L										0.0343	0.0496	0.0008	0.000734	0.00051	0.0827	0.0966	0.24	0.104	0.113	<0.00010	0.374
Dissolved Molybdenum (Mo)	mg/L										<0.0005	<0.0001	<0.00010	0.000055	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00014
Dissolved Nickel (Ni)	mg/L										0.0295	0.0064	0.0009	0.00091	0.00040	0.00051	0.00073	0.00077	0.00067	0.00069	<0.00010	0.0122

Dissolved Selenium (Se)	mg/L										0.047	0.0002	<0.00010	<0.00020	<0.00010	<0.00010	0.00013	<0.00010	0.00018	0.00022	<0.00010	0.00013
Dissolved Silver (Ag)	mg/L										<0.0001	<0.000020	<0.000020	<0.000025	<0.000020	0.000021	0.000022	<0.000020	<0.000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Strontium (Sr)	mg/L										6.72	14.4	6.91	8.7	9.07	10	18.3	17.9	10	10.5	<0.00010	12.4
Dissolved Thallium (Tl)	mg/L										<0.0008	0.000081	<0.000050	0.000045	<0.000050	<0.000050	0.000075	0.000108	0.0001	0.000106	<0.0000050	<0.0000050
Dissolved Tin (Sn)	mg/L										<0.0001	<0.00050	<0.00050	<0.00010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.000050	<0.000050	<0.000050
Dissolved Titanium (Ti)	mg/L										0.23	<0.00050	<0.00050	<0.00025	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.000050	<0.000050	<0.000050
Dissolved Uranium (U)	mg/L										0.001	0.00215	0.00061	0.000926	0.00102	0.0015	0.00369	0.00379	0.0016	0.00168	<0.00010	0.00287
Dissolved Vanadium (V)	mg/L										<0.0005	<0.00050	<0.00050	<0.00010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.000050	<0.000050	<0.000050
Dissolved Zinc (Zn)	mg/L										0.005	<0.00050	<0.00050	0.00083	<0.00050	<0.00050	0.0051	0.0056	<0.00050	<0.000050	<0.000050	0.0067
Calcium (Ca)-Dissolved	mg/L											725	544	606	609	643	951	763	523	532	<0.00050	667
Magnesium (Mg)-Dissolved	mg/L											57.4	42.6	44.2	46.7	51.3	74.1	67.2	47.3	49.6	<0.00050	64.6
Potassium (K)-Dissolved	mg/L											41	28	27.2	28.5	31.8	49.8	37.9	33.4	32	<0.00050	35.4

Sodium (Na)-Dissolved	mg/L											149	91.7	91.5	102	115	199	180	131	139	<0.050	158
Dissolved Sulphur (S)	mg/L												44.9					63.4				
Hardness (as CaCO3)	mg/L	534	735	925	918	980	1149	1104	1133	1478	1836	2040	1490	1660	1800	1730	2670	2160	1780	1630	<0.5	1880
Aluminum (Al)-Total	mg/L	0.0126	<0.006	0.03	<0.006	0.006	<0.006	<0.006	<0.006	0.029	<0.006	0.0098	0.0035	0.00446	0.0057	0.0079	0.0098	0.016	0.0047	0.0055	0.0082	0.0728
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.0001	<0.0001	<0.0005	<0.00050	0.000131	<0.00050	<0.00010	<0.00050	<0.00010	<0.00050	<0.00050	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	<0.0005	0.0055	0.005	0.0188	0.0159	0.0219	0.0181	0.0163	<0.0005	<0.0005	0.0026	0.00237	0.00236	0.00232	0.00221	0.00232	0.00269	0.00202	0.0023	<0.00010	0.0035
Barium (Ba)-Total	mg/L	0.1197	0.1321	0.1544	0.1519	0.1649	0.1575	0.1955	0.2046	0.2029	0.2707	0.296	0.261	0.242	0.247	0.243	0.322	0.251	0.207	0.22	<0.0010	0.271
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.00010	<0.000010	<0.00010	<0.00020	<0.00010	<0.00002	<0.00010	<0.000010	<0.000010	<0.000010
Boron (B)-Total	mg/L	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.03	0.03	0.02	0.14	0.149	0.121	0.037	0.059	0.12	0.194	0.358	0.191	0.178	<0.050	0.178
Cadmium (Cd)-Total	mg/L	<0.00002	0.00008	0.00348	<0.00002	0.00007	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000092	0.000015	0.000017	0.000013	0.000027	0.000073	0.000106	0.000048	0.000034	<0.000010	0.000059
Chromium (Cr)-Total	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	0.0009	0.0028	<0.0006	<0.0006	<0.0006	0.0019	<0.0001	<0.00010	<0.00010	<0.00010	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.000010	<0.000010
Copper (Cu)-Total	mg/L	0.0016	0.0017	0.0022	0.0018	0.0019	0.003	0.0016	0.0018	0.0016	0.0023	0.00106		0.000746	0.00101	<0.00010	0.00109	0.0016	0.00091	0.00119	<0.00050	0.00376
Iron (Fe)-Total	mg/L	0.09	0.12	0.16	0.18	0.12	0.11	0.08	0.08	0.11	0.15	0.068	0.036	0.0332	0.028	0.147	0.103	0.151	0.027	0.027	<0.0010	0.557
Lead (Pb)-Total	mg/L	<0.0003	0.0005	0.0181	<0.0003	<0.0003	0.0044	<0.0003	---	<0.0003	<0.0003	<0.00020	<0.00020	0.000022	<0.00020	<0.00040	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	0.00025
Lithium (Li)-Total	mg/L	0.086	0.094	0.188	0.144	0.279	0.218	0.241	0.169	0.187	0.348	0.606	0.221	0.233	0.308	0.355	0.882	0.88	0.423	0.414	<0.0050	0.452

Manganese (Mn)-Total	mg/L	0.0999	0.0155	0.0122	0.0049	0.0154	0.0099	0.007	0.0038	0.0052	0.051	0.0641	0.0053	0.0101	0.0126	0.0822	0.0997	0.254	0.0888	0.0821	<0.0010	0.37
Molybdenum (Mo)-Total	mg/L	<0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0001	<0.0010	0.000603	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.00010	0.0015
Nickel (Ni)-Total	mg/L	0.0093	0.0082	0.0172	0.0203	0.0254	0.0325	0.0274	0.0206	0.0197	0.0347	0.0064	0.0039	0.00351	0.0042	0.0059	0.0071	0.0082	0.0066	0.0064	<0.0010	0.0129
Selenium (Se)-Total	mg/L	0.007	0.012	0.028	0.029	0.035	0.04	0.042	0.038	0.038	0.055	0.00018	0.00019	0.000061	<0.00010	<0.00020	<0.00010	<0.00020	0.00014	0.00011	<0.00010	0.00014
Silver (Ag)-Total	mg/L	<0.0001	>0.0001	<0.0001	<0.0001			<0.0001	<0.0001	<0.0001	<0.0001	<0.000002	<0.000020	0.00001	<0.000020	<0.000040	<0.000020	<0.000040	<0.000020	<0.0000020	<0.0000020	<0.0000020
Strontium (Sr)-Total	mg/L	2.21	2.81	5.16	3.89	5.86	6.13	6.8	5.9	5.55	7.63	13.7	7.42	9.52	9.23	8.7	20.3	16.3	10.5	11.7	0.0019	12.7
Thallium (Tl)-Total	mg/L					<0.0002	<0.0008				<0.0008	0.00009	0.00005	0.000039	<0.000050	<0.000010	0.000065	0.00013	0.000084	0.0000102	<0.0000050	<0.0000050
Tin (Sn)-Total	mg/L	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.000050	<0.000020	<0.000050	<0.00000	<0.000050	<0.00000	<0.000050	<0.000050	<0.0000050	<0.0000050
Titanium (Ti)-Total	mg/L	0.09	0.18	0.27	0.18	0.18	0.08	0.26	0.31	0.27	0.24	<0.0050	<0.0050	<0.00050	<0.00050	<0.0000	<0.00050	<0.0000	<0.00050	<0.000050	<0.0000050	<0.0000050
Uranium (U)-Total	mg/L	<0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.0001	0.001	0.00206	0.00066	0.000913	0.00124	0.00151	0.00321	0.00389	0.00148	0.00164	<0.00010	0.00292
Vanadium (V)-Total	mg/L	<0.0005	<0.0005	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.000020	<0.000050	<0.00000	<0.000050	<0.00000	<0.000050	<0.0000050	<0.0000050	<0.0000050
Zinc (Zn)-Total	mg/L	0.003	0.008	<0.0001	0.006	0.008	<0.0001	0.004	0.005	0.006	0.008	<0.00050	<0.000050	0.00114	<0.000050	0.013	0.0052	<0.0000	<0.000050	0.00062	0.00071	0.0064
Calcium (Ca)-Total	mg/L	191	264	333	326	349	416	392	400	528	643	725	535	598	638	607	949	749	625	574	0.146	648
Magnesium (Mg)-Total	mg/L	14	18.5	22.9	25.4	26.5	26.9	30.5	32.6	38.8	56	56.5	38.6	40.3	49.2	51.3	73.1	69.8	53.1	48.9	<0.0050	64.6
Potassium	mg/L	9.41	12.5	17.2	15	17.2	28	21.8	21.6	31.3	28	41.3	27.1	26.7	30.6	35	46.2	39.2	33.7	32.3	0.06	35.4

[illegible]

Reactive																						
Rubidium (Rb)-Total	mg/L																					
Silicon (Si)-Total	mg/L																					
Sodium Adsorption Ratio																						
Sulfate	mg/L	60.2	80.1	68.1	72.1	79.6	89	91.8	98.7	103	116											
Tellurium (Te)-Total	mg/L																					
Thorium (Th)-Total	mg/L																					
Total - Phosphorus (P)	mg/L			0.01		0.03		0.02	---	---	---	---	---	---	---							
Total Oil and Grease	mg/L	<1	<1	1	<1	<1	<1	<1	<1	1												
Tungsten (W)-Total	mg/L																					
Bismuth (Bi)-Total	mg/L																					

MEL-7: Final Effluent Discharge from the Biodisk treatment system

Parameters	Ammonia as N (mg/L)	Biochemical Oxygen Demand	Kjeldahl Nitrogen	pH	Phosphorus (P)-Total	Total Suspended Solids	Transmittance %	Nitrite -N	Nitrate -N	Nitrate and Nitrite as N	Oil & Grease -(IR)	Atypical	Fecal Coliforms	Heterotrophic Plate Count (AAHB) (CFU/100mL)	Total Coliforms (CFU/100mL)
Unit	mg/L	mg/L	mg/L		mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	(CFU/mL)	(CFU/100mL)	(CFU/100mL)	(CFU/100mL)

2BB- MEL1424 Part D, Item 11 Limits		80		6.0 - 9.5		100					5		1000		
04/01/2016	<0.01	19	4.5	5.9	10.3	10	40	0.05	<.01	25.6	<1	1120000	<2	>5000	140,000.00
20/01/2016	6.6	9	10.3	7	8.8	10	39	0.17	1.7	1.91	<1	150,000	<10	117,000.00	<10 000
27/01/2016	<0.01	7	1.97	6.1 7	9.3	9	43	0.3	35.7	36	<1	2,010,000	<2	>30000	<10000
01/02/2016	<0.01	7	7.14	6.1 3	9.1	22	43	0.38	27.8	28.2	1	15700000	<2	215,000.00	200,000.00
08/02/2016	<0.01	7	8.32	5.9 4	11.5	6	46	0.1	30	30.2	<1	11,100,000	<2	266,000.00	<100 000
15/02/2016	0.1	8	13.8	7.1	10.7	<1	46	0.8	16	16.8	<1	1,600,000	2	400,000.00	<100 000
24/02/2016	<0.01	5	21.2	7	8.9	4	44	0.5	18.6	19.1	<1	17600000	<2	32,200.00	100,000.00
02/03/2016	<0.01	7	3.63	7.3	13.3	<1	51.4	0.25	18.1	18.4	33	70000	<2	186,000.00	20,000.00
07/03/2016	<0.01	4	1.76	7.6 6	8.66	4	57	0.63	19.2	19.9	<1	65,000	<2	272,000.00	<1000
14/03/2016	<0.01	8	2.03	6.8	11.3	<1	56	0.2	23.4	23.6	<1	20,000	<2	>300000	1,500.00
21/03/2016	0.09	6	16.5	7.4 3	12.8	10	49	0.61	24.3	25	<1	18000	<2	>300000	<1000
30/03/2016	0.03	5	10.1	7.1	4.9	2	51	0.61	28.2	28.9	<1	15700	<2	>300000	<100
04/04/2016	0.01	19	8.57	6.7 9	9.55	<1	54	0.69	2.04	2.73	<1	-	0	>200	-
13/04/2016	13.7	15	15.4	6.9 6	4	<1	49	0.58	23.7	24.3	<1	> 20 000	< 2	> 3 000	-
18/04/2016	13.4	19	13.5	6.9 2	12.6	<1	48	0.84	31	31.9	<1	5100	<2	>30000	1,200.00

25/04/2016	0.08	17	22.9	7.08	9.52	<1	46	0.95	30.4	31.4	<1	89000	<2	<2000	<1000
02/05/2016	0.1	22	22.9	7.19	14.6	4	48	1.1	25.6	26.8	782	87000	<2	>300 000	<1000
10/05/2016	0.1	6	27	7.16	14.5	9	41	1	24.9	26	<1	60,000	<2	390,000.00	<10000
16/05/2016	0.1	7	22.6	7	12.2	5	43	0.8	31.8	32.7	<1	20,000	<2	74,000.00	<10000
23/05/2016	0.1	17	24.1	7.2	11.6	4	42	1.3	29.1	30.4	2	2,000	<2	248,000.00	<1000
29/05/2016	0.01	13	14.6	6.58	13.1	4	45	1	34.8	35.9	<1	11,100	<2	>300 000	700
06/06/2016	<0.01	5	11.7	6.82	9.09	<1	44	0.96	30.4	31.4	<1	-	<2	-	-
13/06/2016	0.06	2	17.1	7.06	11.4	4	43	0.95	27.8	28.8	1	600000	<2	>30000	<10000
20/06/2016	0.1	10	18.5	6.97	-	3	41	1.18	31.2	32.4	<1	1050	<2	68,000.00	70
27/06/2016	0.1	17	23.1	7	11.8	6	38	1.3	32.5	33.8	<1	>2000	<2	>30000	Too much bacteria
04/07/2016	0.03	5	14.9	6.87	15.2	3	43	1	25.8	26.8	<1	53000	8	>300000	<1000
11/07/2016	0.2	29	21.4	7.33	17.4	11	38	1.8	1.3	3.03	<1	29000	<2	>300000	<10000
18/07/2016	0.4	10	33.8	7.54	14	7	33	1.8	9.5	11.3	<1	>2000	<2	>300000	***
25/07/2016	0.4	20	42.5	7.52		8	29	1.46	22.9	24.4	<1	52,000	4	>300000	<1000
01/08/2016	40.3	5	44	7.35	14.8	7	32	2.3	0.03	2.3	<1	Bad weather delay	Bad weather delay	Bad weather delay	Bad weather delay
03/08/2016	0.26	5	27.7	7.01	14.2	4	43	<0.01	0.02	0.02	<1	Bad weather delay	Bad weather delay	Bad weather delay	Bad weather delay

08/08/2016	30	8	31	7.36	12.8	9	30	1.5	1.1	2.6	<1	3300	<2	69000	<100
15/08/2016	0.1	10	40	7.4	16.7	2	29	2.1	23.3	25.5	<1	18000	<2	>300000	36000
22/08/2016	0.25	9	42	7.43	14.4	5	31	1.19	23.6	24.8	3	8900	<2	68000	<1000
29/08/2016	0.08	19	28	7.11	11.7	2	26	1.71	22.8	24.6	2	61000	<2	34000	<1000
05/09/2016	26	10	27	7.1	16	3	34	2.15	22	24.2	1.8	5000	<2	4,900.00	100
12/09/2016	25	12	30	7.1	14	5	36	1.8	19.2	21	1.9	1400	<2	13,200.00	200
19/09/2016	16	15	20	7.1	12	5	34	1.3	19.1	20.4	0.8	114000	<2	8,100.00	1,000.00
26/09/2016	18	53	19	7.28	11	7	37	1.69	12.8	14.5	0.6	Logistic issue	Logistic issue	Logistic issue	Logistic issue
03/10/2016	22	21	23	7.23	11	3	37	7.98	18.9	26.9	<0.50	4200	2	21,800.00	<100
12/10/2016	18	17	22	6.9	12	6	33	1.43	21.8	23.2	1.1		64	>57000	NDOGT
17/10/2016	20	28	23	7.22	13	2	39	2.45	19.1	21.6	0.8	700	4	24,400.00	2,000.00
24/10/2016	28	21	31	7.2	13	4	27	1.73	17.3	19.1	<0.50	1000	4	17,400.00	1,400.00
31/10/2016	44	13	47	7.28	14	4	34	3.46	16.3	19.8	<0.50	3200	2	22,400.00	200
07/11/2016	41	50	41	7.3	16	9	28	2.3	14.4	16.7	1.2	3400	6	13,400.00	100
14/11/2016	24	31	34	7.17	14	6	31	5.7	23	28.7	<0.50	580	4	9,800.00	10
21/11/2016	50	25	55	7.6	16	10	23	1.36	9.98	11.3	<0.50	-	-	-	-
23/11/2016	52	27	57	7.6	16	13	22	1.5	10.3	11.8	<0.50	1900	<2	21,300.00	600

28/11/2016	40	30	53	7.48	15	12	23	11.2	14.8	25.9	<0.50	430	8	13,800.00	490
05/12/2016	40	23	43	7.42	16	9	26	2.7	21.5	24.2	75	3,000.00	<2	16,000.00	<100
12/12/2016	66	34	89	7.72	13	18	20	1.58	1.97	3.55	0.9	1,400.00	34	>30,000.00	400
19/12/2016	36	47	44	7.35	15	13	25	1.65	20.5	22.1	<0.50	5,700.00	4	14,600.00	400
28/12/2016	9.1	9	15	7.09	13	14	30	1.27	32.7	34	1.1	Lab lost samples	Lab lost samples	Lab lost samples	Lab lost samples

MEL-6: Effluent from the Landfarm Treatment Facility prior to release

Sample	Mel 2BB-1424 Part D, Item 15 limits	MEL-6	MEL-6 Dup	MEL-6	MEL-6
Sampling date		19/06/2016 15:10	19/06/2016 15:13	18/09/2016 -	02/10/2016 -
BTEX (L) 					
- Benzene µg/L	370	<0.3	<0.3	<0.20	<0.20
- Toluene µg/L	2	<0.3	<0.3	<0.20	<0.20
- Ethylbenzene µg/L	90	<0.3	<0.3	<0.20	<0.20
Total oil and grease mg/L	15	13	13	1.8	<0.5
Surrogate Recovery (%)					
1,4-Difluorobenzene	-	-	-	98	98
4-Bromofluorobenzene	-	-	-	113	108
D10-Ethylbenzene	-	-	-	127	74
D4-1,2-Dichloroethane	-	-	-	89	93
Lead (Pb) mg/L	1	<0.0003	<0.0003	0.00581	0.68
Phenol µg/L	20	<0.6	<0.6	-	0.0037

MEL-8: Point of discharge or runoff from the Non-Hazardous Waste Landfill

(MEL-8 parameter was sampled at spring behind the pile of metal. That pile has been clean off, and the landfill has been constructed in the fall, I would think it applied. Nonetheless here are the results).

MEL-8			2016
Station:		2BB-MEL1424, Part D, Item 14	MEL-8RC
Date Sampled:			14/06/2016
	Units	Limits (mg/L)	Results
Alkalinity CaCO ₃	mg/L		13
Aluminum (Al)-Total	mg/L		0.467
Antimony (Sb)-Total	mg/L		<0.0001
Arsenic (As)-Total	mg/L	1	0.0085
Barium (Ba)-Total	mg/L	1	0.0049
Beryllium (Be)-Total	mg/L		<0.0005
Bicarbonate - HCO ₃	mg/L		13
Boron (B)-Total	mg/L		<0.01
Cadmium (Cd)-Total	mg/L	0.1	<0.00002
Calcium (Ca)-Total	mg/L		4.68
Carbonate - CaCO ₃	mg/L		<2
Chloride (Cl)	mg/L		1.7

Chromium (Cr)-Total	mg/L	0.1	0.0025
Conductivity	umhos/cm		42
Copper (Cu)-Total	mg/L	1	0.0047
Dissolved solids	mg/L		28
Hardness CaCO3	mg/L		14
Iron (Fe)-Total	mg/L		1.21
Lead (Pb)-Total	mg/L	0.05	0.0021
Lithium (Li)-Total	mg/L		<0.005
Magnesium (Mg)-Total	mg/L		0.78
Manganese (Mn)-Total	mg/L		0.0517
Mercury (Hg)-Total	mg/L	0.0006	<0.00001
Molybdenum (Mo)-Total	mg/L		<0.0005
NH3 - ammonia	mg/L		<0.01
Nickel (Ni)-Total	mg/L	1	0.0021
Total Oil & Grease-(IR)	mg/L	15	<1
Nitrate (NO3) mg N/L	mg/L		0.03
Nitrite (NO2) mg N/L	mg/L		<0.01
Ortho-Phosphate (O-PO4)	mg/L		<0.01
pH		6.0 to 9.5	6.93
Potassium (K)-Total	mg/L		0.81
Selenium (Se)-Total	mg/L		0.001
Silver (Ag)-Total	mg/L	0.1	<0.0001
Sodium (Na)-Total	mg/L		1.02
Strontium (Sr)-Total	mg/L		0.025
Sulfate (SO4)	mg/L		<0.6
Tin (Sn)-Total	mg/L		<0.001
Titanium (Ti)-Total	mg/L		0.01
Total Suspended Solids	mg/L	15	24
Turbidity	NTU		28.1
Uranium (U)-Total	mg/L		<0.001
Vanadium (V)-Total	mg/L		<0.0005
Zinc (Zn)-Total	mg/L	0.5	0.028

P system lab results

P1

P1 cell																				
Date	22-May-16	29-May-16	07-Jun-16	12-Jun-16	19-Jun-16	26-Jun-16	05-Jul-16	10-Jul-16	19-Jul-16	26-Jul-16	07-Aug-16	09-Aug-16	16-Aug-16	23-Aug-16	30-Aug-16	06-Sep-16	13-Sep-16	19-Sep-16	27-Sep-16	04-Oct-16
field pH			7.50		8.11				7.88	8.00	8.18	8.06	7.91	8.09	8.05	8.00	7.97	8.23	7.97	8.40
field cond.					4.87				7.88	8.6		9.36	10.6	11.06	12.8	11	11.7	11.26	9.82	9.65
field temp			5.80		7.10				16.1	14.2	9.2	11.4	15.5	13.2	10.7	8.6	7.3	6.4	5.2	0.5
Project	53608	53893	54345	54557	54853	55148	55547	55756		56513	56912	B6H0446					B6J8696			
Sample	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell
Sampling location	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	Meliadine	P1-Cell	P1-Cell	P1-Cell	Meliadine	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell	P1-Cell
Sampling date	22 may 2016 09:54	29 may 2016 15:00	07 june 2016 13:05	12 june 2016 14:52	19/06/2016 14:51	26 june 2016 11:22	5-Jul-2016	10-Jul-16	19 july 2016 15h54	26-Jul-16	07-Aug-16	09-Aug-16	16-Aug-16	23-Aug-16	30-Aug-16	06-Sep-16	13-Sep-16	19-Sep-16	27-Sep-16	04-Oct-16
Sampler name	Alexandre Gauthier	Justin MacMillan	Phillip Roy	Alexandre Gauthier	Justin MacMillan	JM & PR	Philip Roy		JM & AG	JM	Philip Roy	PR	JM & AG	JM & JT	PR	AG	AG	JM & JT	PR	AG-PR
Bicarbonate (HCO3) mg CaCO3/L	47	51	52	56	63	65	82	91	100	104	99	100	100	93	98	93	120	110	93	91
Carbonate (CO3) mg CaCO3/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia nitrogen (NH3-NH4) mg N/L	3.65	3.35	1.92	19.8	34.7	33.3	49.9	51.5	55	58.4	103	58	69	67	85	78	78	63	55	47
Conductivity	582	692	471	2270	4192	4525	5706	5896	5689	4748	6580	11000	13000	13000	14000	13000	14000	12000	11000	11000

µmhos/cm																				
Dissolved Solids mg/L	388	461	314	1513	2794	3016	3804	3930	3792	3165	4386	8070	8740	8210	10300	9110	9180	7910	8540	7700
Free Cyanide mg/L			<0.1										0.0019	0.0015	0.0022	0.0019	0.0059	0.0026	0.002	0.0016
Kjeldahl nitrogen mg N/L	5.62	4.5	2.82	20	29.3	34	45.1	47	49.8	54.1	107	53	73	70	83	75	77	63	50	53
Dissolved organic carbon (D.O.C.) mg/L	17.2	13.8	8.3	9.8	9	10.9	13	13.3	6.3	3.6	11	12	13	13	13	14	18	18	16	13
Total organic carbon (T.O.C.) mg/L	24.4	16.8	10.2	13.3	10.3	14.6	16.5	19.9	11.5	12.8	11	15	14	14	15	14	19	19	17	15
Ortho-Phosphate (O-PO4) mg P/L	0.01	0.05	<0.01	<0.01	<0.01	0.01	0.04	0.01	0.01	0.08	0.03	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	7.22	7.27	7.41	7.27	7.64	7.54	7.98	7.64	7.7	7.74	7.77	7.7	7.67	7.48	7.57	7.63	7.64	7.71	7.73	7.67
Total Phosphorus (P) mg P/L	0.05	0.03	0.05	0.07	0.11	0.04	0.54	0.04	0.06	0.03	0.06	0.042	0.045	0.041	0.03	0.033	0.05	0.03	0.031	<0.04
Total Suspended Solids mg/L	<1	2	37	21	9	10	10	22	17	6	11	14	12	14	16	10	30	6	10	9
Dissolved Sulphate (SO4) mg/L												140	180	170	200	180	410	370	310	290
Cyanide (CN) mg/L											<0.005		<0.005 3	<0.005 0	0.0075	<0.005 0	0.011	0.0061	0.0052	<0.005 0
Turbidity UTN	6.34	4.13	59.1	19.2	7.8	10.7	10	4.11	3.73	2.79	4.16	2.1	2.6	2.3	1.6	1.8	3.1	2.5	3	3.7
Alkalinity mg CaCO3/L	47	51	52	56	63	65	82	91	100	104	99	100	100	94	98	93	120	110	94	92
Dissolved												3200	4100	4000	4700	4400	4500	4000	3500	3100

[illegible]

F2 (C10-C16) µg/L								bottl es												
- Petroleum Hydrocarbons F3 (C16-34) µg/L	<200	---	---	---	<200	<200	<200	lab broke bottl es	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200
- Petroleum Hydrocarbons F4 (C34-50) µg/L	---	---	---	---	<200	<200	<200	lab broke bottl es	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200
Reached Baseline at C50 ug/L													Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Surrogate Recovery (%)																				
1,4- Difluorobenzen e %													103	99	97	89	103	99	103	100
4- Bromofluorobe nzene %													108	94	88	102	104	105	96	105
D10- Ethylbenzene %													85	122	112	113	122	101	103	126
D4-1,2- Dichloroethane %													91	105	103	92	95	101	101	103
o-Terphenyl %													98	99	106	106	106	105	104	118
Dissolved Hardness mg/L												3340	4250	5210	5270	5180	5350	4610	3680	3780
Dissolved Aluminium (Al) mg/L	0.01	0.015	0.012	0.007	0.006	0.012	<0.006	<0.00 6	<0.00 6	<0.00 6	<0.006	0.010 6	0.015	0.0108	0.0136	0.012	0.033	0.0117	0.059	0.025
Dissolved Antimony (Sb) mg/L	<0.000 1	<0.000 1	<0.00 01	<0.000 1	<0.0001	0.000 4	0.0009	0.001	0.000 5	0.000 9	0.0002	0.000 53	<0.002 0	0.0006 1	<0.001 0	<0.001 0	<0.002 0	<0.001 0	<0.002 0	<0.002 0
Dissolved Arsenic (As)	0.0128	0.0047	<0.00 05	0.0087	0.0155	0.024 8	0.0353	0.049 3	0.002 9	<0.00 05	<0.000 5	0.005 19	0.0042 2	0.0041 7	0.0029 8	0.0031 8	0.0047 8	0.0034 4	0.0040 2	0.0024 6

mg/L																				
Dissolved Barium (Ba) mg/L	0.0483	0.0564	0.0331	0.1612	0.2244	0.2531	0.3304	0.3783	0.4086	0.4592	0.5235	0.558	0.632	0.724	0.735	0.709	0.663	0.566	0.506	0.496
Dissolved Beryllium (Be) mg/L	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.00040	<0.000050	<0.00020	<0.00020	<0.00040	<0.00020	<0.00040	<0.00040
Dissolved Boron (B) mg/L	<0.01	<0.01	0.07	0.15	0.4	0.47	0.63	0.94	0.75	0.92	1.02	0.752	1.03	0.836	0.85	0.79	0.81	0.608	0.54	0.55
Dissolved Cadmium (Cd) mg/L	<0.00002	<0.00002	0.00003	0.00004	0.00005	0.00007	<0.00002	0.00002	0.00014	0.00002	0.00005	0.000215	0.000041	0.0000292	0.0000391	0.0000314	0.0000515	0.000029	0.0000269	0.0000205
Dissolved Chromium (Cr) mg/L	0.0016	<0.0006	0.0007	0.0022	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0024	<0.0001	<0.00040	<0.00050	<0.00020	<0.00020	<0.00040	<0.00020	<0.00040	<0.00040
Dissolved Copper (Cu) mg/L	0.0023	0.0015	0.0058	0.0034	0.0035	0.0042	0.0034	0.0045	0.0046	0.0062	0.0083	0.00166	0.00194	0.00171	0.00184	0.00166	0.00204	0.0018	0.00197	0.00178
Dissolved Iron (Fe) mg/L	0.07	0.03	0.03	0.04	0.08	0.07	0.08	0.14	0.11	0.12	0.19	0.028	0.04	0.0429	0.065	0.13	0.07	0.083	0.318	0.074
Dissolved Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.00080	0.000081	<0.00040	<0.00040	<0.00080	<0.00040	<0.00080	<0.00080
Dissolved Lithium (Li) mg/L	0.14	0.172	0.059	0.501	0.784	0.866	1.38	1.4	1.59	1.62	1.68	1.6	1.98	2.19	2.08	2.05	1.87	1.56	1.43	1.32
Dissolved Manganese (Mn) mg/L	0.7063	0.3724	0.0739	0.6777	0.4479	0.4462	0.695	0.77	0.5052	0.6261	0.5237	0.417	0.844	0.67	0.935	0.759	1.47	0.997	0.741	0.551
Dissolved Molybdenum (Mo) mg/L	<0.0005	<0.0005	0.0006	0.0006	0.0014	0.0012	0.0012	0.0012	0.0017	0.0018	0.0013	0.0018	<0.00040	0.000214	<0.00020	<0.00020	0.004	0.0029	<0.00040	<0.00040
Dissolved Nickel (Ni) mg/L	0.004	0.0022	0.003	0.0093	0.0228	0.0309	0.0314	0.0586	0.0472	0.048	0.0862	0.0081	0.0127	0.00872	0.0118	0.0091	0.0293	0.0161	0.0111	0.009
Dissolved Selenium (Se) mg/L	0.003	0.003	0.002	0.013	0.032	0.042	0.053	0.069	0.076	0.081	0.107	0.00036	<0.00040	0.00003	0.000027	0.000025	<0.00040	0.000044	0.000049	0.000041

Dissolved Silver (Ag) mg/L											<0.0001	0.000025	<0.000080	0.000036	<0.000040	<0.000040	<0.000080	<0.00004	<0.000080	<0.000080
Dissolved Strontium (Sr) mg/L	0.799	1.29	0.759	7.6	13.32	14.48	23.25	22.8	27.25	27.82	28.75	31.8	36.1	60	46.9	45.5	38	36.5	29.8	27.4
Dissolved thallium (Tl) mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.000373	0.00046	0.000465	0.00041	0.00035	0.00033	0.00024	0.00027	0.00021
Dissolved Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dissolved titanium (Ti) mg/L	0.03	0.04	0.04	0.22	0.4	0.26	0.42	0.24	0.34	0.56	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Dissolved Uranium (U) mg/L	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.00433	0.00522	0.00528	0.00449	0.0197	0.0149	0.00975	0.00786
Dissolved Vanadium mg/L	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dissolved Zinc mg/L	0.005	0.013	0.001	0.012	0.003	0.013	0.003	0.017	0.019	0.015	0.019	0.0051	<0.020	0.0064	0.014	<0.010	<0.020	0.011	<0.020	<0.020
Dissolved Calcium (Ca) mg/L												1190	1510	1890	1890	1870	1850	1600	1270	1310
Dissolved Magnesium (Mg) mg/L												89.3	113	121	133	122	177	150	123	125
Dissolved Potassium (K) mg/L												79	91.8	98.9	108	96	113	89.6	79	81.3
Dissolved Sodium (Na) mg/L												407	468	478	566	511	673	570	470	458
Dissolved Sulphur (S) mg/L													50					127		
Hardness mg CaCO3/L	194	159	160	905	1532	1566	2038	2277	2884	2949	3687	3560	3590	4750	5390	5170	5500	4340	3730	4320

Aluminium (Al) mg/L	0.165	0.142	1.48	0.345	0.263	0.183	0.102	0.052	0.055	0.033	<0.006	0.0503	0.0363	0.147	0.0283	0.0257	0.988	0.032	0.01	0.089
Antimony (Sb) mg/L	0.0002	0.0002	<0.0001	<0.0001	<0.0001	0.0004	0.0011	0.0012	0.0011	0.001	0.0003	0.00057	0.00083	0.00061	0.00056	<0.0010	<0.0010	<0.0020	<0.00050	<0.0020
Arsenic (As) mg/L	0.0153	0.0109	0.0066	0.0136	0.0185	0.0258	0.0471	0.0458	0.0027	0.0061	0.0061	0.00708	0.00539	0.00543	0.0045	0.00389	0.00923	0.00499	0.00321	0.00503
Barium (Ba) mg/L	0.0548	0.058	0.0486	0.1663	0.2202	0.2592	0.3425	0.3848	0.4619	0.5096	0.534	0.582	0.594	0.641	0.725	0.715	0.637	0.613	0.556	0.503
Beryllium (Be) mg/L	<0.0005	0.0039	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0001	<0.00010	<0.000050	<0.00010	<0.00020	<0.00020	<0.00040	<0.00010	<0.00040
Boron (B) mg/L	<0.01	0.02	0.12	0.2	0.41	0.44	0.67	1.06	0.97	0.98	0.92	0.806	0.937	0.851	0.877	0.73	0.76	0.611	0.618	0.57
Cadmium (Cd) mg/L	<0.00002	0.00031	0.00003	0.00012	0.00005	0.00012	0.0002	0.00018	0.00019	0.00019	0.0002	0.00244	0.000367	0.000276	0.000381	0.000283	0.000409	0.000386	0.00026	0.000244
Chromium (Cr) mg/L	0.0038	0.0047	0.0085	0.0028	<0.0006	<0.0006	0.0015	<0.0006	0.0053	0.0019	0.0026	<0.001	<0.0010	<0.00050	<0.0010	<0.0020	0.0035	<0.0040	<0.0010	<0.0040
Copper (Cu) mg/L	0.0022	0.0018	0.0095	0.0053	0.004	0.0045	0.0065	0.0048	0.006	0.0062	0.0086	0.00235	0.00216	0.00236	0.00228	0.0016	0.0038	0.0028	0.00156	0.0023
Iron (Fe) mg/L	0.32	0.26	2.53	0.82	0.48	0.54	0.71	0.41	0.41	0.37	0.47	0.246	0.226	0.375	0.282	0.362	2.33	0.269	0.095	0.352
Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00027	0.00027	0.00029	0.00024	<0.00040	0.00219	<0.00080	<0.00020	0.00081
Lithium (Li) mg/L	0.138	0.165	0.059	0.494	0.741	0.972	1.39	1.71	1.57	1.66	1.83	1.74	1.82	1.98	2.05	2.03	1.89	1.61	1.36	1.38
Manganese (Mn) mg/L	0.6738	0.3728	0.1068	0.7	0.484	0.4622	0.896	0.7892	0.6189	0.6955	0.6612	0.553	0.858	0.648	0.951	0.718	1.48	1.09	0.743	0.589
Molybdenum (Mo) mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	0.0013	0.0014	0.0013	0.0016	0.0019	0.0013	0.0019	0.002	0.00187	0.0019	<0.0020	0.004	<0.0040	0.0023	<0.0040
Nickel (Ni) mg/L	0.004	0.0027	0.0078	0.0107	0.0244	0.0309	0.0383	0.059	0.0494	0.0577	0.0898	0.0084	0.0127	0.00923	0.0113	0.0095	0.0291	0.0191	0.0112	0.0104

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Bicarbonate (HCO3) mg CaCO3/L	60	56	57	61	65	66	84	89	102	103	108	110	150	130	120	110	130	100	82	89
Carbonate (CO3) mg CaCO3/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia nitrogen (NH3-NH4) mg N/L	73.9	38.4	28.2	29.4	36.3	36.8	52.7	65.4	121	75.3	171	88	110	150	190	140	160	120	88	88
Conductivity µmhos/cm	6165	3602	2671	2877	4326	4851	6098	6661	6057	4783	7770	14000	18000	23000	23000	23000	23000	18000	14000	15000
Dissolved Solids mg/L	4102	2401	1780	1918	2884	3234	4065	4440	4038	3188	5180	10400	11500	14200	16200	16300	15200	10600	9640	10300
Free Cyanide mg/L											<0.1				0.0069	0.014	0.0066	0.0066	0.0089	0.0046
Kjeldahl nitrogen mg N/L	59.8	35.7	24.6	27	30.1	37	47.7	56.2	73.9	57.5	98.8	93	120	160	150	160	150	110	78	110
Dissolved organic carbon (D.O.C.) mg/L	16.7	10.1	8.4	8.5	8.2	11.9	15.2	14	6.9	5.4	6.8	11	13	13	12	12	13	14	12	11
Total organic carbon (T.O.C.) mg/L	23.8	13.2	10.4	10.1	9.3	14.2	17.4	19.3	13	12.8	12	14	14	14	13	12	14	14	12	11
Ortho-Phosphate (O-PO4) mg P/L	0.01	0.06	0.02	<0.01	<0.01	0.01	0.03	0.01	0.01	0.01	0.01	ND	<0.010	<0.010	<0.010	<0.010	0.036	<0.010	<0.010	<0.010
pH	7.28	7.38	7.43	7.47	7.67	7.75	7.64	7.7	7.71	7.72	7.7	7.65	7.49	7.51	7.43	7.46	7.51	7.56	7.61	7.59
Total Phosphorus (P) mg P/L	0.09	0.04	0.04	0.05	0.12	0.04	0.55	0.07	0.05	0.09	0.03	0.041	0.037	0.027	0.04	0.03	0.04	0.03	0.036	0.03

Total Suspended Solids mg/L	16	9	13	14	6	9	9	7	4	6	5	15	17	15	18	15	15	10	13	11
Dissolved Sulphate (SO4) mg/L)												180	200	220	340	300	320	280	230	250
Cyanide (CN) mg/L											0.009		0.022	0.034	0.054	0.062	0.034	0.021	0.026	0.032
Turbidity UTN	13.7	8.7	16.3	14.2	8.73	5.83	5.35	5.63	3.13	4.03	2.34	2	2.1	2.4	1.3	1.1	2	4.2	2.4	1.5
Alkalinity mg CaCO3/L	60	56	57	61	65	66	84	89	102	103	108	110	150	130	120	110	130	100	83	90
Dissolved Chloride (Cl) mg/L												4600	5800	7400	7500	7900	7800	5800	4200	4500
Nitrite (NO2) mg N/L	3.23	1.48	0.89	0.9	1.09	1.03	1.11	---			1.07	1.17	1.47	1.73	1.94	2.06	1.35	1.39	2.07	2.21
Nitrate (NO3) mg N/L	68.2	40.5	23.8	32.3	37.1	44.7	54	---			90.9	80.5	110	173	175	184	180	147	105	107
Nitrite-Nitrate mg N/L	71.5	---	24.7	33.2	38.2	45.8	55.2	63.5	71	74.3	92	81.7	111	174	177	186	181	148	107	110
Mercury (Hg) mg/L	<0.000 01	<0.000 1	<0.000 01	<0.000 1	<0.000 1	<0.000 01	<0.000 1	0.0007 7	<0.00 01	0.0005 8	<0.000 1	ND	<0.000 01	<0.000 01	<0.000 01	<0.000 01	0.0000 1	0.0000 2	<0.000 01	<0.000 01
Dissolved Mercury (Hg) mg/L	<0.000 01	0.0002	<0.000 01	<0.000 1	<0.000 1	<0.000 01	<0.000 1	0.0005 2	<0.00 01	0.0002	<0.000 1					<0.000 01	<0.000 01	0.0000 1	0.0000 1	0.0000 1
Reactive Silica (Si) mg/L	2.1	1.9	2.3	2.6	3.5	3.3	3.2	3.2	2.6	1.5	2.5		39	54	24	4.9	13	7.1	3.7	15
BTEX (L)	---	---	---	---	---	<0.3	-	-					<25	<25	<25	<25				

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(%)																				
1,4-Difluorobenzene %													100	99	103	90	100	97	103	99
4-Bromofluorobenzene %													119	98	100	113	103	104	97	103
D10-Ethylbenzene %													87	127	114	129	123	106	105	121
D4-1,2-Dichloroethane %													112	104	108	96	93	97	101	103
o-Terphenyl %													98	102	102	91	104	102	104	119
Dissolved Hardness mg/L												4410	6300	9280	8710	8410	10100	6560	4370	5290
Dissolved Aluminium (Al) mg/L	<0.006	<0.006	<0.006	0.007	0.012	0.012	<0.006	0.013	<0.006	<0.006	0.0117	0.012	0.0077	0.016	0.017	0.021	0.0111	0.087	0.02	
Dissolved Antimony (Sb) mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0009	0.0009	0.0005	0.001	0.0004	0.00073	<0.0020	0.00109	<0.0020	<0.0020	<0.0020	<0.0010	<0.0020	<0.0020
Dissolved Arsenic (As) mg/L	0.0232	0.0234	<0.0005	0.0188	0.0153	0.0271	0.0472	0.0637	<0.0005	<0.0005	<0.0005	0.00449	0.00452	0.00432	0.00371	0.00299	0.00394	0.00385	0.00467	0.00285
Dissolved Barium (Ba) mg/L	0.313	0.1885	0.1754	0.1829	0.224	0.2194	0.3448	0.3854	0.4478	0.4945	0.6365	0.659	0.814	1.03	0.937	0.913	1.3	0.711	0.514	0.533
Dissolved Beryllium (Be) mg/L	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.00040	<0.00010	<0.00040	<0.00040	<0.00040	<0.00020	<0.00040	<0.00040
Dissolved Boron (B) mg/L	0.8	0.47	0.36	0.27	0.39	0.44	0.58	0.73	0.94	1.11	1.25	0.986	1.02	0.88	1.04	1.19	1.2	0.791	0.86	0.9
Dissolved Cadmium	0.00012	<0.00002	0.00016	0.00013	0.00011	0.00005	<0.00002	0.00017	0.0003	0.00042	0.00035	0.000589	0.000932	0.00128	0.00115	0.00153	0.00125	0.000729	0.000703	0.000685

(Cd) mg/L																				
Dissolved Chromium (Cr) mg/L	0.0009	<0.0006	0.0016	0.0017	<0.0006	<0.0006	<0.0006	<0.0006	0.0018	0.0006	0.0038	<0.001	<0.0040	<0.0010	<0.0040	<0.0040	<0.0040	<0.0020	<0.0040	<0.0040
Dissolved Copper (Cu) mg/L	0.0059	0.0043	0.0045	0.0048	0.0035	0.0048	0.0056	0.0058	0.0049	0.0067	0.0104	0.00232	0.00236	0.00222	0.00316	0.00266	0.00209	0.00197	0.00342	0.00137
Dissolved Iron (Fe) mg/L	0.08	0.06	0.04	0.03	0.17	0.06	0.08	0.14	0.12	0.12	0.26	0.045	0.066	0.062	0.048	0.043	0.169	0.059	0.266	0.027
Dissolved Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	0.0018	<0.0003	<0.0002	<0.00080	0.000173	<0.00080	<0.00080	<0.00080	<0.00040	<0.00080	<0.00080
Dissolved Lithium (Li) mg/L	1.92	1.09	0.677	0.669	0.832	0.862	1.26	1.52	1.69	1.87	2.23	1.98	2.38	3.03	2.72	2.81	3.27	2.06	1.52	1.58
Dissolved Manganese (Mn) mg/L	2.511	1.035	0.5716	0.5653	0.4633	0.3207	0.8089	0.3505	0.8956	0.9465	1.583	1.51	2.59	3.45	3.17	3.34	3.9	2.2	1.51	1.58
Dissolved Molybdenum (Mo) mg/L	0.0022	0.0015	0.0011	0.0009	0.0012	0.0015	0.0015	0.0013	0.0013	0.0016	0.0016	0.0021	<0.0040	0.0035	0.0045	<0.0040	<0.0040	0.0027	<0.0040	<0.0040
Dissolved Nickel (Ni) mg/L	0.0359	0.0183	0.0113	0.0145	0.0234	0.0369	0.0407	0.0791	0.062	0.0616	0.1212	0.0149	0.0211	0.0185	0.0279	0.0325	0.0316	0.0266	0.0278	0.0251
Dissolved Selenium (Se) mg/L	0.082	0.038	0.016	0.019	0.032	0.047	0.07	0.101	0.097	0.098	0.164	0.00062	<0.00040	0.0005	0.00058	0.00047	0.00073	0.00042	0.00078	0.0005
Dissolved Silver (Ag) mg/L											<0.0001	0.000039	<0.000080	0.000078	<0.000080	0.000126	<0.000080	<0.000040	<0.000080	<0.000080
Dissolved Strontium (Sr) mg/L	30.54	16.06	9.88	11	13.71	15.54	23.36	27.17	33.86	32.48	40.35	44.8	54.7	95.2	65.5	74.2	79.7	57.7	37.9	39.9
Dissolved thallium (Tl) mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.000544	0.00053	0.000703	0.00054	0.00067	0.00048	0.0003	0.00045	0.0004
Dissolved Tin	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	0.005	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020

(Sn) mg/L									1			0.005								
Dissolved titanium (Ti) mg/L	0.52	0.36	0.18	0.29	0.39	0.27	0.54	0.29	0.43	0.44	0.69	< 0.005	<0.020	<0.0050	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020
Dissolved Uranium (U) mg/L	0.002	0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.00469	0.00908	0.0132	0.0114	0.0105	0.0164	0.00921	0.00574	0.00593
Dissolved Vanadium mg/L	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.005	<0.020	<0.0020	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020
Dissolved Zinc mg/L	0.017	0.011	0.01	0.012	0.008	0.011	0.007	0.02	0.024	0.026	0.052	0.023	0.042	0.0202	0.045	0.049	0.036	0.022	0.019	<0.020
Dissolved Calcium (Ca) mg/L												1560	2280	3430	3120	2990	3610	2350	1520	1840
Dissolved Magnesium (Mg) mg/L												124	146	174	223	227	268	169	140	170
Dissolved Potassium (K) mg/L												98.3	125	156	141	161	198	133	91.2	115
Dissolved Sodium (Na) mg/L												550	604	712	1040	1070	1130	695	568	703
Dissolved Sulphur (S) mg/L)													84					94.1		
Hardness mg CaCO3/L	2670	1548	1180	1240	1519	1742	2207	2773	3354	3631	5259	6010	6370	9570	8630	6960	9530	7150	4420	5220
Aluminium (Al) mg/L	0.25	0.128	0.354	0.254	0.226	0.076	0.027	0.026	0.038	0.056	<0.006	0.0871	0.0337	0.043	0.0916	0.0591	0.147	0.099	0.0106	0.061
Antimony (Sb) mg/L	0.0006	0.0004	<0.0001	<0.0001	<0.0001	0.0004	0.001	0.0012	0.0012	0.0012	0.0004	0.00071	0.00103	0.00098	0.00099	<0.0010	<0.0020	<0.0050	0.00076	<0.0020
Arsenic (As) mg/L	0.0475	0.0288	0.0036	0.0184	0.0163	0.0281	0.0536	0.0629	0.0013	0.0051	0.0031	0.00611	0.00572	0.00634	0.00603	0.00477	0.00521	0.0044	0.00365	0.00397
Barium (Ba) mg/L	0.3552	0.1952	0.1824	0.1869	0.2413	0.2346	0.3274	0.4215	0.5313	0.5549	0.6432	0.653	0.778	1.07	0.649	0.94	1.08	0.84	0.555	0.527
Beryllium (Be) mg/L	0.0011	0.0028	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	<0.0005	< 0.0001	<0.00010	<0.00010	<0.00010	<0.00020	<0.00040	<0.0010	<0.00010	<0.00040

Boron (B) mg/L	0.8	0.44	0.36	0.31	0.38	0.46	0.56	1.06	1	1.15	1.22	0.997	1.03	1.04	0.988	1.09	1	0.874	0.895	0.83
Cadmium (Cd) mg/L	0.0003	0.00042	0.00011	0.00016	<0.00002	0.00008	0.00025	0.00035	0.00033	0.00044	0.0005	0.000575	0.000804	0.0012	0.00115	0.00143	0.00096	0.00097	0.00063	0.000673
Chromium (Cr) mg/L	0.0077	0.0041	0.0068	0.0016	<0.0006	<0.0006	0.0012	0.0008	0.0083	0.0037	0.0042	<0.0010.001	<0.0010	<0.0010	<0.0010	<0.0020	<0.0040	<0.010	<0.0010	<0.0040
Copper (Cu) mg/L	0.0077	0.0048	0.0046	0.0057	0.0039	0.0049	0.0059	0.0056	0.0069	0.007	0.0102	0.00247	0.00267	0.0032	0.00296	0.0025	0.0027	<0.0050	0.00194	0.0028
Iron (Fe) mg/L	0.69	0.45	0.67	0.74	0.46	0.23	0.29	0.25	0.31	0.37	0.42	0.247	0.238	0.28	0.367	0.201	0.619	0.374	0.046	0.13
Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	<0.0003	0.0011	<0.0003	<0.0003	<0.0003	<0.0003	0.0012	<0.0003	0.00053	0.00037	0.00045	0.00081	0.00052	<0.00080	<0.0020	<0.00020	<0.00080
Lithium (Li) mg/L	2.26	1.09	0.707	0.645	0.789	0.967	1.36	1.82	2.11	1.95	2.49	2.01	2.16	3.29	2.41	2.72	2.98	2.36	1.5	1.6
Manganese (Mn) mg/L	2.32	1.007	0.5473	0.573	0.478	0.3839	0.8414	1.081	1.031	1.04	1.842	1.54	2.44	3.66	3.22	3.11	3.45	2.46	1.5	1.57
Molybdenum (Mo) mg/L	0.002	0.0015	0.0008	0.001	0.0013	0.0017	0.0016	0.0013	0.0013	0.0015	0.0015	0.0021	0.0027	0.00357	0.0048	0.0037	<0.0040	<0.010	0.003	<0.0040
Nickel (Ni) mg/L	0.0338	0.0181	0.0136	0.0151	0.0249	0.0374	0.0426	0.0778	0.0628	0.0742	0.1344	0.0144	0.0219	0.0209	0.0248	0.031	0.0271	0.028	0.0256	0.027
Selenium (Se) mg/L	0.074	0.04	0.015	0.02	0.036	0.048	0.074	0.096	0.105	0.123	0.153	0.00053	0.00072	0.00051	0.00055	0.00053	0.00057	<0.0010	0.00043	<0.00040
Silver (Ag) mg/L											<0.0001	0.000046	0.00006	<0.00010	0.000035	0.000103	<0.000080	<0.00020	0.000047	<0.000080
Strontium (Sr) mg/L	36.84	16.92	9.38	10.87	13.31	15.01	24.26	30.15	36.39	29.69	40.66	45.4	51.4	98.6	77.4	67.7	84.6	54.3	40.1	40.6
Thallium (Tl) mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.000527	0.000526	0.000664	0.000561	0.00055	0.00041	<0.00050	0.00043	0.00039
Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.0005	<0.00050	<0.0020	<0.00050	<0.010	<0.020	<0.050	<0.00050	<0.020

Titanium (Ti) mg/L	0.57	0.44	0.18	0.3	0.41	0.26	0.55	0.3	0.53	0.73	0.72	< 0.005	<0.005 0	<0.020	<0.005 0	<0.010	<0.020	<0.050	<0.005 0	<0.020
Uranium (U) mg/L	0.002	0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.0044 7	0.0102	0.0134	0.0112	0.0101	0.0141	0.0094	0.0056 1	0.0060 5
Vanadium (V) mg/L	<0.000 5	<0.000 5	0.0018	<0.000 5	<0.000 5	<0.000 5	<0.000 5	<0.000 5	<0.00 05	<0.000 5	<0.000 5	< 0.005	<0.005 0	<0.002 0	<0.005 0	<0.010	<0.020	<0.050	<0.005 0	<0.020
Zinc (Zn) mg/L	0.024	0.016	0.015	0.017	0.039	0.016	0.014	0.033	0.023	0.055	0.048	0.0181	0.0437	0.03	0.0299	0.071	0.04	<0.050	0.0194	0.021
Calcium (Ca) mg/L	975	572	419	445	544	622	807	1008	1224	1286	1902	2210	2320	3510	3100	2430	3450	2550	1530	1810
Magnesium (Mg) mg/L	57.2	29.2	32.7	31.3	39.2	46	55.9	62.2	72.5	102	124	117	137	192	217	217	220	189	145	170
Potassium (K) mg/L	63.4	41.3	25.8	28.1	34.4	36.3	73.3	69.3	75.3	90.1	93.4	103	109	160	173	164	163	129	99.8	105
Sodium (Na) mg/L	255	102	118	129	170	180	274	286	323	385	588	512	603	790	1070	1090	912	745	588	713
Total Sulphur (S) mg/L													69.6			103		82		
Chloride (Cl) mg/L	2366	1515	1048	1140	1475	1647	2238	2524	3115	3434	4083									
Cyanide W.A.D. mg/L											0.005									
NH3 (nonionized) AMMONIA mg N/L	0.32	0.22	0.25	0.26	0.39	0.42	---	---			2.03									
NH4 -N																				
Sulfate (SO4) mg SO4/L	45.3	36.8	41.5	37.7	54.3	64.8	82.3	84.8	109	118	135									
Total Bismuth (Bi) mg/L														<0.000 10						
Total Cobalt (Co) mg/L														0.0069 3						
Total Silicon														3.1						

Ammonia nitrogen (NH3-NH4) mg N/L	24.3	3.5	49.6	35.4	35.8	36.9	46.6	54	64.3	72.5	72.7	80	83	78	52	43	62	35	61	65
Conductivity µmhos/cm	3286	784	3809	3152	4334	4598	5650	6238	5892	1008 0	7531	14000	15000	16000	11000	9000	12000	8300	11000	12000
Dissolved Solids mg/L	2190	523	2539	2101	2889	3065	3766	4158	3928	3115	5020	10200	10400	10200	8800	7020	8660	5620	7940	8410
Free Cyanide mg/L											<0.1				0.0019	0.0025	0.015	0.0041	0.0045	0.0038
Kjeldahl nitrogen mg N/L	21.8	3.88	42.2	32	31.5	31.8	43.3	49.6	60.4	63.1	110	84	89	91	52	36	60	35	56	79
Dissolved organic carbon (D.O.C.) mg/L	10.6	5.8	7.4	7.5	10.3	10.2	13.6	9.9	5.4	2.4	5.5	9.5	12	12	18	20	28	12	15	12
Total organic carbon (T.O.C.) mg/L	15.5	6.9	9.2	9	10.8	15.1	16.6	14.6	11.4	8	5.5	11	12	11	20	20	29	15	14	14
Ortho- Phosphate (O- PO4) mg P/L	0.01	0.06	0.01	<0.01	<0.01	0.01	0.02	0.01	0.01	0.06	0.01	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	7.38	7.49	7.38	7.57	7.7	7.64	7.76	7.78	7.62	7.59	7.46	7.59	7.44	7.44	7.52	7.73	7.65	7.56	7.66	7.61
Total Phosphorus (P) mg P/L	0.06	0.03	0.05	0.05	0.12	0.05	0.58	0.04	0.05	0.03	0.03	0.026	0.04	0.023	0.06	0.049	0.075	0.09	0.041	0.033
Total Suspended Solids mg/L	6	5	12	12	5	7	6	5	4	7	16	20	25	13	43	7	24	14	25	12
Dissolved Sulphate (SO4) mg/L												220	260	290	430	470	720	350	350	340

Cyanide (CN) mg/L										0.005		0.032	0.032	0.012	<0.005 0	0.029	0.011	0.019	0.023	
Turbidity UTN	6.25	6.35	14.5	8.1	6.91	5.73	3.56	3.23	3.51	5.19	1.86	2.2	2.8	1.3	12	2.6	4	3.2	3.4	2.6
Alkalinity mg CaCO3/L	56	47	60	57	61	63	78	83	100	100	92	94	88	78	110	130	180	100	94	90
Dissolved Chloride (Cl) mg/L												4300	4900	5000	3400	2600	3500	2400	3100	3400
Nitrite (NO2) mg N/L	1.64	0.2	1.87	1.14	1.13	1.11	1.16				2.01	2.32	3.7	3.66	1.76	1.09	2.34	2.36	2.18	2.16
Nitrate (NO3) mg N/L	20.8	3.38	52.3	36.8	38.5	42.8	49.8				85	78.8	92.3	94.9	53.2	44.7	53.4	75.1	85.1	88.7
Nitrite-Nitrate mg N/L	22.5	---	54.2	38	39.7	44	51	53.5	69.5	77.9	87.1	81.1	96	98.6	55	45.8	55.8	77.5	87.3	90.9
Mercury (Hg) mg/L	<0.000 01	<0.000 1	<0.000 01	<0.000 1	<0.000 1	<0.0000 1	<0.00 01	0.0008 2	<0.00 01	0.00 078	<0.00 01	ND	<0.000 01	<0.000 01	<0.000 01	<0.000 01	<0.000 01	0.0000 1	<0.000 01	0.0000 1
Dissolved Mercury (Hg) mg/L	<0.000 01	<0.000 1	<0.000 01	<0.000 1	<0.000 1	<0.0000 1	<0.00 01	0.0004 8	<0.00 01	0.00 033	<0.00 01					<0.000 01	<0.000 01	<0.000 01	0.0000 1	<0.000 01
Reactive Silica (Si) mg/L	2.1	0.8	2.3	2.4	3.2	3.4	2.6	1.8	2.5	2.3	2.5		23	38	9.8	12	0.45	4.5	2.8	3.8
BTEX (L)	---	---	---	---	---	0.6	---						<25	<25	<25	<25				
Benzene ug/L													<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene ug/L													<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene ug/L													<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene ug/L													<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
p+m-Xylene ug/L													<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Xylenes ug/L													<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
F1 (C6-C10) - BTEX - ug/L																	<25	<25	<25	<25

Hydrocarbons (L) (Fraction F1 (C6-C10)) µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.3	<0.3	ND	<25	<25	<25	<25	<25	<25	<25	<25
Hydrocarbons (L) (Fraction F2 - F4))																				
- Petroleum Hydrocarbons F2 (C10-C16) µg/L	<100	---	---	---	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
- Petroleum Hydrocarbons F3 (C16-34) µg/L	<200	---	---	---	<200	<200	<200	<200	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200
- Petroleum Hydrocarbons F4 (C34-50) µg/L	---	---	---	---	<200	<200	<200	<200	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200
Reached Baseline at C50 ug/L													Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Surrogate Recovery (%)																				
1,4-Difluorobenzene %													102	98	102	93	100	97	102	103
4-Bromofluorobenzene %													107	100	100	102	108	107	96	106
D10-Ethylbenzene %													83	128	119	128	122	104	104	98
D4-1,2-Dichloroethane %													93	104	105	89	94	96	101	97
o-Terphenyl %													97	95	103	94	108	102	103	120
Dissolved												4370	5360	6010	4460	3470	4230	2630	3470	3860

Hardness mg/L																				
Dissolved Aluminium (Al) mg/L	<0.006	<0.006	0.012	0.011	0.012	0.011	<0.006	<0.006	<0.006	<0.006	0.0093	0.063	0.009	0.0107	0.0096	0.017	0.0078	0.206	0.021	
Dissolved Antimony (Sb) mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0008	0.0009	0.0005	0.0007	0.0001	0.00055	<0.0020	0.00077	<0.0010	0.00069	<0.0020	0.00131	<0.0020	<0.0020
Dissolved Arsenic (As) mg/L	0.0173	0.0145	0.0087	0.0242	0.0215	0.0314	0.0408	0.064	0.007	0.0005	<0.0005	0.00499	0.00434	0.00331	0.0062	0.0127	0.00545	0.00787	0.0127	0.00804
Dissolved Barium (Ba) mg/L	0.16	0.0338	0.214	0.1709	0.2033	0.1984	0.2673	0.3851	0.4647	0.4464	0.548	0.582	0.658	0.636	0.447	0.32	0.363	0.175	0.344	0.312
Dissolved Beryllium (Be) mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.00040	<0.000050	<0.00020	<0.00010	<0.00040	<0.00010	<0.00040	<0.00040
Dissolved Boron (B) mg/L	0.25	<0.01	0.61	0.37	0.49	0.4	0.46	0.73	0.79	0.88	0.85	0.758	0.8	0.671	0.54	0.391	0.57	0.528	0.59	0.66
Dissolved Cadmium (Cd) mg/L	<0.00002	<0.00002	0.000019	0.000013	0.00001	0.00004	<0.00002	0.000017	0.00004	0.000048	0.000053	0.0000634	0.0000764	0.0000871	0.0000256	0.0000278	0.0000537	0.0000379	0.0000552	0.0000491
Dissolved Chromium (Cr) mg/L	0.0009	<0.0006	0.0015	0.0007	<0.0006	<0.0006	<0.0006	<0.0006	0.0023	<0.0006	0.0037	<0.0001	<0.0040	<0.00050	<0.0020	<0.0010	<0.0040	<0.0010	<0.0040	<0.0040
Dissolved Copper (Cu) mg/L	0.0048	0.0013	0.0071	0.0065	0.0041	0.0048	0.0054	0.0066	0.006	0.0007	0.0109	0.00241	0.00433	0.00282	0.00319	0.00317	0.00339	0.00277	0.00401	0.00252
Dissolved Iron (Fe) mg/L	0.03	<0.01	0.05	0.03	0.05	0.06	0.06	0.13	0.16	0.11	0.24	0.0351	<0.020	0.0107	0.026	0.0301	0.147	0.035	0.712	0.023
Dissolved Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	0.0009	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.00080	0.000059	<0.00040	<0.00020	<0.00080	<0.00020	0.00205	<0.00080
Dissolved Lithium (Li) mg/L	0.534	0.113	1.2	0.737	0.832	0.849	1.06	1.32	1.53	1.96	1.66	1.67	1.99	1.84	1.52	0.977	1.16	0.45	1.2	1.07
Dissolved Manganese	1.375	0.3922	0.7941	0.552	0.4743	0.2468	0.3108	0.3538	0.9559	1.342	1.623	1.63	1.79	2.26	1.44	1.29	2.78	1.64	1.78	1.79

(Mn) mg/L																				
Dissolved Molybdenum (Mo) mg/L	0.0015	0.0009	0.0021	0.0019	0.0016	0.0016	0.002	0.0027	0.0019	0.0018	0.0017	0.0022	<0.0040	0.00242	0.0047	0.0059	0.0075	0.0067	0.0044	0.0054
Dissolved Nickel (Ni) mg/L	0.0274	0.0035	0.0279	0.0208	0.0252	0.0379	0.0369	0.0812	0.0649	0.0673	0.1251	0.0251	0.0326	0.0342	0.0255	0.0284	0.0792	0.0451	0.0532	0.0491
Dissolved Selenium (Se) mg/L	0.046	0.002	0.025	0.02	0.031	0.042	0.061	0.102	0.106	0.097	0.148	0.00059	0.00051	0.00047	0.00052	0.00074	0.00094	0.00054	0.00088	0.00078
Dissolved Silver (Ag) mg/L											<0.0001	0.000032	<0.000080	0.000043	<0.000040	0.000048	<0.000080	<0.000020	<0.000080	<0.000080
Dissolved Strontium (Sr) mg/L	9.84	1.67	18.67	12.99	13.86	14.49	20.58	23.72	26.92	33.19	30.03	38.4	42	56	32.5	23.4	24.6	18.2	26.6	25.9
Dissolved thallium (Tl) mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.000359	0.00038	0.00038	0.0001	0.000131	<0.00020	0.000111	0.00022	<0.00020
Dissolved Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.020	<0.0010	<0.010	<0.0050	<0.020	<0.0050	<0.020	<0.020
Dissolved titanium (Ti) mg/L	0.23	0.06	0.36	0.27	0.38	0.22	0.36	0.32	0.42	0.38	0.57	<0.0005	<0.020	<0.0025	<0.010	<0.0050	<0.020	<0.0050	<0.020	<0.020
Dissolved Uranium (U) mg/L	0.001	<0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.007	0.00696	0.00751	0.00953	0.024	0.0295	0.0429	0.0109	0.0146	0.0106
Dissolved Vanadium mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.020	<0.0010	<0.010	<0.0050	<0.020	<0.0050	<0.020	<0.020
Dissolved Zinc mg/L	0.012	0.004	0.013	0.01	0.001	0.008	<0.0001	0.021	0.017	0.02	0.023	0.011	<0.020	0.0139	0.013	0.01	<0.020	0.0162	<0.020	0.03
Dissolved Calcium (Ca) mg/L												1550	1910	2180	1560	2990	1360	857	1160	1310
Dissolved Magnesium (Mg) mg/L												122	143	142	140	227	205	119	141	146
Dissolved												95.8	111	108	83.8	161	95.2	63.6	77.7	88.4

Potassium (K) mg/L																				
Dissolved Sodium (Na) mg/L											558	634	592	464	1070	672	448	524	535	
Dissolved Sulphur (S) mg/L												90					106			
Hardness mg CaCO3/L	1496	220	2089	1370	1663	1567	2326	2507	3411	3896	4665	5650	5130	6290	4640	3370	4610	2450	3500	4340
Aluminium (Al) mg/L	0.13	0.304	0.494	0.189	0.142	0.062	0.021	<0.006	0.029	0.129	<0.006	0.103	0.726	0.359	0.561	0.0804	0.449	0.244	0.009	0.197
Antimony (Sb) mg/L	0.0004	0.0003	<0.0001	0.0002	<0.0001	0.0005	0.0011	0.0011	0.0011	0.0009	0.0001	0.00053	0.0018	0.00072	<0.0010	<0.0010	0.0017	0.00139	0.00102	<0.0020
Arsenic (As) mg/L	0.0411	0.0252	0.0139	0.0233	0.0237	0.034	0.0575	0.0639	0.0085	0.0094	0.0017	0.00864	0.0083	0.00723	0.0183	0.0167	0.0144	0.0132	0.00893	0.0107
Barium (Ba) mg/L	0.1836	0.0408	0.2235	0.1784	0.209	0.2124	0.2868	0.3521	0.4948	0.5236	0.5675	0.626	0.62	0.67	0.454	0.306	0.372	0.159	0.359	0.362
Beryllium (Be) mg/L	0.0027	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	<0.0001	<0.00010	<0.000050	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010	<0.00040
Boron (B) mg/L	0.26	0.04	0.71	0.45	0.45	0.43	0.56	0.86	0.77	0.87	0.87	0.791	0.819	0.736	0.49	0.4	0.59	0.549	0.615	0.75
Cadmium (Cd) mg/L	0.00014	0.0003	0.00026	0.00025	0.00004	0.00011	0.00018	0.00022	0.0004	0.0005	0.0006	0.000671	0.000749	0.000867	0.000261	0.000261	0.000507	0.000435	0.000516	0.00049
Chromium (Cr) mg/L	0.0097	0.0038	0.0096	<0.0006	<0.0006	0.0009	0.0013	0.0014	0.0081	0.0042	0.0038	<0.001	0.0021	0.00119	<0.0020	<0.0020	<0.0020	0.0014	<0.0010	<0.0040
Copper (Cu) mg/L	0.0068	0.0031	0.0074	0.0065	0.0047	0.005	0.0063	0.0065	0.0075	0.0079	0.0121	0.00304	0.00947	0.00458	0.006	0.0037	0.0057	0.00442	0.00219	0.0022
Iron (Fe) mg/L	0.29	1.08	1.06	0.42	0.32	0.22	0.23	0.17	0.29	0.46	0.44	0.302	0.908	0.922	1.51	0.24	1.48	0.589	0.139	0.395

Lead (Pb) mg/L	<0.000 3	<0.000 3	<0.000 3	0.0012	<0.000 3	<0.0003	0.001 9	<0.000 3	<0.00 03	<0.0 003	<0.00 03	0.000 9	0.0013 7	0.0010 4	0.0019 4	0.0005 9	0.0012 7	0.0010 3	<0.000 20	0.0008 6
Lithium (Li) mg/L	0.532	0.111	1.25	0.707	0.76	1.28	1.11	1.61	1.54	2.15	1.75	1.67	1.79	2.01	1.42	1.02	1.26	0.384	1.09	1.3
Manganese (Mn) mg/L	1.446	0.5049	0.82	0.5581	0.5253	0.2878	0.459	0.4679	0.999 3	1.45 4	2.002	1.8	1.86	2.58	1.49	1.35	2.91	1.71	1.64	1.52
Molybdenum (Mo) mg/L	0.0014	0.001	0.002	0.0018	0.0018	0.0017	0.002 5	0.0022	0.001 8	0.00 2	0.001 6	0.002 3	0.003	0.0025	0.0047	0.0059	0.0074	0.0071	0.0045	0.0045
Nickel (Ni) mg/L	0.0248	0.0052	0.0322	0.0209	0.0304	0.04	0.042 6	0.0749	0.067 8	0.08 39	0.150 9	0.025 8	0.0338	0.0377	0.0283	0.0319	0.0796	0.0496	0.0458	0.0464
Selenium (Se) mg/L	0.043	0.003	0.028	0.02	0.036	0.042	0.069	0.089	0.102	0.12 3	0.152	0.000 6	0.0008 1	0.0005 2	0.035	0.0007	0.0008 6	0.0006	0.0008 2	0.0012 4
Silver (Ag) mg/L											<0.00 01	0.000 048	0.0000 61	0.0000 63	0.0000 69	<0.000 040	<0.000 040	0.0000 21	0.0000 29	<0.000 080
Strontium (Sr) mg/L	9.79	1.71	18.43	12.73	12.98	19.08	22.11	27.3	26.81	32.2 8	32.62	41.1	39.9	63.5	31.9	21.5	31.8	20.1	28.5	29.9
Thallium (Tl) mg/L	<0.002	<0.002	<0.002	<0.002	<0.000 8	<0.002	<0.00 08	<0.000 8	<0.00 08	<0.0 008	<0.00 08	0.000 373	0.0003 62	0.0003 55	0.0001 2	0.0001 2	0.0001 2	0.0001 37	0.0002 11	0.0002 2
Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00 1	<0.001	<0.00 1	<0.0 01	<0.00 1	< 0.005	<0.005 0	<0.001 0	<0.010	<0.010	<0.010	<0.005 0	<0.005 0	<0.020
Titanium (Ti) mg/L	0.24	0.06	0.33	0.28	0.48	0.21	0.34	0.32	0.39	0.46	0.78	< 0.005	0.04	<0.010	0.02	<0.010	0.021	0.0056	<0.005 0	<0.020
Uranium (U) mg/L	0.001	<0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.004	0.00 5	0.007	0.007 05	0.0080 3	0.0103	0.0228	0.029	0.0448	0.0075 8	0.0144	0.0128
Vanadium (V) mg/L	<0.000 5	<0.000 5	0.0026	<0.000 5	<0.000 5	<0.0005	<0.00 05	<0.000 5	<0.00 05	<0.0 005	<0.00 05	< 0.005	<0.005 0	0.0012	<0.010	<0.010	<0.010	<0.005 0	<0.005 0	<0.020
Zinc (Zn) mg/L	0.029	0.019	0.018	0.013	0.016	0.011	0.001	0.024	0.019	0.03 4	0.028	0.013 3	0.0324	0.0201	0.014	0.02	0.031	0.0209	0.0118	<0.020
Calcium (Ca) mg/L	546	79.1	737	488	594	557	841	896	1232	1394	1644	2050	1840	2260	1630	1130	1510	779	1160	1500
Magnesium (Mg) mg/L	32.3	5.48	60.4	37	43.9	43	55	65.5	81.5	101	136	130	132	159	138	136	204	122	147	144
Potassium (K) mg/L	29.4	8.48	46.9	32.8	39.3	33	67.8	64.4	73.2	85.3	88.7	106	96.1	111	81.6	72.8	92.5	65.4	80.8	83.6

Lab ID														DLC166
Sample	DP3-Base	DP3-Base	DP3-A Base	DP3-A Base	DP3-A-BASE	DP3-A Base	DP3-A Base	DP3-A Base	DP3-A Base	DP3-A Base	DP3-A Base	DP3-A Base	DP3-A Base	DP3-A Base (T) (Trench)
Sampling location	DP3-Base	DP3-Base	DP3-A Base	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine	Meliadine
Water distribution system		PO# 494982	PO# 494982	PO# 494982	OL- 494982	PO# 494982	PO# 494982	PO# 494982	PO# 494982	PO# 494982	B6J8696	PO# 494982		
Sampling date	22 may 2016 09:20	12 june 2016 11:55	28/06/2016 16:08	05-Jul-16	07-Aug-16	09-Aug-16	16-Aug-16	23-Aug-16	30-Aug-16	13-Sep-16	19-Sep-16	27-Sep-16	04-Oct-16	08-Nov-16
Sampler name-Data Entry	Alexandre Gauthier	Alexandre Gauthier	Justin MacMillan	Philip Roy	Philip Roy	PR	JM	JM & JT	PR	AG	JM & JT	PR	PR-AG	JM-PR
Bicarbonate (HCO3) mg CaCO3/L	118	70	168	141	110	120	130	99	130	130	90	92	86	
Carbonate (CO3) mg CaCO3/L	<2	<2	<2	<2	<2	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Ammonia nitrogen (NH3-NH4) mg N/L	35.8	1.73	44.2	631	277	170	220	0.26	320	140	27	71	71	
Conductivity µmhos/cm	3420	844	677	20990	12130	28000	33000	22000	38000	24000	6600	12000	13000	
Dissolved Solids mg/L	2280	563	4513	13993	8086	24400	21800	14500	28000	16000	4490	8920	8760	
Free Cyanide (CN) mg/L					<0.1		0.0048	0.0070	0.0085	0.014	0.0041	0.0059	0.0049	
Kjeldahl nitrogen mg N/L	32.4	2.24	46.5	5187	235	180	280	140	290	150	27	61	86	
Dissolved organic carbon (D.O.C.) mg/L	10.7	7.5	28.2	77.8	26.9	47	59	42	22	16	11	15	12	
Total organic carbon (T.O.C.) mg/L	17.6	9.6	28.2	77.8	35.1	48	60	43	24	16	11	16	13	
Ortho-Phosphate (O-PO4) mg P/L	0.01	<0.01	0.01	0.1	0.06	ND	0.012	<0.010	0.011	<0.010	<0.010	<0.010	<0.010	
pH	7.62	7.91	7.84	6.78	7.24	7.42	7.42	7.26	7.29	7.52	7.67	7.6	7.55	

Total Xylenes ug/L						<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	
F1 (C6-C10) - BTEX - ug/L										<25	<25	<25	<25	
Hydrocarbons (L) (Fraction F1 (C6-C10)) µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	ND	<25			<25	<25	<25	<25	
Hydrocarbons (L) (Fraction F2 - F4))														
- Petroleum Hydrocarbons F2 (C10-C16) µg/L	<100	---	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	
- Petroleum Hydrocarbons F3 (C16-34) µg/L	<200	---	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	
- Petroleum Hydrocarbons F4 (C34-50) µg/L	<200	---	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	
Reached Baseline at C50 ug/L							Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Surrogate Recovery (%)														
1,4-Difluorobenzene %							103	98	107	97	97	102	98	
4- Bromofluorobenzene %							117	97	89	98	106	97	94	
D10-Ethylbenzene %							84	126	113	121	99	103	118	
D4-1,2- Dichloroethane %							94	102	112	94	105	99	93	
o-Terphenyl %							102	98	109	106	101	104	119	
Dissolved Hardness mg/L						12900	13300	9850	14100	12200	2440	3800	4750	
Dissolved Aluminium (Al) mg/L	<0.006	<0.006	<0.006	0.015	<0.006	0.0088	<0.030	0.0085	0.014	0.02	0.0072	0.064	0.022	
Dissolved Antimony (Sb) mg/L	<0.0001	<0.0001	<0.0001	0.0043	0.0021	0.00224	<0.0050	0.00158	<0.0020	<0.0020	<0.00050	<0.0020	<0.0020	

Dissolved Arsenic (As) mg/L	0.0179	0.0023	0.0371	0.6923	<0.0005	0.00806	0.0096	0.00685	0.00529	0.00616	0.00246	0.0101	0.00579	
Dissolved Barium (Ba) mg/L	0.179	0.0389	0.3144	0.9194	0.5834	0.635	0.737	0.708	0.707	0.807	0.312	0.327	0.366	
Dissolved Beryllium (Be) mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0001	<0.0010	<0.00010	<0.00040	<0.00040	<0.00010	<0.00040	<0.00040	
Dissolved Boron (B) mg/L	0.13	<0.01	0.22	6.04	6.3	5.52	4.03	1.86	4.25	4.27	0.742	0.77	0.87	
Dissolved Cadmium (Cd) mg/L	<0.00002	<0.00002	<0.00002	0.00166	0.00076	0.000891	0.00077	0.000719	0.000548	0.000659	0.000157	0.000465	0.000447	
Dissolved Chromium (Cr) mg/L	<0.0021	<0.0006	<0.0006	0.0058	<0.0006	< 0.001	<0.010	<0.0010	<0.0040	<0.0040	<0.0010	<0.0040	<0.0040	
Dissolved Copper (Cu) mg/L	0.0043	0.0017	0.0083	0.0359	0.0302	0.00902	0.0123	0.00813	0.00437	0.00361	0.00157	0.00344	0.00161	
Dissolved Iron (Fe) mg/L	0.05	0.06	0.52	2.09	1.14	0.548	0.705	0.412	0.055	0.098	0.0516	0.177	0.021	
Dissolved Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00023	<0.0020	0.000311	<0.00080	<0.00080	<0.00020	<0.00080	<0.00080	
Dissolved Lithium (Li) mg/L	0.642	0.125	1.76	21.41	9.78	10.2	8.55	5.68	8.57	7.14	1.34	1.33	1.52	
Dissolved Manganese (Mn) mg/L	4.057	0.0679	1.471	5.554	3.553	3.25	3.68	3.40	3.92	3.77	0.692	1.57	1.48	
Dissolved Molybdenum (Mo) mg/L	0.0022	0.0006	0.0023	0.0064	0.0097	0.0102	0.013	0.00653	0.0042	0.0049	<0.0010	0.005	0.004	
Dissolved Nickel (Ni) mg/L	0.0298	0.0061	0.0666	0.4859	0.3589	0.108	0.116	0.0838	0.0575	0.0553	0.0099	0.0548	0.0417	
Dissolved Selenium (Se) mg/L	0.002	0.002	0.056	0.654	0.289	0.00141	<0.0010	0.00049	0.00074	0.00084	0.00021	0.00081	0.00075	
Dissolved Silver (Ag) mg/L					<0.0001	0.000157	<0.00020	0.000102	0.000084	0.000131	<0.000020	<0.000080	<0.000080	
Dissolved Strontium (Sr) mg/L	9.35	1.46	23.34	442	159	179	140	121	168	141	23.5	29.9	34	

Dissolved thallium (Tl) mg/L	<0.002	<0.002	<0.002	0.0043	0.0011	0.00192	0.00106	0.000777	0.00111	0.00146	0.000305	0.00043	0.00036	
Dissolved Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.005	<0.050	<0.0020	<0.020	<0.020	<0.0050	<0.020	<0.020	
Dissolved titanium (Ti) mg/L	0.27	0.05	0.45	1.55	1.35	< 0.005	<0.050	<0.0050	<0.020	<0.020	<0.0050	<0.020	<0.020	
Dissolved Uranium (U) mg/L	0.004	<0.001	0.011	0.02	0.022	0.019	0.0286	0.0272	0.0312	0.026	0.00272	0.0145	0.0117	
Dissolved Vanadium mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.005	<0.050	<0.0020	<0.020	<0.020	<0.0050	<0.020	<0.020	
Dissolved Zinc mg/L	0.015	0.001	0.011	0.036	0.034	0.0219	<0.050	0.0208	0.023	<0.020	0.0086	<0.020	<0.020	
Dissolved Calcium (Ca) mg/L						4690	4780	3570	5120	4330	832	1290	1640	
Dissolved Magnesium (Mg) mg/L						288	327	229	326	327	88.1	142	159	
Dissolved Potassium (K) mg/L						290	275	175	277	232	40.6	86.1	97.2	
Dissolved Sodium (Na) mg/L						1150	1120	701	1260	1110	232	571	599	
Dissolved Sulphur (S) mg/L							313				83.4			
Hardness mg CaCO3/L	1552	297	2958	25602	15417	18200	11600	9630	15300	10200	2460	4010	4880	
Aluminium (Al) mg/L	0.093	0.016	0.13	0.358	0.088	0.147	0.0241	0.105	0.0818	0.146	0.0265	0.0118	0.147	
Antimony (Sb) mg/L	<0.0004	<0.0001	<0.0001	0.0045	0.002	0.00245	0.00181	0.00144	0.00147	<0.0020	<0.0010	0.00147	<0.0020	
Arsenic (As) mg/L	0.047	0.0076	0.0507	0.8261	<0.0005	0.0112	0.0151	0.0104	0.00907	0.00647	0.00321	0.00892	0.00767	
Barium (Ba) mg/L	0.2207	0.0406	0.2855	0.9244	0.5525	0.666	0.674	0.686	0.734	0.621	0.329	0.348	0.366	

Beryllium (Be) mg/L	0.0017	<0.0005	<0.0005	0.0009	<0.0005	< 0.0001	<0.00010	<0.00010	<0.00010	<0.00040	<0.00020	<0.00010	<0.00040	
Boron (B) mg/L	0.14	<0.01	0.2	6.9	6.51	5.76	3.4	1.94	5.01	3.33	0.686	0.765	0.95	
Cadmium (Cd) mg/L	0.00031	<0.00002	0.00003	0.00219	0.0007	0.000954	0.000691	0.000672	0.000724	0.00049	0.000167	0.000443	0.000463	
Chromium (Cr) mg/L	0.0106	<0.0006	0.0024	0.0103	0.0046	< 0.001	<0.0010	<0.0010	<0.0010	<0.0040	<0.0020	<0.0010	<0.0040	
Copper (Cu) mg/L	0.005	0.0019	0.0084	0.0458	0.0277	0.0103	0.0116	0.0090	0.00522	0.0037	0.0022	0.00304	0.0032	
Iron (Fe) mg/L	0.47	0.18	3.95	7.77	3.3	1.97	1.89	1.57	0.41	0.44	0.247	0.041	0.284	
Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	0.0018	0.0041	0.00092	0.00066	0.00089	0.00094	<0.00080	<0.00040	<0.00020	<0.00080	
Lithium (Li) mg/L	0.691	0.128	1.77	22.84	10.69	10.5	7.08	5.64	11.3	5.57	1.3	1.31	1.53	
Manganese (Mn) mg/L	4.322	0.0777	1.461	5.152	3.212	3.51	3.33	3.39	4.73	3.02	0.75	1.59	1.54	
Molybdenum (Mo) mg/L	0.0022	0.0006	0.0021	0.0065	0.0088	0.0103	0.0118	0.00662	0.0049	<0.0040	<0.0020	0.005	<0.0040	
Nickel (Ni) mg/L	0.0287	0.0059	0.0635	0.5163	0.392	0.112	0.104	0.0846	0.0672	0.0428	0.0108	0.0523	0.0467	
Selenium (Se) mg/L	0.037	0.002	0.052	0.73	0.283	0.00165	0.00125	0.00063	0.00104	0.00072	<0.00020	0.00093	0.0008	
Silver (Ag) mg/L					<0.0001	0.00018	0.000136	<0.00010	0.000095	<0.000080	0.000052	0.000026	<0.000080	
Strontium (Sr) mg/L	9.79	1.4	23.69	453	159	197	125	113	213	132	21	32.5	33.9	
Thallium (Tl) mg/L	<0.002	<0.002	<0.002	0.0046	0.0011	0.00204	0.000977	0.000718	0.00118	0.00109	0.00038	0.000386	0.00036	
Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.005	<0.0050	<0.0020	<0.0050	<0.020	<0.010	<0.0050	<0.020	
Titanium (Ti) mg/L	0.25	0.05	0.85	3.28	1.55	< 0.005	<0.0050	<0.020	<0.0050	<0.020	<0.010	<0.0050	<0.020	
Uranium (U) mg/L	0.004	<0.001	0.01	0.02	0.021	0.0195	0.0296	0.0262	0.0349	0.0204	0.00272	0.0143	0.0123	
Vanadium (V) mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.005	<0.0050	<0.0020	<0.0050	<0.020	<0.010	<0.0050	<0.020	
Zinc (Zn) mg/L	0.024	0.003	0.01	0.043	0.039	0.0243	0.028	0.026	0.0228	<0.020	<0.010	0.0056	<0.020	
Calcium (Ca)	563	103	1045	9257	5533	6810	4200	3470	5550	3680	834	1340	1680	9010

location			Base	e	Base									(Trench)
Water distribution system	PO# 494982	PO# 494982	494982	OL- 494982	494982	494982	494982	494982	494982	B6J8696				
Sampling date	12/06/2016 14:37	05/07/2016 0:00	26-Jul-16	07-Aug-16	09-Aug-16	16/08/2016	23/08/2016	30/08/2016	06/09/2016	13/09/2016	19/09/2016	27/09/2016	04/10/2016	08/11/2016
Sampler name	Alexandre Gauthier	Philip Roy	JM	Philip Roy	PR	JM	JM & JT	PR	AG	AG	JM & JT	PR	PR-AG	JM-PR
Bicarbonate (HCO3) mg CaCO3/L	48	139	102	111	110	100	110	96	85	110	120	99	91	
Carbonate (CO3) mg CaCO3/L	<2	<2	<2	<2	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Ammonia nitrogen (NH3-NH4) mg N/L	3.25	384	51.7	51.3	56	65	71	80	150	66	38	15	14	
Conductivity µmhos/cm	633	17680	4107	8690	10000	12000	12000	14000	19000	14000	8700	3800	3300	
Dissolved Solids mg/L	422	11786	2738	4166	7890	8390	7750	9930	13400	9420	6110	3040	2710	
Free Cyanide mg/L				<0.1		0.0021	0.00180	0.0019	0.0079	0.0028	0.0016	0.0015	0.0016	
Kjeldahl nitrogen mg N/L	3.29	359	51.5	77.6	93	73	59	79	130	73	42	14	17	
Dissolved organic carbon (D.O.C.) mg/L	5.2	39.6	3.7	6.3	12	13	14	14	16	16	15	13	11	
Total organic carbon (T.O.C.) mg/L	6.4	39.6	10.2	6.3	15	14	15	15	19	17	16	16	13	
Ortho-Phosphate (O-PO4) mg P/L	<0.01	0.06	0.09	0.01	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH	7.32	6.68	7.44	7.43	7.64	7.5	7.51	7.28	7.01	7.52	7.61	7.56	7.69	
Total Phosphorus (P) mg P/L	0.02	0.58	0.05	0.04	0.04	0.05	0.047	0.04	0.054	0.036	0.03	0.053	0.026	

[illegible]

o-Xylene						<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
p+m-Xylene						<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	
Total Xylenes						<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	
F1 (C6-C10) - BTEX - ug/L										<25	<25	<25	<25	
Hydrocarbons (L) (Fraction F1 (C6- C10)) µg/L	<0.3	<0.3	<0.3	<0.3	ND	<25				<25	<25	<25	<25	
Hydrocarbons (L) (Fraction F2 - F4))														
- Petroleum Hydrocarbons F2 (C10-C16) µg/L	<100	---	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	
- Petroleum Hydrocarbons F3 (C16-34) µg/L	<200	---	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200	
- Petroleum Hydrocarbons F4 (C34-50) µg/L	<200	---	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200	
Reached Baseline at C50						Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Surrogate Recovery (%)														
1,4-Difluorobenzene						105	98	100	89	99	105	103	99	
4- Bromofluorobenzen e						112	101	94	101	98	108	96	86	
D10-Ethylbenzene						82	123	130	117	128	106	104	115	
D4-1,2- Dichloroethane						92	103	106	90	93	100	100	99	
o-Terphenyl						98	107	107	96	106	102	103	118	
Dissolved Hardness mg/L					3400	4260	4790	5100	7390	6010	3130	951	1250	
Dissolved Aluminium (Al) mg/L	0.009	<0.006	<0.006	<0.006	0.0102	0.028	0.0061	0.0119	0.0135	0.027	0.0082	0.197	0.011	
Dissolved Antimony (Sb)	<0.0001	0.0016	0.0008	0.0001	0.00055	<0.0020	0.00080	<0.0010	<0.0010	<0.0020	<0.00050	<0.00050	<0.00050	

mg/L														
Dissolved Arsenic (As) mg/L	0.0031	0.4498	<0.0005	0.0014	0.00373	0.00304	0.00244	0.00199	0.00275	0.00256	0.00331	0.00981	0.0033	
Dissolved Barium (Ba) mg/L	0.0559	2.885	0.4625	0.5896	0.582	0.636	0.727	0.835	1.13	0.84	0.486	0.236	0.289	
Dissolved Beryllium (Be) mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0001	<0.00040	<0.000050	<0.00020	<0.00020	<0.00040	<0.00010	<0.00010	<0.00010	
Dissolved Boron (B) mg/L	<0.01	4.97	0.78	1.01	0.933	1.01	0.848	0.99	2.06	1.03	0.544	0.15	0.2	
Dissolved Cadmium (Cd) mg/L	<0.00002	0.00475	0.00019	0.00003	0.000197	0.000303	0.000236	0.000375	0.000979	0.00047	0.000301	0.000213	0.000131	
Dissolved Chromium (Cr) mg/L	<0.0006	0.0054	0.0014	0.0034	<0.001	<0.0040	<0.00050	<0.0020	<0.0020	<0.0040	<0.0010	<0.0010	<0.0010	
Dissolved Copper (Cu) mg/L	0.0011	0.0274	0.0056	0.0079	0.00226	0.00241	0.00196	0.00228	0.00261	0.00198	0.00232	0.00614	0.00313	
Dissolved Iron (Fe) mg/L	0.18	1.14	0.2	0.3	0.0984	0.059	0.177	0.356	7.04	0.578	0.439	2.51	0.613	
Dissolved Lead (Pb) mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.00080	0.000087	<0.00040	<0.00040	<0.00080	<0.00020	0.00035	<0.00020	
Dissolved Lithium (Li) mg/L	0.156	19.71	1.31	1.77	1.78	1.99	2.04	2.39	3.81	2.32	1.15	0.244	0.292	
Dissolved Manganese (Mn) mg/L	0.4226	7.896	0.662	1.02	0.54	0.656	0.928	1.6	1.95	1.46	1.88	1.94	1.31	
Dissolved Molybdenum (Mo) mg/L	<0.0005	0.0006	0.0014	0.0011	0.0017	<0.0040	0.00143	<0.0020	<0.0020	<0.0040	0.0015	<0.0010	<0.0010	
Dissolved Nickel (Ni) mg/L	0.0025	0.2698	0.0464	0.084	0.0087	0.0109	0.00955	0.0132	0.0178	0.0169	0.0127	0.0131	0.009	
Dissolved Selenium (Se) mg/L	<0.001	0.33	0.076	0.101	0.0004	<0.00040	0.00027	0.00027	0.00053	0.00057	0.00023	0.00017	0.00016	
Dissolved Silver (Ag) mg/L				<0.0001	0.00002	<0.000080	0.000055	<0.000040	0.000077	<0.000080	<0.000020	0.000024	<0.000020	

Dissolved Strontium (Sr) mg/L	1.58	301	31.03	27.88	32	38	53.7	49.1	84.7	47.1	27.8	6.4	7.17	
Dissolved thallium (Tl) mg/L	<0.002	0.0078	<0.0008	<0.0008	0.000438	0.00059	0.000520	0.00053	0.00106	0.00054	0.000249	0.000094	0.000082	
Dissolved Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.005	<0.020	<0.0010	<0.010	<0.010	<0.020	<0.0050	<0.0050	<0.0050	
Dissolved titanium (Ti) mg/L	0.04	0.63	0.41	0.44	<0.005	<0.020	<0.0025	<0.010	<0.010	<0.020	<0.0050	0.0065	<0.0050	
Dissolved Uranium (U) mg/L	<0.001	0.005	0.002	0.003	0.00297	0.00342	0.00397	0.00331	0.00409	0.0114	0.00651	0.00135	0.0014	
Dissolved Vanadium mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.020	<0.0010	<0.010	<0.010	<0.020	<0.0050	<0.0050	<0.0050	
Dissolved Zinc mg/L	0.002	0.125	0.014	0.018	<0.005	<0.020	0.00270	0.013	0.015	<0.020	0.0063	0.0067	<0.0050	
Dissolved Calcium (Ca) mg/L					1220	1540	1740	1830	2680	2120	1090	319	425	
Dissolved Magnesium (Mg) mg/L					88.7	105	109	127	172	175	95.6	37.7	45.5	
Dissolved Potassium (K) mg/L					76.3	89.3	90.9	99.3	148	119	63.7	17.9	23.8	
Dissolved Sodium (Na) mg/L					382	435	432	524	723	676	331	94.1	131	
Dissolved Sulphur (S) mg/L						43					68.9			
Hardness mg CaCO3/L	200	17366	2702	3604	3330	3450	4670	5390	6870	5400	3150	915	1190	
Aluminium (Al) mg/L	0.19	0.093	0.056	<0.006	0.046	0.0467	0.088	0.0346	0.0403	0.114	0.044	0.02	0.094	
Antimony (Sb)	<0.0001	0.0017	0.0009	0.0001	0.00062	0.00094	0.00071	<0.0010	<0.0010	<0.0010	<0.0020	<0.00050	<0.00050	

mg/L														
Arsenic (As) mg/L	0.0057	0.6292	0.01	0.0059	0.00518	0.00441	0.00398	0.00301	0.00368	0.00491	0.0054	0.00647	0.0055	
Barium (Ba) mg/L	0.0595	2.973	0.4863	0.561	0.605	0.598	0.697	0.852	1.13	0.736	0.524	0.235	0.287	
Beryllium (Be) mg/L	<0.0005	0.0013	0.0005	<0.0005	<0.0001	<0.00010	<0.000050	<0.00020	<0.00020	<0.00020	<0.00040	<0.00010	<0.00010	
Boron (B) mg/L	<0.01	6.34	0.77	1.03	0.893	1.05	0.907	0.97	2.05	0.9	0.568	0.143	0.191	
Cadmium (Cd) mg/L	0.00008	0.00509	0.0002 1	0.00016	0.00021 2	0.000295	0.000257	0.0004	0.00103	0.000417	0.000393	0.000154	0.000133	
Chromium (Cr) mg/L	<0.0006	0.014	0.0042	0.0036	<0.001	<0.0010	<0.00050	<0.0020	<0.0020	<0.0020	<0.0040	<0.0010	<0.0010	
Copper (Cu) mg/L	0.0019	0.034	0.006	0.0091	0.00287	0.00315	0.00270	0.0025	0.0019	0.0028	0.0037	0.00472	0.00399	
Iron (Fe) mg/L	0.82	5.35	0.93	1.44	0.578	0.376	1.32	1.7	9	1.04	1.8	1.28	1.3	
Lead (Pb) mg/L	<0.0003	0.007	<0.000 3	<0.0003	0.00028	0.00037	0.00035	<0.00040	<0.00040	0.0004	<0.00080	<0.00020	0.00028	
Lithium (Li) mg/L	0.155	22.52	2.14	1.84	1.75	1.91	2.02	2.39	3.8	2.02	1.21	0.213	0.281	
Manganese (Mn) mg/L	0.4523	7.782	0.646	1.198	0.635	0.694	0.963	1.61	1.79	1.27	2.06	1.6	1.24	
Molybdenum (Mo) mg/L	<0.0005	0.0006	0.0013	0.001	0.0017	0.0022	0.00151	<0.0020	<0.0020	0.0023	<0.0040	<0.0010	<0.0010	
Nickel (Ni) mg/L	0.0031	0.3603	0.0523	0.0958	0.0084	0.0109	0.0101	0.0129	0.0174	0.0138	0.0154	0.011	0.0092	
Selenium (Se) mg/L	0.001	0.406	0.082	0.101	0.00041	0.00051	0.00031	0.00023	0.00048	0.00043	<0.00040	0.00013	<0.00010	
Silver (Ag) mg/L				<0.0001	0.00003 6	0.000044	<0.000050	<0.000040	0.000087	0.000041	<0.000080	<0.000020	0.000021	
Strontium (Sr) mg/L	1.51	305	29.74	26.39	33.3	36.4	53.1	49.9	73.9	51.9	24.9	6.35	7.12	
Thallium (Tl) mg/L	<0.002	0.0079	<0.000 8	<0.0008	0.00045 1	0.000611	0.000482	0.00059	0.00111	0.00048	0.00028	0.00008	0.000077	
Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0050	<0.0010	<0.010	<0.010	<0.010	<0.020	<0.0050	<0.0050	
Titanium (Ti) mg/L	0.04	0.8	0.4	0.54	<0.005	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.020	<0.0050	<0.0050	

Uranium (U) mg/L	<0.001	0.005	0.002	0.003	0.00292	0.00366	0.00377	0.00325	0.00413	0.0103	0.00632	0.00147	0.00134	
Vanadium (V) mg/L	<0.0005	<0.0005	<0.0005 5	<0.0005	<0.005	<0.0050	<0.0010	<0.010	<0.010	<0.010	<0.020	<0.0050	<0.0050	
Zinc (Zn) mg/L	0.005	0.162	0.024	0.021	0.0061	0.008	0.0065	0.012	0.025	<0.010	<0.020	<0.0050	<0.0050	
Calcium (Ca) mg/L	72.1	6183	956	1291	1180	1210	1690	1950	2470	1920	1100	309	405	2100
Magnesium (Mg) mg/L	4.99	468	76.5	92.4	91.3	103	112	126	169	146	99	34.8	44.4	178
Potassium (K) mg/L	4.49	415	63.7	69.6	81.4	78.9	85.8	101	131	102	61.4	16.9	21.4	943
Sodium (Na) mg/L	14.3	1321	311	426	384	465	437	525	721	567	354	82.2	128	614
Total Sulphur (S) mg/L						53.3			73.4		70			
Chloride (Cl) mg/L	145	16800	2750	2864										
Cyanide W.A.D. mg/L				<0.005										
NH3 (nonionized) AMMONIA mg N/L	0.02	---		0.35										
NH4 -N														
Sulfate (SO4) mg SO4/L	3.6	162	110	122										
Total Bismuth (Bi) mg/L							<0.000050							
Total Cobalt (Co) mg/L							0.00525							
Total Silicon (Si) mg/L							0.99							
Total Zirconium (Zr) mg/L							<0.00050							