



Meliadine Gold Project
NWB 2AM-MEL1631
July, 2019 Monthly Report

Prepared for:

Nunavut Water Board

Prepared by:

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SECTION 1 • BACKGROUND

As required under Part I, Item 10 of Type A Water License 2AM-MEL1631, this report documents the water management and monitoring activities at the mine site, and provides a summary of spills/ actions for the month of July 2019.

SECTION 2 • WATER MANAGEMENT

2.1 WATER USAGE

Table 2.1 details monthly water usage approved under Water License 2AM-MEL1631:

Table 2.1: Summary of Agnico's monthly water usage in June 2019

	Monthly Usage (m ³)
Camp and Mill (MEL-11)	28,763
Construction – Batch Plant (MEL-26 – A8)	0
Dust suppression	226
Total July	28,989
Year to date 2019	136,234

2.2 DEWATERING ACTIVITIES

In July 2019 no dewatering activity occurred

2.3 CP1

Discharge from CP1 into Meliadine Lake via the Final Discharge Point (MEL-14) started in July, a total of 30,513 m³ was discharged in July.

2.4 SEEPAGE AND RUNOFF FROM THE LANDFILL AND LANDFARM

The 2AM-MEL1631 landfill and landfarm were commissioned in November 2017. No seepage or runoff was observed in July 2019.

2.5 SEWAGE TREATMENT PLANT

In July 2019, 3,101m³ of treated wastewater was discharged into CP1. 58m³ of sludge was removed during the month. The majority of the sludge is disposed of in the Tailings Storage Facility as approved, the sludge can also be utilized as nutrient in the site landfarm or shipped to the south with Agnico Eagle's hazmat if needed.

2.6 CONTAINMENTS

Discharged from the Itivia fuel containment facility (Station Mel-25) occurred in July and approximately 6811m³ was discharged. Water sample complied with the water Licence criteria.

2.7 MONITORING ANALYTICAL DATA

In July, numerous samples related to the water Licence were sampled. See below the analytical results from these monitoring stations. No exceedance occurred during the month of July. For MEL-26 sampling occurred as a pre-discharge sample.

MEL Surface Runoff	7/1/2019	7/7/2019	7/9/2019	7/28/2019
	MEL-SR1	MEL-SR1	MEL-SR1	MEL-SR1
Parameter				
Field Measured				
pH	7.88	7.93	8.09	7.87
Conductivity	1685	1152	781.5	1487
Temperature	11.8	8.4	5.9	7.1
Dissolved oxygen	7.83	-	11.8	-
Dissolved oxygen	73	76.8	94.9	86.1
Turbidity	-	-	4.83	-
Conventional Parameters				
pH	8.05	8.04	8.10	8.07
Hardness, Calcium Carbonate	611	410	320	465
Total Dissolved Solids	1150	795	545	1020
Total suspended solids	< 1	< 1	2	2
Turbidity	0.3	0.2	2.6	0.9
Major Ions				
Alkalinity, Total as CaCO ₃	160	170	140	190
Chloride	350	150	100	230
Cyanide	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Fluoride	< 0.10	0.14	0.10	0.13
Sulphate	200	170	140	180
Nutrients and Chlorophyll a				
Nitrate	0.99	0.21	0.20	1.57
Nitrite	0.022	< 0.010	< 0.010	0.040
Nitrate + nitrite	1.01	0.21	0.20	1.61
Total ammonia	0.30	< 0.050	< 0.050	0.84
Total phosphorus	< 0.020	0.033	< 0.020	< 0.020
Orthophosphate	< 0.010	< 0.010	< 0.010	< 0.010
General Organics				
Total oil and grease	< 0.50	0.90	< 0.50	0.60
Total Metals				
Aluminum	0.0089	0.0096	0.116	0.0393
Antimony	0.00087	-	0.00053	< 0.00050
Arsenic	0.00233	0.00215	0.00253	0.00276

Barium	0.0690	0.0558	0.0415	0.0602
Beryllium	< 0.00010	-	< 0.00010	< 0.00010
Bismuth	< 0.0010	-	< 0.0010	< 0.0010
Boron	0.077	-	0.051	0.095
Cadmium	0.000029	0.000012	0.000013	0.000016
Calcium	180	128	101	141
Cesium	-	< 0.00020	-	-
Chromium	< 0.0010	-	< 0.0010	< 0.0010
Cobalt	0.00078	-	0.00047	0.0007
Copper	0.00416	0.00359	0.00405	0.00348
Iron	0.119	0.045	0.308	0.141
Lead	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Lithium	0.0646	-	0.0101	0.0486
Magnesium	39.3	22.1	16.6	27.1
Manganese	0.0429	0.0113	0.0213	0.0575
Mercury	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Molybdenum	0.0010	0.0013	0.0015	0.0011
Nickel	0.0153	0.0094	0.0054	0.0109
Potassium	16.4	11	9.11	13.3
Selenium	0.00018	< 0.00010	0.00010	0.00013
Silicon	1.09	-	1.26	1.7
Silver	< 0.000020	< 0.000020	< 0.000020	< 0.000020
Sodium	141	72.3	51.3	93.2
Strontium	0.997	-	0.461	0.949
Sulphur	76.4	61.8	51.3	65.4
Thallium	0.000012	-	< 0.000010	0.000018
Tin	< 0.0050	-	< 0.0050	< 0.0050
Titanium	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Uranium	0.00357	-	0.00213	0.0027
Vanadium	< 0.0050	-	< 0.0050	< 0.0050
Zinc	0.0433	0.0194	0.0063	0.0184
Zirconium	< 0.00010	-	< 0.00010	< 0.00010

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL Surface Runoff	7/1/2019	7/1/2019	7/7/2019	7/9/2019	7/9/2019
	MEL-SR3	MEL-SR7	MEL-SR3	MEL-SR3	MEL-SR7
Parameter					
Field Measured					
pH	7.87	7.84	7.94	7.93	8.1
Conductivity	7269	815	5248	16552	865
Temperature	9.6	11.4	3.8	1.2	6.2

Dissolved oxygen	9.41	8.71	-	13.05	11.32
Dissolved oxygen	85.4	80	88.3	98.6	91.8
Turbidity	-	-	-	7.91	3.73
Conventional Parameters					
pH	7.50	8.01	7.38	7.86	8.09
Hardness, Calcium Carbonate	769	257	460	1270	330
Total Dissolved Solids	4570	450	2960	7220	565
Total suspended solids	2	< 1	3	24	< 1
Turbidity	1.9	0.5	1.1	5.5	1.9
Major Ions					
Alkalinity, Total as CaCO ₃	24	97	16	86	150
Chloride	2400	130	1500	4100	93
Cyanide	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Fluoride	0.17	< 0.10	0.17	0.24	0.11
Sulphate	320	80	210	500	150
Nutrients and Chlorophyll a					
Nitrate	< 0.10	< 0.10	< 0.10	0.12	0.17
Nitrite	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Nitrate + nitrite	< 0.10	< 0.10	< 0.10	0.12	0.17
Total ammonia	< 0.050	< 0.050	< 0.050	< 0.050	0.078
Total phosphorus	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Orthophosphate	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
General Organics					
Total oil and grease	< 0.50	< 0.50	< 0.50	0.70	< 0.50
Total Metals					
Aluminum	0.069	0.0257	0.0855	0.212	0.0538
Antimony	< 0.0025	< 0.00050	-	< 0.0025	< 0.00050
Arsenic	0.00056	0.00657	0.00038	0.00244	0.00196
Barium	< 0.0050	0.0309	0.0043	0.0206	0.0415
Beryllium	< 0.00050	< 0.00010	-	< 0.00050	< 0.00010
Bismuth	< 0.0050	< 0.0010	-	< 0.0050	< 0.0010
Boron	0.593	< 0.05	-	0.861	< 0.05
Cadmium	< 0.000050	0.000018	< 0.000020	< 0.000050	< 0.000010
Calcium	56.6	80.5	36.7	124	105
Cesium	-	-	< 0.00040	-	-
Chromium	< 0.0050	< 0.0010	-	< 0.0050	< 0.0010
Cobalt	< 0.0010	0.00195	-	< 0.0010	0.00032
Copper	< 0.0025	0.00508	< 0.0010	0.0026	0.00308
Iron	0.127	0.108	0.139	0.411	0.247
Lead	< 0.0010	< 0.00020	< 0.00040	< 0.0010	< 0.00020
Lithium	0.022	0.0036	-	0.039	0.0064
Magnesium	152	13.6	89.3	234	16.3

Manganese	< 0.0050	0.0125	0.0033	0.0157	0.0207
Mercury	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Molybdenum	< 0.0050	< 0.0010	< 0.0020	< 0.0050	0.0015
Nickel	< 0.0050	0.0140	< 0.0020	< 0.0050	0.0039
Potassium	52.6	5.53	32.9	78.2	9.08
Selenium	< 0.00050	< 0.00010	< 0.00020	< 0.00050	< 0.00010
Silicon	< 0.5	0.516	-	0.871	1.12
Silver	< 0.00010	< 0.000020	< 0.000040	< 0.00010	< 0.000020
Sodium	1320	58.4	792	2000	46.1
Strontium	0.903	0.269	-	1.92	0.451
Sulphur	134	29.7	79	205	53.1
Thallium	< 0.000050	0.000010	-	< 0.000050	< 0.000010
Tin	< 0.025	< 0.0050	-	< 0.025	< 0.0050
Titanium	< 0.025	< 0.0050	< 0.01	< 0.025	< 0.0050
Uranium	< 0.00050	0.00067	-	0.00155	0.00228
Vanadium	< 0.025	< 0.0050	-	< 0.025	< 0.0050
Zinc	< 0.025	< 0.0050	< 0.01	< 0.025	0.0057
Zirconium	< 0.00050	< 0.00010	-	< 0.00050	< 0.00010

< Indicates parameter was below laboratory equipment detection limit.

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- Chemical not analyzed or criteria not defined.

MEL-11	Sample Date	7/1/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.15
Conductivity	uS/cm	78.2
Temperature	°C	8.4
Dissolved oxygen	mg/L	9.29
Dissolved oxygen	%	79.3
Conventional Parameters		
pH	pH units	7.51
Specific conductivity	umhos/cm	83
Hardness, Total	mg CaCO ₃ /L	26.6
Hardness, Dissolved	mg CaCO ₃ /L	23.5
Total organic carbon	mg/L	3.1
Dissolved organic carbon	mg/L	3.2
Total Dissolved Solids	mg/L	25
Total suspended solids	mg/L	< 1
Turbidity	NTU	< 0.1
Major Ions		
Alkalinity, Total	mg CaCO ₃ /L	16
Bicarbonate	mg CaCO ₃ /L	16

Calcium	mg/L	7.37
Carbonate	mg CaCO ₃ /L	< 1.0
Chloride	mg/L	11
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	1.23
Potassium	mg/L	0.946
Sodium	mg/L	5.06
Sulphate	mg/L	3.5
Silica	mg/L	0.35
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total Kjeldahl nitrogen	mg/L	0.12
Total phosphorus	mg/L	0.025
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0041
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00028
Barium	mg/L	0.0089
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	8.24
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00081
Iron	mg/L	0.041
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Magnesium	mg/L	1.46
Manganese	mg/L	0.0080
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Potassium	mg/L	1.18
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.221
Silver	mg/L	< 0.000020
Sodium	mg/L	5.84

Strontium	mg/L	0.0401
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00028
Barium	mg/L	0.0089
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00071
Iron	mg/L	0.0166
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Manganese	mg/L	0.0028
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.177
Silver	mg/L	< 0.000020
Strontium	mg/L	0.0393
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Volatile Organics		
Benzene	mg/L	< 0.00020
Ethylbenzene	mg/L	< 0.00020
Toluene	mg/L	< 0.00020
Xylenes	mg/L	< 0.00040

m,p-Xylenes	mg/L	< 0.00040
o-Xylene	mg/L	< 0.00020
F1 (C6-C10)-BTEX	mg/L	< 0.025
F1 (C6-C10)	mg/L	< 0.025
F2 (C10-C16)	mg/L	< 0.1
F3 (C16-C34)	mg/L	< 0.2
F4 (C34-C50)	mg/L	< 0.2
Reached baseline at C50	mg/L	YES

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL-12	Sample Date	7/9/2019	7/30/2019
Parameter	Unit		
Field Measured			
pH	pH units	8.62	8.07
Conductivity	uS/cm	2366	3454
Temperature	°C	12.6	11.7
Dissolved oxygen	mg/L	6.74	-
Dissolved oxygen	%	63.7	84.6
Conventional Parameters			
pH	pH units	7.28	7.71
Specific conductivity	umhos/cm	2600	3400
Hardness, Total	mg CaCO ₃ /L	566	671
Hardness, Dissolved	mg CaCO ₃ /L	535	667
Total Organic Carbon	mg/L	-	12
Total Dissolved Solids	mg/L	1580	2130
Total suspended solids	mg/L	26	6
Turbidity	NTU	13	3.7
Major Ions			
Alkalinity, Total	mg CaCO ₃ /L	36	58
Calcium	mg/L	156	182
Chloride	mg/L	680	890
Cyanide Total	mg/L	< 0.0050	< 0.0050
Fluoride	mg/L	< 0.10	< 0.10
Magnesium	mg/L	35.6	51.3
Potassium	mg/L	18.5	25.1
Sodium	mg/L	253	338
Sulphate	mg/L	90	120
Nutrients and Chlorophyll a			
Nitrate	mg/L	18.3	25.8
Nitrite	mg/L	0.598	1.04
Nitrate + nitrite	mg/L	18.9	26.8

Total ammonia	mg/L	5.3	9.4
Total phosphorus	mg/L	0.19	0.088
Orthophosphate	mg/L	< 0.010	< 0.010
Total Metals			
Aluminum	mg/L	0.354	0.0984
Antimony	mg/L	0.00053	0.001
Arsenic	mg/L	0.00764	0.00407
Barium	mg/L	0.0905	0.111
Beryllium	mg/L	< 0.00010	< 0.00020
Bismuth	mg/L	< 0.0010	< 0.0020
Boron	mg/L	0.246	0.362
Cadmium	mg/L	0.000048	0.000043
Calcium	mg/L	167	186
Chromium	mg/L	< 0.0010	< 0.0020
Cobalt	mg/L	0.00182	0.00134
Copper	mg/L	0.00381	0.0025
Iron	mg/L	0.385	0.132
Lead	mg/L	0.00064	< 0.00040
Lithium	mg/L	0.0936	0.110
Magnesium	mg/L	36.4	50.1
Manganese	mg/L	0.314	0.0913
Mercury	mg/L	< 0.00001	< 0.00001
Molybdenum	mg/L	0.0026	0.0028
Nickel	mg/L	0.0065	0.0067
Potassium	mg/L	19.3	23.5
Selenium	mg/L	0.00015	< 0.00020
Silicon	mg/L	1.16	0.874
Silver	mg/L	< 0.000020	< 0.000040
Sodium	mg/L	237	345
Strontium	mg/L	3.3	4.23
Sulphur	mg/L	33	44.8
Thallium	mg/L	0.000043	0.000058
Tin	mg/L	< 0.0050	< 0.010
Titanium	mg/L	< 0.0050	< 0.010
Uranium	mg/L	0.00114	0.0013
Vanadium	mg/L	< 0.0050	< 0.010
Zinc	mg/L	0.0130	0.038
Zirconium	mg/L	0.00012	< 0.00020
Dissolved Metals			
Aluminum	mg/L	0.212	0.0565
Antimony	mg/L	0.00054	0.001
Arsenic	mg/L	0.00644	0.00375
Barium	mg/L	0.0874	0.107
Beryllium	mg/L	< 0.00010	< 0.00020
Bismuth	mg/L	< 0.0010	< 0.0020

Boron	mg/L	0.24	0.372
Cadmium	mg/L	0.000038	0.000038
Chromium	mg/L	< 0.0010	< 0.0020
Cobalt	mg/L	0.00163	0.00111
Copper	mg/L	0.00292	0.00197
Iron	mg/L	0.133	0.049
Lead	mg/L	0.00025	< 0.00040
Lithium	mg/L	0.0953	0.105
Manganese	mg/L	0.19	0.0222
Mercury	mg/L	< 0.00001	< 0.00001
Molybdenum	mg/L	0.0028	0.0027
Nickel	mg/L	0.0053	0.0059
Selenium	mg/L	0.00015	< 0.00020
Silicon	mg/L	1.03	1.020
Silver	mg/L	< 0.000020	< 0.000040
Strontium	mg/L	3.28	3.77
Sulphur	mg/L	32.8	45.7
Thallium	mg/L	0.000043	0.000059
Tin	mg/L	< 0.0050	< 0.010
Titanium	mg/L	< 0.0050	< 0.010
Uranium	mg/L	0.00108	0.0011
Vanadium	mg/L	< 0.0050	< 0.010
Zinc	mg/L	0.0076	0.019
Zirconium	mg/L	< 0.00010	< 0.00020

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL-13	Sample Date	7/14/2019
Parameter	Unit	
Conventional Parameters		
pH	pH units	7.45
Specific conductivity	umhos/cm	79
Hardness Dissolved	mg CaCO3/L	21.7
Hardness, Total	mg CaCO3/L	22.4
Total suspended solids	mg/L	< 1
Dissolved Oxygen	mg/L	9.73
Total organic carbon	mg/L	3.0
Dissolved organic carbon	mg/L	2.7
Total Dissolved Solids	mg/L	65
Turbidity	NTU	0.3
Major Ions		
Alkalinity, Total	mg CaCO3/L	14

Bicarbonate	mg CaCO ₃ /L	14
Calcium	mg/L	6.72
Carbonate	mg CaCO ₃ /L	< 1.0
Chloride	mg/L	11
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	1.20
Potassium	mg/L	0.876
Sodium	mg/L	4.73
Sulphate	mg/L	3.8
Silica	mg/L	0.42
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total Kjeldahl nitrogen	mg/L	0.15
Total phosphorus	mg/L	< 0.020
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0057
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00029
Barium	mg/L	0.0079
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	6.99
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00065
Iron	mg/L	0.036
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Magnesium	mg/L	1.21
Manganese	mg/L	0.0179
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Potassium	mg/L	0.893
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.24
Silver	mg/L	< 0.000020

Sodium	mg/L	4.9
Strontium	mg/L	0.0391
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00027
Barium	mg/L	0.0074
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00068
Iron	mg/L	0.0118
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Manganese	mg/L	0.0121
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.0097
Nickel	mg/L	< 0.0010
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.222
Silver	mg/L	< 0.000020
Strontium	mg/L	0.0371
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Volatile Organics		
Benzene	mg/L	< 0.00020
Ethylbenzene	mg/L	< 0.00020
Toluene	mg/L	< 0.00020

Xylenes	mg/L	< 0.00040
m,p-Xylenes	mg/L	< 0.00040
o-Xylene	mg/L	< 0.00020
F1 (C6-C10)-BTEX	mg/L	< 0.025
F1 (C6-C10)	mg/L	< 0.025
F2 (C10-C16)	mg/L	< 0.1
F3 (C16-C34)	mg/L	< 0.2
F4 (C34-C50)	mg/L	< 0.2
Reached baseline at C50	mg/L	YES
Radionuclides		
Radium-226	Bq/l	< 0.0050

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL-14	Sample Date	7/9/2019	7/15/2019	7/25/2019	7/30/2019
Parameter	Unit				
Field Measured					
pH	pH units	6.91	7.4	7.21	7.02
Conductivity	uS/cm	1768	1864	1809	1652
Temperature	°C	13.8	13.2	16	22
Dissolved oxygen	mg/L	9.61	-	-	-
Dissolved oxygen	%	93.4	66.2	94.5	36.8
Conventional Parameters					
pH	pH units	7.23	7.38	7.41	7.47
Specific conductivity	umhos/cm	1900	1800	1700	1600
Temperature	C	11	13	18.5	-
Dissolved Oxygen	mg/L	10.0	9.46	8.45	10.4
Biochemical Oxygen Demand, 5 Day	mg/L	< 2	< 2	< 2	< 2
Hardness, Total	mg CaCO3/L	361	297	289	266
Hardness, Dissolved	mg CaCO3/L	380	292	300	260
Total organic carbon	mg/L	5.2	5.1	4.4	3.1
Dissolved organic carbon	mg/L	4.4	4.7	4.0	2.8
Total Dissolved Solids	mg/L	1190	1190	935	1090
Total suspended solids	mg/L	4	< 1	2	8
Turbidity	NTU	1.7	1.0	0.4	17
Major Ions					
Alkalinity, Total	mg CaCO3/L	13	16	25	22

Bicarbonate	mg CaCO ₃ /L	13	16	25	22
Calcium	mg/L	109	82.7	82.9	73.4
Carbonate	mg CaCO ₃ /L	< 1.0	< 1.0	< 1	< 1.0
Chloride	mg/L	500	470	440	410
Cyanide Total	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Cyanide Free	mg/L	0.0014	< 0.0010	0.0014	0.0014
Cyanide WAD	mg/L	0.0014	< 0.0010	< 0.0010	0.0010
Magnesium	mg/L	26.3	20.9	22.6	20.1
Potassium	mg/L	14.3	12.7	12.5	12.5
Sodium	mg/L	192	184	184	179
Sulphate	mg/L	56	53	55	44
Silica	mg/L	0.99	0.92	0.82	0.42
Nutrients and Chlorophyll a					
Nitrate	mg/L	13.2	13.8	13.7	11.1
Nitrite	mg/L	0.373	0.347	0.402	0.366
Nitrate + nitrite	mg/L	13.6	14.1	14.1	11.4
Total ammonia	mg/L	3.7	4.5	4.9	5.6
Total Kjeldahl nitrogen	mg/L	4.3	5.5	5.1	5.2
Total phosphorus	mg/L	0.027	0.025	< 0.020	< 0.020
Orthophosphate	mg/L	< 0.010	< 0.010	< 0.010	< 0.010
Total Metals					
Aluminum	mg/L	0.452	0.18	0.0915	0.0734
Antimony	mg/L	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Arsenic	mg/L	0.00243	0.00179	0.00148	0.00113
Barium	mg/L	0.0519	0.0434	0.0463	0.0379
Beryllium	mg/L	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Bismuth	mg/L	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Boron	mg/L	0.283	0.349	0.324	0.363
Cadmium	mg/L	0.000021	0.000018	0.000015	< 0.000010
Calcium	mg/L	105	84.3	79.6	71.7
Chromium	mg/L	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Cobalt	mg/L	0.00083	0.00068	0.00059	0.00024
Copper	mg/L	0.00139	0.00103	0.00094	< 0.00050
Iron	mg/L	0.24	0.11	0.091	2.37
Lead	mg/L	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Lithium	mg/L	0.0771	0.0754	0.0624	0.0675
Magnesium	mg/L	24.2	20.9	21.8	19.7
Manganese	mg/L	0.0798	0.0253	0.0117	0.0648
Mercury	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Molybdenum	mg/L	0.0016	0.0013	0.0012	< 0.0010
Nickel	mg/L	0.0034	0.0027	0.0028	0.0018
Potassium	mg/L	14.2	12.6	11.9	11.6
Selenium	mg/L	< 0.00010	< 0.00010	< 0.00010	< 0.00010

Silicon	mg/L	0.58	0.455	0.427	0.214
Silver	mg/L	< 0.000020	< 0.000020	< 0.000020	< 0.000020
Sodium	mg/L	192	185	174	179
Strontium	mg/L	2.15	1.9	1.840	1.63
Sulphur	mg/L	24.4	18.2	18.3	16.5
Thallium	mg/L	0.000028	0.000031	0.000027	0.000013
Tin	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Titanium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Uranium	mg/L	0.00020	0.00024	0.00023	0.00013
Vanadium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Zinc	mg/L	0.0067	< 0.0050	< 0.0050	0.0066
Zirconium	mg/L	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Dissolved Metals					
Aluminum	mg/L	0.0316	0.0527	0.0377	0.0243
Antimony	mg/L	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Arsenic	mg/L	0.00216	0.00163	0.00155	0.00096
Barium	mg/L	0.0557	0.0424	0.0483	0.0369
Beryllium	mg/L	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Bismuth	mg/L	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Boron	mg/L	0.274	0.333	0.349	0.361
Cadmium	mg/L	0.000020	0.000013	0.000015	< 0.000010
Chromium	mg/L	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Cobalt	mg/L	0.00085	0.00065	0.00060	< 0.00020
Copper	mg/L	0.00129	0.00095	0.00089	< 0.00020
Iron	mg/L	0.173	0.0717	0.0587	0.0098
Lead	mg/L	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Lithium	mg/L	0.0821	0.0735	0.0665	0.0674
Manganese	mg/L	0.0695	0.0193	0.0105	0.0531
Mercury	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Molybdenum	mg/L	0.0015	0.0012	0.0013	< 0.0010
Nickel	mg/L	0.0034	0.0026	0.0028	0.0014
Selenium	mg/L	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Silicon	mg/L	0.561	0.433	0.417	0.211
Silver	mg/L	< 0.000020	< 0.000020	< 0.000020	< 0.000020
Strontium	mg/L	2.27	1.84	1.890	1.5
Sulphur	mg/L	23.8	18.8	19.2	18.4
Thallium	mg/L	0.000029	0.000030	0.000030	0.000013
Tin	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Titanium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Uranium	mg/L	< 0.00010	0.00019	0.00023	0.00011
Vanadium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Zinc	mg/L	0.0071	< 0.0050	< 0.0050	< 0.0050
Zirconium	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010
Volatile Organics					
Benzene	mg/L	< 0.00020	< 0.00020	< 0.00020	< 0.00020

Ethylbenzene	mg/L	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Toluene	mg/L	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Xylenes	mg/L	< 0.00040	< 0.00040	< 0.00040	< 0.00040
m,p-Xylenes	mg/L	< 0.00040	< 0.00040	< 0.00040	< 0.00040
o-Xylene	mg/L	< 0.00020	< 0.00020	< 0.00040	< 0.00020
F1 (C6-C10)-BTEX	mg/L	< 0.025	< 0.025	< 0.025	< 0.025
F1 (C6-C10)	mg/L	< 0.025	< 0.025	< 0.025	< 0.025
F2 (C10-C16)	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
F3 (C16-C34)	mg/L	< 0.2	< 0.2	< 0.2	< 0.2
F4 (C34-C50)	mg/L	< 0.2	< 0.2	< 0.2	< 0.2
Reached baseline at C50	mg/L	YES	YES	YES	YES
Toxicity					
Daphnia 48 h static acute test - LC50	mg/L	> 100	-	-	-
Daphnia 48 h Static Acute Test - EC50	mg/L	> 100	-	-	-
LC50 (96h) - Rainbow Trout	mg/L	> 100	-	-	-
Toxic Unit - Daphnia Magnia	mg/L	< 1	-	-	-
Toxic Unit - Rainbow Trout	mg/L	< 1	-	-	-
Atypical colonies	CFU/100mL	4900	12800	1300	-
Escherichia coli	CFU/100mL	< 2	< 2	< 2	-
Fecal Coliform	CFU/100mL	< 2	< 2	< 2	-
Total Coliform	CFU/100mL	1800	< 100	< 100	-
Aerobic heterotrophic bacteria	CFU/100mL	39000	20000	1140	-
Radionuclides					
Radium-226	Bq/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL-15	Sample Date	7/7/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.59
Conductivity	uS/cm	95.1
Temperature	°C	12.3
Dissolved oxygen	mg/L	8.68
Dissolved oxygen	%	82.3
Conventional Parameters		
pH	pH units	7.75
Specific conductivity	umhos/cm	100
Hardness, Total	mg CaCO3/L	46.7

Hardness, Dissolved	mg CaCO ₃ /L	38.7
Total suspended solids	mg/L	< 1
Total organic carbon	mg/L	4.4
Dissolved organic carbon	mg/L	4.1
Total Dissolved Solids	mg/L	65
Turbidity	NTU	0.4
Major Ions		
Alkalinity, Total	mg CaCO ₃ /L	36
Bicarbonate	mg CaCO ₃ /L	36
Calcium	mg/L	13.0
Carbonate	mg CaCO ₃ /L	< 1.0
Chloride	mg/L	7.7
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	1.51
Potassium	mg/L	0.915
Sodium	mg/L	3.35
Sulphate	mg/L	3.6
Silica	mg/L	2.1
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total Kjeldahl nitrogen	mg/L	0.35
Total phosphorus	mg/L	< 0.020
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0041
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00086
Barium	mg/L	0.0138
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	16.3
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00058
Iron	mg/L	0.111
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Magnesium	mg/L	1.47

Manganese	mg/L	0.0139
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0010
Potassium	mg/L	0.898
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.291
Silver	mg/L	< 0.000020
Sodium	mg/L	3.36
Strontium	mg/L	0.0713
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00076
Barium	mg/L	0.0136
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00056
Iron	mg/L	0.0633
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Manganese	mg/L	0.0042
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.211
Silver	mg/L	< 0.000020
Strontium	mg/L	0.0715
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050

Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Output generated by GalReport.

MEL-16	Sample Date	7/7/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.75
Conductivity	uS/cm	46.7
Temperature	°C	13.2
Dissolved oxygen	mg/L	10.34
Dissolved oxygen	%	99.3
Conventional Parameters		
pH	pH units	7.62
Specific conductivity	umhos/cm	78
Hardness, Dissolved	mg CaCO ₃ /L	32.6
Hardness, Total	mg CaCO ₃ /L	30.1
Total suspended solids	mg/L	< 1
Total organic carbon	mg/L	3.3
Dissolved organic carbon	mg/L	3.1
Total Dissolved Solids	mg/L	60
Turbidity	NTU	1.0
Major Ions		
Alkalinity, Total	mg CaCO ₃ /L	23
Bicarbonate	mg CaCO ₃ /L	22
Calcium	mg/L	10.9
Carbonate	mg CaCO ₃ /L	< 1.0
Chloride	mg/L	9.5
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	1.33
Potassium	mg/L	0.846

Sodium	mg/L	2.20
Sulphate	mg/L	1.6
Silica	mg/L	0.10
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total Kjeldahl nitrogen	mg/L	0.11
Total phosphorus	mg/L	< 0.020
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0092
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00109
Barium	mg/L	0.0170
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	10
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00069
Iron	mg/L	0.112
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Magnesium	mg/L	1.23
Manganese	mg/L	0.0063
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Potassium	mg/L	0.825
Selenium	mg/L	< 0.00010
Silicon	mg/L	< 0.1
Silver	mg/L	< 0.000020
Sodium	mg/L	2.04
Strontium	mg/L	0.0529
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050

Zirconium	mg/L	0.00035
Dissolved Metals		
Aluminum	mg/L	0.0038
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00090
Barium	mg/L	0.0169
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00056
Iron	mg/L	0.0574
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Manganese	mg/L	0.0022
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Selenium	mg/L	< 0.00010
Silicon	mg/L	< 0.1
Silver	mg/L	< 0.000020
Strontium	mg/L	0.0550
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL-17	Sample Date	7/7/2019
Parameter	Unit	
Field Measured		
pH	pH units	8.18
Conductivity	uS/cm	141.7
Temperature	°C	17
Dissolved oxygen	mg/L	9.8

Dissolved oxygen	%	99.6
Conventional Parameters		
pH	pH units	7.88
Specific conductivity	umhos/cm	250
Hardness, Dissolved	mg CaCO ₃ /L	109
Hardness, Total	mg CaCO ₃ /L	91.5
Total suspended solids	mg/L	< 1
Total organic carbon	mg/L	7.9
Dissolved organic carbon	mg/L	7.4
Total Dissolved Solids	mg/L	230
Turbidity	NTU	0.9
Major Ions		
Alkalinity, Total	mg CaCO ₃ /L	42
Bicarbonate	mg CaCO ₃ /L	42
Calcium	mg/L	37.6
Carbonate	mg CaCO ₃ /L	< 1.0
Chloride	mg/L	48
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	3.72
Potassium	mg/L	2.45
Sodium	mg/L	10.3
Sulphate	mg/L	4.4
Silica	mg/L	0.68
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total Kjeldahl nitrogen	mg/L	0.35
Total phosphorus	mg/L	< 0.020
Orthophosphate	mg/L	< 0.010
General Organics		
Total oil and grease	mg/L	2.2
Total Metals		
Aluminum	mg/L	0.0039
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00060
Barium	mg/L	0.0334
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	30.8

Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00091
Iron	mg/L	0.275
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0118
Magnesium	mg/L	3.56
Manganese	mg/L	0.0742
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0012
Potassium	mg/L	2.41
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.384
Silver	mg/L	< 0.000020
Sodium	mg/L	10
Strontium	mg/L	0.32
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00061
Barium	mg/L	0.0316
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00088
Iron	mg/L	0.133
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0113
Manganese	mg/L	0.0612
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0011
Selenium	mg/L	< 0.00010

Silicon	mg/L	0.394
Silver	mg/L	< 0.000020
Strontium	mg/L	0.317
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Volatile Organics		
Benzene	mg/L	< 0.00020
Ethylbenzene	mg/L	< 0.00020
Toluene	mg/L	< 0.00020
Xylenes	mg/L	< 0.00040
m,p-Xylenes	mg/L	< 0.00040
o-Xylene	mg/L	< 0.00020
F1 (C6-C10)-BTEX	mg/L	< 0.025
F1 (C6-C10)	mg/L	< 0.025

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- Chemical not analyzed or criteria not defined.

MEL-18	Sample Date	7/7/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.63
Conductivity	uS/cm	79.1
Temperature	°C	13.6
Dissolved oxygen	mg/L	9.46
Dissolved oxygen	%	91.1
Conventional Parameters		
pH	pH units	7.69
Specific conductivity	umhos/cm	110
Hardness, Dissolved	mg CaCO3/L	40.0
Hardness, Total	mg CaCO3/L	42.2
Total suspended solids	mg/L	< 1
Total organic carbon	mg/L	3.2
Dissolved organic carbon	mg/L	3.0
Total Dissolved Solids	mg/L	95
Turbidity	NTU	0.3

Major Ions		
Alkalinity, Total	mg CaCO ₃ /L	28
Bicarbonate	mg CaCO ₃ /L	27
Calcium	mg/L	13.2
Carbonate	mg CaCO ₃ /L	< 1.0
Chloride	mg/L	15
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	1.69
Potassium	mg/L	0.890
Sodium	mg/L	3.34
Sulphate	mg/L	3.4
Silica	mg/L	0.31
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	0.13
Total Kjeldahl nitrogen	mg/L	0.22
Total phosphorus	mg/L	0.027
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0058
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00159
Barium	mg/L	0.0148
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	14.2
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00054
Iron	mg/L	0.158
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0053
Magnesium	mg/L	1.65
Manganese	mg/L	0.0084
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Potassium	mg/L	0.94
Selenium	mg/L	< 0.00010

Silicon	mg/L	0.187
Silver	mg/L	< 0.000020
Sodium	mg/L	3.36
Strontium	mg/L	0.0993
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00129
Barium	mg/L	0.0147
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00042
Iron	mg/L	0.0910
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0053
Manganese	mg/L	0.0041
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.0072
Nickel	mg/L	< 0.0010
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.145
Silver	mg/L	< 0.000020
Strontium	mg/L	0.0965
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010

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- Chemical not analyzed or criteria not defined.

MEL-20	Sample Date	7/1/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.96
Conductivity	uS/cm	1349
Temperature	°C	7.7
Dissolved oxygen	mg/L	9.57
Dissolved oxygen	%	81.7
Conventional Parameters		
pH	pH units	7.89
Hardness, Dissolved	mg CaCO3/L	296
Hardness, Total	mg CaCO3/L	332
Total suspended solids	mg/L	83
Total Dissolved Solids	mg/L	1010
Turbidity	NTU	140
Major Ions		
Alkalinity, Total	mg CaCO3/L	83
Calcium	mg/L	70.6
Chloride	mg/L	360
Cyanide	mg/L	< 0.0050
Fluoride	mg/L	0.17
Magnesium	mg/L	29.0
Potassium	mg/L	15.1
Sodium	mg/L	204
Sulphate	mg/L	170
Nutrients and Chlorophyll a		
Nitrate	mg/L	8.93
Nitrite	mg/L	0.296
Nitrate + nitrite	mg/L	9.22
Total ammonia	mg/L	5.3
Total phosphorus	mg/L	0.19
Orthophosphate	mg/L	0.017
Total Metals		
Aluminum	mg/L	2.1
Antimony	mg/L	0.00163
Arsenic	mg/L	0.0366
Barium	mg/L	0.0722
Beryllium	mg/L	< 0.00010

Bismuth	mg/L	< 0.0010
Boron	mg/L	0.365
Cadmium	mg/L	0.000055
Calcium	mg/L	77.9
Chromium	mg/L	0.0058
Cobalt	mg/L	0.00539
Copper	mg/L	0.0135
Iron	mg/L	3.27
Lead	mg/L	0.00390
Lithium	mg/L	0.0102
Magnesium	mg/L	33.4
Manganese	mg/L	0.219
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.0071
Nickel	mg/L	0.0417
Potassium	mg/L	17.7
Selenium	mg/L	0.00040
Silicon	mg/L	5.49
Silver	mg/L	0.000032
Sodium	mg/L	221
Strontium	mg/L	0.54
Sulphur	mg/L	60.9
Thallium	mg/L	0.000062
Tin	mg/L	< 0.0050
Titanium	mg/L	0.133
Uranium	mg/L	0.00907
Vanadium	mg/L	0.0057
Zinc	mg/L	0.0093
Zirconium	mg/L	0.00364
Dissolved Metals		
Aluminum	mg/L	0.0111
Antimony	mg/L	0.00166
Arsenic	mg/L	0.0235
Barium	mg/L	0.0505
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	0.381
Cadmium	mg/L	0.000023
Chromium	mg/L	< 0.0010
Cobalt	mg/L	0.00254
Copper	mg/L	0.00677
Iron	mg/L	0.0115
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0073
Manganese	mg/L	0.147

Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.0075
Nickel	mg/L	0.0314
Selenium	mg/L	0.00033
Silicon	mg/L	1.91
Silver	mg/L	< 0.000020
Strontium	mg/L	0.61
Sulphur	mg/L	55.1
Thallium	mg/L	0.000031
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	0.00864
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	0.00057

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- Chemical not analyzed or criteria not defined.

MEL-21	Sample Date	7/1/2019
Parameter	Unit	
Field Measured		
pH	pH units	8.1
Conductivity	uS/cm	1026
Temperature	°C	9.6
Dissolved oxygen	mg/L	9.97
Dissolved oxygen	%	87.5
Conventional Parameters		
pH	pH units	7.97
Hardness, Total	mg CaCO3/L	271
Hardness, Dissolved	mg CaCO3/L	251
Total suspended solids	mg/L	6
Total Dissolved Solids	mg/L	680
Turbidity	NTU	8.4
Major Ions		
Alkalinity, Total	mg CaCO3/L	80
Calcium	mg/L	72.3
Chloride	mg/L	250
Cyanide	mg/L	< 0.0050
Fluoride	mg/L	0.11

Magnesium	mg/L	17.2
Potassium	mg/L	14.3
Sodium	mg/L	121
Sulphate	mg/L	99
Nutrients and Chlorophyll a		
Nitrate	mg/L	1.96
Nitrite	mg/L	0.111
Nitrate + nitrite	mg/L	2.07
Total ammonia	mg/L	1.7
Total phosphorus	mg/L	< 0.020
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.204
Antimony	mg/L	0.00517
Arsenic	mg/L	0.0172
Barium	mg/L	0.0370
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	0.478
Cadmium	mg/L	0.000022
Calcium	mg/L	76.2
Chromium	mg/L	< 0.0010
Cobalt	mg/L	0.00124
Copper	mg/L	0.00564
Iron	mg/L	0.316
Lead	mg/L	0.00058
Lithium	mg/L	0.0435
Magnesium	mg/L	19.6
Manganese	mg/L	0.0410
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.0146
Nickel	mg/L	0.0169
Potassium	mg/L	15.9
Selenium	mg/L	0.00025
Silicon	mg/L	2.42
Silver	mg/L	< 0.000020
Sodium	mg/L	141
Strontium	mg/L	0.807
Sulphur	mg/L	37.7
Thallium	mg/L	0.000020
Tin	mg/L	< 0.0050
Titanium	mg/L	0.0120
Uranium	mg/L	0.00505
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050

Zirconium	mg/L	0.00057
Dissolved Metals		
Aluminum	mg/L	0.0169
Antimony	mg/L	0.00503
Arsenic	mg/L	0.0157
Barium	mg/L	0.0353
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	0.504
Cadmium	mg/L	0.000016
Chromium	mg/L	< 0.0010
Cobalt	mg/L	0.00073
Copper	mg/L	0.00436
Iron	mg/L	0.0099
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0439
Manganese	mg/L	0.0129
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.0155
Nickel	mg/L	0.0150
Selenium	mg/L	0.00022
Silicon	mg/L	2.08
Silver	mg/L	< 0.000020
Strontium	mg/L	0.914
Sulphur	mg/L	33.5
Thallium	mg/L	0.000016
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	0.00495
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	0.00028

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- Chemical not analyzed or criteria not defined.

MEL-22	Sample Date	7/1/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.95
Conductivity	uS/cm	5741
Temperature	°C	7.5

Dissolved oxygen	mg/L	10.84
Dissolved oxygen	%	93.1
Conventional Parameters		
pH	pH units	7.67
Specific conductivity	umhos/cm	9100
Hardness, Dissolved	mg CaCO3/L	2320
Hardness, Total	mg CaCO3/L	2480
Total Dissolved Solids	mg/L	5850
Total suspended solids	mg/L	6
Turbidity	NTU	2.9
Major Ions		
Alkalinity, Total	mg CaCO3/L	77
Calcium	mg/L	670
Chloride	mg/L	2800
Cyanide	mg/L	< 0.0050
Fluoride	mg/L	< 0.10
Magnesium	mg/L	157
Potassium	mg/L	60.5
Sodium	mg/L	1020
Sulphate	mg/L	350
Nutrients and Chlorophyll a		
Nitrate	mg/L	18.5
Nitrite	mg/L	0.255
Nitrate + nitrite	mg/L	18.8
Total ammonia	mg/L	16
Total phosphorus	mg/L	0.034
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.021
Antimony	mg/L	< 0.0025
Arsenic	mg/L	0.00356
Barium	mg/L	0.14
Beryllium	mg/L	< 0.00050
Bismuth	mg/L	< 0.0050
Boron	mg/L	0.415
Cadmium	mg/L	0.000255
Calcium	mg/L	717
Chromium	mg/L	< 0.0050
Cobalt	mg/L	0.0033
Copper	mg/L	0.0062
Iron	mg/L	0.144
Lead	mg/L	< 0.0010

Lithium	mg/L	0.498
Magnesium	mg/L	166
Manganese	mg/L	0.276
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0050
Nickel	mg/L	0.0357
Potassium	mg/L	66.3
Selenium	mg/L	< 0.00050
Silicon	mg/L	0.645
Silver	mg/L	< 0.00010
Sodium	mg/L	1090
Strontium	mg/L	13.4
Sulphur	mg/L	140
Thallium	mg/L	0.000122
Tin	mg/L	< 0.025
Titanium	mg/L	< 0.025
Uranium	mg/L	0.00548
Vanadium	mg/L	< 0.025
Zinc	mg/L	< 0.025
Zirconium	mg/L	0.00088
Dissolved Metals		
Aluminum	mg/L	< 0.015
Antimony	mg/L	< 0.0025
Arsenic	mg/L	0.00307
Barium	mg/L	0.151
Beryllium	mg/L	< 0.00050
Bismuth	mg/L	< 0.0050
Boron	mg/L	0.44
Cadmium	mg/L	0.000238
Chromium	mg/L	< 0.0050
Cobalt	mg/L	0.0030
Copper	mg/L	0.0041
Iron	mg/L	0.042
Lead	mg/L	< 0.0010
Lithium	mg/L	0.547
Manganese	mg/L	0.231
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0050
Nickel	mg/L	0.0340
Selenium	mg/L	< 0.00050
Silicon	mg/L	0.542
Silver	mg/L	< 0.00010
Strontium	mg/L	16
Sulphur	mg/L	128
Thallium	mg/L	0.000112

Tin	mg/L	< 0.025
Titanium	mg/L	< 0.025
Uranium	mg/L	0.00574
Vanadium	mg/L	< 0.025
Zinc	mg/L	< 0.025
Zirconium	mg/L	< 0.00050

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- Chemical not analyzed or criteria not defined.

MEL-23	Sample Date	7/24/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.51
Conductivity	uS/cm	248.9
Temperature	°C	16.7
Dissolved oxygen	mg/L	6.64
Dissolved oxygen	%	68.2
Conventional Parameters		
pH	pH units	7.70
Hardness, Dissolved	mg/L	70.6
Hardness, Total	mg/L	72.4
Total Dissolved Solids	mg/L	175
Total suspended solids	mg/L	2
Turbidity	NTU	0.4
Major Ions		
Alkalinity, Total as CaCO3	mg/L	36
Calcium	mg/L	20.1
Chloride	mg/L	45
Cyanide	mg/L	< 0.0050
Fluoride	mg/L	< 0.10
Magnesium	mg/L	4.98
Potassium	mg/L	1.73
Sodium	mg/L	17.5
Sulphate	mg/L	6.5
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10
Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total phosphorus	mg/L	0.021
Orthophosphate	mg/L	< 0.010
Total Metals		

Aluminum	mg/L	0.0080
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00218
Barium	mg/L	0.0219
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	0.000089
Calcium	mg/L	20.6
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00094
Iron	mg/L	0.185
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0032
Magnesium	mg/L	5.08
Manganese	mg/L	0.0092
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0012
Potassium	mg/L	1.86
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.162
Silver	mg/L	< 0.000020
Sodium	mg/L	17.4
Strontium	mg/L	0.121
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	0.0060
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00178
Barium	mg/L	0.0214
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	0.000065
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020

Copper	mg/L	0.00109
Iron	mg/L	0.124
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0031
Manganese	mg/L	0.0058
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0014
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.142
Silver	mg/L	< 0.000020
Strontium	mg/L	0.123
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010

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- Chemical not analyzed or criteria not defined.

MEL-24	Sample Date	7/9/2019
Parameter	Unit	
Field Measured		
Turbidity	NTU	3.36
Conventional Parameters		
pH	pH units	7.11
Hardness, Total	mg CaCO ₃ /L	975
Total Dissolved Solids	mg/L	1910
Total suspended solids	mg/L	20
Turbidity	NTU	2.1
Major Ions		
Alkalinity, Total	mg CaCO ₃ /L	24
Chloride	mg/L	570
Cyanide	mg/L	< 0.0050
Fluoride	mg/L	< 0.10
Sulphate	mg/L	370
Nutrients and Chlorophyll a		
Nitrate	mg/L	1.91

Nitrite	mg/L	0.033
Nitrate + nitrite	mg/L	1.94
Total ammonia	mg/L	4.5
Total phosphorus	mg/L	0.11
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0296
Antimony	mg/L	< 0.0010
Arsenic	mg/L	0.0131
Barium	mg/L	0.146
Beryllium	mg/L	< 0.00020
Bismuth	mg/L	< 0.0020
Boron	mg/L	< 0.1
Cadmium	mg/L	0.000075
Calcium	mg/L	296
Chromium	mg/L	< 0.0020
Cobalt	mg/L	0.00092
Copper	mg/L	0.0018
Iron	mg/L	0.049
Lead	mg/L	< 0.00040
Lithium	mg/L	0.138
Magnesium	mg/L	57
Manganese	mg/L	0.0211
Mercury	mg/L	0.00001
Molybdenum	mg/L	< 0.0020
Nickel	mg/L	0.0027
Potassium	mg/L	47.5
Selenium	mg/L	< 0.00020
Silicon	mg/L	3.01
Silver	mg/L	< 0.000040
Sodium	mg/L	154
Strontium	mg/L	1.33
Sulphur	mg/L	155
Thallium	mg/L	< 0.000020
Tin	mg/L	< 0.01
Titanium	mg/L	< 0.01
Uranium	mg/L	< 0.00020
Vanadium	mg/L	< 0.01
Zinc	mg/L	< 0.01
Zirconium	mg/L	< 0.00020

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

MEL-26	Sample Date	7/22/2019
Parameter	Unit	
Field Measured		
pH	pH units	7.39
Conductivity	uS/cm	33700
Temperature	°C	19.4
Dissolved oxygen	mg/L	7.25
Dissolved oxygen	%	89.7
Conventional Parameters		
pH	pH units	8.35
Specific conductivity	umhos/cm	36000
Hardness, Dissolved	mg CaCO3/L	4790
Hardness, Total	mg CaCO3/L	4940
Dissolved Oxygen	mg/L	9.54
Total organic carbon	mg/L	5.2
Dissolved organic carbon	mg/L	4.5
Total Dissolved Solids	mg/L	24400
Total suspended solids	mg/L	17
Turbidity	NTU	0.2
Major Ions		
Alkalinity, Total	mg CaCO3/L	110
Bicarbonate	mg CaCO3/L	110
Calcium	mg/L	798
Carbonate	mg CaCO3/L	2.2
Chloride	mg/L	14000
Cyanide Total	mg/L	0.12
Cyanide Free	mg/L	0.0011
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	679
Potassium	mg/L	210
Sodium	mg/L	5840
Sulphate	mg/L	1200
Silica	mg/L	2.7
Nutrients and Chlorophyll a		
Nitrate	mg/L	57.9
Nitrite	mg/L	0.27
Nitrate + nitrite	mg/L	58.2
Total ammonia	mg/L	7.4
Total Kjeldahl nitrogen	mg/L	15
Total phosphorus	mg/L	0.074
Orthophosphate	mg/L	0.014
Total Metals		
Aluminum	mg/L	0.13

Antimony	mg/L	< 0.0050
Arsenic	mg/L	0.0063
Barium	mg/L	0.143
Beryllium	mg/L	< 0.0010
Bismuth	mg/L	< 0.01
Boron	mg/L	0.771
Cadmium	mg/L	< 0.00010
Calcium	mg/L	836
Chromium	mg/L	< 0.01
Cobalt	mg/L	0.0022
Copper	mg/L	< 0.0050
Iron	mg/L	0.121
Lead	mg/L	< 0.0020
Lithium	mg/L	0.255
Magnesium	mg/L	693
Manganese	mg/L	0.126
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	0.02
Nickel	mg/L	< 0.01
Potassium	mg/L	215
Selenium	mg/L	< 0.0010
Silicon	mg/L	1.37
Silver	mg/L	< 0.00020
Sodium	mg/L	6230
Strontium	mg/L	21.4
Sulphur	mg/L	427
Thallium	mg/L	< 0.00010
Tin	mg/L	< 0.05
Titanium	mg/L	< 0.05
Uranium	mg/L	0.0012
Vanadium	mg/L	< 0.05
Zinc	mg/L	< 0.05
Zirconium	mg/L	< 0.0010
Dissolved Metals		
Aluminum	mg/L	< 0.15
Antimony	mg/L	< 0.025
Arsenic	mg/L	0.0056
Barium	mg/L	0.143
Beryllium	mg/L	< 0.0050
Bismuth	mg/L	< 0.05
Boron	mg/L	< 2.5
Cadmium	mg/L	< 0.00050
Chromium	mg/L	< 0.05
Cobalt	mg/L	< 0.01
Copper	mg/L	< 0.01

Iron	mg/L	< 0.25
Lead	mg/L	< 0.01
Lithium	mg/L	0.26
Manganese	mg/L	0.125
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.05
Nickel	mg/L	< 0.05
Selenium	mg/L	< 0.0050
Silicon	mg/L	< 5
Silver	mg/L	< 0.0010
Strontium	mg/L	19.1
Sulphur	mg/L	412
Thallium	mg/L	< 0.00050
Tin	mg/L	< 0.25
Titanium	mg/L	< 0.25
Uranium	mg/L	< 0.0050
Vanadium	mg/L	< 0.25
Zinc	mg/L	< 0.25
Zirconium	mg/L	< 0.0050
Radionuclides		
Radium-226	Bq/l	0.20
Toxicity		
LC50 (96h) - Threespine Stickleback		Non-lethal

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

SECTION 3 • MATERIAL MANAGEMENT

3.1 LANDFILL / LANDFARM

The volume of material placed into the landfill is evaluated through periodic surveys. According to the most recent survey done August 15th, the landfill contained approximately 14 610 m³ of material.

In July 2019, approximately 1m³ of contaminated soil was transferred to the Type A Landfarm as a result of minor spills cleanup.

3.2 ORE

Approximately 93,420 tonnes of ore were processed through the Mill in July.

3.3 WASTE ROCK STORAGE FACILITY

In July, a total of 24,414 tonnes of waste rock was removed in the mine development process. No material was used as underground dry rockfill. No waste was stockpiled for progressive closure cover.

3.4 TAILINGS

73,069 dry tonnes of filtered tailings were sent to the Tailing Storage Facility in July 2019. 20,351 tonnes of tailings were used for paste underground backfill

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

All spills reported internally (6) are listed in the table 4.1 below and were managed according to Agnico's spill contingency plan. Spills were contained and cleaned up, contaminated material was disposed of in an appropriate manner, and the clean-up actions were monitored closely by the Environment Department.

One reportable spills occurred July 7th. A 1000L tote was knocked on the side and about 150L of D.E.F. leaked out

Table 4.1: Summary of Agnico's Spill Reports in July 2019

Date and time of occurrence	Material	Estimated quantity (l)	Location	Description of incident	Describe immediate corrective actions
7/7/2019 12:00	D.E.F. Fluid	150.00	Dome 3	An initial inspection of a work area revealed a 1000 L tote that had been knocked over outside dome 3. It appears that about 150 L of D.E.F. fluid leaked from the tote onto the ground.	Contacted environment team and were instructed to transfer remaining fluid into new tote and collected contaminated soil in quatex bag and delivered to hazmat sea-can
7/11/2019 13:00	Oil	5.00	Warehouse Laydown	Plug for wheel oil came loose and dumped oil from wheel housing.	this unit had just came out of the maintenance shop from PM, likely plug was not properly tightened
7/19/2019 5:30	Oil	15.00	Drill rig #1 SH-102	Leaking out hydraulic control panel into near to full containment outside of drill that had water inside already causing some to leak onto the ground.	Contain and pick-up spill into hazmat matting containment

7/25/2019 10:30	Hydraulic Oil	5.00	In front of Church	Damaged hydraulic steel pipe. The bolt was loose on this door and unscrewed itself with the vibration.	Contained the spill with an oil tub and absorbent pads. Bring it to the shop to perform a good repair.
7/28/2019 17:00	Diesel	90.00	Hole Number M19-2684	When refueling Drill 3 storage tank; the ground was uneveled and distribution pump was not tight causing a spill from the top when pump kicked on to distribute fuel to drill	Contaminated soil picked up and disposed of in the landfarm
7/30/2019 15:30	fuel	1.00	Landfarm A	While refueling a mini excavator. Once tank was full the small nozzle did not click.	Kill switch was activated, spill pads deployed. Supervisor was called to scene. Spill was immediately cleaned with mini excavator. Nozzle was replaced.
7/31/2019 1:00	Oil	20.00	Ramp 2	The plug from the front diff let go and the oil spill out.	Stop the truck install and pick up spill with spill kit and call mechanics.