

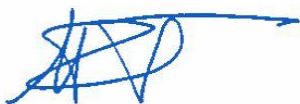


MELIADINE DIVISION

2016 Annual Report

Type B Water License 2BB-MEL1424

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Type B Water License 2BB-MEL1424
2016 Annual Report

As required under Part B Item 6 of Type B Water License 2BB-MEL1424, this report documents the water management and monitoring activities at the mine site for the year.

a. The daily, monthly and annual quantities in cubic metres of all freshwater obtained from Meliadine Lake at Monitoring Stations MEL-1 and MEL-2

Daily freshwater consumption details can be found in Appendix A. The monthly average, monthly total and annual water usage volumes are summarized in Table 1.1 below.

Table.1.1 Monthly average (m³/day), monthly total (m³) and total 2016 (m³) water usage.

	January	February	March	April	May	June	July	August	September	October	November	December
MEL-1												
Drilling	0.0	0.0	1.2	5.9	11.8	0.0	0.0	0.0	13.2	4.3	0.0	0.0
Camp	33.1	31.5	30.8	31.5	31.6	31.1	29.4	37.7	30.7	35.7	29.7	26.3
Construction	0.0	0.0	0.0	19.6	0.0	0.0	0.9	0.9	1.0	0.8	2.1	6.7
MEL-2												
Underground	5.4	17.6	19.6	13.8	4.0	3.0	1.7	4.7	2.5	2.6	1.7	2.2
Total Monthly	1351.9	1402.3	1600.2	1968.8	1434.3	993.3	960.6	1449.2	1429.3	1344.8	1004.1	1089.1
Total 2016	14938.7											

b. The daily, monthly and annual quantities, in cubic metres, of Mine water pumped from the underground

The daily, monthly, and annual flow volume quantities, in cubic meters (m³), of Mine water pumped from underground during 2016 are summarized in Appendix B. The monthly and annual flow volumes are summarized in Table 1.2 below.

Table 1.2. 2016 Monthly and Annual Flow Volumes of Underground Mine Water Pumped to Surface

Month	Flow Volume (m ³)
January	0
February	0
March	0
April	0
May	789
June	693
July	47*
August	1160
September	729
October	3093
November	247
December	6
Annual Flow Volume (m³)	6764

Note:

*Flow meter stopped working and monthly volumes were not accurately recorded.

c. An estimate of the current volume of waste rock and ore stockpiled on site

No waste rock was placed in the waste rock storage facility until December, as rock mined underground for ramp advancement was used for construction purposes (e.g. road, dikes, etc).. A total of 100,271 m³ of run-of-mine rock was used for construction in 2016. In December, 11,852 m³ of rock was placed in the waste rock storage facility. This amount might be used in the future for construction purposes. A total of 44,263 tonnes of ore is currently stockpiled on site. The stockpile is located approximately 150m north of the portal entrance.

d. Tabular summary of all data generated under the Monitoring Program, Part J.

Please see Appendix C for data tables related to the 2016 monitoring. MEL-1 and MEL-2 data are presented in section a and in Appendix A.

e. A summary of modification and/or major maintenance work carried out on the Water Supply Facilities, Bulk Fuel Storage Facility, Bermed Fuel Containment Facilities, and Wastewater Treatment Facility, including all associated structures, and an outline of any work anticipated for the next year

In 2016, the following is a list of the modifications and major maintenance work assumed under the 2BB-MEL1424 license:

- Re-sloping of the berms in the landfarm;
- Scrap Steel area sorted and cleaned;
- Waste water treatment and drinking water systems had routine maintenance completed.

There is currently no major maintenance or modifications planned for the 2017 year. With the expansion and construction of the main camp and infrastructures for the Meliadine Gold Project, all efforts on expansion will be implemented on the new site. The exploration site under this Type B license will follow regular maintenance routines for regular operation.

f. A list of unauthorized discharges and a summary of follow-up actions taken

1. The following non-compliances were recorded at the STP final discharge point (MEL-7) in 2016:
 - a. On February 14 2016, pH measured was 5.94 and as per water license, the allowable range is 6.5-9.0. Following this event, Agnico Eagle added a pH adjustment pump and a batch drum to control the pH at the effluent of the Bionest. No pH non-compliance was recorded afterwards and Agnico Eagle is of the opinion that action items completed addressed the issue.
 - b. On March 2 2016, oil and grease concentration was measured at 33 mg/L and the allowable limit is 5 mg/L. Following this event, an investigation was completed. It was found that maintenance occurred on the STP system the same day as the sample was taken and greased fittings had been installed prior to sampling. No further maintenance work was completed on the STP upgrade afterwards and no further install of fittings was completed afterwards. Discussions were held with the Maintenance Department to ensure future maintenance work is completed appropriately and does not cause oil and grease spills.
 - c. On May 5 2016, oil and grease concentration was measured at 782 mg/L. This result has been attributed to an analysis error for the following reasons:
 - i. when sampled, no sheen was observed on the sample;
 - ii. there has never been an analysis received with oil and grease that high ever;
 - iii. no major maintenance has been completed in the STP;
 - iv. no major breakdowns occurred in the STP;
 - v. The STP-IN (sewage before treatment), taken for internal purposes, did not have a value that would reflect such high oil and grease result.
 - d. On December 5, 2016, oil and grease concentration was measured at 75 mg/L. Following this event, an investigation was completed and to date

Agnico Eagle has not yet been able to identify the cause. The investigation is ongoing.

2. On July 20 2016, it was noted by the INAC inspector that a trench adjacent to Lake H13 was dug but not backfilled. Water was collecting in this depression and suspended solids were observed in the trench. The inspector requested Agnico Eagle to backfill the trench. To ease the dewatering, sections were created within the trench. Remediation of the electrical trench was completed during the month of October 2016.
3. In 2015, a trend associated with rising chloride and ammonia levels in several small ponds downstream of the exploration decline surface containment pond (P1) was observed. The trend was reported in a letter submitted to the NWB and KIA on March 17, 2016 (Appendix D). In response to this event, Agnico Eagle initiated a series of actions designed to both better understand the reasons behind these trends and to contain and/or treat the water coming from the underground workings to control these trends. Among these, four temporary water containment structures (DP1-A, DP1-B, DP2-A, DP3-A) were constructed to contain and manage the runoff water anticipated during the 2016 freshet in the P-Area (Figure 1). The containment structures control three containment ponds namely P1 Containment Area, P2 Containment Area, and P3 Containment Area. Construction of the dikes was completed in May 10, 2016. Thereafter construction continued with the installation of the water management pumping system and the three evaporators which were completed on June 28, 2016. The Construction Summary Report for the P-Area was submitted to the KIA on September 28, 2016.

The 2015 water quality data identified a trend of an increase in chloride concentrations in Lake A54 starting mid-June of 2015. This coincided with a similar trend increase in chloride concentrations in containment P1. Seepage through the roadway from containment P1 to A54 was the most likely cause of this increase as identified in the 2015 analysis. A similar trend in chloride concentrations was seen in Pond A38 downstream of Lake A54. At Lake A8 (fish bearing), water quality monitoring indicated that chloride concentrations were above natural background of around 10mg/L trending 50 mg/L in the summer of 2015. However, the water quality never exceeded the CCME long term guidance of 120 mg/L for protection of freshwater aquatic life.

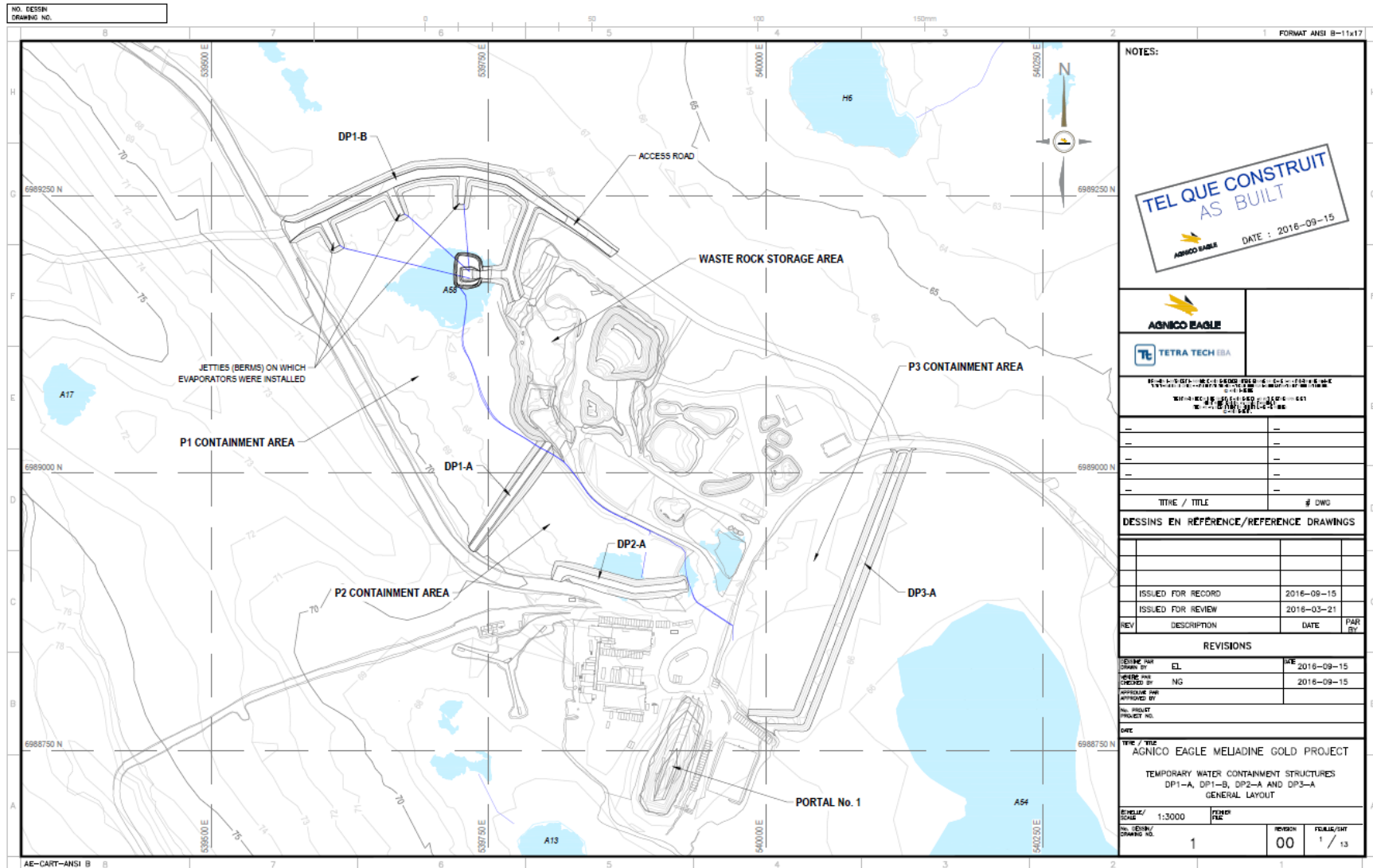
Analysis of 2016 data showed again an increase in chloride concentrations in Lake A54 during the summer reaching 2200 mg/L in September as compared to 1120 mg/L measured in September 2015 (Figure 2). Chloride concentrations recorded at P3 (containment closest to A54) reached 3900 mg/L in August 2016 compared to over 5000 mg/L in September 2015 (Figure 3). At Lake A38 similar chloride concentrations were measured in 2016 (717 mg/L in August) as in 2015 (897 mg/L in September) (Figure 4). At Lake A8, 2016 water quality monitoring

indicated that chloride concentrations reached similar values than in 2015 (approximately 50 mg/L) (Figure 5).

Similar to the chloride increase, the water quality monitoring data done in 2015 also showed an increase in ammonia concentrations measured in the containment pond P1 starting in mid-June of 2015. In 2016, ammonia concentration in P3 (closest containment pond to A54) showed results higher than background levels, but lower than in 2015 (Figure 6). Peak values of 83 mg/L were recorded in August 2016 as compared to 102 mg/L in August 2015. In Lakes A54, A38 and A8, a similar downward trend was observed when comparing 2016 and 2015 (Figures 7-9).

Starting in October 2016, Agnico Eagle dewatered Lake A54 and initiated construction of the permanent dike D-CP5 (Figure 10). Construction will continue in 2017. All contact water captured in this area will be stored temporarily in Collection Pond 5 (CP5), which is upstream of dike D-CP5. These infrastructures will prevent further migration of contact water containing chloride and ammonia downstream during the 2017 freshet and onwards.

Figure 1. P-Area As-built drawing



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Figure 2. 2007-2016 Chloride concentrations recorded in Lake A54

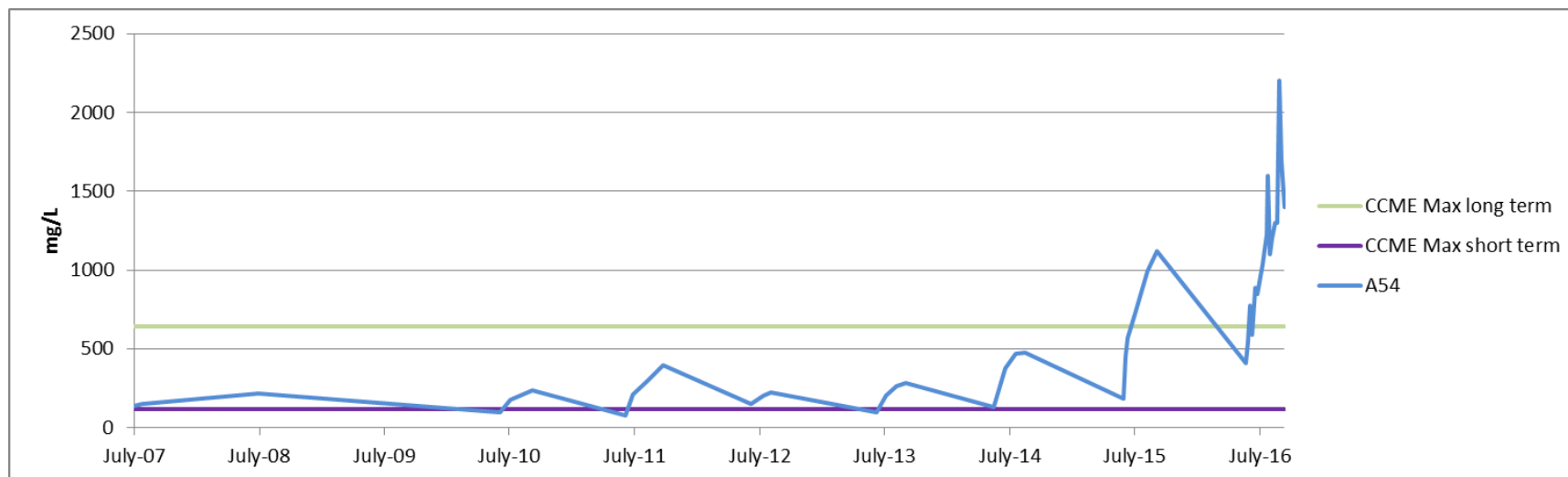


Figure 3. 2010-2016 Chloride concentrations recorded in historical P1 pond and P3 (after construction of dike DP3-A)

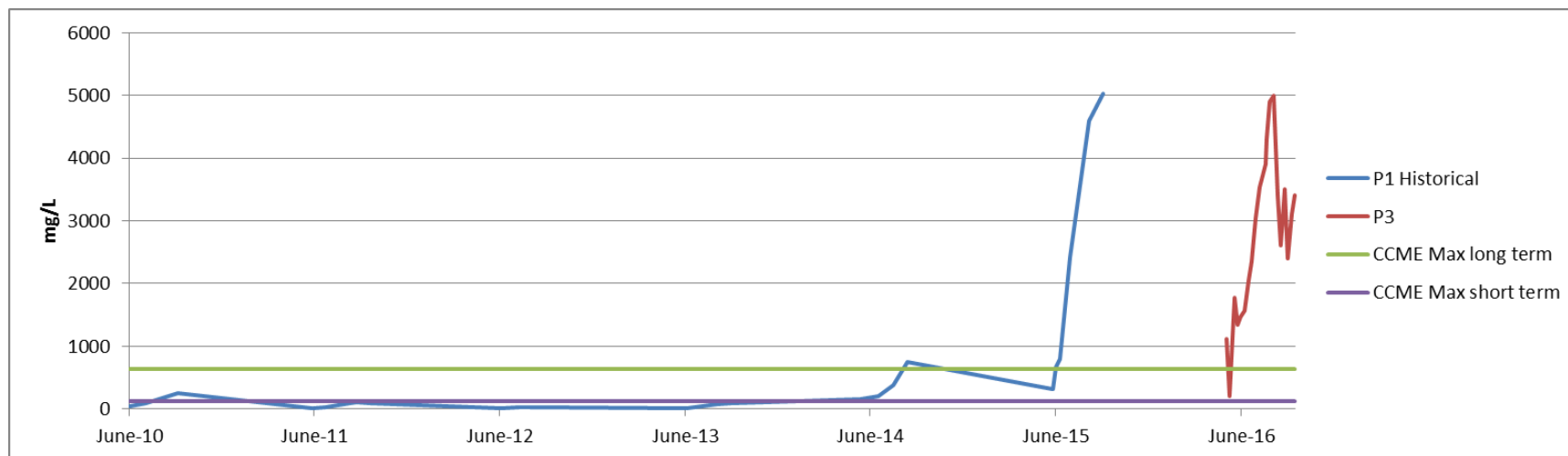


Figure 4. 2007-2016 Chloride concentrations recorded in Lake A38

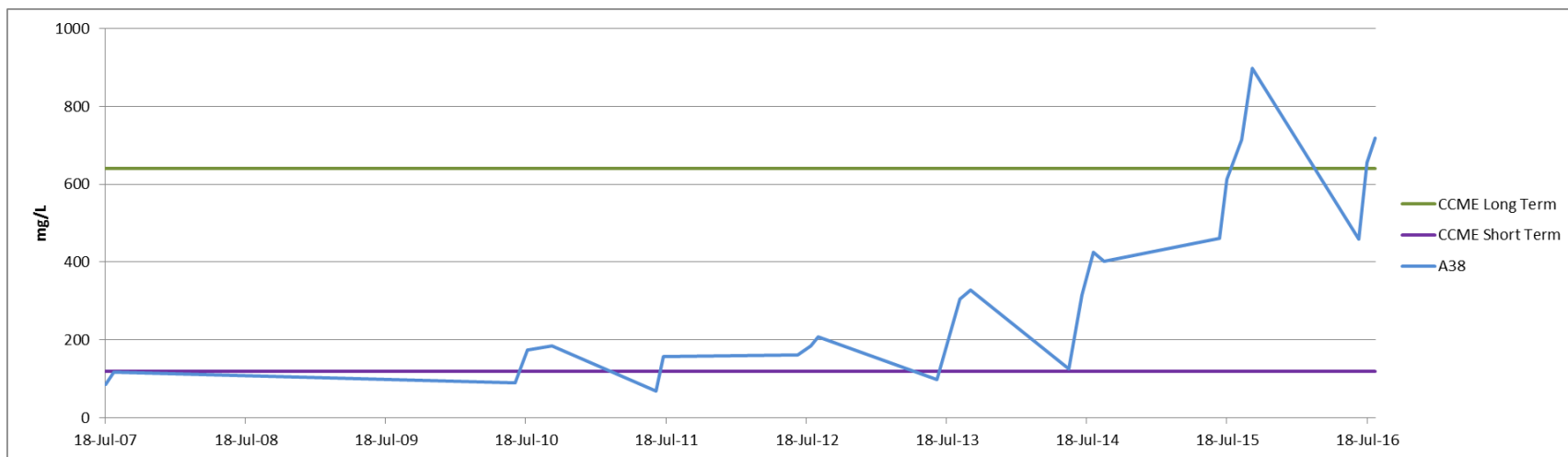


Figure 5. 2007-2016 Chloride concentrations recorded in Lake A8. A8 and A8-01 sampling stations are located at the inflow of Lake A8. Station A8-02 is located in A8 halfway between the inflow and the western outflow.

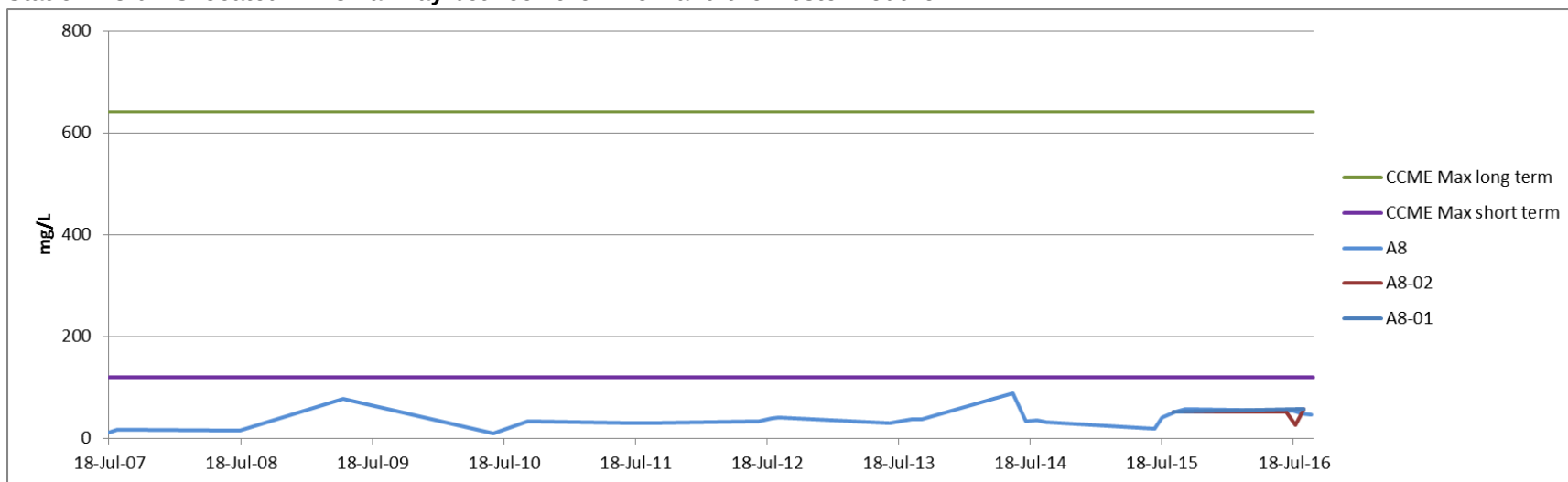


Figure 6. 2010-2016 Ammonia concentrations recorded in historical P1 pond and P3 (after construction of dike DP3-A)

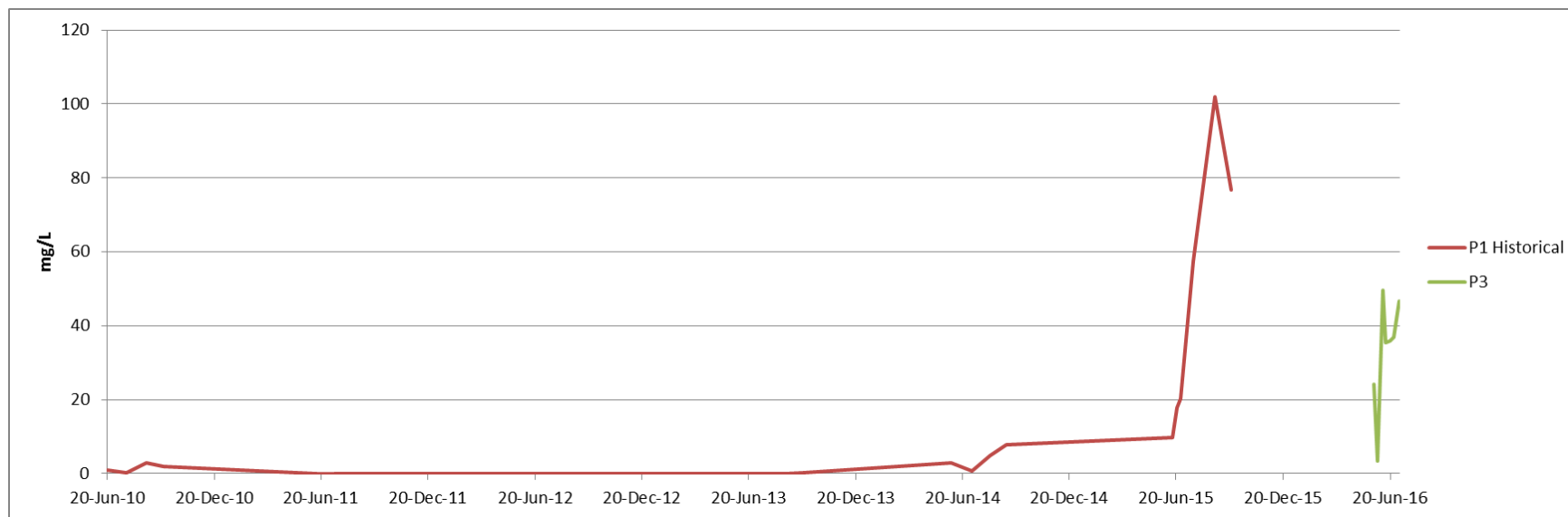


Figure 7. 2007-2016 Ammonia concentrations recorded in Lake A54

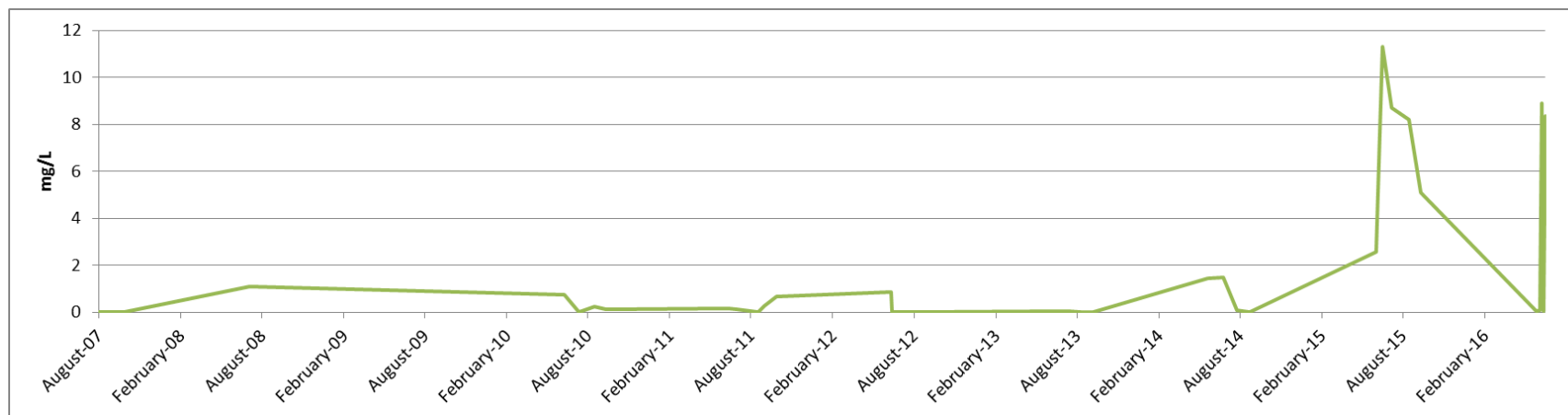


Figure 8. 2007-2016 Ammonia concentrations recorded in Lake A38

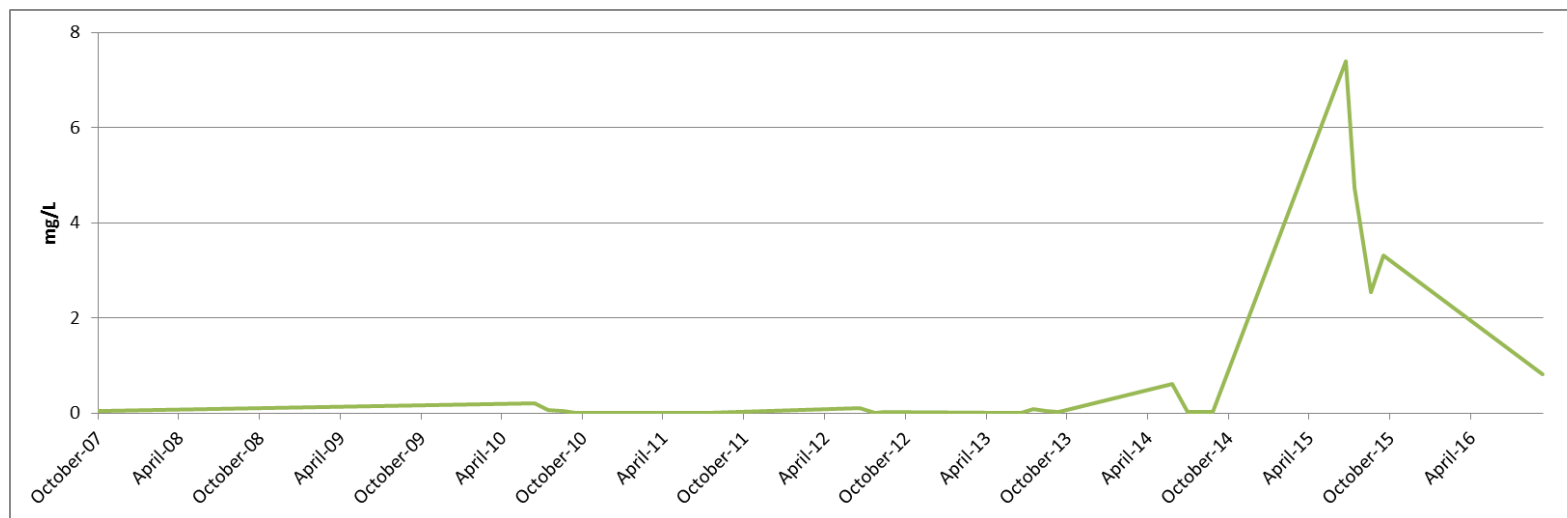


Figure 9. 2007-2016 Ammonia concentrations recorded in Lake A8

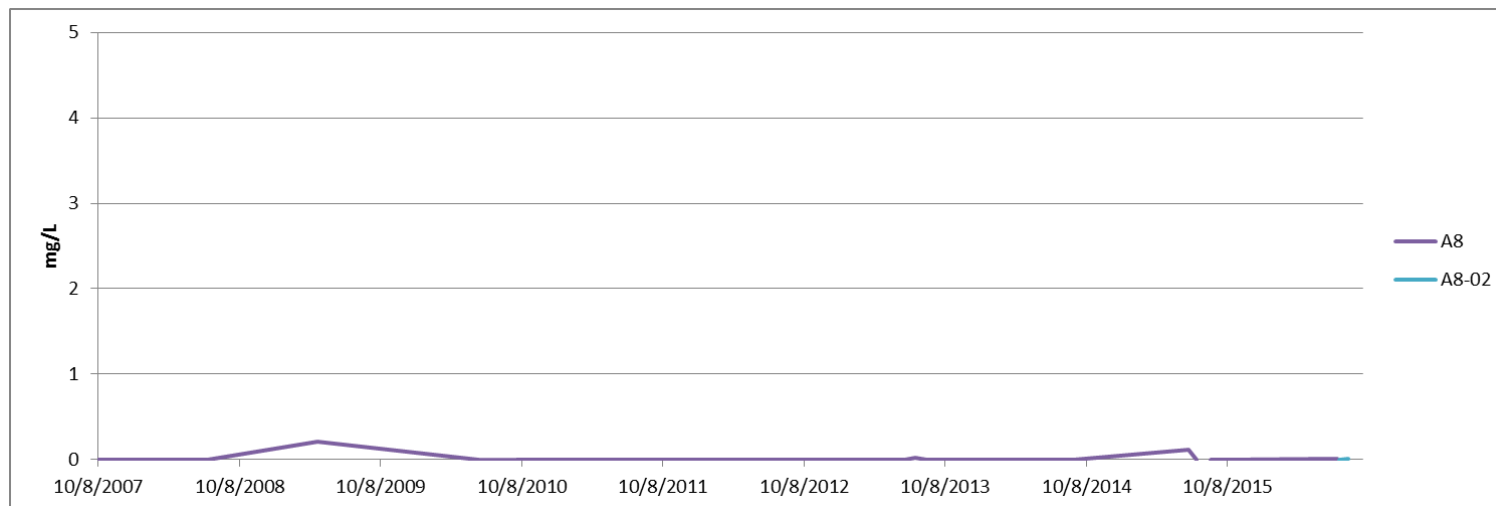
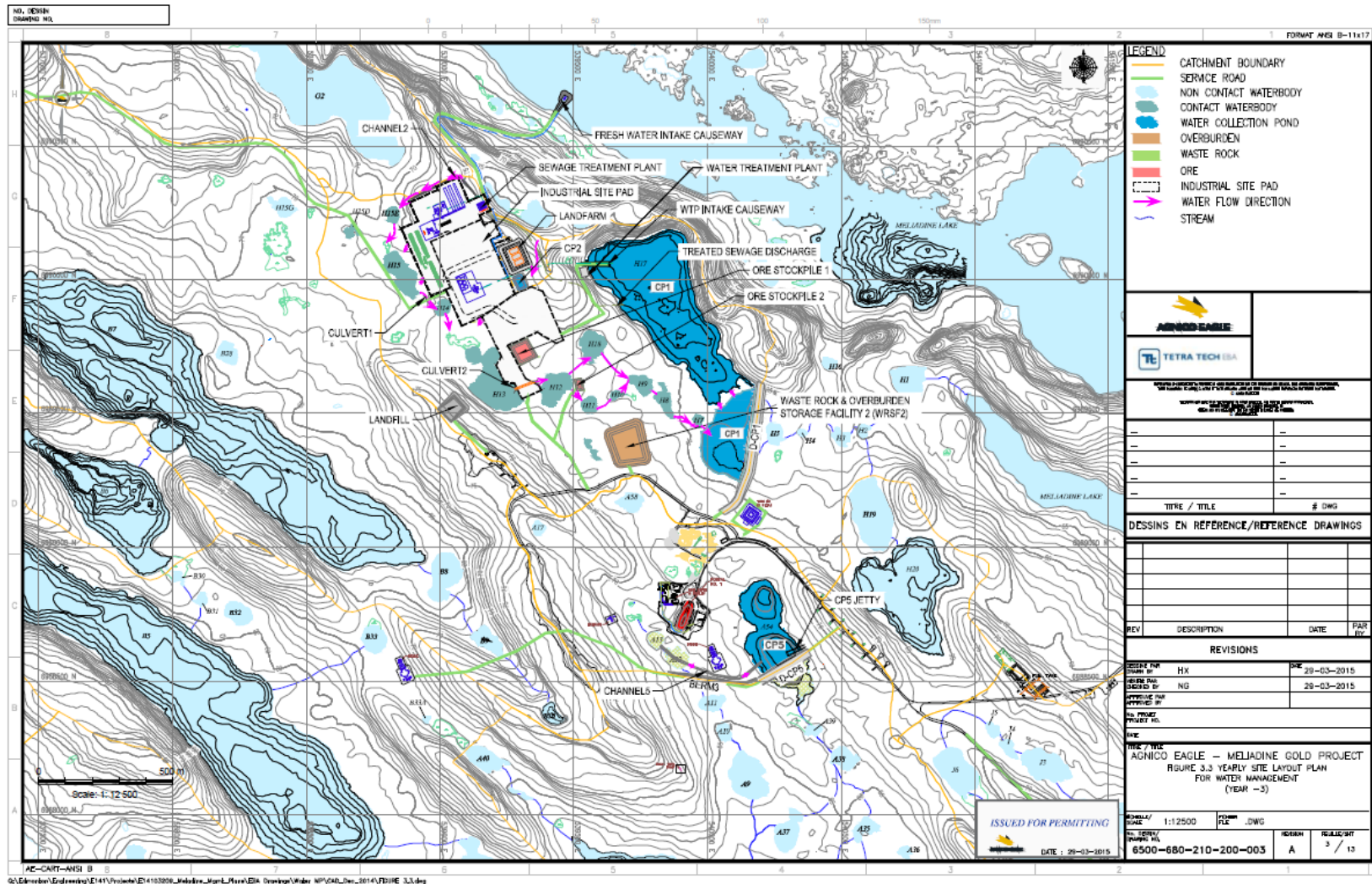


Figure 10. Location of permanent dike D-CP5 being built.



- g. Any revisions to the Spill Contingency Plan, Site Water Management Plan, Used Water Management Plan, Waste Management Plan, Waste Rock and Ore Storage Plan, Landfill and Landfarm Management Plans, Abandonment and Restoration Plan, as required by Part B, Item 12, submitted in the form of an Addendum**

Please find in Appendix E, revisions to the Landfill and Landfarm Management Plans.

- h. An updated estimate of the current Meliadine West Gold Project restoration and liability, as required under Part B, Item 3, based upon the results of the restoration research, project development monitoring, and any modifications to the site plan**

A permanent closure and reclamation financial security cost estimate was prepared in March 2015 to cover the closure and reclamation of all Project facilities using the RECLAIM Version 7.0. It was incorporated to the Preliminary Closure and Reclamation Plan (March 2015) prepared as part of the Type B Water License 2015 Annual Report. This closure cost was approved and incorporated into Part B of Water License 2BB-MEL1424. There have been no changes to the closure and reclamation plan since then. The restoration liability and financial security is still adequate.

- i. A summary of drilling/trenching activities and progressive reclamation of drill/trench sites**

In 2016, Agnico Eagle completed a total of 48 surface drilling holes. No trenches were created for exploration purposes.

Of the 48 holes drilled, 33 were geotechnical holes for portal entrance and pit delineation. Ten (10) holes were drilled for condemnation reasons on areas that will potentially be used for future waste rock and tailings disposal from the future mine site.

Table 1.3 depicts the information on the drilling holes.

For each drill site a log and photo is kept to show the clean-up and remediation efforts completed after drilling is completed.

Table 1.3. 2016 Monthly and Annual Flow Volumes of Underground Mine Water Pumped to Surface

Hole	DIP	Ore Body	Year	Reason	Location
GT16-01	6.1	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-02	8.4	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-03	8.6	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-04	10	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-05	7.2	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-06	5.7	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-07	8.5	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-08	7.2	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-09	4.1	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-10	4.2	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-11	6.7	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-12	7.1	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-13	16.55	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-14	18.14	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-15	19.16	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-16	17.8	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-17	17.13	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-17A	24.26	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-18	27	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-19	5.37	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-19A	30.8	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-20	35.97	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-21	25.1	WESMEG	2016	Geotech/services	SURFACE
GT16-22	26.3	WESMEG	2016	Geotech/services	SURFACE
GT16-23	25.05	WESMEG	2016	Geotech/services	SURFACE
GT16-24	24.76	WESMEG	2016	Geotech/services	SURFACE
GT16-25	21	WESMEG	2016	Geotech/services	SURFACE
GT16-26	7.15	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-27	7.6	TIRIGANIAQ	2016	Geotech/services	SURFACE
GT16-28	12.15	TIRIGANIAQ	2016	Geotech/services	SURFACE
MS16-001	90	ML-SERVICE	2016	Geotech/services	SURFACE
MS16-002	354.7	ML-SERVICE	2016	Geotech/services	SURFACE
MS16-003	220	ML-SERVICE	2016	Geotech/services	SURFACE
M16-2346	270	EXPLO-ML	2016	Condemnation	Surface
M16-2347	162	EXPLO-ML	2016	Condemnation	Surface
M16-2348	246	EXPLO-ML	2016	Condemnation	Surface
M16-2349	201	EXPLO-ML	2016	Condemnation	Surface
M16-2350	177	EXPLO-ML	2016	Condemnation	Surface
M16-2351	201	EXPLO-ML	2016	Condemnation	Surface
M16-2352	201	EXPLO-ML	2016	Condemnation	Surface
M16-2353	282	EXPLO-ML	2016	Condemnation	Surface
M16-2359	201	EXPLO-ML	2016	Condemnation	SURFACE
M16-2360	201	EXPLO-ML	2016	Condemnation	SURFACE
M16-2354	218.7	EXPLO-ML	2016	Road	SURFACE
M16-2355	249	EXPLO-ML	2016	Road	SURFACE
M16-2356	299.5	EXPLO-ML	2016	Road	SURFACE
M16-2357	201	EXPLO-ML	2016	Raptor	SURFACE
M16-2358	201	EXPLO-ML	2016	Raptor	SURFACE

j. Report all artesian flow occurrences as required under Part F, Item 6

In 2016, Agnico Eagle completed a total of 48 surface drilling holes. Of the 48 holes drilled, no artesian wells were intercepted.

k. A description of all progressive and/or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations

Drill site reclamation is completed during the drilling program. The drilling sites are inspected after the drilling to ensure that no waste is present and that the casings are removed or cut to ground level. All the conversion holes were cemented for the first 5m, the hydrogeology holes were partly or completely cemented.

No further reclamation work was undertaken for work scope covered by water license 2BB-MEL1424.

l. A summary of any specific studies or reports requested by the Board, and a brief description of any future studies planned or proposed

In 2016, Agnico Eagle constructed four temporary water containment structures (DP1-A, DP1-B, DP2-A, DP3-A) to contain and manage the runoff water anticipated during the 2016 freshet in the P-Area. The Construction Summary Report for the P-Area was submitted to the Board on September 28, 2016.

No further studies or reports were requested by the Board in 2016.

The following studies are planned for 2017:

- Contaminated soil assessment in Landfarm
- Continue P-Area Assessment

m. A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted

Please find in Appendix F the 2016 consultation log including communities visited, date of the event and topics discussed.

n. Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No details were requested by the Board.

Appendix A
2016 Daily Freshwater Usage

2016 TOTAL WATER USAGE - January			
DATE	CAMP(m3)	DRILL (m3)	UNDERGROUND (m3)
1/1/2016	38.23	0	2.49
1/2/2016	37.92	0	0
1/3/2016	38.61	0	0
1/4/2016	39.61	0	3.99
1/5/2016	39.75	0	0
1/6/2016	41.17	0	3.56
1/7/2016	41.49	0	2
1/8/2016	40.93	0	3.98
1/9/2016	40.32	0	2.76
1/10/2016	40.88	0	0
1/11/2016	38.17	0	5.6
1/12/2016	34.78	0	0
1/13/2016	32.29	0	0
1/14/2016	34.95	0	0
1/15/2016	32.77	0	5.58
1/16/2016	35.60	0	0.65
1/17/2016	33.53	0	7.11
1/18/2016	32.63	0	17.25
1/19/2016	33.47	0	22.47
1/20/2016	33.63	0	15.48
1/21/2016	33.06	0	19.39
1/22/2016	33.15	0	7
1/23/2016	33.97	0	13.05
1/24/2016	33.10	0	4.59
1/25/2016	34.23	0	28.1
1/26/2016	31.99	0	27.92
1/27/2016	34.28	0	19.97
1/28/2016	32.22	0	12.19
1/29/2016	33.28	0	15.6
1/30/2016	32.71	0	0

2016 TOTAL WATER USAGE - February			
DATE	CAMP(m3)	DRILL (m3)	UNDERGROUND (m3)
2/1/2016	34.42	0	4.81
2/2/2016	33.64	0	3.2
2/3/2016	33.60	0	12.03
2/4/2016	42.73	0	0
2/5/2016	24.82	0	16.12
2/6/2016	25.88	0	36
2/7/2016	32.13	0	0
2/8/2016	31.50	0	32.24
2/9/2016	32.52	0	0
2/10/2016	32.39	0	10.26
2/11/2016	31.25	0	42
2/12/2016	31.88	0	70
2/13/2016	32.22	0	35
2/14/2016	33.44	0	40
2/15/2016	30.38	0	30
2/16/2016	30.59	0	2
2/17/2016	32.69	0	7
2/18/2016	31.74	0	14
2/19/2016	31.43	0	4
2/20/2016	29.46	0	1.5
2/21/2016	29.46	0	1.5
2/22/2016	31.85	0	1.5
2/23/2016	31.39	0	1.5
2/24/2016	29.74	0	1.5
2/25/2016	30.40	0	27.3109
2/26/2016	30.97	0	27.418
2/27/2016	30.42	0	29.67
2/28/2016	32.88	0	27.86
2/29/2016	27.48	0	30.464

2016 TOTAL WATER USAGE - March			
DATE	CAMP(m3)	DRILL (m3)	UNDERGROUND (m3)
3/1/2016	30.17	0	28.306
3/2/2016	30.11	0	24.62
3/3/2016	30.10	0	35.128
3/4/2016	30.55	0	27.696
3/5/2016	31.39	0	28.916
3/6/2016	31.59	0	29.277
3/7/2016	30.43	0	29.063
3/8/2016	30.06	0	28.376
3/9/2016	31.79	0	32.702
3/10/2016	31.24	0	28.011
3/11/2016	30.58	0	28.261
3/12/2016	28.76	0	29.791
3/13/2016	28.77	0	26.039
3/14/2016	30.60	0	31.576
3/15/2016	30.97	0	26.922
3/16/2016	29.59	0	32.394
3/17/2016	29.87	0	26.3793
3/18/2016	30.93	0	26.6677
3/19/2016	29.31	0	26.522
3/20/2016	30.31	0	0.963
3/21/2016	30.79	0	6.55
3/22/2016	30.26	0	0.23
3/23/2016	31.49	0	0.234
3/24/2016	31.35	0	0
3/25/2016	36.41	6	4.1299
3/26/2016	27.58	6	0
3/27/2016	31.25	6	9.099
3/28/2016	33.86	6	23.494
3/29/2016	32.01	6	9.321
3/30/2016	32.69	6.0	0.201
3/31/2016	30.46	0	8.067

2016 TOTAL WATER USAGE - April				
DATE	CAMP(m3)	DRILL (m3)	UNDERGROUND (m3)	Construction (m3)
4/1/2016	30.84	10	34.859	0
4/2/2016	31.20	5	1.1	7
4/3/2016	30.28	0	22.953	7
4/4/2016	32.01	5	17.475	7
4/5/2016	31.89	12	19.814	7
4/6/2016	33.06	0	19.566	0
4/7/2016	31.66	15	0.2123	13
4/8/2016	31.89	10	13.7517	14
4/9/2016	30.85	0	0.2011	0
4/10/2016	31.40	10	18.587	7
4/11/2016	31.14	5	19.908	15
4/12/2016	30.18	15	20.191	7
4/13/2016	33.18	5	14.152	7
4/14/2016	30.93	5	4.337	15
4/15/2016	30.52	15	13.473	69
4/16/2016	31.60	5	15.871	49
4/17/2016	35.03	15	22.186	67
4/18/2016	28.96	10	44.052	76
4/19/2016	31.00	10	26.426	35
4/20/2016	31.90	0	0	0
4/21/2016	31.04	5.0	28.98	29
4/22/2016	32.44	0.0	25.975	0
4/23/2016	32.67	10.0	0.3119	0
4/24/2016	30.71	0	0.1071	0
4/25/2016	34.19	0	18.8199	0
4/26/2016	28.69	10	0.155	0
4/27/2016	30.56	0	0.211	0
4/28/2016	42.58	0.0	3.114	0
4/29/2016	22.41	0	4.169	0
4/30/2016	30.85	0.0	4.169	0

2016 TOTAL WATER USAGE - May			
DATE	CAMP(m3)	DRILL (m3)	UNDERGROUND (m3)
5/1/2016	30.98	0	4.169
5/2/2016	30.88	0	6.531
5/3/2016	31.24	19	0.19
5/4/2016	30.43	57	1.956
5/5/2016	31.22	18	2.5721
5/6/2016	30.34	33	0.185
5/7/2016	31.41	44	5.427
5/8/2016	29.96	32	0
5/9/2016	32.17	48	5.007
5/10/2016	33.10	56	6.536
5/11/2016	34.10	57	14.499
5/12/2016	27.31	0	4.057
5/13/2016	32.11	0	3.822
5/14/2016	32.05	0	5.343
5/15/2016	31.59	0	0.192
5/16/2016	32.00	0	6.098
5/17/2016	31.61	0	0.208
5/18/2016	32.93	2	0.163
5/19/2016	32.88	0	28.9829
5/20/2016	32.85	0	0.189
5/21/2016	34.23	0.0	0.188
5/22/2016	29.58	0.0	3.12
5/23/2016	33.24	0.0	0.189
5/24/2016	33.43	0	0.18
5/25/2016	33.40	0	5.2
5/26/2016	31.45	0	0.162
5/27/2016	31.07	0	1.731
5/28/2016	30.38	0.0	2.32
5/29/2016	30.99	0	7.47
5/30/2016	31.22	0.0	3.337
5/31/2016	30.26	0.0	3.023

2016 TOTAL WATER USAGE - June				
DATE	CAMP(m3)	Construction	DRILL (m3)	UNDERGROUND (m3)
6/1/2016	31.14	0	0	0.176
6/2/2016	29.47	3	0	0.1871
6/3/2016	31.62	3	0	9.004
6/4/2016	30.46	3	0	0.2011
6/5/2016	28.15	3	0	3.7759
6/6/2016	30.61	3	0	0.185
6/7/2016	29.89	3	0	7.144
6/8/2016	29.33	3	0	0.126
6/9/2016	30.67	0	0	4.371
6/10/2016	31.18	0	0	5.174
6/11/2016	31.09	0	0	0.193
6/12/2016	32.65	0	0	0.002
6/13/2016	31.90	0	0	5.384
6/14/2016	30.99	0	0	0.163
6/15/2016	31.51	0	0	3.905
6/16/2016	29.40	0	0	5.4149
6/17/2016	31.82	0	0	0.204
6/18/2016	32.01	0	0	0.21
6/19/2016	31.82	0	0	6.751
6/20/2016	32.20	0	0	0.234
6/21/2016	31.17	0	0.0	0.252
6/22/2016	32.01	0	0.0	0.256
6/23/2016	31.41	0	0.0	0.271
6/24/2016	32.66	0	0	0.276
6/25/2016	30.91	0	0	9.276
6/26/2016	31.63	0	0	0.231
6/27/2016	30.70	0	0	0.218
6/28/2016	31.93	0	0.0	3.583
6/29/2016	31.96	0	0	0.224
6/30/2016	31.03	2.7	0.0	0.22

2016 TOTAL WATER USAGE - July				
DATE	CAMP(m3)	Construction (m3)	DRILL (m3)	UNDERGROUND (m3)
7/1/2016	31.18	0	0	0.23
7/2/2016	30.65	0	0	1.12
7/3/2016	29.20	0	0	6.80
7/4/2016	28.75	0	0	0.23
7/5/2016	30.22	0	0	0.25
7/6/2016	30.40	0	0	2.91
7/7/2016	30.40	0	0	2.91
7/8/2016	30.16	0	0	0.23
7/9/2016	29.90	0	0	0.228
7/10/2016	28.98	0	0	0.228
7/11/2016	11.02	0	0	0.221
7/12/2016	46.82	6	0	3.309
7/13/2016	29.24	0	0	0.228
7/14/2016	23.54	0	0	5.856
7/15/2016	24.04	0	0	0.1919
7/16/2016	30.82	0	0	0.232
7/17/2016	29.55	0	0	0.266
7/18/2016	27.71	0	0	0.266
7/19/2016	31.15	0	0	0.284
7/20/2016	29.47	0	0	0.172
7/21/2016	29.44	0	0	0.228
7/22/2016	28.70	0.6	0	4.327
7/23/2016	31.44	0	0	0.227
7/24/2016	27.43	4.5	0	0.222
7/25/2016	30.06	0	0	0.229
7/26/2016	29.64	0	0	11.988
7/27/2016	32.16	0	0	0.23
7/28/2016	28.32	0	0	2.3241
7/29/2016	31.38	9.36	0	0.905
7/30/2016	28.51	3.576	0	0.222
7/31/2014	32.14	4.47	0	4.04

2016 TOTAL WATER USAGE - August				
DATE	CAMP(m3)	Construction (m3)	DRILL (m3)	UNDERGROUND (m3)
8/1/2016	27.12	0	0	4.04
8/2/2016	28.31	0	0	0.234
8/3/2016	27.29	0	0	0.233
8/4/2016	33.08	0	0	0.234
8/5/2016	32.58	0	0	0.23
8/6/2016	29.81	0	0	4.674
8/7/2016	31.94	0	0	0.237
8/8/2016	29.34	0	0	3.702
8/9/2016	33.39	0	0	4.769
8/10/2016	41.28	0	0	0.234
8/11/2016	35.19	0	0	0.2339
8/12/2016	39.04	0	0	2.328
8/13/2016	41.01	8.97	0	0.225
8/14/2016	38.69	9.864	7	0.237
8/15/2016	42.49	0	0	0.226
8/16/2016	37.80	0	0	12.972
8/17/2016	40.93	0	0	9.325
8/18/2016	39.63	0	0	14.306
8/19/2016	42.28	0	0	39.771
8/20/2016	43.43	0	0	4.596
8/21/2016	44.26	0	10	1.313
8/22/2016	42.56	0	8	6.922
8/23/2016	44.36	0	10	0.234
8/24/2016	43.29	0	14	6.899
8/25/2016	59.49	0	9	0.2396
8/26/2016	32.01	0	11	0.242
8/27/2016	42.77	0	10	0.232
8/28/2016	40.67	9	8	18.5611
8/29/2016	40.67	0	7	7.522
8/30/2016	32.13	0	8	0.21
8/31/2014	32.07	0	5	0.232

2016 TOTAL WATER USAGE - September				
DATE	CAMP(m3)	CONSTRUCTION (m3)	DRILL (m3)	UNDERGROUND (m3)
9/1/2016	36.80	0	4	0.235
9/2/2016	39.69	0	4	0.232
9/3/2016	36.71	0	4	0.235
9/4/2016	32.68	0	4	0.229
9/5/2016	34.33	0	2	9.984
9/6/2016	27.18	0	3	0.241
9/7/2016	28.00	0	2	5.048
9/8/2016	26.95	6.36	0	3.2209
9/9/2016	28.42	0	0	9.438
9/10/2016	28.98	0	0	9.236
9/11/2016	32.07	4	3	0.227
9/12/2016	29.83	4	0	0.229
9/13/2016	28.40	4	0	0.237
9/14/2016	32.77	0	0	0.219
9/15/2016	30.22	0	26	0.226
9/16/2016	31.51	4	30	0.199
9/17/2016	27.89	0	36	0.228
9/18/2016	30.29	4	33	8.055
9/19/2016	28.86	0	41	0.233
9/20/2016	30.73	0	0	0.205
9/21/2016	36.38	0	0	0.226
9/22/2016	30.45	0	64	0.226
9/23/2016	33.60	3	46	0.224
9/24/2016	26.21	0	28	7.166
9/25/2016	29.66	3	0	0.221
9/26/2016	29.35	0	0	0.2283
9/27/2016	26.46	6	15	5.3767
9/28/2016	33.14	0	18	0.223
9/29/2016	23.78	0	13	3.499
9/30/2016	29.06	0	21	8.018

2016 TOTAL WATER USAGE - October				
DATE	CAMP(m3)	CONSTRUCTION (m3)	DRILL (m3)	UNDERGROUND (m3)
10/1/2016	30.63	0	15	0.24
10/2/2016	30.43	0	18	0.24
10/3/2016	30.43	3	31	0.24
10/4/2016	32.74	4	16	0.23
10/5/2016	32.73	0	22	6.12
10/6/2016	38.47	0	6	0.22
10/7/2016	34.53	0	6	0.23
10/8/2016	31.49	3	0	16.24
10/9/2016	31.24	2	3	12.75
10/10/2016	32.25	0	3	0.22
10/11/2016	29.64	0	0	4.11
10/12/2016	28.43	0	4	0.22
10/13/2016	27.73	3	6	0.23
10/14/2016	28.19	0	0	0.23
10/15/2016	36.86	0	4	7.09
10/16/2016	39.88	0	0	0.23
10/17/2016	40.43	0	0	0.00
10/18/2016	41.69	0	0	0.45
10/19/2016	41.56	0	0	0.24
10/20/2016	34.12	3	0	0.23
10/21/2016	48.08	3	0	6.92
10/22/2016	42.90	3	0	0.22
10/23/2016	39.54	0	0	0.18
10/24/2016	34.21	1	0	0.26
10/25/2016	40.65	0	0	3.83
10/26/2016	41.92	0	0	2.65
10/27/2016	41.76	0	0	0.22
10/28/2016	39.09	0	0	5.23
10/29/2016	40.56	0	0	0.23
10/30/2016	35.54	0	0	0.23
10/31/2016	29.07	0	0	9.27

2016 TOTAL WATER USAGE - November				
DATE	CAMP(m3)	CONSTRUCTION (m3)	DRILL (m3)	UNDERGROUND (m3)
11/1/2016	29.01	0	0	0.221
11/2/2016	30.22	0	0	0.225
11/3/2016	30.37	0	0	3.651
11/4/2016	29.50	0	0	0.214
11/5/2016	29.26	0	0	0.214
11/6/2016	29.06	0	0	0.233
11/7/2016	21.52	0	0	0.210
11/8/2016	46.62	0	0	0.209
11/9/2016	28.07	0	0	0.213
11/10/2016	27.72	0	0	8.458
11/11/2016	28.27	0	0	0.205
11/12/2016	28.09	0	0	0.202
11/13/2016	27.69	0	0	0.202
11/14/2016	28.20	0	0	0.210
11/15/2016	31.66	0	0	0.191
11/16/2016	27.31	0	0	1.700
11/17/2016	32.85	0.00	0	6.777
11/18/2016	26.47	1.00	0	0.224
11/19/2016	28.39	0.00	0	0.211
11/20/2016	29.44	2.00	0	0.207
11/21/2016	40.92	4.00	0	0.212
11/22/2016	18.88	0.00	0	7.270
11/23/2016	39.29	1.00	0	0.206
11/24/2016	22.89	0.00	0	0.207
11/25/2016	36.00	13.00	0	7.414
11/26/2016	22.63	1.00	0	0.210
11/27/2016	31.29	3.00	0	0.201
11/28/2016	28.91	17.00	0	2.602
11/29/2016	30.95	7.00	0	8.963
11/30/2016	28.09	14.00	0	0.214

2016 TOTAL WATER USAGE - December			
DATE	CAMP(m3)	DRILL (m3)	UNDERGROUND (m3)
12/1/2016	31.99	0	4.930
12/2/2016	31.25	0	0.198
12/3/2016	29.15	0	0.193
12/4/2016	30.46	0	0.196
12/5/2016	27.88	0	3.662
12/6/2016	25.21	0	0.197
12/7/2016	30.03	0	0.204
12/8/2016	28.50	0	0.222
12/9/2016	33.58	0	30.123
12/10/2016	28.52	0	0.206
12/11/2016	33.01	0	0.204
12/12/2016	23.12	0	0.207
12/13/2016	30.53	0	0.265
12/14/2016	28.94	0	4.239
12/15/2016	27.40	0	0.223
12/16/2016	31.70	0	0.203
12/17/2016	28.10	0	0.218
12/18/2016	28.84	0	4.718
12/19/2016	33.70	0	0.215
12/20/2016	20.90	0	0.208
12/21/2016	22.80	0	0.217
12/22/2016	21.53	0	5.049
12/23/2016	29.53	0	0.205
12/24/2016	35.22	0	0.206
12/25/2016	21.04	0	5.985
12/26/2016	16.49	0	0.206
12/27/2016	20.22	0	0.201
12/28/2016	16.06	0	0.000
12/29/2016	15.39	0	0.782
12/30/2016	9.87	0	5.237
12/31/2016	23.01	0	0.199

Appendix B
2016 Volumes of Mine Water Pumped from Underground

Appendix B: Daily Underground Mine Water Pumped to Surface Containment Ponds

DATE	UNDERGROUND (m3)
1/1/2016	0
1/2/2016	0
1/3/2016	0
1/4/2016	0
1/5/2016	0
1/6/2016	0
1/7/2016	0
1/8/2016	0
1/9/2016	0
1/10/2016	0
1/11/2016	0
1/12/2016	0
1/13/2016	0
1/14/2016	0
1/15/2016	0
1/16/2016	0
1/17/2016	0
1/18/2016	0
1/19/2016	0
1/20/2016	0
1/21/2016	0
1/22/2016	0
1/23/2016	0
1/24/2016	0
1/25/2016	0
1/26/2016	0
1/27/2016	0
1/28/2016	0
1/29/2016	0
1/30/2016	0
1/31/2016	0
Monthly Total (m3)	0.00

DATE	UNDERGROUND (m3)
2/1/2016	0
2/2/2016	0
2/3/2016	0
2/4/2016	0
2/5/2016	0
2/6/2016	0
2/7/2016	0
2/8/2016	0
2/9/2016	0
2/10/2016	0
2/11/2016	0
2/12/2016	0
2/13/2016	0
2/14/2016	0
2/15/2016	0
2/16/2016	0
2/17/2016	0
2/18/2016	0
2/19/2016	0
2/20/2016	0
2/21/2016	0
2/22/2016	0
2/23/2016	0
2/24/2016	0
2/25/2016	0
2/26/2016	0
2/27/2016	0
2/28/2016	0
2/29/2016	0
Monthly Total (m3)	0.00

DATE	UNDERGROUND (m3)
3/1/2016	0
3/2/2016	0
3/3/2016	0
3/4/2016	0
3/5/2016	0
3/6/2016	0
3/7/2016	0
3/8/2016	0
3/9/2016	0
3/10/2016	0
3/11/2016	0
3/12/2016	0
3/13/2016	0
3/14/2016	0
3/15/2016	0
3/16/2016	0
3/17/2016	0
3/18/2016	0
3/19/2016	0
3/20/2016	0
3/21/2016	0
3/22/2016	0
3/23/2016	0
3/24/2016	0
3/25/2016	0
3/26/2016	0
3/27/2016	0
3/28/2016	0
3/29/2016	0
3/30/2016	0
3/31/2016	0
Monthly Total (m3)	0.00

DATE	UNDERGROUND (m3)
4/1/2016	0
4/2/2016	0
4/3/2016	0
4/4/2016	0
4/5/2016	0
4/6/2016	0
4/7/2016	0
4/8/2016	0
4/9/2016	0
4/10/2016	0
4/11/2016	0
4/12/2016	0
4/13/2016	0
4/14/2016	0
4/15/2016	0
4/16/2016	0
4/17/2016	0
4/18/2016	0
4/19/2016	0
4/20/2016	0
4/21/2016	0
4/22/2016	0
4/23/2016	0
4/24/2016	0
4/25/2016	0
4/26/2016	0
4/27/2016	0
4/28/2016	0
4/29/2016	0
4/30/2016	0
Monthly Total (m3)	0.00

DATE	UNDERGROUND (m3)
5/1/2016	0
5/2/2016	0
5/3/2016	0
5/4/2016	0
5/5/2016	0
5/6/2016	0
5/7/2016	0
5/8/2016	0
5/9/2016	0
5/10/2016	0
5/11/2016	0
5/12/2016	0
5/13/2016	0
5/14/2016	1.02
5/15/2016	0
5/16/2016	0
5/17/2016	0
5/18/2016	49.68
5/19/2016	40.36
5/20/2016	32.05
5/21/2016	77.43
5/22/2016	95.00
5/23/2016	92.00
5/24/2016	45.00
5/25/2016	42.00
5/26/2016	35.00
5/27/2016	83.00
5/28/2016	83.00
5/29/2016	0
5/30/2016	36.00
5/31/2016	78.00
Monthly Total (m3)	789.54

DATE	UNDERGROUND (m3)
6/1/2016	59
6/2/2016	77.87
6/3/2016	61.09
6/4/2016	82.16
6/5/2016	36.79
6/6/2016	5.86
6/7/2016	58.18
6/8/2016	42.47
6/9/2016	30.47
6/10/2016	24.10
6/11/2016	8.70
6/12/2016	3.64
6/13/2016	39.77
6/14/2016	19.75
6/15/2016	28.60
6/16/2016	22.96
6/17/2016	9.00
6/18/2016	9.00
6/19/2016	4.00
6/20/2016	0
6/21/2016	0
6/22/2016	0
6/23/2016	25.00
6/24/2016	19.00
6/25/2016	7.00
6/26/2016	1.00
6/27/2016	0
6/28/2016	18.00
6/29/2016	0
6/30/2016	0
Monthly Total (m3)	693.42

DATE	UNDERGROUND (m3)
7/1/2016	1.00
7/2/2016	16.00
7/3/2016	5.00
7/4/2016	2.00
7/5/2016	2.39
7/6/2016	0.00
7/7/2016	0.00
7/8/2016	0.00
7/9/2016	0.79
7/10/2016	0.79
7/11/2016	0
7/12/2016	0
7/13/2016	0
7/14/2016	0
7/15/2016	0
7/16/2016	0
7/17/2016	0
7/18/2016	0
7/19/2016	0
7/20/2016	0
7/21/2016	0
7/22/2016	0.02
7/23/2016	0
7/24/2016	0
7/25/2016	0.00
7/26/2016	0
7/27/2016	0
7/28/2016	0.00
7/29/2016	6.91
7/30/2016	0
7/31/2016	12
Monthly Total (m3)	46.89

DATE	UNDERGROUND (m3)
8/1/2016	22.45
8/2/2016	0.01
8/3/2016	73.97
8/4/2016	46.71
8/5/2016	36.24
8/6/2016	44.06
8/7/2016	47.04
8/8/2016	12.83
8/9/2016	30.71
8/10/2016	36.65
8/11/2016	25.33
8/12/2016	24.00
8/13/2016	0.00
8/14/2016	64.00
8/15/2016	26.00
8/16/2016	0.00
8/17/2016	52.00
8/18/2016	46.00
8/19/2016	48.00
8/20/2016	59.00
8/21/2016	50.00
8/22/2016	49.00
8/23/2016	52.00
8/24/2016	43.00
8/25/2016	57.00
8/26/2016	51.00
8/27/2016	17.12
8/28/2016	53.10
8/29/2016	68.74
8/30/2016	10.59
8/31/2016	13.07
Monthly Total (m3)	1159.63

DATE	UNDERGROUND (m3)
9/1/2016	116.85
9/2/2016	63.74
9/3/2016	33.68
9/4/2016	54.21
9/5/2016	61.51
9/6/2016	17.49
9/7/2016	0.03
9/8/2016	0
9/9/2016	0
9/10/2016	0
9/11/2016	0
9/12/2016	0
9/13/2016	0
9/14/2016	0
9/15/2016	0
9/16/2016	0
9/17/2016	0
9/18/2016	0
9/19/2016	0
9/20/2016	0
9/21/2016	0
9/22/2016	12.36
9/23/2016	0.45
9/24/2016	44.32
9/25/2016	52.30
9/26/2016	6.85
9/27/2016	74.03
9/28/2016	74.63
9/29/2016	36.78
9/30/2016	79.32
Monthly Total (m3)	728.55

DATE	UNDERGROUND (m3)
10/1/2016	33.74
10/2/2016	44.70
10/3/2016	44.70
10/4/2016	65.79
10/5/2016	65.79
10/6/2016	0
10/7/2016	0
10/8/2016	0
10/9/2016	0
10/10/2016	0
10/11/2016	0
10/12/2016	339.23**
10/13/2016	13.00
10/14/2016	0
10/15/2016	0
10/16/2016	0
10/17/2016	0
10/18/2016	0
10/19/2016	217**
10/20/2016	168.83
10/21/2016	164.40
10/22/2016	236.07
10/23/2016	59.00
10/24/2016	311.00
10/25/2016	0
10/26/2016	289.00
10/27/2016	426.00
10/28/2016	365.00
10/29/2016	423.20
10/30/2016	103.10
10/31/2016	279.30
Monthly Total (m3)	3092.63

DATE	UNDERGROUND (m3)*
11/1/2016	102.00
11/2/2016	0
11/3/2016	0
11/4/2016	0
11/5/2016	0
11/6/2016	0
11/7/2016	0
11/8/2016	0
11/9/2016	0
11/10/2016	0
11/11/2016	0
11/12/2016	0
11/13/2016	0
11/14/2016	0
11/15/2016	0
11/16/2016	0
11/17/2016	0
11/18/2016	0
11/19/2016	0
11/20/2016	0
11/21/2016	0
11/22/2016	0
11/23/2016	0
11/24/2016	16.71
11/25/2016	31.61
11/26/2016	0.00
11/27/2016	71.58
11/28/2016	0
11/29/2016	0
11/30/2016	25.00
Monthly Total (m3)	246.903

DATE	UNDERGROUND (m3)*
12/1/2016	0
12/2/2016	0
12/3/2016	0
12/4/2016	0
12/5/2016	0
12/6/2016	6.00
12/7/2016	0
12/8/2016	0
12/9/2016	0
12/10/2016	0
12/11/2016	0
12/12/2016	0
12/13/2016	0
12/14/2016	0
12/15/2016	0
12/16/2016	0
12/17/2016	0
12/18/2016	0
12/19/2016	0
12/20/2016	0
12/21/2016	0
12/22/2016	0
12/23/2016	0
12/24/2016	0
12/25/2016	0
12/26/2016	0
12/27/2016	0
12/28/2016	0
12/29/2016	0
12/30/2016	0
12/31/2016	0
Monthly Total (m3)	6.00

Note:

* volumes recorded by water level survey and calculated difference

** multiple days accumulated and recoded from flow meter

Appendix C
2016 Monitoring Data Tables

MEL-5: Point of discharge from the Bermed Fuel Containment Facilities

No active bermed fuel containment facility in 2016.

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

Sample	Mel 2BB- 1424 Part D, Item 15 limits	MEL-6 19/06/2016 15:10	MEL-6 Dup 19/06/2016 15:13	MEL-6 18/09/2016 -	MEL-6 02/10/2016 -
Sampling date					
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-7: Final Effluent Discharge from the Biodisk treatment system

Parameter s	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-MEL14 24 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	<0.1	25.6	<1	112000	<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	<10000
27/01/2016	<0.01	7	1.97	6.17	9.3	9	43	0.3	35.7	36	<1	2,010,000	<2	>30000	<10000
01/02/2016	<0.01	7	7.14	6.13	9.1	22	43	0.38	27.8	28.2	1	1570000	<2	215,000.00	200,000.00
08/02/2016	<0.01	7	8.32	5.94	11.5	6	46	0.1	30	30.2	<1	11,100,000	<2	266,000.00	<10000
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	<10000
24/02/2016	<0.01	5	21.2	7	8.9	4	44	0.5	18.6	19.1	<1	1760000	<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	7.66	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	>30000	1,500.00
21/03/2016	0.09	6	16.5	7.43	12.8	10	49	0.61	24.3	25	<1	18000	<2	>30000	<1000
30/03/2016	0.03	5	10.1	7.1	4.9	2	51	0.61	28.2	28.9	<1	15700	<2	>30000	<100
04/04/2016	0.01	19	8.57	6.79	9.55	<1	54	0.69	2.04	2.73	<1	-	0	>200	-
13/04/2016	13.7	15	15.4	6.96	4	<1	49	0.58	23.7	24.3	<1	> 20000	< 2	> 3000	-
18/04	13.4	19	13.	6.	12.6	<1	48	0.8	31	31.	<1	5100	<2	>3000	1,200.

/2016			5	9				4		9				0	00
25/04 /2016	0.08	17	22. 9	7. 0 8	9.52	<1	46	0.9 5	30. 4	31. 4	<1	8900 0	<2	<2000	<1000
02/05 /2016	0.1	22	22. 9	7. 1 9	14.6	4	48	1.1	25. 6	26. 8	782	8700 0	<2	>300 000	<1000
10/05 /2016	0.1	6	27	7. 1 6	14.5	9	41	1	24. 9	26	<1	60,00 0	<2	390,00 0.00	<1000 0
16/05 /2016	0.1	7	22. 6	7	12.2	5	43	0.8	31. 8	32. 7	<1	20,00 0	<2	74,000 .00	<1000 0
23/05 /2016	0.1	17	24. 1	7. 2	11.6	4	42	1.3	29. 1	30. 4	2	2,000	<2	248,00 0.00	<1000
29/05 /2016	0.01	13	14. 6	6. 5 8	13.1	4	45	1	34. 8	35. 9	<1	11,10 0	<2	>300 000	700
06/06 /2016	<0.0 1	5	11. 7	6. 8 2	9.09	<1	44	0.9 6	30. 4	31. 4	<1	-	<2	-	-
13/06 /2016	0.06	2	17. 1	7. 0 6	11.4	4	43	0.9 5	27. 8	28. 8	1	6000 00	<2	>3000 0	<1000 0
20/06 /2016	0.1	10	18. 5	6. 9 7	-	3	41	1.1 8	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	>200 0	<2	>3000 0	Too much bacteri a
04/07 /2016	0.03	5	14. 9	6. 8 7	15.2	3	43	1	25. 8	26. 8	<1	5300 0	8	>3000 00	<1000
11/07 /2016	0.2	29	21. 4	7. 3 3	17.4	11	38	1.8	1.3	3.0 3	<1	2900 0	<2	>3000 00	<1000 0
18/07 /2016	0.4	10	33. 8	7. 5 4	14	7	33	1.8	9.5	11. 3	<1	>200 0	<2	>3000 00	***
25/07 /2016	0.4	20	42. 5	7. 5 2		8	29	1.4 6	22. 9	24. 4	<1	52,00 0	4	>3000 00	<1000
01/08 /2016	40.3	5	44	7. 3 5	14.8	7	32	2.3	0.0 3	2.3	<1	Bad weat her delay	Bad weath er delay	Bad weath er delay	Bad weath er delay
03/08 /2016	0.26	5	27. 7	7. 0 1	14.2	4	43	<0. 01	0.0 2	0.0 2	<1	Bad weat her delay	Bad weath er delay	Bad weath er delay	Bad weath er delay
08/08 /2016	30	8	31	7. 3	12.8	9	30	1.5	1.1	2.6	<1	3300	<2	69000	<100

15/08/2016	0.1	10	40	67.4	16.7	2	29	2.1	23.3	25.5	<1	18000	<2	>30000	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	7.22	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	9.1	9	15	7.	13	14	30	1.2	32.	34	1.1	Lab	Lab	Lab	Lab

/2016

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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 CaCO3	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 - HCO3	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 - CaCO3	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 µmhos/cm	582	692	471	2270	4192	4525	5706	5896	5689	4748	6580	11000	13000	13000	14000	13000	14000	12000	11000	11000
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

[illegible]

Hydrocarbons F2 (C10-C16) µg/L								broke bottles												
- Petroleum Hydrocarbons F3 (C16-34) µg/L	<200	---	---	---	<200	<200	<200	lab broke bottles	<200	<200	<200	ND	<200	<200	<200	<200	<200	<200	<200	<200
- Petroleum Hydrocarbons F4 (C34-50) µg/L	---	---	---	---	<200	<200	<200	lab broke bottles	<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 %													103	99	97	89	103	99	103	100
4-Bromofluorobenzene %													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	<0.006	<0.006	<0.006	<0.006	0.0106	0.015	0.0108	0.0136	0.012	0.033	0.0117	0.059	0.025
Dissolved Antimony (Sb) mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0009	0.001	0.0005	0.0009	0.0002	0.00053	<0.0020	0.00061	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
Dissolved	0.0128	0.0047	<0.00	0.0087	0.0155	0.024	0.0353	0.049	0.002	<0.00	<0.000	0.005	0.0042	0.0041	0.0029	0.0031	0.0047	0.0034	0.0040	0.0024

Arsenic (As) mg/L			05			8		3	9	05	5	19	2	7	8	8	8	4	2	6
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	0.00007	0.0022	<0.0006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	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	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00002	<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	0.00006	0.0006	0.0014	0.0012	0.0012	0.0012	0.0017	0.0018	0.0013	0.0018	<0.00040	0.00214	<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)	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

mg/L																				
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	<0.005	<0.020	<0.0010	<0.010	<0.010	<0.020	<0.010	<0.020	<0.020
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	<0.005	<0.020	<0.0025	<0.010	<0.010	<0.020	<0.010	<0.020	<0.020
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	0.00333	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	<0.005	<0.020	<0.0010	<0.010	<0.010	<0.020	<0.010	<0.020	<0.020
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	0.050 3	0.0363	0.147	0.0283	0.0257	0.988	0.032	0.01	0.089
Antimony (Sb) mg/L	0.0002	0.0002	<0.00 01	<0.000 1	<0.0001	0.000 4	0.0011	0.001 2	0.001 1	0.001	0.0003	0.000 57	0.0008 3	0.0006 1	0.0005 6	<0.001 0	<0.001 0	<0.002 0	<0.000 50	<0.002 0
Arsenic (As) mg/L	0.0153	0.0109	0.006 6	0.0136	0.0185	0.025 8	0.0471	0.045 8	0.002 7	0.006 1	0.0061	0.007 08	0.0053 9	0.0054 3	0.0045	0.0038 9	0.0092 3	0.0049 9	0.0032 1	0.0050 3
Barium (Ba) mg/L	0.0548	0.058	0.048 6	0.1663	0.2202	0.259 2	0.3425	0.384 8	0.461 9	0.509 6	0.534	0.582	0.594	0.641	0.725	0.715	0.637	0.613	0.556	0.503
Beryllium (Be) mg/L	<0.000 5	0.0039	<0.00 05	<0.000 5	<0.0005	<0.00 05	<0.000 5	<0.00 05	0.000 7	<0.00 05	<0.000 5	< 0.000 1	<0.000 10	<0.000 050	<0.000 10	<0.000 20	<0.000 20	<0.000 40	<0.000 10	<0.000 40
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	<0.000 02	0.0003 1	0.000 03	0.0001 2	0.00005	0.000 12	0.0002	0.000 18	0.000 19	0.000 19	0.0002	0.002 44	0.0003 67	0.0002 76	0.0003 81	0.0002 83	0.0004 09	0.0003 86	0.0002 6	0.0002 44
Chromium (Cr) mg/L	0.0038	0.0047	0.008 5	0.0028	<0.0006	<0.00 06	0.0015	<0.00 06	0.005 3	0.001 9	0.0026	< 0.001	<0.001 0	<0.000 50	<0.001 0	<0.002 0	0.0035	<0.004 0	<0.001 0	<0.004 0
Copper (Cu) mg/L	0.0022	0.0018	0.009 5	0.0053	0.004	0.004 5	0.0065	0.004 8	0.006	0.006 2	0.0086	0.002 35	0.0021 6	0.0023 6	0.0022 8	0.0016	0.0038	0.0028	0.0015 6	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	<0.000 3	<0.000 3	<0.00 03	<0.000 3	<0.0003	<0.00 03	<0.000 3	<0.00 03	<0.00 03	<0.00 03	<0.000 3	0.000 27	0.0002 7	0.0002 9	0.0002 4	<0.000 40	0.0021 9	<0.000 80	<0.000 20	0.0008 1
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	0.106 8	0.7	0.484	0.462 2	0.896	0.789 2	0.618 9	0.695 5	0.6612	0.553	0.858	0.648	0.951	0.718	1.48	1.09	0.743	0.589
Molybdenum (Mo) mg/L	<0.000 5	<0.000 5	<0.00 05	<0.000 5	0.0015	0.001 3	0.0014	0.001 3	0.001 6	0.001 9	0.0013	0.001 9	0.002	0.0018 7	0.0019	<0.002 0	0.004	<0.004 0	0.0023	<0.004 0
Nickel (Ni) mg/L	0.004	0.0027	0.007 8	0.0107	0.0244	0.030 9	0.0383	0.059	0.049 4	0.057 7	0.0898	0.008 4	0.0127	0.0092 3	0.0113	0.0095	0.0291	0.0191	0.0112	0.0104

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Sulfate (SO4) mg SO4/L	2.4	6.4	9.5	30.7	56.6	58.3	73.8	83.7	111	113	128									
Total Bismuth (Bi) mg/L														<0.000 050						
Total Cobalt (Co) mg/L														0.0027 2						
Total Silicon (Si) mg/L														0.56						
Total Zirconium (Zr) mg/L														<0.000 50						

P2

P2 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	8.14	8.14		7.83	7.84		8.05	7.41	7.74	7.73	7.66	7.69	7.93	7.8	8.27
field cond.					4.87	5.1	5.1		8.94	9.84		12.45	14.53	19.49	Or	18.8	18.92	15.91	11.87	13.44
field temp			5.80		7.10	14.5	14.5		7.83	14.9		11.2	17	15.1	11.6	10.2	8.1	6.8	4.8	0.8
Project	53609	53894	54346	54558	54854	55149		55757		56514	56913									
Sample	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell
Sampling location	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	Meliadine	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell	P2-Cell
Water distribution system			PO# 49498 2	PO# 49498 2	PO# 49498 2	PO# 49498 2	PO# 49498 3	PO# 49498 2	PO# 49498 3	49498 2	OL-49498 2	49498 2	49498 2	49498 2	49498 2	49498 2	B6J869 6	49498 2		
Sampling date	22/05/2016 10:40	29/05/2016 14:30	07/06/2016 13:10	12/06/2016 13:45	19/06/2016 14:05	26/06/2016 11:43	05/07/2016 0:00	10/07/2016 14:18	7/19/2016 15h38	26/07/2016 16:00	07/08/2016 15:59	09/08/2016 0:00	16/08/2016	23/08/2016	30/08/2016	06/09/2016	13/09/2016	19/09/2016	27/09/2016	04/10/2016
Sampler name	Alexandre Gauthier	Justin MacMillan	Phillip Roy	Alexandre Gauthier	Justin MacMillan	JM & PR	JM & PR	Alexandre Gauthier	AG & PR	JM	Philip Roy	PR	JM & AG	JM & JT	PR	AG	AG	JM & JT	PR	PR-AG
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

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F1 (C6-C10) - BTEX - ug/L																	<25	<25	<25	<25
Hydrocarbon s (L) (Fraction F1 (C6-C10)) µg/L	<0.3	0.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	ND	<25	<25	<25		<25	<25	<25	<25
Hydrocarbon s (L) (Fraction F2 - F4))																				
- Petroleum Hydrocarbon s F2 (C10-C16) µg/L	<100	---	---	---	<100	<100	---	<100	<100	<100	<100	ND	<100	<100	<100		<100	<100	<100	<100
- Petroleum Hydrocarbon s F3 (C16-34) µg/L	<200	---	---	---	<200	<200	---	<200	<200	<200	<200	ND	<200	<200	<200		<200	<200	<200	<200
- Petroleum Hydrocarbon s F4 (C34-50) µg/L	---	---	---	---	<200	<200	---	<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-Difluorobenz ene %													100	99	103	90	100	97	103	99
4-Bromofluoro benzene %													119	98	100	113	103	104	97	103
D10-Ethylbenzen e %													87	127	114	129	123	106	105	121
D4-1,2-													112	104	108	96	93	97	101	103

Dichloroethane %																				
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 (Cd) mg/L	0.00012	<0.00002	0.00016	0.00013	0.00011	0.00005	<0.00002	0.00017	0.00013	0.00042	0.00035	0.000589	0.000932	0.00128	0.00115	0.00153	0.00125	0.000729	0.000703	0.000685
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	<0.000	<0.000	<0.000	<0.000	<0.000	<0.000	<0.000	<0.000	0.000	0.0018	<0.000	<	<0.000	0.0001	<0.000	<0.000	<0.000	<0.000	<0.000	<0.000

Lead (Pb) mg/L	3	3	3	3	3	3	3	3	3		3	0.0002	80	73	80	80	80	40	80	80
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 (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	<0.020	0.005	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020
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	<0.0005	<0.020	<0.00050	<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	<0.0005	<0.020	<0.0020	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020
Dissolved	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

Zinc mg/L																				
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	<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	<0.000 3	<0.000 3	<0.000 3	<0.000 3	0.0011	<0.000 3	<0.000 3	<0.000 3	<0.00 03	0.0012	<0.000 3	0.0005 3	0.0003 7	0.0004 5	0.0008 1	0.0005 2	<0.000 80	<0.002 0	<0.000 20	<0.000 80
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
Molybdenu m (Mo) mg/L	0.002	0.0015	0.0008	0.001	0.0013	0.0017	0.0016	0.0013	0.001 3	0.0015	0.0015	0.0021	0.0027	0.0035 7	0.0048	0.0037	<0.004 0	<0.010	0.003	<0.004 0
Nickel (Ni) mg/L	0.0338	0.0181	0.0136	0.0151	0.0249	0.0374	0.0426	0.0778	0.062 8	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	0.0005 3	0.0007 2	0.0005 1	0.0005 5	0.0005 3	0.0005 7	<0.001 0	0.0004 3	<0.000 40
Silver (Ag) mg/L											<0.000 1	0.0000 46	0.0000 6	<0.000 10	0.0000 35	0.0001 03	<0.000 080	<0.000 20	0.0000 47	<0.000 080
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	<0.000 8	<0.000 8	<0.00 08	<0.000 8	<0.000 8	0.0005 27	0.0005 26	0.0006 64	0.0005 61	0.0005 5	0.0004 1	<0.000 50	0.0004 3	0.0003 9
Tin (Sn) mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00 1	<0.001	<0.001	< 0.005	<0.005 0	<0.002 0	<0.005 0	<0.010	<0.020	<0.050	<0.005 0	<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	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

(Mg) mg/L																				
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														<0.00010						
Total Cobalt (Co) mg/L														0.00693						
Total Silicon (Si) mg/L														3.1						
Total Zirconium (Zr) mg/L														<0.0010						

P3

P3Date	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					8.02	8.01			7.82	7.73		7.69	7.53	7.38	7.85	7.97	7.3	7.6	7.75	8.3
field cond.					4.87	4.88			8.63	10.08		11.93	12.63	13.44	10.13	7.45	10.05	7.42	9.57	10.07
field temp					7.2	14.3			18.9	16.5		12.7	17.4	15.3	11.7	10.5	7.2	5.2	5.5	1
Project	53610	53895	54347	54559	54855	55150	55549	55758	55549	56515	56914	B6H0446								
Sample	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell
Sampling location	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	Meliadine	P3-Cell	Meliadine	P3-Cell	Meliadine	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell	P3-Cell
Water distribution system			PO#494982	PO#494982	PO#494982	PO#494982	PO#494982	PO#494982	PO#494982	494982	OL-494982	494982	494982	494982	494982		B6J8696			
Sampling date	22/05/2016 9:30	29/05/2016 14:00	07/06/2016 13:20	12/06/2016 11:34	19/06/2016 13:55	26/06/2016 11:54	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
Sampler name	Alexandre Gauthier	Justin MacMillan	Phillip Roy	Alexandre Gauthier	Justin MacMillan	JM & PR	Philip Roy	Alexandre Gauthier	AG & JM	JM	Philip Roy	PR	JM & AG	JM & JT	PR	AG	AG	JM & JT	PR	PR-AG
Bicarbonate (HCO3) mg CaCO3/L	56	47	60	57	61	63	78	83	100	100	92	93	87	78	110	130	180	100	93	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	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	10080	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

[illegible]

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
- Petroleum Hydrocarbons F3 (C16-34) µg/L	<200	---	---	---	<200	<200	<200	<200	<200	<200	<200	ND	<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
Reached Baseline at C50 ug/L													Yes	Yes	Yes	Yes	Yes	Yes	Yes
Surrogate Recovery (%)																			
1,4-Difluorobenzene %													102	98	102	93	100	97	102
4-Bromofluorobenzene %													107	100	100	102	108	107	96
D10-Ethylbenzene %													83	128	119	128	122	104	104
D4-1,2-Dichloroethane %													93	104	105	89	94	96	101
o-Terphenyl %													97	95	103	94	108	102	103
Dissolved Hardness mg/L												4370	5360	6010	4460	3470	4230	2630	3470
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	<0.006	0.0093	0.063	0.009	0.0107	0.0096	0.017	0.0078	0.206
Dissolved	<0.000	<0.000	<0.000	<0.000	<0.000	0.0004	0.000	0.0009	0.000	0.00	0.000	0.000	<0.002	0.0007	<0.001	0.0006	<0.002	0.0013	<0.002

Antimony (Sb) mg/L	1	1	1	1	1		8		5	07	1	55	0	7	0	9	0	1	0	0
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	0.000064	0.000071	0.000056	0.000078	0.000037	0.0000379	0.000052	0.0000491
Dissolved Chromium (Cr) mg/L	0.0009	<0.0006	0.0015	0.0007	<0.0006	<0.0006	<0.00006	<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	0.007	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	<0.00003	<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 (Mn) mg/L	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
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)	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

mg/L																				
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	<0.005	<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 Potassium (K) mg/L												95.8	111	108	83.8	161	95.2	63.6	77.7	88.4
Dissolved Sodium (Na) mg/L												558	634	592	464	1070	672	448	524	535
Dissolved													90					106		

Sulphur (S) mg/L																				
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	<0.0003	<0.0003	<0.0003	0.0012	<0.0003	<0.0003	0.0019	<0.0003	<0.0003	<0.0003	<0.0003	0.0009	0.00137	0.00104	0.00194	0.00059	0.00127	0.00103	<0.00020	0.00086
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	0.9993	1.454	2.002	1.8	1.86	2.58	1.49	1.35	2.91	1.71	1.64	1.52
Molybdenum	0.0014	0.001	0.002	0.0018	0.0018	0.0017	0.002	0.0022	0.001	0.00	0.001	0.002	0.003	0.0025	0.0047	0.0059	0.0074	0.0071	0.0045	0.0045

[illegible]

DP3-A Base

field pH			7.77			7.8	7.46	7.73	7.35	7.98	7.96	7.89	-	
field cond. mS/cm			7.62			OR	OR	19.09	Or	19.9	6.02	10.68	1.13	
field temp : °C			<23.7			14.4	20.8	17.3	14.7	8.4	7.6	4	1.1	
Project	53611	54560	55314	55551	56918									
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	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.)	10.7	7.5	28.2	77.8	26.9	47	59	42	22	16	11	15	12	

mg/L														
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 Phosphorus (P) mg P/L	0.06	<0.01	0.18	0.73	0.06	0.067	0.08	0.057	0.08	0.06	0.019	0.041	0.022	
Total Suspended Solids mg/L	<1	1	13	1376	63	30	31	21	33	22	4	30	15	
Dissolved Sulphate (SO4) mg/L						700	890	690	420	390	250	370	350	1100
Cyanide (CN) mg/L										0.066	0.0082	0.026	0.029	
Turbidity UTN	5.6	1.29	14.2	71.7	7.17	8.8	6.7	7.6	2.2	1.8	1.6	8.4	2	
Alkalinity mg CaCO3/L	118	70	168	141	110	120	140	99	130	130	90	92	86	
Dissolved Chloride (Cl) mg/L						9200	11000	7100	14000	7900	2000	3600	3700	23000
Nitrite (NO2) mg N/L	1.61	0.08	0.58	11	6.81	4.59	10.5	3.19	1.57	0.868	0.266	2.52	2.08	
Nitrate (NO3) mg N/L	11.4	1.7	28.7	72.1	314	185	244	152	283	181	42.7	93.9	91	
Nitrite-Nitrate mg N/L	13.1	1.78	29.3	669	321	189	254	155	285	182	43	96.4	93	
Mercury (Hg) mg/L	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001	ND	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	
Dissolved Mercury (Hg) mg/L	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001					<0.00001	0.00001	0.00001	<0.00001	
Reactive Silica (Si)	2.8	0.4	10	13	15		52	17	5.8	12	2.6	0.35	11	

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)	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	

mg/L														
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) mg/L	563	103	1045	9257	5533	6810	4200	3470	5550	3680	834	1340	1680	9010
Magnesium (Mg) mg/L	35.6	9.84	84.7	604	389	300	276	232	345	242	92.7	164	166	883
Potassium (K) mg/L	33.8	6.95	54.8	691	254	314	231	168	317	182	41.8	94.6	98.3	419
Sodium (Na) mg/L	92.5	20.3	244	1876	1384	1210	1080	704	1390	818	238	609	616	2320
Total Sulphur (S) mg/L							280				82.4			
Chloride (Cl) mg/L	1184	190	2536	25665	12797									
Cyanide W.A.D. mg/L					0.039									
NH3 (nonionized) AMMONIA mg N/L	0.37	0.04	0.78	-	0.89									
NH4 -N														
Sulfate (SO4) mg SO4/L	45.7	23.3	248	505	607									
Total Bismuth (Bi) mg/L								<0.00010						
Total Cobalt (Co) mg/L								0.0246						
Total Silicon (Si) mg/L								9.72						
Total Zirconium (Zr) mg/L								<0.0010						

DP1-B Base

field pH			7.44		7.79	7.2	7.69	7.27	6.91	7.66	7.32	7.92	-	
field cond. mS/cm			8.09		9.1	10.6	10.76	12.77	12.8	11.67	7.86	3.59	3.03	
field temp : °C			13.7		12.7	11.3	16	9.9	11.5	7.7	6.4	5.6	0.3	
Project	54561	55552	56516	56915	B6H0446									
Sample	DP1B-Base	DP1B-Base	DP1B-Base	DP1-B	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base (T)
Sampling location	DP1B-Base	Meliadine	DP1B-Base	Meliadine	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-Base	DP1B-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	
Total Suspended Solids mg/L	8	33	21	9	13	15	21	14	36	19	7	40	11	
Dissolved Sulphate (SO4) mg/L					140	170	170	190	230	330	210	81	76	360
Cyanide (CN) mg/L										0.0066	<0.0050	<0.0050	<0.0050	
Turbidity UTN	8.38	15.9	5.66	11.5	2.7	2.7	3.3	2.5	27	3.4	12	14	7.2	
Alkalinity mg CaCO3/L	48	139	102	111	110	100	110	97	85	110	120	100	91	
Dissolved Chloride (Cl) mg/L					3200	3800	3800	4300	6500	4400	2600	1000	820	5000
Nitrite (NO2) mg N/L	0.09	3.79		0.6	0.643	0.805	0.877	1.05	1.35	1.18	0.776	0.321	0.277	
Nitrate (NO3) mg N/L	1.64	421		49.6	48	64.6	62.3	74.9	120	74.3	42.3	19.9	19.8	
Nitrite-Nitrate mg N/L	1.73	425	55.4	50.2	48.7	65.4	63.2	75.9	121	75.5	43.1	20.2	20.1	
Mercury (Hg) mg/L	<0.0001	<0.0001	0.00073	<0.0001	ND	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	0.00001	<0.00001	0.00002	

Dissolved Mercury (Hg) mg/L	<0.0001	<0.0001	0.00038	<0.0001					<0.00001	0.00001	0.00001	0.00001	0.00001	
Reactive Silica (Si) mg/L	0.7	4.2	1.5	2.4		9.2	15	36	1.1	16	35	4.3	4.2	
BTEX & F1 Hydrocarbons														
Benzene						<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Toluene						<0.20	<0.20	<0.20	0.46	<0.20	<0.20	<0.20	<0.20	
Ethylbenzene						<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
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-						92	103	106	90	93	100	100	99	

Dichloroethane														
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) mg/L	<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	
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					382	435	432	524	723	676	331	94.1	131	

Sodium (Na) mg/L														
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) mg/L	<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	
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	<0.000 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							<0.000050							

(Bi) mg/L														
Total Cobalt (Co) mg/L							0.00525							
Total Silicon (Si) mg/L							0.99							
Total Zirconium (Zr) mg/L							<0.00050							

Appendix D
***Letter to NWB/KIA – Meliadine Portal Area – Water Quality
Monitoring in Lake A54***



AGNICO EAGLE

Nunavut Water Board,
P.O. Box 119
Gjoa Haven, NU,
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March 17, 2016

**Re: Meliadine – 2BB-MEL1424
Meliadine Portal Area – Water Quality Monitoring in Lake A54
Adverse Trends Noted – Mitigation Measures being implemented**

In preparing the 2015 Annual Report for the Nunavut Water Board, our technical teams have been reviewing all of the 2015 water quality data collected under Meliadine Exploration Type B Water License (2BB-MEL1424) and have identified a preoccupying trend associated with rising chloride and ammonia levels in several small ponds downstream of the exploration decline surface containment pond, P1. We are writing to report this observed trend, to present what we know of its history, probable cause and to present the measures proposed by Agnico to reduce the risk of this occurrence.

Background

At the Meliadine site, all waste rock excavated from the underground exploration decline has and continues to be placed on a series of rockfill platforms constructed on both sides and to the north of the decline entrance. These rockfill platforms are used to store waste rock; ore samples brought to surface; and for materials (supplies and equipment) used in the development of the underground mine workings. There are several temporary soft shell buildings sited on the pads either side of the decline used for storage and maintenance to support the underground exploration activities. The layout of this area is shown in the attached photo taken in July of 2014 (Figure 1). All precipitation runoff that



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has been in contact with these rockfill pads and the stored waste rock, ore samples, material and equipment drains into containment pond P1, which is located to the north east of the decline entrance and south of the north waste rock storage pad.

The watershed associated with containment pond P1 is shown as area A1 in Figure 2. Sub-watershed A1 has an area of about 134,500 m². It is limited to the north by some high ground (around elevation 68.0 m) and to the south-east by a platform and a rockfill road (south road) acting as a confining structure. Natural flow from the P1 containment pond area is toward the south-east toward Lake A54 (often referred as Peanut Lake due its shape). Containment pond P1 is limited to the south by some high ground and the portal platform.

Containment pond P1 is operated under an approved Water Management Plan (WMP) under the Meliadine Type B Water License 2BB-MEL1424. Currently no water has been sent directly from the underground workings to the surface. Most of the underground decline and associated exploration workings are still within the permafrost zone and thus at this point in time there has been no need to construct or install a pumping system to remove excess water from the underground. The water balance for the underground workings is currently in balance; that is there is no excess water. All the water use needs underground are provided through the combination of the water collected in the internal mine sumps plus the water provided by a borehole at level 300. The only water reporting to the surface is the pore water transported with the waste rock (or low-grade ore) brought to surface and then placed in storage on the rockfill pads adjacent to the portal. Precipitation runoff from the area immediately adjacent to the portal does enter the decline and is collected in a sump constructed for this purpose just below the ground surface known as Sump 1 (located just inside the portal entrance). The water that accumulates in this sump (mostly at freshet) is pumped to another small sump located on surface immediately adjacent (north-east) of the entrance into the ramp (known as the surface sump – see Figure 1). Historically, all water reporting to this surface sump



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appears to have been lost to the surrounding environment by either evaporation or natural seepage into the ground.

The amount of water contained in pond P1 varies seasonally, typically growing with the spring freshet, diminishing over the drier summer months and then increasing again with the fall rains. A constructed rockfill road (south road) serves to cut off the natural drainage outflow from containment pond P1. The upstream side of this roadway contains a geotextile liner designed to filter out solids but not to be impermeable, although it should be noted that this confining structure has been able to contain water quite effectively over the past years. Under the approved WMP, water quality in P1 was to be assessed and can only be discharged if water quality met the criteria for discharge. The discharge standard to be met was the standard contained in the Metal Mining Effluent Regulation under the Fisheries Act. Historically, water was discharged (pumped) via a culvert set at an elevated level within the north end of the rock fill roadway cutting off containment pond P1 from its natural drainage pathway towards Lake A54 (see Figure 2).

Containment pond P1 drains naturally to the southeast to Lake A54. Drainage is overland and not by means of any defined watercourse. Water from Lake A54 drains through Ponds A9 and A38 into Lake A8 again overland and not via any defined watercourses. Ponds A54, A9 and A38 are shallow waterbodies that freeze solid every winter and thus do not support any resident fish populations.

Water Quality Monitoring

Under the WMP, water quality monitoring stations have been established by Agnico and regularly sampled in the open water season, specifically P1 (Mel6), Pond A54, Pond A38 Pond A9 and in Lake A8 (Mel 2) (see Figure 3) (Mel6 and Mel2 are mandated under the Water License). Typically four sampling events have occurred each year. The results from this water quality monitoring activity has been previously reported to the NWB and KIA through the Water License monthly and annual reports since 2009 (2009 thru 2011 by Comaplex, 2012 thru today by Agnico).



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Analysis of this water quality monitoring data conducted in preparing the 2015 annual report shows a fairly rapid increase in chloride concentrations in Lake A54 starting in mid-June of 2015. This coincides with a similar trend increase in chloride concentrations in containment Pond P1 suggesting that something changed in the source loading for chloride coming into containment pond P1 that starts somewhere around mid-June of 2015 and that water is exiting containment pond P1 into Lake A54 in a means other than being pumped or overflowing through the installed roadway culvert (most likely seepage through the roadway – see Figure 1). A similar trend in chloride concentrations is seen in Pond A38 downstream of Lake A54. At Lake A8 water quality monitoring indicates that chloride concentrations are above the natural background of around 10 mg/l, trending around 40 mg/l in past years but now trending around 50 mg/l in the summer of 2015 and have spiked previously in summer months (as high as 90 mg/l in one sample in 2014) but have always been below the CCME long term guidance of 120 mg/l for protection of freshwater aquatic life. There is no MMER discharge standard for chloride (see Figures 4, 5, 6 and 7).

Analysis of the water quality monitoring data also shows a change in the trend of ammonia concentrations measured in containment pond P1 again starting in mid-June of 2015 (see Figure 8).

It is our belief that the probable source of this increase in chloride and ammonia concentrations has to be from the underground mine development activities, chloride from the salt used in drilling and/or from increased inflow of higher salinity groundwater from the surrounding rock and from explosive use underground and possibly from surface management issues of the calcium chloride stored on surface and from snow management. We are currently having development activity occurring below the permafrost but are experiencing low ground water inflow in these areas.

Agnico has initiated a series of actions designed to both better understand the reasons behind these trends and to contain and/or treat the water coming from the underground workings to control these trends. These actions include:



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1. Increased frequency and more intensive sampling of the underground sources to allow for a better understanding of where the increased chloride and ammonia is coming from;
2. A review of explosives use practices in the underground to tighten up any wastage;
3. Engineering review to find alternatives to construct a larger and tighter containment facility on surface at containment pond P1 to ensure long term containment of all underground mine water to prevent further release of chloride and ammonia into Lake A8. The immediate focus is on increasing storage capacity in containment pond P1 to accommodate the 2016 spring freshet and to limit to the greatest extent practical any seepage from containment pond P1 into Lake A54;
4. Engineering review to eliminate the surface sump at the top of the exploration decline and to re-route all water pumped from sump 1 located just inside the portal directly into containment pond 1; and
5. A review of current practices to improve the management on surface of calcium chloride storage and the management of potentially contaminated snow.

These activities are currently ongoing. Agnico will provide a further update as we know more and as we develop these mitigation plans in greater detail. In the interim please contact the undersigned for additional information if needed.

Regards;

Agnico Eagle Mines Limited

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Figures



Figure 1: Configuration of the Meliadine Exploration Decline Surface Area - Photo taken in July of 2014



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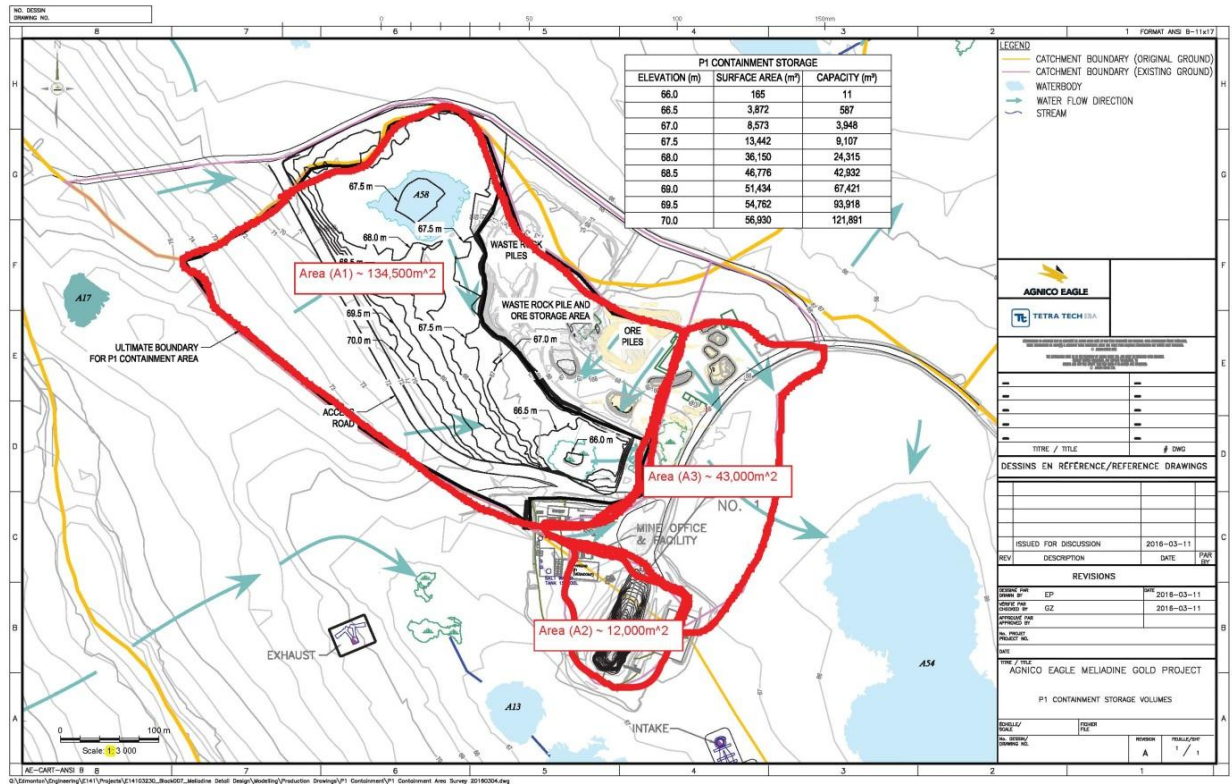


Figure 2: Meliadine Decline Surface Containment Pond P1 - Watershed Areas

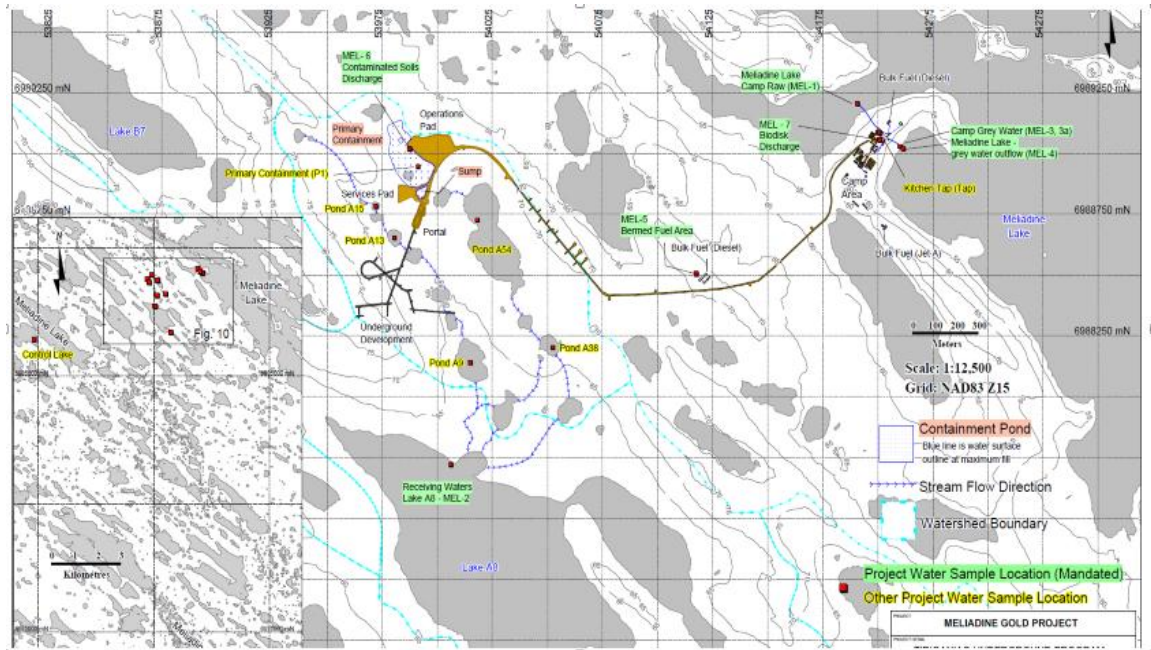


Figure 3: Meliadine Decline Water Management - Water Quality Monitoring Stations



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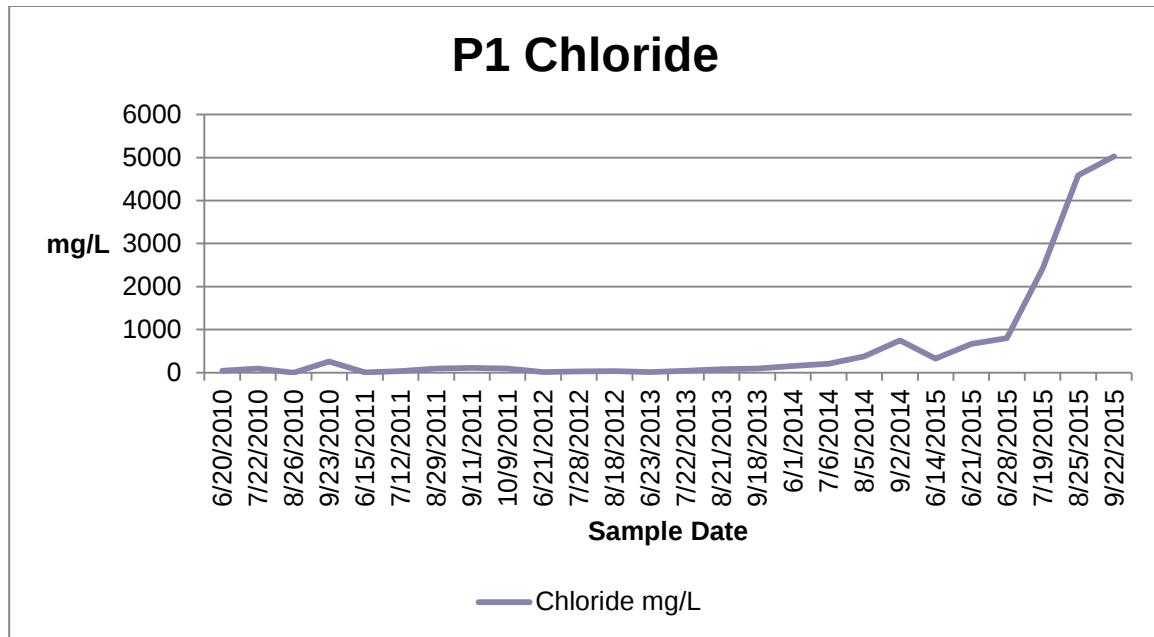


Figure 4: Measured Chloride Concentrations in UG Decline Containment Pond P1

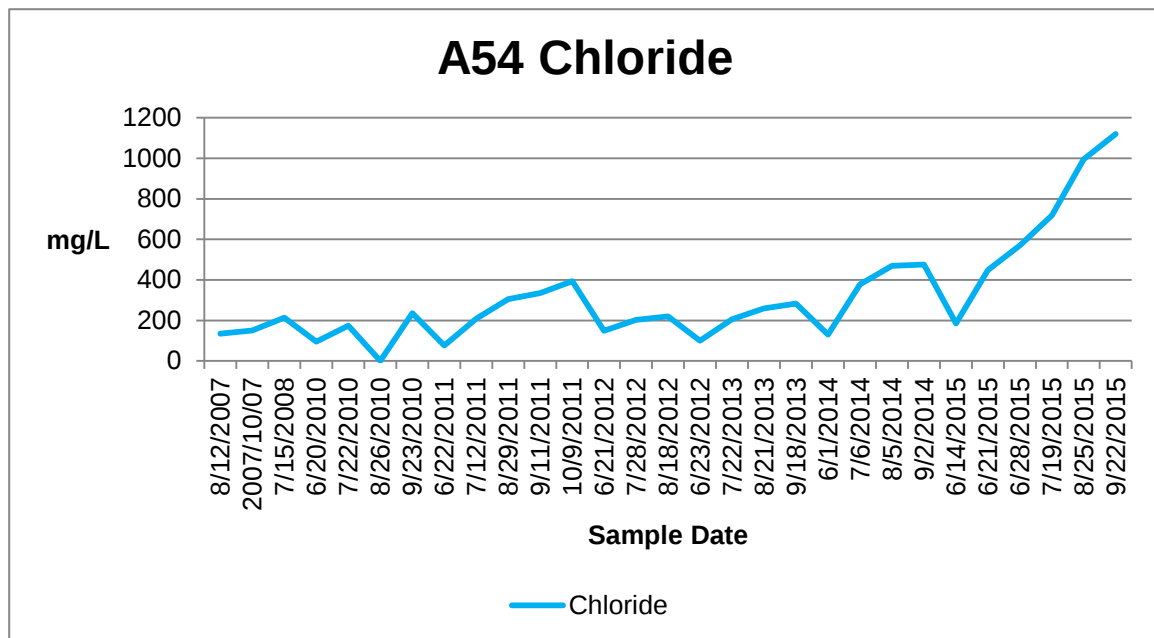


Figure 5: Measured Chloride Concentrations in Lake A54 - Peanut Lake



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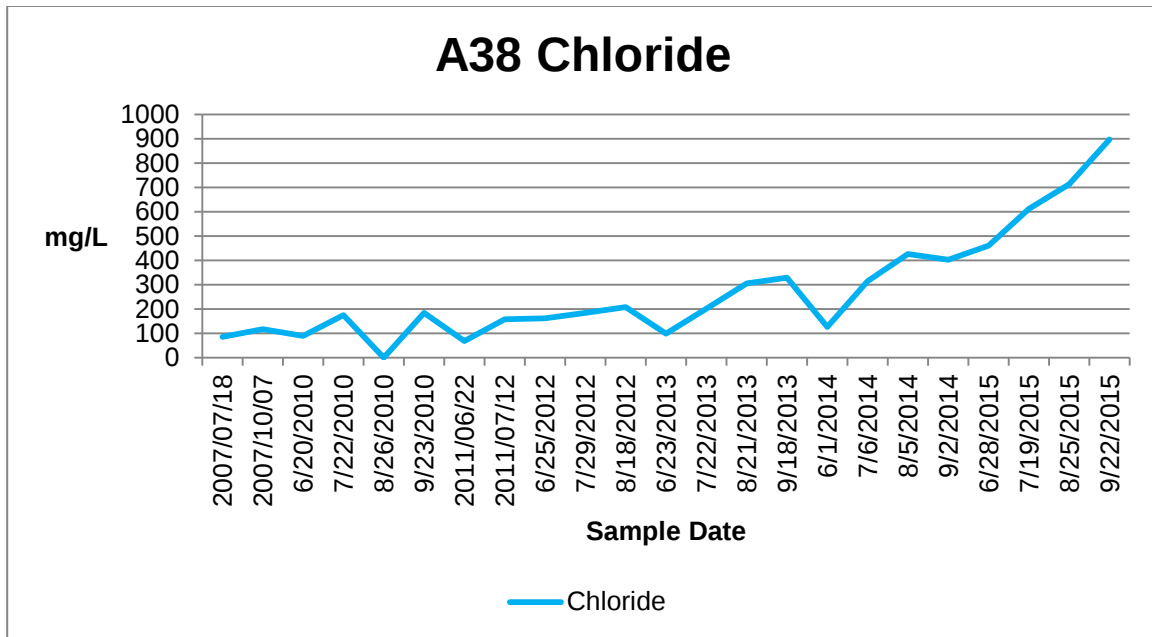


Figure 6: Measure Chloride Concentrations in Pond A38

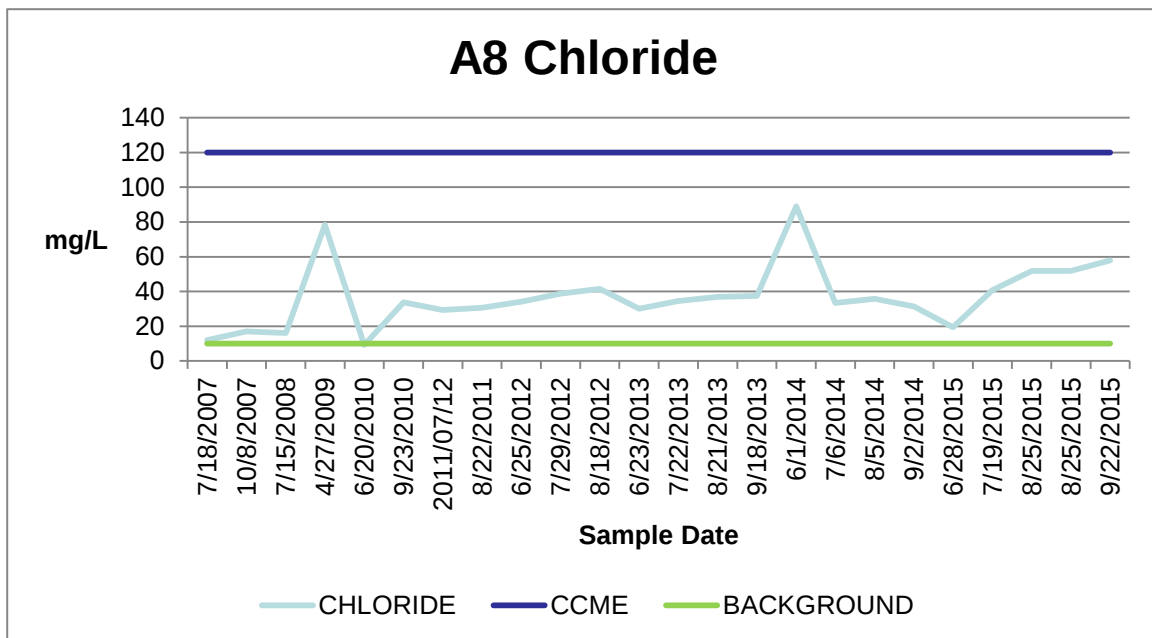


Figure 7: Measured Chloride Concentrations in Lake A8



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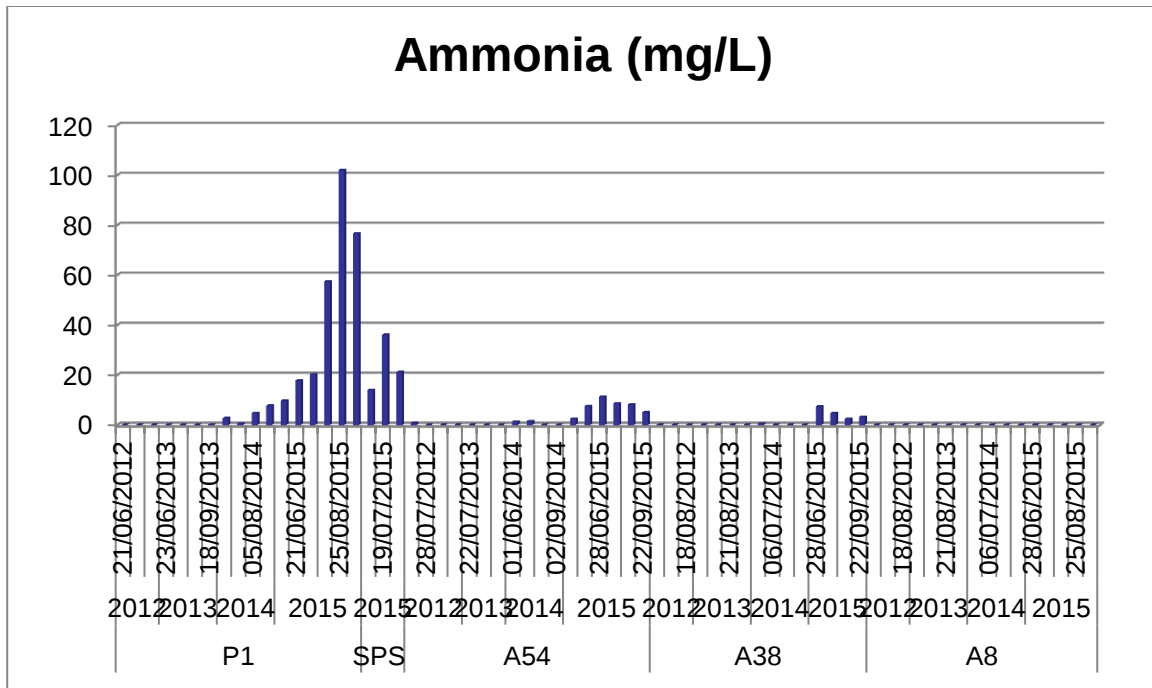


Figure 8: Measured Ammonia Concentrations in Containment Pond P1, Surface Sump, Lake A54, Pond A38 and Lake A8