Mount Polley Mining Corporation

an Imperial Metals company

February 14, 2017

Via Email: Mike Reiner
Sr. Environmental Protection Officer
BC Ministry of Environment – Regional Operations Branch

RE: Fourth Quarter 2016 Report for Permit 11678

Mount Polley Mining Corporation (MPMC) is pleased to present this fourth quarter monitoring report for 2016 as required under Permit 11678. Surface water and groundwater monitoring was conducted throughout this time period as specified in the *Comprehensive Environmental Monitoring Plan* (CEMP) Rev1 submitted to the Ministry of Environment on June 23, 2016. Sampling events from the fourth quarter are outlined in Table 1.

With regard to the CEMP, the following items should be noted:

- In quarter four of 2016 hydrological monitoring was conducted at seven stations: H1, H2, H3, H4, W4a, W5, and W12. No monitoring was conducted at W1b due to insufficient flow.
- Climate data including temperature, wind direction, rainfall, wind speed, and snowpack were collected. Solar radiation and relative humidity data were also collected to allow for calculation of evaporation rates. These data will be reported in the 2016 Annual Report.
- There were 118 surface water quality sampling events.
- There were 21 groundwater quality sampling events.
- All toxicity testing was completed as outlined in the CEMP.
- Quality assurance monitoring included eight duplicate samples, two equipment blanks, three field blanks, three trip blanks, and one filter blank.
- Weekly updates on Springer Pit groundwater have been submitted to MEM and MoE starting on December 9, 2015.
- Intensive (weekly) monitoring was conducted five times at QUL-57, -58, and -59 in the fourth quarter of 2016 during fall overturn. During each sampling and/or profiling event, 1-2 hours were spent (dependent on weather conditions and time constraints) attempting to locate the discharge plume based on the plume dispersion model. If no plume was detected, sampling occurred at the default locations for these sites. The plume dispersion model indicated the discharge would be in a thin layer underneath the thermocline in the initial dilution zone during the months when the lake is stratified. All sampling events occurred at the default

sampling locations; the plume was detected only once underneath the thermocline, at the depth predicted, Note that due to weather circumstances, no samples or profiles were taken in Quesnel Lake during isothermal conditions in the fourth quarter.

- Cariboo Pit has been removed from the water balance reporting as it is no longer storing water and the water level of the pit is continually being maintained as low as practicable for mining operations.
- There were no exceedances of permitted limits in the fourth quarter. There was a reportable toxicity result at HAC-12 for 7-day *C. dubia* reproduction test (IC25) from the sample taken on October 24th, 2016. Re-sampling occurred in January 2017.

Table 1: Sampling events in the fourth quarter 2016

Site Name	BC EMS Code	Full Sample Suite Frequency	Required Samples	Completed Samples	Required Profiles	Completed Profiles
E1	E225309	Monthly[a]	2[b]	2	-	-
E11	E302090	Monthly	3	3	-	-
E11a	E305894	Weekly	13	12[c]	-	-
E19	E305050	Weekly	13	13	-	-
HAD-3	E304230	Weekly[d]	13	16	-	-
HAC-10	E303010	Monthly	3	8	-	-
HAC-13	E304810	Weekly	13	14	-	-
HAC-05a	E304510	Monthly	3	4	-	-
HAC-08	E303013	Monthly	3	4	-	-
HAC-12	E304351	Weekly	13	13	-	-
QUL-57	E304874	Weekly/Monthly[e,f]	-	-	5	5
QUL-58	E304876	Weekly/Monthly[e]	6	6	6	6
QUL-59	E304875	Weekly/Monthly[e,f]	-	-	5	5
QUL-18	E303019	Monthly/Twice[f]	2	2	2	2
QUL-2a	E303020	Monthly/Twice[f]	2	2	2	2
QUL-120a	E303022	Seasonally[g]	1	0	1	0
QUR-11	E306454	Monthly	3	3	-	-
W1	E225084	Monthly	3	3	-	-
W4a	E298551	Monthly	3	3	-	-
W5	E208039	Monthly	3	5	-	-
W8	E216743	Quarterly	1	4	-	-
W8Z	E223292	Quarterly	1	1	-	-
W10	E291209	Monthly	3	3	-	-
W12	E216744	Quarterly	1	1	-	-
W20	E297070	Quarterly	1	1	-	-
EDC-01	E303014	Monthly	3	3	-	-

Site Name	BC EMS Code	Full Sample Suite Frequency	Required Samples	Completed Samples	Required Profiles	Completed Profiles
P1	E207974	Monthly/bi-monthly[(h)]	2	2	3	3
P2	E207975	Monthly/bi-monthly[(h)]	2	2	3	3
GW96-3a	E229683	Annually	1	1	-	-
GW05-01	E258923	Quarterly	1	1	-	-
GW12-2a	E291971	Monthly	3	3	-	-
GW12-2b	E291972	Monthly	3	3	-	-
GW14-1	E301973	Quarterly	1	1	-	-
GW15-1a	E303210	Monthly	3	3	-	-
GW15-1b	E303211	Monthly	3	3	-	-
GW15-2a	E303212	Monthly	3	3	-	-
GW15-2b	E303213	Monthly	3	3	-	-

[(a)] When depositing tailings and being used for reclaim water
[(b)] Deposition of tailings into TSF is ongoing; TSF supernatant being used as reclaim water as of November 8, 2016
[(c)] Sample port frozen on December 6th, 2016
[(d)] Only when discharging
[(e)] Monthly, with intensive monitoring after spring and fall overturn; monthly during winter only when discharging
[(f)] Limnological profiles only
[(g)] Monthly between spring and fall overturn; twice during winter
[(h)] Monthly samples; bi-monthly profiles

This report includes the following appendices:

- Appendix 1: Surface water quality results
- Appendix 2: Groundwater quality results
- Appendix 3: Field parameters
- Appendix 4: Hydrology results
- Appendix 5: Toxicity results
- Appendix 6: QA/QC Results
- Appendix 7: Site Water Balance Update

Sincerely,

Colleen Hughes, EP
Environmental Supervisor
Mount Polley Mining Corporation
250-790-2617

Appendix 1

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
E11	04/10/16	1110	485	7.72	939	<1.0	1.04	50.3	0.0434
	01/11/16	1170	505	7.83	896	11.6	3.51	51.8	0.0357
	05/12/16	1180	498	7.93	876	<1.0	0.58	51.3	0.0183
E11a	03/10/16	1200	505	7.77	913	<1.0	0.41	52.1	0.0401
	11/10/16	1150	505	7.85	847	<1.0	0.43	52.2	0.0298
	18/10/16	1120	498	7.74	931	1.1	0.86	51.3	0.0345
	24/10/16	1150	495	7.81	917	1.6	0.92	51.4	0.0352
	01/11/16	1160	476	7.84	910	1.4	0.95	52.3	0.0334
	08/11/16	1170	479	7.78	896	1.1	0.78	53.6	0.0222
	15/11/16	1180	504	7.88	901	1.4	1.04	53.1	0.0172
	22/11/16	1170	497	7.84	903	1.6	0.86	52.5	0.015
	29/11/16	1190	513	7.9	914	1.1	0.79	52	0.016
	14/12/16	1210	451	7.83	920	1.2	0.44	52.3	0.0182
	20/12/16	1200	471	7.91	916	<1.0	0.53	54.4	0.0189
	28/12/16	1170	467	7.83	865	<1.0	0.64	52.4	0.0182
E19	03/10/16	1200	500	7.78	903	<1.0	0.36	51.2	0.0457
	11/10/16	1160	499	7.81	886	<1.0	0.44	51.4	0.0292
	18/10/16	1130	492	7.77	936	1.3	0.88	50.5	0.0323
	24/10/16	1150	490	7.82	1040	1.7	1.06	51.3	0.0324
	01/11/16	1160	499	7.83	896	1.2	0.91	51.2	0.0281
	08/11/16	1150	486	7.79	903	1.2	0.85	51.3	0.02
	15/11/16	1180	498	7.89	936	1.6	0.75	52.7	0.0152
	22/11/16	1180	503	7.87	894	1.3	0.64	51.7	0.0127

Printed Date: 09/02/2017

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
E11	04/10/16	12.5	0.67	8.91	8.97	0.0605	<0.0010	<0.0020	0.0077
	01/11/16	12.7	0.66	8.9	8.96	0.0563	0.0026	0.0044	0.0173
	05/12/16	12	0.61	8.62	8.66	0.0404	0.0012	0.0043	0.0064
E11a	03/10/16	12.2	0.62	8.85	8.91	0.0565	<0.0010	0.0032	0.0049
	11/10/16	12.6	0.62	9.1	9.16	0.0589	0.001	0.003	0.0059
	18/10/16	12.3	0.65	8.73	8.78	0.0519	0.0021	0.0055	0.0059
	24/10/16	12.1	0.61	8.65	8.7	0.0537	0.0036	0.0079	0.0091
	01/11/16	12.9	0.67	9.06	9.11	0.0533	0.0023	0.0044	0.0071
	08/11/16	12.1	0.63	8.74	8.79	0.0451	0.0019	0.0048	<0.010
	15/11/16	12.2	0.61	8.71	8.75	0.0411	0.0012	0.0034	0.0065
	22/11/16	12.2	0.63	8.58	8.61	0.0378	0.0029	0.0102	0.0081
	29/11/16	12.6	0.65	8.84	8.88	0.039	0.002	0.0057	0.0081
	14/12/16	11.7	0.62	8.45	8.49	0.0369	0.0022	0.0049	0.0047
	20/12/16	12.5	0.63	8.76	8.8	0.0357	0.002	0.0053	0.0052
	28/12/16	11.8	0.64	8.51	8.55	0.0357	0.0016	0.004	0.0067
E19	03/10/16	12.6	0.65	9.07	9.13	0.0586	<0.0010	0.0036	0.0058
	11/10/16	12.7	0.63	9.17	9.23	0.0563	0.0013	0.0029	0.006
	18/10/16	12.3	0.64	8.81	8.86	0.0517	0.0025	0.005	0.0071
	24/10/16	12.6	0.63	9.04	9.09	0.0549	0.0033	0.0066	0.0088
	01/11/16	12.8	0.67	8.97	9.03	0.0537	0.0024	0.0042	0.0072
	08/11/16	12.7	0.66	9.21	9.25	0.0424	0.0019	0.0053	0.0052
	15/11/16	12	0.6	8.57	8.6	0.0336	0.0011	0.0035	0.0052
	22/11/16	12.2	0.63	8.57	8.6	0.0348	0.0016	0.0045	0.0064

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
E11	04/10/16	553	8.58	1.96	0.07	0.0018	0.00097	0.0619	<0.00010
	01/11/16	556	8.86	2.14	0.291	0.00183	0.00127	0.0701	<0.00010
	05/12/16	541	8.68	2.07	0.0355	0.00186	0.00121	0.0644	<0.00010
E11a	03/10/16	547	9.09	1.89	0.0384	0.00184	0.00098	0.0625	<0.00010
	11/10/16	567	9.07	2.17	0.0384	0.00182	0.00111	0.0639	<0.00010
	18/10/16	545	8.68	1.94	0.0769	0.00172	0.00106	0.0647	<0.00010
	24/10/16	537	8.61	2.26	0.0861	0.00174	0.00104	0.0622	<0.00010
	01/11/16	565	8.83	1.94	0.0798	0.00182	0.00116	0.068	<0.00010
	08/11/16	544	8.77	2.31	0.0664	0.00178	0.00108	0.0646	<0.00010
	15/11/16	542	9.1	1.85	0.0632	0.00218	0.00108	0.0628	<0.00010
	22/11/16	538	8.64	2.2	0.0516	0.00178	0.00114	0.0642	<0.00010
	29/11/16	554	8.54	1.93	0.0718	0.00173	0.0012	0.0635	<0.00010
	14/12/16	521	8.77	1.72	0.042	0.00177	0.00108	0.0611	<0.00010
	20/12/16	544	8.82	1.96	0.0389	0.00172	0.00117	0.0643	<0.00010
	28/12/16	532	8.59	1.91	0.0405	0.00173	0.00115	0.0621	<0.00010
E19	03/10/16	561	9.22	1.89	0.039	0.00183	0.00098	0.0629	<0.00010
	11/10/16	569	8.95	1.91	0.0373	0.00183	0.00109	0.0651	<0.00010
	18/10/16	549	8.69	2.03	0.0734	0.00171	0.00104	0.0645	<0.00010
	24/10/16	560	8.69	2.18	0.106	0.00173	0.00105	0.0619	<0.00010
	01/11/16	559	8.65	1.93	0.0729	0.0018	0.0012	0.0683	<0.00010
	08/11/16	573	8.89	2.19	0.0653	0.00189	0.0011	0.0658	<0.00010
	15/11/16	533	8.79	1.96	0.0663	0.00211	0.00113	0.0633	<0.00010
	22/11/16	539	9.14	2.32	0.044	0.00179	0.00107	0.0618	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
E11	04/10/16	<0.000050	0.153	<0.000020	147	0.0133	0.00014	0.00564	0.128
	01/11/16	<0.000050	0.143	<0.000050	153	<0.00050	0.0002	0.0139	0.136
	05/12/16	<0.000050	0.147	<0.000030	151	<0.00050	<0.00010	0.00531	<0.030
E11a	03/10/16	<0.000050	0.151	0.0000188	157	<0.00050	<0.00010	0.00344	<0.030
	11/10/16	<0.000050	0.156	<0.000020	157	<0.00050	<0.00010	0.00375	<0.030
	18/10/16	<0.000050	0.14	<0.000030	153	<0.00050	<0.00010	0.00515	0.039
	24/10/16	<0.000050	0.142	0.0000144	155	<0.00050	<0.00010	0.00617	0.046
	01/11/16	<0.000050	0.14	<0.000040	149	<0.00050	<0.00010	0.00591	0.039
	08/11/16	<0.000050	0.148	0.0000223	154	<0.00050	<0.00010	0.00588	<0.030
	15/11/16	<0.000050	0.157	<0.000030	157	<0.00050	<0.00010	0.00579	0.031
	22/11/16	<0.000050	0.146	<0.000030	153	<0.00050	<0.00010	0.00584	<0.030
	29/11/16	<0.000050	0.152	<0.000030	157	<0.00050	<0.00010	0.00602	0.034
	14/12/16	<0.000050	0.143	0.0000266	159	<0.00050	<0.00010	0.00529	<0.030
	20/12/16	<0.000050	0.143	<0.000040	156	<0.00050	<0.00010	0.00579	<0.030
	28/12/16	<0.000050	0.143	<0.000040	153	<0.00050	<0.00010	0.00621	0.031
E19	03/10/16	<0.000050	0.15	0.0000134	156	<0.00050	<0.00010	0.00333	<0.030
	11/10/16	<0.000050	0.151	<0.000020	155	<0.00050	<0.00010	0.00369	<0.030
	18/10/16	<0.000050	0.139	<0.000030	150	<0.00050	<0.00010	0.00505	0.037
	24/10/16	<0.000050	0.146	0.0000126	154	<0.00050	<0.00010	0.00619	0.067
	01/11/16	<0.000050	0.143	<0.000040	151	<0.00050	<0.00010	0.00563	0.034
	08/11/16	<0.000050	0.153	0.0000217	157	<0.00050	<0.00010	0.00583	<0.030
	15/11/16	<0.000050	0.156	<0.000025	157	<0.00050	<0.00010	0.00554	0.03
	22/11/16	<0.000050	0.148	<0.000030	152	<0.00050	<0.00010	0.00518	<0.030

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Mercury (Hg)-Total (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)
E11	04/10/16	<0.000050	0.0165	28.6	0.0281		0.177	0.00119	16.5
	01/11/16	0.000054	0.017	30.1	0.0224		0.178	0.0008	17.4
	05/12/16	<0.000050	0.0168	27.7	0.00907		0.176	0.00052	16.3
E11a	03/10/16	<0.000050	0.0178	28.1	0.0214		0.182	0.00056	17.3
	11/10/16	<0.000050	0.017	30.7	0.019		0.18	0.00056	17.3
	18/10/16	<0.000050	0.0161	30.7	0.0168		0.176	0.00058	17
	24/10/16	<0.000050	0.0168	29.6	0.0179		0.177	0.00059	17.3
	01/11/16	<0.000050	0.0165	30.8	0.0153		0.176	0.00067	18
	08/11/16	<0.000050	0.0164	30.5	0.0129		0.18	0.00052	17.4
	15/11/16	<0.000050	0.0181	31	0.0112		0.182	0.00054	17.6
	22/11/16	<0.000050	0.0174	29.9	0.0113		0.172	0.00055	17
	29/11/16	<0.000050	0.0174	31.2	0.00922		0.178	0.00057	17.5
	14/12/16	<0.000050	0.017	27.6	0.0073		0.176	<0.00050	17
	20/12/16	<0.000050	0.0156	30.9	0.00838		0.174	0.00052	16.6
	28/12/16	0.000055	0.0156	27.7	0.00779		0.175	<0.00050	16.8
E19	03/10/16	<0.000050	0.0174	27.9	0.0183		0.184	0.00069	16.9
	11/10/16	<0.000050	0.0156	30.3	0.0177		0.18	0.00058	17.2
	18/10/16	<0.000050	0.0155	31.2	0.0157		0.177	0.00058	16.9
	24/10/16	<0.000050	0.017	29.1	0.0162		0.176	0.00057	16.8
	01/11/16	<0.000050	0.0166	30.8	0.0143		0.176	0.00065	18
	08/11/16	<0.000050	0.0169	30.3	0.0113		0.183	0.00056	17.4
	15/11/16	<0.000050	0.0177	30.9	0.0101		0.183	0.00052	17.4
	22/11/16	<0.000050	0.0174	28.3	0.00952		0.172	0.00054	16.1

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		Total Selenium (mg/L)	Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)
E11	04/10/16	0.035	3.97	<0.000010	60	2.61	<0.000010	<0.00010	<0.010
	01/11/16	0.0282	3.65	<0.000010	64.5	2.54	<0.000010	<0.00010	0.016
	05/12/16	0.0367	4.27	<0.000010	61.4	2.46	<0.000010	<0.00010	<0.010
E11a	03/10/16	0.0362	4	<0.000010	60.1	2.65	<0.000010	<0.00010	<0.010
	11/10/16	0.0345	3.93	<0.000010	63.9	2.59	0.000018	<0.00010	<0.010
	18/10/16	0.0361	4.08	<0.000010	62.6	2.61	<0.000010	<0.00010	<0.010
	24/10/16	0.0357	4.19	<0.000010	60.9	2.53	<0.000010	<0.00010	<0.010
	01/11/16	0.0355	4.12	<0.000010	65.2	2.52	<0.000010	<0.00010	<0.010
	08/11/16	0.0369	4.19	<0.000010	62.7	2.54	<0.000010	<0.00010	<0.010
	15/11/16	0.0361	4.2	<0.000010	63.8	2.6	<0.000010	<0.00010	<0.010
	22/11/16	0.0367	4.13	<0.000010	64.1	2.45	<0.000010	<0.00010	<0.010
	29/11/16	0.0366	4.38	<0.000010	63.9	2.48	<0.000010	<0.00010	<0.010
	14/12/16	0.0362	4.15	<0.000010	63.1	2.46	<0.000010	<0.00010	<0.010
	20/12/16	0.0332	4.01	<0.000010	63.1	2.44	<0.000010	<0.00010	<0.010
	28/12/16	0.0367	4.03	<0.000010	61.7	2.37	<0.000010	<0.00010	<0.010
E19	03/10/16	0.0356	3.97	<0.000010	59.7	2.66	<0.000010	<0.00010	<0.010
	11/10/16	0.035	3.88	<0.000010	62.9	2.59	<0.000010	<0.00010	<0.010
	18/10/16	0.035	3.99	<0.000010	63.1	2.6	<0.000010	<0.00010	<0.010
	24/10/16	0.0351	4.22	<0.000010	60.2	2.53	<0.000010	<0.00010	<0.010
	01/11/16	0.0368	4.13	<0.000010	65	2.5	<0.000010	<0.00010	<0.010
	08/11/16	0.0366	4.25	<0.000010	62.2	2.57	<0.000010	<0.00010	<0.010
	15/11/16	0.0349	4.15	<0.000010	63.2	2.61	<0.000010	<0.00010	<0.010
	22/11/16	0.0356	4.01	<0.000010	60.6	2.44	<0.000010	<0.00010	<0.010

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		Uranium (U)-Total (mg/L)	Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)
E11	04/10/16	0.0013	0.00127	<0.0030	0.0209	0.00179	0.00093	0.062	<0.00010
	01/11/16	0.00134	0.0018	<0.0030	0.0187	0.00175	0.00105	0.0653	<0.00010
	05/12/16	0.00138	0.00144	<0.0030	0.0146	0.00174	0.00124	0.0618	<0.00010
E11a	03/10/16	0.00129	0.00109	<0.0030	0.0226	0.00191	0.00095	0.0619	<0.00010
	11/10/16	0.00127	0.00129	<0.0030	0.0201	0.00178	0.00099	0.0642	<0.00010
	18/10/16	0.0013	0.00131	<0.0030	0.0192	0.00169	0.00098	0.0617	<0.00010
	24/10/16	0.00128	0.00118	<0.0030	0.019	0.00171	0.00096	0.0602	<0.00010
	01/11/16	0.00133	0.00132	<0.0030	0.0195	0.00166	0.00115	0.0705	<0.00010
	08/11/16	0.00128	0.00117	<0.0030	0.0155	0.0017	0.00108	0.0611	<0.00010
	15/11/16	0.00135	0.00125	<0.0030	0.0167	0.00166	0.001	0.0601	<0.00010
	22/11/16	0.00128	0.00123	0.019	0.0346	0.00172	0.00105	0.0636	<0.00010
	29/11/16	0.00125	0.00152	<0.0030	0.0155	0.00168	0.0011	0.0632	<0.00010
	14/12/16	0.00136	0.00117	<0.0030	0.013	0.00161	0.00102	0.0596	<0.00010
	20/12/16	0.00127	0.00123	0.0033	0.0123	0.00169	0.00099	0.0569	<0.00010
	28/12/16	0.00133	0.00125	<0.0030	0.0127	0.00172	0.00111	0.0628	<0.00010
E19	03/10/16	0.0013	0.00105	<0.0030	0.0197	0.00186	0.00099	0.0635	<0.00010
	11/10/16	0.00127	0.00127	<0.0030	0.0185	0.00181	0.00101	0.0639	<0.00010
	18/10/16	0.00129	0.00132	<0.0030	0.0182	0.0017	0.00098	0.0615	<0.00010
	24/10/16	0.00128	0.00123	<0.0030	0.0167	0.00172	0.00096	0.0597	<0.00010
	01/11/16	0.00133	0.00134	<0.0030	0.0207	0.00179	0.00117	0.0725	<0.00010
	08/11/16	0.00131	0.0012	<0.0030	0.0149	0.00169	0.001	0.0623	<0.00010
	15/11/16	0.00133	0.00124	<0.0030	0.0153	0.00169	0.00095	0.0591	<0.00010
	22/11/16	0.00125	0.00108	<0.0030	0.0163	0.00178	0.00101	0.0645	<0.00010

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		Diss-Bismuth (Bi) (mg/L)	Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)
E11	04/10/16	<0.000050	0.149	<0.000030	146	<0.00050	<0.00010	0.00262	<0.030
	01/11/16	<0.000050	0.137	<0.000030	154	<0.00050	<0.00010	0.0034	<0.030
	05/12/16	<0.000050	0.136	<0.000020	152	<0.00050	<0.00010	0.00394	<0.030
E11a	03/10/16	<0.000050	0.141	0.0000136	158	<0.00050	<0.00010	0.00236	<0.030
	11/10/16	<0.000050	0.144	<0.000015	153	<0.00050	<0.00010	0.00255	<0.030
	18/10/16	<0.000050	0.132	<0.000030	150	<0.00050	<0.00010	0.00288	<0.030
	24/10/16	<0.000050	0.134	0.0000145	151	<0.00050	<0.00010	0.00305	<0.030
	01/11/16	<0.000050	0.126	<0.000040	138	<0.00050	<0.00010	0.00359	<0.030
	08/11/16	<0.000050	0.137	0.000017	146	<0.00050	<0.00010	0.00329	<0.030
	15/11/16	<0.000050	0.14	<0.000020	151	<0.00050	<0.00010	0.00346	<0.030
	22/11/16	<0.000050	0.138	<0.000025	153	<0.00050	<0.00010	0.00421	<0.030
	29/11/16	<0.000050	0.143	<0.000030	155	<0.00050	<0.00010	0.00376	<0.030
	14/12/16	<0.000050	0.136	<0.000030	136	<0.00050	<0.00010	0.00406	<0.030
	20/12/16	<0.000050	0.136	<0.000025	147	<0.00050	<0.00010	0.00367	<0.030
	28/12/16	<0.000050	0.14	0.0000204	144	<0.00050	<0.00010	0.00415	<0.030
E19	03/10/16	<0.000050	0.138	0.0000093	155	<0.00050	<0.00010	0.00232	<0.030
	11/10/16	<0.000050	0.145	<0.000020	152	<0.00050	<0.00010	0.00254	<0.030
	18/10/16	<0.000050	0.13	<0.000030	149	<0.00050	<0.00010	0.00261	<0.030
	24/10/16	<0.000050	0.135	0.0000142	149	<0.00050	<0.00010	0.00282	<0.030
	01/11/16	<0.000050	0.135	<0.000030	145	<0.00050	<0.00010	0.0036	<0.030
	08/11/16	<0.000050	0.137	0.000021	147	<0.00050	<0.00010	0.00315	<0.030
	15/11/16	<0.000050	0.137	<0.000025	152	<0.00050	<0.00010	0.00311	<0.030
	22/11/16	<0.000050	0.139	<0.000030	155	<0.00050	<0.00010	0.00344	<0.030

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		Diss-Lead (Pb) (mg/L)	Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)
E11	04/10/16	<0.000050	0.016	29	0.0193	0.174	0.00054	16.4	0.0343
	01/11/16	<0.000050	0.0168	29.4	0.0131	0.175	0.00057	17.6	0.034
	05/12/16	<0.000050	0.0165	28.8	0.00646	0.169	<0.00050	16.4	0.0364
E11a	03/10/16	<0.000050	0.0172	26.7	0.0162	0.171	<0.00050	16.7	0.0365
	11/10/16	<0.000050	0.0158	29.8	0.0139	0.171	0.00052	17	0.0356
	18/10/16	<0.000050	0.0162	30.1	0.0136	0.171	0.00051	16.8	0.0346
	24/10/16	<0.000050	0.0165	28.8	0.0126	0.167	0.00051	16.9	0.0344
	01/11/16	<0.000050	0.0155	31.7	0.0124	0.153	0.00059	18.6	0.0372
	08/11/16	<0.000050	0.0159	27.9	0.00853	0.162	<0.00050	16.3	0.0326
	15/11/16	0.000051	0.0157	30.4	0.00714	0.168	<0.00050	16.2	0.0347
	22/11/16	<0.000050	0.0177	28.2	0.00766	0.164	0.00052	16.2	0.0356
	29/11/16	<0.000050	0.0173	30.6	0.00646	0.165	0.00051	17.3	0.0365
	14/12/16	<0.000050	0.0171	27.2	0.00561	0.161	<0.00050	15.1	0.0319
	20/12/16	<0.000050	0.0159	25.4	0.00542	0.155	<0.00050	15.4	0.0343
	28/12/16	<0.000050	0.0144	26.2	0.00582	0.157	<0.00050	15.2	0.0347
E19	03/10/16	<0.000050	0.0172	27.5	0.0131	0.171	<0.00050	17.1	0.0363
	11/10/16	<0.000050	0.0152	29.4	0.0109	0.17	0.00054	16.8	0.0349
	18/10/16	<0.000050	0.0153	29.4	0.0106	0.169	<0.00050	16.8	0.0329
	24/10/16	<0.000050	0.0165	28.8	0.01	0.165	<0.00050	16.7	0.0347
	01/11/16	<0.000050	0.0163	33	0.0103	0.163	0.00057	19.3	0.0364
	08/11/16	<0.000050	0.0163	28.7	0.00722	0.165	<0.00050	16.6	0.0345
	15/11/16	<0.000050	0.0153	29.2	0.00563	0.168	0.00067	15.6	0.0348
	22/11/16	<0.000050	0.0178	28.1	0.00557	0.166	0.00051	16.4	0.0358

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		Diss-Silicon (Si) (mg/L)	Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)
E11	04/10/16	3.81	<0.000010	60.2	2.56	<0.000010	<0.00010	<0.010	0.0013
	01/11/16	3.94	<0.000010	62.9	2.56	<0.000010	<0.00010	<0.010	0.00134
	05/12/16	4.06	<0.000010	60.2	2.41	<0.000010	<0.00010	<0.010	0.00125
E11a	03/10/16	3.9	<0.000010	57.6	2.64	<0.000010	<0.00010	<0.010	0.00127
	11/10/16	3.79	<0.000010	62.2	2.55	<0.000010	<0.00010	<0.010	0.00122
	18/10/16	3.91	<0.000010	61.3	2.54	<0.000010	<0.00010	<0.010	0.00127
	24/10/16	3.85	<0.000010	59.5	2.47	<0.000010	<0.00010	<0.010	0.00123
	01/11/16	3.94	<0.000010	67.2	2.29	<0.000010	<0.00010	<0.010	0.00116
	08/11/16	3.78	<0.000010	57.2	2.36	<0.000010	<0.00010	<0.010	0.00115
	15/11/16	3.86	<0.000020	58	2.47	<0.000010	<0.00010	<0.010	0.0012
	22/11/16	3.94	<0.000010	60.3	2.43	<0.000010	<0.00010	<0.010	0.00123
	29/11/16	4.02	<0.000010	62.5	2.41	<0.000010	<0.00010	<0.010	0.0012
	14/12/16	3.74	<0.000010	58.3	2.31	<0.000010	<0.00010	<0.010	0.00123
	20/12/16	3.75	<0.000010	53	2.38	<0.000010	<0.00010	<0.010	0.00122
	28/12/16	3.68	<0.000010	55.8	2.3	<0.000010	<0.00010	<0.010	0.00136
E19	03/10/16	3.87	<0.000010	59	2.61	<0.000010	<0.00010	<0.010	0.00125
	11/10/16	3.67	<0.000010	60.8	2.53	<0.000010	<0.00010	<0.010	0.00122
	18/10/16	3.71	<0.000010	59.9	2.5	<0.000010	<0.00010	<0.010	0.00123
	24/10/16	3.92	<0.000010	59.4	2.46	<0.000010	<0.00010	<0.010	0.00124
	01/11/16	3.87	<0.000010	69.5	2.39	<0.000010	<0.00010	<0.010	0.00126
	08/11/16	3.83	<0.000010	58.9	2.41	<0.000010	<0.00010	<0.010	0.00118
	15/11/16	3.85	<0.000010	55.8	2.45	<0.000010	<0.00010	<0.010	0.00118
	22/11/16	3.91	<0.000010	60.7	2.46	<0.000010	<0.00010	<0.010	0.00127

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		Diss-Vanadium (V) (mg/L)	Diss-Zinc (Zn) (mg/L)
E11	04/10/16	0.00093	<0.0030
	01/11/16	0.00101	<0.0030
	05/12/16	0.00103	<0.0030
E11a	03/10/16	0.00086	<0.0030
	11/10/16	0.00091	<0.0030
	18/10/16	0.00095	<0.0030
	24/10/16	0.001	<0.0030
	01/11/16	0.00113	<0.0030
	08/11/16	0.00094	<0.0030
	15/11/16	0.00099	<0.0030
	22/11/16	0.001	0.0037
	29/11/16	0.001	<0.0030
	14/12/16	0.00092	<0.0030
	20/12/16	0.00095	<0.0030
	28/12/16	0.00104	<0.0030
E19	03/10/16	0.0009	<0.0030
	11/10/16	0.00092	<0.0030
	18/10/16	0.00095	<0.0030
	24/10/16	0.00098	<0.0030
	01/11/16	0.00115	<0.0030
	08/11/16	0.00099	<0.0030
	15/11/16	0.00093	<0.0030
	22/11/16	0.001	<0.0030

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
E19	29/11/16	1200	505	7.9	867	1.3	0.76	51.3	0.015
	06/12/16	1190	510	7.91	852	1.6	1.14	53.2	0.0147
	14/12/16	1200	449	7.84	903	<1.0	0.46	52.9	0.016
	20/12/16	1200	467	7.9	894	<1.0	0.44	52.8	0.0168
	28/12/16	1180	481	7.84	864	<1.0	0.53	53	0.02
HAD-3	03/10/16	1120	478	7.79	944	<1.0	0.46	51	0.0376
	11/10/16	1130	481	7.84	925	<1.0	0.53	52.4	0.0275
	18/10/16	1150	500	7.87	932	<1.0	1.04	52.1	0.0294
	24/10/16	1130	481	7.84	882	1.4	1.09	51.9	0.0311
	01/11/16	1180	494	7.77	888	<1.0	0.87	52.5	0.0269
	08/11/16	1160	494	7.83	925	1.7	0.84	52.5	0.0198
	15/11/16	1160	510	7.88	910	1.3	0.82	52.3	0.0149
	22/11/16	1170	490	7.87	896	1.1	0.63	52.6	0.0125
	29/11/16	1200	481	7.88	896	1.3	0.83	52.2	0.0143
	06/12/16	1200	527	7.92	874	1.7	1.16	53.2	0.0144
	14/12/16	1200	450	7.85	918	<1.0	0.46	53.7	0.0152
	20/12/16	1200	472	7.88	900	<1.0	0.43	53.2	0.0337
	28/12/16	1170	477	7.86	909	<1.0	0.55	53.4	0.0162
E1	22/11/16	1370	604	7.85	1060	29.4	13.8	53.8	0.548
	01/12/16	1360	550	7.91	1030	8.4	2.65	53.5	0.578

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
E19	29/11/16	12.4	0.64	8.73	8.76	0.0334	0.0022	0.0046	0.011
	06/12/16	12.7	0.66	8.89	8.92	0.0325	0.0016	0.0045	0.0075
	14/12/16	12.2	0.64	8.81	8.84	0.0353	0.0024	0.0049	0.005
	20/12/16	12.6	0.65	8.75	8.79	0.0355	0.0024	0.0043	0.0041
	28/12/16	12	0.65	8.76	8.79	0.0329	0.0018	0.0043	0.0053
HAD-3	03/10/16	12.6	0.63	9.16	9.21	0.0534	<0.0010	0.0031	0.0056
	11/10/16	12.7	0.7	8.83	8.88	0.0577	0.0013	0.0034	0.0064
	18/10/16	12.7	0.68	8.96	9.01	0.0492	0.0025	0.0052	0.0058
	24/10/16	12.3	0.62	8.82	8.87	0.0521	0.0028	0.0057	0.0086
	01/11/16	12.5	0.64	8.72	8.77	0.0501	0.0022	0.0046	0.0168
	08/11/16	12.4	0.64	8.94	8.98	0.045	0.0017	0.0062	<0.010
	15/11/16	12.2	0.61	8.72	8.76	0.0348	0.001	0.0041	0.0067
	22/11/16	12.4	0.64	8.7	8.73	0.0354	0.002	0.0048	0.0046
	29/11/16	12.3	0.63	8.67	8.7	0.0341	0.0022	0.0058	0.0051
	06/12/16	12.5	0.65	8.76	8.8	0.0325	0.0015	0.0044	0.0074
	14/12/16	12	0.63	8.7	8.74	0.0379	0.0021	0.0046	0.0041
	20/12/16	12.6	0.65	8.84	8.87	0.0311	0.0023	0.0049	0.0057
	28/12/16	11.8	0.64	8.59	8.62	0.0291	0.0019	0.0041	0.0051
E1	22/11/16	19.8	0.92	12.3	12.5	0.219	0.0043	0.0084	0.0244
	01/12/16	17.5	0.88	10.7	10.9	0.195	0.0024	0.0058	0.027

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
E19	29/11/16	547	8.77	2.03	0.0749	0.00175	0.00116	0.0631	<0.00010
	06/12/16	553	8.58	2.1	0.0599	0.00178	0.0012	0.0621	<0.00010
	14/12/16	546	8.8	1.89	0.0381	0.0018	0.00109	0.062	<0.00010
	20/12/16	544	8.86	2.25	0.0342	0.00175	0.00103	0.0638	<0.00010
	28/12/16	541	8.38	1.81	0.0371	0.0017	0.00114	0.0614	<0.00010
HAD-3	03/10/16	568	8.81	1.92	0.0388	0.0018	0.00097	0.0641	<0.00010
	11/10/16	553	8.88	2.16	0.0456	0.0018	0.00104	0.0635	<0.00010
	18/10/16	559	8.57	1.97	0.0565	0.00184	0.00095	0.0576	<0.00010
	24/10/16	548	8.93	2.11	0.0942	0.00182	0.00111	0.0615	<0.00010
	01/11/16	544	8.61	2.01	0.0635	0.00178	0.00111	0.064	<0.00010
	08/11/16	557	9.01	1.98	0.0739	0.00182	0.00117	0.0673	<0.00010
	15/11/16	542	8.86	2.11	0.0646	0.00208	0.0011	0.0639	<0.00010
	22/11/16	545	8.61	2	0.0525	0.00178	0.00106	0.0644	<0.00010
	29/11/16	540	8.81	2.05	0.0725	0.00165	0.00124	0.0637	<0.00010
	06/12/16	546	8.67	2.07	0.0575	0.00178	0.00117	0.061	<0.00010
	14/12/16	539	8.8	2.02	0.0614	0.00179	0.00113	0.0638	<0.00010
	20/12/16	550	8.82	1.86	0.036	0.00178	0.00116	0.0624	<0.00010
	28/12/16	536	8.51	1.78	0.039	0.0017	0.00119	0.0618	<0.00010
E1	22/11/16	675	12.7	6.34	1.32	0.00222	0.0022	0.101	<0.00010
	01/12/16	597	11.4	6.79	0.177	0.00216	0.00154	0.0787	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
E19	29/11/16	<0.000050	0.154	<0.000030	159	<0.00050	<0.00010	0.00594	0.036
	06/12/16	<0.000050	0.142	<0.000030	148	<0.00050	<0.00010	0.00574	0.031
	14/12/16	<0.000050	0.142	0.0000334	161	<0.00050	<0.00010	0.00513	<0.030
	20/12/16	<0.000050	0.148	<0.000025	162	<0.00050	<0.00010	0.0054	<0.030
	28/12/16	<0.000050	0.148	<0.000040	156	<0.00050	<0.00010	0.00601	<0.030
HAD-3	03/10/16	<0.000050	0.161	<0.000015	149	<0.00050	<0.00010	0.00338	0.035
	11/10/16	<0.000050	0.134	<0.000020	151	<0.00050	<0.00010	0.00395	<0.030
	18/10/16	<0.000050	0.157	<0.000015	151	<0.00050	<0.00010	0.00452	<0.030
	24/10/16	<0.000050	0.147	<0.000020	147	<0.00050	<0.00010	0.00621	0.061
	01/11/16	<0.000050	0.144	<0.000020	155	<0.00050	<0.00010	0.00536	0.039
	08/11/16	<0.000050	0.15	0.000011	153	<0.00050	<0.00010	0.00608	0.039
	15/11/16	<0.000050	0.154	<0.000020	155	<0.00050	<0.00010	0.00544	0.035
	22/11/16	<0.000050	0.149	<0.000045	154	<0.00050	<0.00010	0.00583	<0.030
	29/11/16	<0.000050	0.145	<0.000035	149	<0.00050	<0.00010	0.00591	0.039
	06/12/16	<0.000050	0.15	<0.000030	162	<0.00050	<0.00010	0.00605	0.033
	14/12/16	<0.000050	0.144	0.0000198	161	<0.00050	<0.00010	0.00551	<0.030
	20/12/16	<0.000050	0.144	<0.000030	159	<0.00050	<0.00010	0.00535	<0.030
	28/12/16	<0.000050	0.144	<0.000040	154	<0.00050	<0.00010	0.00613	<0.030
E1	22/11/16	<0.000050	0.179	0.0000373	166	0.0006	0.00093	0.0418	0.814
	01/12/16	<0.000050	0.173	<0.000030	164	<0.00050	0.00027	0.0158	0.108

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Mercury (Hg)-Total (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)
E19	29/11/16	<0.000050	0.0177	30.9	0.00804		0.179	0.00053	17.3
	06/12/16	<0.000050	0.0168	27.1	0.00782		0.173	0.00053	15.5
	14/12/16	<0.000050	0.0168	28.1	0.00715		0.177	<0.00050	17.1
	20/12/16	<0.000050	0.0159	30.6	0.00741		0.178	<0.00050	16.4
	28/12/16	<0.000050	0.0161	27.6	0.00671		0.178	<0.00050	16.5
HAD-3	03/10/16	<0.000050	0.0169	28.5	0.0179	<0.000005	0.176	0.00069	16.3
	11/10/16	<0.000050	0.0169	29.4	0.0171	<0.000005	0.172	0.00061	17.1
	18/10/16	<0.000050	0.0153	27.6	0.0129	<0.000005	0.171	0.00061	15.9
	24/10/16	<0.000050	0.016	29.1	0.0159	<0.000005	0.174	0.00055	16.5
	01/11/16	<0.000050	0.0173	29.9	0.0139	<0.000005	0.173	0.00061	16.9
	08/11/16	<0.000050	0.0167	30	0.0117	<0.000005	0.179	0.00055	17.6
	15/11/16	<0.000050	0.0176	30.7	0.00995	<0.000005	0.184	0.00052	17.3
	22/11/16	<0.000050	0.0172	29.2	0.0103	<0.000005	0.176	0.00057	16.7
	29/11/16	<0.000050	0.0167	31.3	0.00797	<0.000005	0.169	0.00058	17.6
	06/12/16	<0.000050	0.0175	30.2	0.00748	<0.000005	0.184	0.00051	16.6
	14/12/16	<0.000050	0.017	29	0.0115	<0.000005	0.179	0.00058	17.6
	20/12/16	<0.000050	0.0154	30.2	0.00699	<0.000005	0.176	0.00051	16.2
	28/12/16	<0.000050	0.0157	28.1	0.00721		0.176	<0.00050	16.9
E1	22/11/16	0.000499	0.0217	31.9	0.0976		0.175	0.00134	26.9
	01/12/16	0.000074	0.0185	32.3	0.0626		0.179	0.00081	25.2

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		Total Selenium (mg/L)	Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)
E19	29/11/16	0.0361	4.21	<0.000010	62.9	2.5	<0.000010	<0.00010	<0.010
	06/12/16	0.0348	4.13	<0.000010	58.1	2.4	<0.000010	<0.00010	<0.010
	14/12/16	0.0366	4.2	<0.000010	64.5	2.48	<0.000010	<0.00010	<0.010
	20/12/16	0.0337	3.92	<0.000010	62.8	2.48	<0.000010	<0.00010	<0.010
	28/12/16	0.0371	4.04	<0.000010	60.8	2.41	<0.000010	<0.00010	<0.010
HAD-3	03/10/16	0.0356	3.74	<0.000010	57.8	2.6	<0.000010	<0.00010	<0.010
	11/10/16	0.0348	4.15	<0.000010	63.3	2.53	<0.000010	<0.00010	<0.010
	18/10/16	0.0345	3.99	<0.000010	57.9	2.52	<0.000010	<0.00010	<0.010
	24/10/16	0.0345	4.11	<0.000010	59.8	2.44	<0.000010	<0.00010	<0.010
	01/11/16	0.0348	4	<0.000010	60.8	2.52	<0.000010	<0.00010	<0.010
	08/11/16	0.0362	4.27	<0.000010	61.7	2.51	<0.000010	<0.00010	<0.010
	15/11/16	0.0349	4.11	<0.000010	62.7	2.6	<0.000010	<0.00010	<0.010
	22/11/16	0.0361	4.16	<0.000010	61.9	2.47	<0.000010	<0.00010	<0.010
	29/11/16	0.0368	4.31	<0.000010	63.9	2.33	<0.000010	<0.00010	<0.010
	06/12/16	0.0363	4.29	<0.000010	60	2.59	<0.000010	<0.00010	<0.010
	14/12/16	0.0376	4.22	<0.000010	66.2	2.5	<0.000010	<0.00010	<0.010
	20/12/16	0.0333	3.93	<0.000010	61.7	2.46	<0.000010	<0.00010	<0.010
	28/12/16	0.0371	4.05	<0.000010	62.4	2.38	<0.000010	<0.00010	<0.010
E1	22/11/16	0.0335	7.19	0.000017	85.6	2.49	<0.000010	<0.00010	0.088
	01/12/16	0.0346	4.75	<0.000010	82.3	2.39	<0.000010	<0.00010	<0.010

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		Uranium (U)-Total (mg/L)	Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)
E19	29/11/16	0.00127	0.00151	<0.0030	0.0226	0.00168	0.001	0.0589	<0.00010
	06/12/16	0.00134	0.00145	<0.0030	0.0147	0.00174	0.00104	0.0602	<0.00010
	14/12/16	0.00137	0.00116	<0.0030	0.0133	0.0016	0.00111	0.0606	<0.00010
	20/12/16	0.00131	0.00119	<0.0030	0.0118	0.00163	0.00092	0.0533	<0.00010
	28/12/16	0.00132	0.00119	<0.0030	0.0142	0.00173	0.00116	0.0658	<0.00010
HAD-3	03/10/16	0.00131	0.00115	0.0041	0.0178	0.00175	0.00087	0.0612	<0.00010
	11/10/16	0.00128	0.0012	<0.0030	0.0191	0.00168	0.00094	0.062	<0.00010
	18/10/16	0.00127	0.00109	<0.0030	0.0182	0.00179	0.00097	0.0607	<0.00010
	24/10/16	0.00129	0.00119	<0.0030	0.0177	0.00182	0.00104	0.0595	<0.00010
	01/11/16	0.0013	0.00119	<0.0030	0.0174	0.00174	0.00099	0.0629	<0.00010
	08/11/16	0.00127	0.0012	<0.0030	0.0174	0.00178	0.00106	0.0662	<0.00010
	15/11/16	0.00132	0.00122	<0.0030	0.0157	0.00166	0.00093	0.0604	<0.00010
	22/11/16	0.00129	0.00117	<0.0030	0.0155	0.00174	0.00101	0.0645	<0.00010
	29/11/16	0.00119	0.00149	<0.0030	0.0158	0.00163	0.001	0.0565	<0.00010
	06/12/16	0.00139	0.00112	<0.0030	0.0139	0.00179	0.00097	0.0616	<0.00010
	14/12/16	0.00136	0.00126	<0.0030	0.0132	0.00163	0.00109	0.0611	<0.00010
	20/12/16	0.00129	0.00116	<0.0030	0.0135	0.00169	0.00097	0.0552	<0.00010
	28/12/16	0.00131	0.00121	<0.0030	0.012	0.00171	0.00109	0.0621	<0.00010
E1	22/11/16	0.00139	0.00459	0.0075	0.016	0.00218	0.0014	0.0879	<0.00010
	01/12/16	0.00137	0.00144	<0.0030	0.0137	0.00213	0.00127	0.0687	<0.00010

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		Diss-Bismuth (Bi) (mg/L)	Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)
E19	29/11/16	<0.000050	0.145	<0.000030	155	<0.00050	<0.00010	0.0033	<0.030
	06/12/16	<0.000050	0.144	<0.000015	158	<0.00050	<0.00010	0.00346	<0.030
	14/12/16	<0.000050	0.134	<0.000030	136	<0.00050	<0.00010	0.00392	<0.030
	20/12/16	<0.000050	0.135	<0.000025	146	<0.00050	<0.00010	0.0034	<0.030
	28/12/16	<0.000050	0.14	0.0000264	146	<0.00050	<0.00010	0.00426	<0.030
HAD-3	03/10/16	<0.000050	0.157	<0.000015	147	<0.00050	<0.00010	0.00207	<0.030
	11/10/16	<0.000050	0.124	<0.000020	146	<0.00050	<0.00010	0.00229	<0.030
	18/10/16	<0.000050	0.149	<0.000015	151	<0.00050	<0.00010	0.00266	<0.030
	24/10/16	<0.000050	0.14	<0.000020	145	<0.00050	<0.00010	0.00276	<0.030
	01/11/16	<0.000050	0.132	<0.000020	150	<0.00050	<0.00010	0.00303	<0.030
	08/11/16	<0.000050	0.147	<0.000005	151	<0.00050	<0.00010	0.00286	<0.030
	15/11/16	<0.000050	0.14	<0.000025	154	<0.00050	<0.00010	0.00285	<0.030
	22/11/16	<0.000050	0.136	<0.000045	151	<0.00050	<0.00010	0.00326	<0.030
	29/11/16	<0.000050	0.138	<0.000035	149	<0.00050	<0.00010	0.00293	<0.030
	06/12/16	<0.000050	0.148	<0.000025	164	<0.00050	<0.00010	0.00338	<0.030
	14/12/16	<0.000050	0.135	<0.000030	136	<0.00050	<0.00010	0.00377	<0.030
	20/12/16	<0.000050	0.136	<0.000030	146	<0.00050	<0.00010	0.00355	<0.030
	28/12/16	<0.000050	0.139	0.0000198	147	<0.00050	<0.00010	0.00403	<0.030
E1	22/11/16	<0.000050	0.158	<0.000035	189	<0.00050	0.00022	0.00694	<0.030
	01/12/16	<0.000050	0.179	<0.000030	176	<0.00050	0.00016	0.00435	<0.030

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		Diss-Lead (Pb) (mg/L)	Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)
E19	29/11/16	<0.000050	0.0175	28.5	0.00498	0.165	<0.00050	16	0.0364
	06/12/16	<0.000050	0.0169	27.9	0.00486	0.168	<0.00050	16.1	0.0343
	14/12/16	<0.000050	0.0161	26.9	0.00512	0.161	<0.00050	15.6	0.033
	20/12/16	<0.000050	0.0159	24.6	0.00458	0.156	<0.00050	14.8	0.0346
	28/12/16	<0.000050	0.0154	28.1	0.00562	0.158	<0.00050	16.1	0.0344
HAD-3	03/10/16	<0.000050	0.0166	27.1	0.0116	0.171	0.00055	15.5	0.0335
	11/10/16	<0.000050	0.017	28	0.011	0.164	0.00059	17	0.0341
	18/10/16	<0.000050	0.0152	29.5	0.0103	0.171	0.0006	16.7	0.0342
	24/10/16	<0.000050	0.0155	29.1	0.00943	0.165	<0.00050	16.8	0.0351
	01/11/16	<0.000050	0.0161	28.8	0.00927	0.163	0.00054	16.7	0.0343
	08/11/16	<0.000050	0.0166	28.7	0.00654	0.167	0.00052	16.7	0.0329
	15/11/16	<0.000050	0.0159	30.3	0.00507	0.174	<0.00050	16.7	0.0334
	22/11/16	<0.000050	0.0169	27.4	0.00546	0.165	0.00051	16.1	0.0355
	29/11/16	<0.000050	0.0161	26.6	0.00457	0.167	<0.00050	15.2	0.0352
	06/12/16	<0.000050	0.0169	28.8	0.0051	0.181	<0.00050	17	0.0229
	14/12/16	<0.000050	0.0159	26.5	0.00508	0.159	<0.00050	15.3	0.0327
	20/12/16	<0.000050	0.0158	25.9	0.00493	0.155	<0.00050	15.5	0.034
	28/12/16	<0.000050	0.0148	26.6	0.00518	0.157	<0.00050	15.2	0.0342
E1	22/11/16	<0.000050	0.021	32	0.0746	0.187	0.00083	27.6	0.03
	01/12/16	<0.000050	0.0195	26.8	0.0527	0.189	0.00062	22.7	0.0325

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		Diss-Silicon (Si) (mg/L)	Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)
E19	29/11/16	3.96	<0.000010	58.3	2.41	<0.000010	<0.00010	<0.010	0.00121
	06/12/16	4.06	<0.000010	57.7	2.47	<0.000010	<0.00010	<0.010	0.00127
	14/12/16	3.75	<0.000010	56.5	2.3	<0.000010	<0.00010	<0.010	0.00122
	20/12/16	3.79	<0.000010	50.5	2.37	<0.000010	<0.00010	<0.010	0.00122
	28/12/16	3.84	<0.000010	59.4	2.27	<0.000010	<0.00010	<0.010	0.00141
HAD-3	03/10/16	3.62	<0.000010	54.2	2.52	<0.000010	<0.00010	<0.010	0.0013
	11/10/16	3.92	<0.000010	60.2	2.47	0.000011	<0.00010	<0.010	0.00123
	18/10/16	3.81	<0.000010	60.6	2.55	<0.000010	0.00011	<0.010	0.00127
	24/10/16	3.86	<0.000010	58.6	2.43	<0.000010	<0.00010	<0.010	0.00126
	01/11/16	3.72	<0.000010	58.7	2.45	<0.000010	<0.00010	<0.010	0.00121
	08/11/16	3.91	<0.000010	58.2	2.43	<0.000010	<0.00010	<0.010	0.00122
	15/11/16	3.75	<0.000010	57.9	2.54	<0.000010	<0.00010	<0.010	0.00124
	22/11/16	3.9	<0.000010	58.2	2.41	<0.000010	<0.00010	<0.010	0.00122
	29/11/16	3.95	<0.000010	54.6	2.34	<0.000010	<0.00010	<0.010	0.00118
	06/12/16	3.89	<0.000010	59.6	2.58	<0.000010	<0.00010	<0.010	0.00134
	14/12/16	3.75	<0.000010	55.7	2.31	<0.000010	<0.00010	<0.010	0.00122
	20/12/16	3.73	<0.000010	53.4	2.37	<0.000010	<0.00010	<0.010	0.00122
	28/12/16	3.71	<0.000010	56.4	2.27	<0.000010	<0.00010	<0.010	0.00138
E1	22/11/16	4.36	<0.000010	85.6	2.8	<0.000010	<0.00010	<0.010	0.00136
	01/12/16	4.37	<0.000010	75.4	2.53	<0.000010	<0.00010	<0.010	0.00137

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		Diss-Vanadium (V) (mg/L)	Diss-Zinc (Zn) (mg/L)
E19	29/11/16	0.00094	<0.0030
	06/12/16	0.00094	<0.0030
	14/12/16	0.00093	<0.0030
	20/12/16	0.00092	<0.0030
	28/12/16	0.00107	<0.0030
HAD-3	03/10/16	0.00079	0.0042
	11/10/16	0.00087	0.0065
	18/10/16	0.00096	<0.0030
	24/10/16	0.00097	<0.0030
	01/11/16	0.00097	<0.0030
	08/11/16	0.00094	<0.0030
	15/11/16	0.00093	<0.0030
	22/11/16	0.00101	<0.0030
	29/11/16	0.00087	<0.0030
	06/12/16	0.00091	0.0033
	14/12/16	0.00092	<0.0030
	20/12/16	0.00094	<0.0030
	28/12/16	0.001	<0.0030
E1	22/11/16	0.00112	<0.0030
	01/12/16	0.00098	<0.0030

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
P1-S	31/10/16	273	121	8.17	191	1.3	1.15	105	0.0077
	23/11/16	276	127	8.11	197	2.7	1.02	99.9	<0.0050
P1-10	31/10/16	273	121	8.16	188	1.6	1.11	99.8	0.0068
	23/11/16	274	127	7.99	198	3.3	0.96	97.9	<0.0050
P1-20	31/10/16	277	123	7.99	192	4	4.26	105	<0.0050
	23/11/16	277	127	8.02	199	3.2	0.97	99.1	<0.0050
P1-B	31/10/16	279	123	8.01	193	4.5	5.06	106	0.0197
	23/11/16	277	125	8	200	2.3	1.16	98.4	0.0057
P2-S	31/10/16	277	120	8.16	185	1.4	1.47	104	0.0078
	23/11/16	277	127	8.02	186	3	1.79	98.1	0.0053
P2-10	31/10/16	269	121	8.18	190	1.7	1.44	99.3	0.0064
	23/11/16	280	127	8.03	189	4.7	1.72	104	0.005
P2-20	31/10/16	274	120	8.18	186	1.9	1.68	100	0.0081
	23/11/16	277	125	8	192	4.6	1.98	99.5	0.0061
P2-B	31/10/16	281	124	8.04	192	5	5.08	105	<0.0050
	23/11/16	277	125	8.02	199	6.3	4.05	98.5	0.0068

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
P1-S	31/10/16	1.29	0.089	0.0355	0.0355	<0.0010	0.0123	0.0167	0.0184
	23/11/16	1.25	0.08	0.0973	0.0973	<0.0010	0.0255	0.029	0.026
P1-10	31/10/16	1.28	0.088	0.0351	0.0351	<0.0010	0.0122	0.017	0.0188
	23/11/16	1.24	0.08	0.0964	0.0964	<0.0010	0.0254	0.0291	0.0295
P1-20	31/10/16	1.33	0.089	0.262	0.262	<0.0010	0.0671	0.078	0.075
	23/11/16	1.25	0.08	0.0969	0.0969	<0.0010	0.0255	0.03	0.025
P1-B	31/10/16	1.34	0.089	0.285	0.285	<0.0010	0.0738	0.0819	0.0775
	23/11/16	1.24	0.08	0.097	0.097	<0.0010	0.0251	0.0289	0.0279
P2-S	31/10/16	1.28	0.088	0.0476	0.0476	<0.0010	0.016	0.018	0.0228
	23/11/16	1.24	0.08	0.0969	0.0969	<0.0010	0.0252	0.0278	0.0247
P2-10	31/10/16	1.28	0.088	0.0473	0.0473	<0.0010	0.0151	0.0229	0.0223
	23/11/16	1.24	0.076	0.0969	0.0969	<0.0010	0.026	0.0318	0.0296
P2-20	31/10/16	1.28	0.088	0.0451	0.0451	<0.0010	0.0146	0.0199	0.027
	23/11/16	1.24	0.076	0.0975	0.0975	<0.0010	0.0259	0.0303	0.0261
P2-B	31/10/16	1.33	0.089	0.286	0.286	<0.0010	0.0737	0.0864	0.0898
	23/11/16	1.24	0.076	0.0972	0.0972	<0.0010	0.026	0.0296	0.0272

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
P1-S	31/10/16	46.1	0.296	6.26	0.0526	0.00012	0.00081	0.0119	<0.00010
	23/11/16	45.5	0.336	6.06	0.121	0.00011	0.00084	0.0132	<0.00010
P1-10	31/10/16	46.1	0.3	6.09	0.0532	0.00011	0.0008	0.0119	<0.00010
	23/11/16	45.3	0.339	5.81	0.143	0.00012	0.00088	0.0135	<0.00010
P1-20	31/10/16	45.9	0.513	5.79	0.175	<0.00010	0.00087	0.0124	<0.00010
	23/11/16	45.5	0.336	5.82	0.117	0.00011	0.00078	0.0127	<0.00010
P1-B	31/10/16	46	0.534	5.69	0.209	<0.00010	0.00086	0.0128	<0.00010
	23/11/16	45.3	0.339	5.91	0.141	0.00013	0.00086	0.0132	<0.00010
P2-S	31/10/16	46.2	0.355	5.78	0.0587	0.00011	0.00069	0.0106	<0.00010
	23/11/16	45.4	0.34	5.77	0.185	0.00014	0.00088	0.0144	<0.00010
P2-10	31/10/16	46.3	0.374	5.78	0.064	0.00011	0.00082	0.012	<0.00010
	23/11/16	45.3	0.338	5.92	0.163	0.00014	0.00086	0.0139	<0.00010
P2-20	31/10/16	46.3	0.319	5.82	0.0766	0.00011	0.00071	0.0104	<0.00010
	23/11/16	45.3	0.394	5.91	0.21	0.00016	0.00084	0.0145	<0.00010
P2-B	31/10/16	45.9	0.533	5.7	0.224	<0.00010	0.00084	0.0126	<0.00010
	23/11/16	45.3	0.378	5.91	0.25	0.00015	0.00082	0.0149	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
P1-S	31/10/16	<0.000050	0.025	<0.000005	40.7	<0.00050	<0.00010	0.00376	0.033
	23/11/16	<0.000050	0.029	<0.000005	41.9	<0.00050	<0.00010	0.00535	0.074
P1-10	31/10/16	<0.000050	0.026	<0.000005	40.9	<0.00050	<0.00010	0.00387	0.031
	23/11/16	<0.000050	0.029	<0.000005	42.2	<0.00050	<0.00010	0.00649	0.085
P1-20	31/10/16	<0.000050	0.027	<0.000005	41.6	<0.00050	<0.00010	0.00577	0.137
	23/11/16	<0.000050	0.028	<0.000005	42.3	<0.00050	<0.00010	0.00517	0.07
P1-B	31/10/16	<0.000050	0.027	<0.000005	41.5	<0.00050	0.00011	0.00631	0.114
	23/11/16	<0.000050	0.028	<0.000005	42.6	<0.00050	<0.00010	0.00558	0.08
P2-S	31/10/16	<0.000050	0.026	<0.000005	40.4	<0.00050	<0.00010	0.00334	0.035
	23/11/16	<0.000050	0.029	<0.000005	42.6	<0.00050	0.00011	0.0066	0.107
P2-10	31/10/16	<0.000050	0.027	<0.000005	40.6	<0.00050	<0.00010	0.00402	0.038
	23/11/16	<0.000050	0.028	<0.000005	41.3	<0.00050	<0.00010	0.00678	0.096
P2-20	31/10/16	<0.000050	0.026	<0.000005	40.7	<0.00050	<0.00010	0.00381	0.044
	23/11/16	<0.000050	0.028	<0.000005	41.4	<0.00050	0.00012	0.00751	0.12
P2-B	31/10/16	<0.000050	0.027	<0.000005	41.1	<0.00050	0.00012	0.00625	0.117
	23/11/16	<0.000050	0.028	<0.000005	41.7	<0.00050	0.00013	0.00791	0.138

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
P1-S	31/10/16	<0.000050	<0.0010	5.64	0.00635	0.00976	<0.00050	1.29	0.000656
	23/11/16	0.000066	<0.0010	5.81	0.0168	0.00979	<0.00050	1.4	0.000578
P1-10	31/10/16	0.00026	<0.0010	5.68	0.00611	0.00982	<0.00050	1.31	0.000671
	23/11/16	0.00374	<0.0010	5.93	0.0175	0.00969	<0.00050	1.42	0.000585
P1-20	31/10/16	0.000187	<0.0010	5.69	0.0229	0.00887	<0.00050	1.39	0.000592
	23/11/16	0.000536	<0.0010	5.79	0.016	0.00975	<0.00050	1.37	0.000604
P1-B	31/10/16	0.000183	<0.0010	5.73	0.141	0.00895	<0.00050	1.42	0.000573
	23/11/16	0.000382	<0.0010	5.84	0.0183	0.00998	<0.00050	1.4	0.000618
P2-S	31/10/16	<0.000050	<0.0010	4.95	0.00612	0.00967	<0.00050	1.13	0.00069
	23/11/16	0.000187	<0.0010	5.96	0.0247	0.00998	<0.00050	1.37	0.00062
P2-10	31/10/16	0.000118	<0.0010	5.79	0.00731	0.0097	<0.00050	1.33	0.000668
	23/11/16	0.000321	<0.0010	5.93	0.029	0.00976	<0.00050	1.4	0.000616
P2-20	31/10/16	0.00011	<0.0010	4.9	0.00696	0.00979	<0.00050	1.13	0.000642
	23/11/16	0.000395	<0.0010	5.98	0.0297	0.00963	<0.00050	1.4	0.000647
P2-B	31/10/16	0.000123	<0.0010	5.7	0.0404	0.00878	<0.00050	1.44	0.000615
	23/11/16	0.000249	<0.0010	5.95	0.0351	0.00973	<0.00050	1.41	0.000608

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
P1-S	31/10/16	2.56	<0.000010	9.16	0.313	<0.000010	<0.00010	<0.010	0.000264
	23/11/16	3.21	<0.000010	9.75	0.32	<0.000010	<0.00010	<0.010	0.000268
P1-10	31/10/16	2.61	<0.000010	9.2	0.316	<0.000010	<0.00010	<0.010	0.000261
	23/11/16	3.36	<0.000010	9.95	0.318	<0.000010	<0.00010	<0.010	0.000267
P1-20	31/10/16	4.23	<0.000010	9.23	0.319	<0.000010	<0.00010	<0.010	0.000241
	23/11/16	3.25	<0.000010	9.46	0.321	<0.000010	<0.00010	<0.010	0.000267
P1-B	31/10/16	4.36	<0.000010	9.32	0.319	<0.000010	<0.00010	<0.010	0.000238
	23/11/16	3.29	<0.000010	9.79	0.329	<0.000010	<0.00010	<0.010	0.000269
P2-S	31/10/16	2.66	<0.000010	7.97	0.315	<0.000010	<0.00010	<0.010	0.000262
	23/11/16	3.39	<0.000010	9.66	0.327	<0.000010	<0.00010	<0.010	0.000274
P2-10	31/10/16	2.66	<0.000010	9.33	0.314	<0.000010	<0.00010	<0.010	0.000265
	23/11/16	3.33	<0.000010	9.7	0.325	<0.000010	<0.00010	<0.010	0.000263
P2-20	31/10/16	2.79	<0.000010	7.87	0.317	<0.000010	<0.00010	<0.010	0.000261
	23/11/16	3.45	<0.000010	9.77	0.32	<0.000010	<0.00010	<0.010	0.000266
P2-B	31/10/16	4.53	<0.000010	9.36	0.318	<0.000010	<0.00010	<0.010	0.000239
	23/11/16	3.61	0.000011	9.59	0.322	<0.000010	<0.00010	<0.010	0.000272

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
P1-S	31/10/16	0.00102	<0.0030	0.0033	0.0001	0.00077	0.0107	<0.00010	<0.000050
	23/11/16	0.00106	0.0039	0.0046	0.0001	0.00076	0.0108	<0.00010	<0.000050
P1-10	31/10/16	0.00099	<0.0030	<0.0030	0.0001	0.00074	0.0106	<0.00010	<0.000050
	23/11/16	0.00107	<0.0030	0.0058	0.0001	0.00074	0.0108	<0.00010	<0.000050
P1-20	31/10/16	0.00073	<0.0030	0.003	<0.00010	0.00075	0.00866	<0.00010	<0.000050
	23/11/16	0.00101	<0.0030	0.0052	<0.00010	0.00082	0.0109	<0.00010	<0.000050
P1-B	31/10/16	0.0007	<0.0030	<0.0030	<0.00010	0.00075	0.00831	<0.00010	<0.000050
	23/11/16	0.00115	<0.0030	0.0099	<0.00010	0.00074	0.0106	<0.00010	<0.000050
P2-S	31/10/16	0.00088	<0.0030	0.0038	0.0001	0.00075	0.0106	<0.00010	<0.000050
	23/11/16	0.00121	<0.0030	0.0046	<0.00010	0.00077	0.0108	<0.00010	<0.000050
P2-10	31/10/16	0.001	<0.0030	0.0037	0.00011	0.00077	0.0106	<0.00010	<0.000050
	23/11/16	0.00117	<0.0030	0.0095	<0.00010	0.00081	0.0114	<0.00010	<0.000050
P2-20	31/10/16	0.00092	<0.0030	0.0042	<0.00010	0.00074	0.0107	<0.00010	<0.000050
	23/11/16	0.00129	<0.0030	0.0056	0.0001	0.00078	0.0106	<0.00010	<0.000050
P2-B	31/10/16	0.00075	<0.0030	0.0035	<0.00010	0.00078	0.00824	<0.00010	<0.000050
	23/11/16	0.00128	<0.0030	0.007	0.0001	0.00079	0.0109	<0.00010	<0.000050

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
P1-S	31/10/16	0.024	<0.000005	39.2	<0.00050	<0.00010	0.00251	<0.030	<0.000050
	23/11/16	0.027	<0.000005	41.6	<0.00050	<0.00010	0.00269	<0.030	<0.000050
P1-10	31/10/16	0.024	<0.000005	39.3	<0.00050	<0.00010	0.00286	<0.030	0.000353
	23/11/16	0.026	<0.000005	41.5	<0.00050	<0.00010	0.0031	<0.030	0.00115
P1-20	31/10/16	0.025	<0.000005	39.9	<0.00050	<0.00010	0.00235	<0.030	0.00022
	23/11/16	0.026	<0.000005	41.5	<0.00050	<0.00010	0.00288	<0.030	0.000467
P1-B	31/10/16	0.025	<0.000005	39.9	<0.00050	<0.00010	0.00173	<0.030	0.000191
	23/11/16	0.026	<0.000005	40.8	<0.00050	<0.00010	0.00286	<0.030	0.000424
P2-S	31/10/16	0.024	<0.000005	39	<0.00050	<0.00010	0.00254	<0.030	<0.000050
	23/11/16	0.026	<0.000005	41.3	<0.00050	<0.00010	0.00254	<0.030	<0.000050
P2-10	31/10/16	0.024	<0.000005	39.2	<0.00050	<0.00010	0.00277	<0.030	0.000204
	23/11/16	0.026	<0.000005	41	<0.00050	<0.00010	0.00281	<0.030	0.000282
P2-20	31/10/16	0.024	<0.000005	39	<0.00050	<0.00010	0.00276	<0.030	0.00015
	23/11/16	0.026	<0.000005	40.9	<0.00050	<0.00010	0.00265	<0.030	0.000248
P2-B	31/10/16	0.025	<0.000005	40.3	<0.00050	<0.00010	0.00201	<0.030	0.000113
	23/11/16	0.025	<0.000005	40.5	<0.00050	<0.00010	0.00263	<0.030	0.000199

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This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
P1-S	31/10/16	<0.0010	5.51	0.00141	0.00893	<0.00050	1.27	0.00061	2.35
	23/11/16	<0.0010	5.69	0.00124	0.00922	<0.00050	1.37	0.000575	2.9
P1-10	31/10/16	<0.0010	5.41	0.00108	0.00893	<0.00050	1.25	0.000619	2.35
	23/11/16	<0.0010	5.54	0.0012	0.0095	<0.00050	1.32	0.000588	2.95
P1-20	31/10/16	<0.0010	5.57	0.00063	0.00814	<0.00050	1.33	0.000571	3.48
	23/11/16	<0.0010	5.79	0.0011	0.00935	<0.00050	1.34	0.000583	2.91
P1-B	31/10/16	<0.0010	5.57	0.0351	0.0081	<0.00050	1.35	0.000507	3.76
	23/11/16	<0.0010	5.64	0.00195	0.00931	<0.00050	1.31	0.000596	2.89
P2-S	31/10/16	<0.0010	5.56	0.00088	0.00898	<0.00050	1.28	0.00064	2.45
	23/11/16	<0.0010	5.77	0.00501	0.00948	<0.00050	1.34	0.000543	2.9
P2-10	31/10/16	<0.0010	5.58	0.00092	0.00888	<0.00050	1.3	0.000651	2.46
	23/11/16	<0.0010	5.87	0.00596	0.00918	<0.00050	1.35	0.000609	2.95
P2-20	31/10/16	<0.0010	5.5	0.00114	0.00885	<0.00050	1.28	0.000609	2.44
	23/11/16	<0.0010	5.69	0.0049	0.00928	<0.00050	1.3	0.000582	2.91
P2-B	31/10/16	<0.0010	5.57	0.00072	0.00812	<0.00050	1.36	0.000528	3.7
	23/11/16	<0.0010	5.85	0.00878	0.00926	<0.00050	1.31	0.000576	2.89

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
P1-S	31/10/16	<0.000010	8.96	0.303	<0.000010	<0.00010	<0.010	0.000233	0.00081
	23/11/16	<0.000010	9.62	0.315	<0.000010	<0.00010	<0.010	0.000258	0.00075
P1-10	31/10/16	<0.000010	8.79	0.304	<0.000010	<0.00010	<0.010	0.000236	0.00081
	23/11/16	<0.000010	9.33	0.321	<0.000010	<0.00010	<0.010	0.000249	0.00077
P1-20	31/10/16	<0.000010	9.12	0.307	<0.000010	<0.00010	<0.010	0.000217	<0.00050
	23/11/16	<0.000010	9.51	0.318	<0.000010	<0.00010	<0.010	0.000248	0.00074
P1-B	31/10/16	<0.000010	9.06	0.308	<0.000010	<0.00010	<0.010	0.000216	<0.00050
	23/11/16	<0.000010	9.34	0.314	<0.000010	<0.00010	<0.010	0.000244	0.00079
P2-S	31/10/16	<0.000010	8.89	0.303	<0.000010	<0.00010	<0.010	0.00024	0.0008
	23/11/16	<0.000010	9.47	0.319	<0.000010	<0.00010	<0.010	0.000249	0.00074
P2-10	31/10/16	<0.000010	9.01	0.303	<0.000010	<0.00010	<0.010	0.000237	0.00078
	23/11/16	<0.000010	9.65	0.311	<0.000010	<0.00010	<0.010	0.000246	0.00079
P2-20	31/10/16	<0.000010	8.91	0.302	<0.000010	<0.00010	<0.010	0.000239	0.00079
	23/11/16	<0.000010	9.39	0.313	<0.000010	<0.00010	<0.010	0.000241	0.00075
P2-B	31/10/16	<0.000010	9.15	0.307	<0.000010	<0.00010	<0.010	0.000214	<0.00050
	23/11/16	<0.000010	9.44	0.313	<0.000010	<0.00010	<0.010	0.000247	0.00077

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		Diss-Zinc (Zn) (mg/L)
P1-S	31/10/16	<0.0030
	23/11/16	<0.0030
P1-10	31/10/16	<0.0030
	23/11/16	<0.0030
P1-20	31/10/16	<0.0030
	23/11/16	<0.0030
P1-B	31/10/16	<0.0030
	23/11/16	<0.0030
P2-S	31/10/16	<0.0030
	23/11/16	<0.0030
P2-10	31/10/16	<0.0030
	23/11/16	<0.0030
P2-20	31/10/16	<0.0030
	23/11/16	<0.0030
P2-B	31/10/16	<0.0030
	23/11/16	<0.0030

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
QUL-18-0m	26/10/16	106	49.6	7.78	67	<1.0	0.39	49.9	<0.0050
QUL-18-100m	26/10/16	117	53	7.68	75	<1.0	0.52	52.2	<0.0050
QUL-18-20m	26/10/16	106	49.5	7.77	66	<1.0	0.3	49.5	<0.0050
QUL-18-50m	26/10/16	107	49.7	7.77	62	<1.0	0.28	49.4	<0.0050
QUL-2a-0m	26/10/16	108	49.1	7.77	78	<1.0	0.34	49.8	<0.0050
QUL-2a-20m	26/10/16	105	49.4	7.91	68	<1.0	0.35	50	<0.0050
QUL-2a-40m	26/10/16	113	51.7	7.65	78	<1.0	0.54	50.3	<0.0050
QUL-2a-60m	26/10/16	115	52.6	7.65	74	<1.0	0.62	50.4	<0.0050
QUL-58-AT	05/10/16	102	52.8	7.82	72	<1.0	0.28	48.7	<0.0050
	09/11/16	110	52.5	7.84	62	<1.0	0.55	50	<0.0050
	16/11/16	110	49.1	7.77	73	<1.0	0.41	48.7	<0.0050
	30/11/16	109	53.1	7.85	83	<1.0	0.47	49.7	<0.0050
QUL-58-B	05/10/16	113	55.6	7.79	79	<1.0	0.74	51.7	<0.0050
	09/11/16	113	54.2	7.81	64	<1.0	0.67	49.9	<0.0050
	16/11/16	113	51.3	7.7	74	<1.0	0.97	49.1	<0.0050
	30/11/16	112	53.5	7.79	83	1.2	0.94	50.2	<0.0050
QUL-58-BT	05/10/16	121	59.2	7.8	85	<1.0	0.26	51.5	<0.0050
	09/11/16	112	53	7.82	62	<1.0	0.38	50.1	<0.0050
QUL-58-MP	16/11/16	112	51.2	7.86	79	2.4	0.42	49.5	<0.0050
QUL-58-S	05/10/16	103	51.2	7.87	73	<1.0	0.25	50.3	<0.0050
	09/11/16	108	51.1	7.85	60	<1.0	0.28	49.3	<0.0050
	16/11/16	110	47.5	7.83	74	<1.0	0.21	49.7	<0.0050
	30/11/16	110	52.5	7.79	72	<1.0	0.41	48.6	<0.0050

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
QUL-18-0m	26/10/16	<0.50	0.032	0.0802	0.0802	<0.0010	<0.0010	0.0021	<0.0020
QUL-18-100m	26/10/16	<0.50	0.035	0.183	0.183	<0.0010	0.0012	<0.0020	0.0023
QUL-18-20m	26/10/16	<0.50	0.031	0.0797	0.0797	<0.0010	0.0012	<0.0020	<0.0020
QUL-18-50m	26/10/16	<0.50	0.032	0.0806	0.0806	<0.0010	0.001	<0.0020	<0.0020
QUL-2a-0m	26/10/16	<0.50	0.032	0.0792	0.0792	<0.0010	0.0013	0.002	<0.0020
QUL-2a-20m	26/10/16	<0.50	0.033	0.0806	0.0806	<0.0010	0.0011	0.0022	<0.0020
QUL-2a-40m	26/10/16	<0.50	0.034	0.167	0.167	<0.0010	<0.0010	<0.0020	<0.0020
QUL-2a-60m	26/10/16	<0.50	0.035	0.181	0.181	<0.0010	<0.0010	<0.0020	<0.020
QUL-58-AT	05/10/16	<0.50	0.03	0.055	0.055	<0.0010	<0.0010	<0.0020	0.0088
	09/11/16	<0.50	0.034	0.137	0.137	<0.0010	<0.0010	<0.0020	0.0055
	16/11/16	<0.50	0.033	0.0944	0.0944	<0.0010	<0.0010	<0.0020	<0.0020
	30/11/16	<0.50	0.037	0.112	0.112	<0.0010	<0.0010	0.0035	0.0049
QUL-58-B	05/10/16	<0.50	0.034	0.181	0.181	<0.0010	<0.0010	0.0024	0.0066
	09/11/16	<0.50	0.037	0.18	0.18	<0.0010	<0.0010	<0.0020	0.002
	16/11/16	<0.50	0.036	0.169	0.169	<0.0010	<0.0010	<0.0020	<0.0020
	30/11/16	<0.50	0.038	0.154	0.154	<0.0010	<0.0010	<0.0020	0.0054
QUL-58-BT	05/10/16	<0.50	0.038	0.24	0.24	<0.0010	<0.0010	0.0025	0.0035
	09/11/16	<0.50	0.034	0.157	0.157	<0.0010	<0.0010	<0.0020	0.0037
QUL-58-MP	16/11/16	<0.50	0.035	0.117	0.117	<0.0010	<0.0010	<0.0020	<0.0020
QUL-58-S	05/10/16	<0.50	0.03	0.0541	0.0541	<0.0010	<0.0010	<0.0020	0.0057
	09/11/16	<0.50	0.032	0.0868	0.0868	<0.0010	<0.0010	<0.0020	0.0022
	16/11/16	<0.50	0.033	0.0937	0.0937	<0.0010	<0.0010	<0.0020	<0.0020
	30/11/16	<0.50	0.037	0.112	0.112	<0.0010	<0.0010	0.0037	0.0021

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
QUL-18-0m	26/10/16	6.5	0.158	1.75	0.0154	<0.00010	0.0001	0.0052	<0.00010
QUL-18-100m	26/10/16	8.81	0.26	1.65	0.0296	<0.00010	0.00012	0.00608	<0.00010
QUL-18-20m	26/10/16	6.49	0.152	1.61	0.0186	<0.00010	0.00012	0.00529	<0.00010
QUL-18-50m	26/10/16	6.51	0.154	2.36	0.0176	<0.00010	0.00011	0.00523	<0.00010
QUL-2a-0m	26/10/16	6.48	0.141	1.74	0.0162	<0.00010	0.00012	0.00518	<0.00010
QUL-2a-20m	26/10/16	6.46	0.139	1.83	0.0233	<0.00010	0.00011	0.00522	<0.00010
QUL-2a-40m	26/10/16	8.32	0.226	1.56	0.0283	<0.00010	0.0001	0.00573	<0.00010
QUL-2a-60m	26/10/16	8.72	0.24	1.64	0.028	<0.00010	0.00012	0.00586	<0.00010
QUL-58-AT	05/10/16	6.37	0.288	1.8	0.0288	<0.00010	0.00013	0.00551	<0.00010
	09/11/16	8.04	0.219	1.83	0.04	<0.00010	<0.00010	0.0059	<0.00010
	16/11/16	7.22	0.156	1.88	0.0233	<0.00010	0.00011	0.00547	<0.00010
	30/11/16	7.75	0.168	2	0.0358	<0.00010	0.00013	0.00551	<0.00010
QUL-58-B	05/10/16	8.75	0.225	1.77	0.0376	<0.00010	0.00013	0.00609	<0.00010
	09/11/16	8.77	0.226	1.77	0.0634	<0.00010	0.00011	0.00674	<0.00010
	16/11/16	8.54	0.218	1.85	0.0584	<0.00010	0.00012	0.00656	<0.00010
	30/11/16	8.32	0.211	1.92	0.0641	<0.00010	0.00013	0.0065	<0.00010
QUL-58-BT	05/10/16	12.9	0.27	1.83	0.022	<0.00010	0.00012	0.00636	<0.00010
	09/11/16	8.48	0.188	1.79	0.0411	<0.00010	<0.00010	0.00614	<0.00010
QUL-58-MP	16/11/16	8.69	0.185	1.74	0.0275	<0.00010	0.00013	0.00576	<0.00010
QUL-58-S	05/10/16	6.3	0.159	1.85	0.0286	<0.00010	0.00017	0.00532	<0.00010
	09/11/16	6.93	0.156	1.9	0.0169	<0.00010	<0.00010	0.00557	<0.00010
	16/11/16	7.23	0.157	1.97	0.0187	<0.00010	0.00011	0.00543	<0.00010
	30/11/16	7.85	0.167	2.11	0.0386	<0.00010	0.00013	0.00583	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
QUL-18-0m	26/10/16	<0.000050	<0.010	<0.000005	16.9	<0.00050	<0.00010	0.00061	<0.030
QUL-18-100m	26/10/16	<0.000050	<0.010	<0.000005	17.9	<0.00050	<0.00010	0.00147	<0.030
QUL-18-20m	26/10/16	<0.000050	<0.010	<0.000005	16.8	<0.00050	<0.00010	0.00108	<0.030
QUL-18-50m	26/10/16	<0.000050	<0.010	<0.000005	16.7	<0.00050	<0.00010	0.00086	<0.030
QUL-2a-0m	26/10/16	<0.000050	<0.010	<0.000005	17.1	<0.00050	<0.00010	0.00064	<0.030
QUL-2a-20m	26/10/16	<0.000050	<0.010	<0.000005	16.8	<0.00050	<0.00010	0.00094	<0.030
QUL-2a-40m	26/10/16	<0.000050	<0.010	<0.000005	17.7	<0.00050	<0.00010	0.00144	<0.030
QUL-2a-60m	26/10/16	<0.000050	<0.010	<0.000005	17.7	<0.00050	<0.00010	0.00126	<0.030
QUL-58-AT	05/10/16	<0.000050	<0.010	<0.000005	18.1	<0.00050	<0.00010	0.00183	<0.030
	09/11/16	<0.000050	<0.010	<0.000005	15.7	<0.00050	<0.00010	0.00129	<0.030
	16/11/16	<0.000050	<0.010	<0.000005	18.2	<0.00050	<0.00010	0.00133	<0.030
	30/11/16	<0.000050	<0.010	<0.000005	16.6	<0.00050	<0.00010	0.00132	<0.030
QUL-58-B	05/10/16	<0.000050	<0.010	<0.000005	19.6	<0.00050	<0.00010	0.00194	<0.030
	09/11/16	<0.000050	<0.010	<0.000005	16.1	<0.00050	<0.00010	0.00201	0.042
	16/11/16	<0.000050	<0.010	<0.000005	18.9	<0.00050	<0.00010	0.00196	0.042
	30/11/16	<0.000050	<0.010	<0.000005	17.1	<0.00050	<0.00010	0.00219	0.039
QUL-58-BT	05/10/16	<0.000050	<0.010	<0.000005	20.7	<0.00050	<0.00010	0.00152	<0.030
	09/11/16	<0.000050	<0.010	<0.000005	15.9	<0.00050	<0.00010	0.0018	<0.030
QUL-58-MP	16/11/16	<0.000050	<0.010	<0.000005	18.7	<0.00050	<0.00010	0.00121	<0.030
QUL-58-S	05/10/16	<0.000050	<0.010	<0.000005	18.1	<0.00050	<0.00010	0.0012	<0.030
	09/11/16	<0.000050	<0.010	<0.000005	15.4	<0.00050	<0.00010	0.00068	<0.030
	16/11/16	<0.000050	<0.010	<0.000005	18.1	<0.00050	<0.00010	0.00074	<0.030
	30/11/16	<0.000050	<0.010	<0.000005	16.4	<0.00050	<0.00010	0.00126	<0.030

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
QUL-18-0m	26/10/16	<0.000050	<0.0010	1.87	0.00101	0.000375	<0.00050	0.485	0.000095
QUL-18-100m	26/10/16	0.000082	<0.0010	2.08	0.00185	0.00115	<0.00050	0.615	0.00023
QUL-18-20m	26/10/16	0.000194	<0.0010	1.86	0.00113	0.000386	<0.00050	0.5	0.000094
QUL-18-50m	26/10/16	0.000116	<0.0010	1.87	0.00104	0.000371	<0.00050	0.499	0.000095
QUL-2a-0m	26/10/16	<0.000050	<0.0010	1.94	0.00108	0.000338	<0.00050	0.491	0.000087
QUL-2a-20m	26/10/16	0.00056	<0.0010	1.91	0.00126	0.000335	<0.00050	0.494	0.000101
QUL-2a-40m	26/10/16	0.000272	0.001	2.02	0.00135	0.000946	<0.00050	0.563	0.00022
QUL-2a-60m	26/10/16	0.000129	<0.0010	2.06	0.00149	0.00103	<0.00050	0.582	0.000232
QUL-58-AT	05/10/16	0.000403	0.0011	1.9	0.00149	0.000453	<0.00050	0.507	0.000112
	09/11/16	0.000262	<0.0010	2.03	0.00186	0.000747	<0.00050	0.557	0.000178
	16/11/16	0.00102	<0.0010	2.07	0.00141	0.000584	<0.00050	0.52	0.000121
	30/11/16	0.000304	<0.0010	1.8	0.00172	0.00072	<0.00050	0.489	0.000169
QUL-58-B	05/10/16	0.000194	0.0012	2.12	0.00165	0.00122	<0.00050	0.589	0.000237
	09/11/16	0.000187	<0.0010	2.16	0.00259	0.001	<0.00050	0.6	0.000208
	16/11/16	0.000185	<0.0010	2.21	0.00226	0.001	<0.00050	0.588	0.000213
	30/11/16	0.000157	<0.0010	1.82	0.00212	0.000952	<0.00050	0.521	0.000177
QUL-58-BT	05/10/16	0.000378	0.0013	2.32	0.00195	0.00265	<0.00050	0.712	0.000476
	09/11/16	0.000706	<0.0010	2.06	0.00177	0.000862	<0.00050	0.566	0.000207
QUL-58-MP	16/11/16	0.000739	<0.0010	2.2	0.002	0.00104	<0.00050	0.567	0.000218
QUL-58-S	05/10/16	<0.000050	0.0012	1.89	0.00118	0.000386	<0.00050	0.512	0.000097
	09/11/16	<0.000050	<0.0010	1.9	0.00125	0.000419	<0.00050	0.508	0.000122
	16/11/16	<0.000050	<0.0010	2.08	0.0013	0.000623	<0.00050	0.519	0.000162
	30/11/16	0.000058	<0.0010	1.83	0.00186	0.000802	<0.00050	0.498	0.00016

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
QUL-18-0m	26/10/16	1.6	<0.000010	0.926	0.132	<0.000010	<0.00010	<0.010	0.000167
QUL-18-100m	26/10/16	1.84	<0.000010	1.3	0.148	<0.000010	<0.00010	<0.010	0.000169
QUL-18-20m	26/10/16	1.56	<0.000010	0.921	0.134	<0.000010	<0.00010	<0.010	0.000164
QUL-18-50m	26/10/16	1.58	<0.000010	0.935	0.133	<0.000010	<0.00010	<0.010	0.000163
QUL-2a-0m	26/10/16	1.62	<0.000010	0.911	0.132	<0.000010	<0.00010	<0.010	0.000161
QUL-2a-20m	26/10/16	1.61	<0.000010	0.896	0.132	<0.000010	<0.00010	<0.010	0.000162
QUL-2a-40m	26/10/16	1.77	<0.000010	1.15	0.142	<0.000010	<0.00010	<0.010	0.000165
QUL-2a-60m	26/10/16	1.81	<0.000010	1.23	0.143	<0.000010	<0.00010	<0.010	0.000167
QUL-58-AT	05/10/16	1.62	<0.000010	0.923	0.139	<0.000010	<0.00010	<0.010	0.000172
	09/11/16	1.7	<0.000010	1.14	0.125	<0.000010	<0.00010	<0.010	0.000163
	16/11/16	1.66	<0.000010	1.02	0.141	<0.000010	<0.00010	<0.010	0.000162
	30/11/16	1.6	<0.000010	0.939	0.14	<0.000010	<0.00010	<0.010	0.000165
QUL-58-B	05/10/16	1.86	<0.000010	1.24	0.155	<0.000010	<0.00010	<0.010	0.000177
	09/11/16	1.89	<0.000010	1.28	0.132	<0.000010	<0.00010	<0.010	0.000166
	16/11/16	1.82	<0.000010	1.22	0.15	<0.000010	<0.00010	<0.010	0.000166
	30/11/16	1.71	<0.000010	1.02	0.144	<0.000010	<0.00010	<0.010	0.00017
QUL-58-BT	05/10/16	1.88	<0.000010	1.7	0.173	<0.000010	<0.00010	<0.010	0.000187
	09/11/16	1.77	<0.000010	1.19	0.129	<0.000010	<0.00010	<0.010	0.000164
QUL-58-MP	16/11/16	1.67	<0.000010	1.21	0.15	<0.000010	<0.00010	<0.010	0.000162
QUL-58-S	05/10/16	1.68	<0.000010	0.921	0.136	<0.000010	<0.00010	<0.010	0.000162
	09/11/16	1.54	<0.000010	1.1	0.121	<0.000010	<0.00010	<0.010	0.000156
	16/11/16	1.62	<0.000010	1.02	0.142	<0.000010	<0.00010	<0.010	0.000158
	30/11/16	1.59	<0.000010	0.971	0.141	<0.000010	<0.00010	<0.010	0.000168

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
QUL-18-0m	26/10/16	<0.00050	0.0039	0.0081	<0.00010	0.0001	0.00491	<0.00010	<0.000050
QUL-18-100m	26/10/16	<0.00050	<0.0030	0.0054	<0.00010	<0.00010	0.0054	<0.00010	<0.000050
QUL-18-20m	26/10/16	<0.00050	<0.0030	0.0069	<0.00010	<0.00010	0.00477	<0.00010	<0.000050
QUL-18-50m	26/10/16	<0.00050	<0.0030	0.0064	<0.00010	<0.00010	0.00474	<0.00010	<0.000050
QUL-2a-0m	26/10/16	<0.00050	<0.0030	0.0081	<0.00010	<0.00010	0.00476	<0.00010	<0.000050
QUL-2a-20m	26/10/16	<0.00050	<0.0030	0.0081	<0.00010	<0.00010	0.00487	<0.00010	<0.000050
QUL-2a-40m	26/10/16	<0.00050	<0.0030	0.0049	<0.00010	0.0001	0.0052	<0.00010	<0.000050
QUL-2a-60m	26/10/16	<0.00050	<0.0030	0.0051	<0.00010	<0.00010	0.0054	<0.00010	<0.000050
QUL-58-AT	05/10/16	<0.00050	<0.0030	0.0115	<0.00010	0.00011	0.00523	<0.00010	<0.000050
	09/11/16	<0.00050	<0.0030	0.0058	<0.00010	0.00011	0.00522	<0.00010	<0.000050
	16/11/16	<0.00050	0.0065	0.0065	<0.00010	<0.00010	0.00507	<0.00010	<0.000050
	30/11/16	<0.00050	<0.0030	0.0077	<0.00010	0.0001	0.00535	<0.00010	<0.000050
QUL-58-B	05/10/16	<0.00050	<0.0030	0.005	<0.00010	<0.00010	0.00563	<0.00010	<0.000050
	09/11/16	<0.00050	<0.0030	0.013	<0.00010	0.0001	0.00565	<0.00010	<0.000050
	16/11/16	<0.00050	<0.0030	0.005	<0.00010	<0.00010	0.0051	<0.00010	<0.000050
	30/11/16	<0.00050	<0.0030	0.0062	<0.00010	<0.00010	0.00569	<0.00010	<0.000050
QUL-58-BT	05/10/16	<0.00050	<0.0030	0.0065	<0.00010	0.00012	0.00622	<0.00010	<0.000050
	09/11/16	<0.00050	<0.0030	0.0103	<0.00010	<0.00010	0.00563	<0.00010	<0.000050
QUL-58-MP	16/11/16	<0.00050	<0.0030	0.0077	<0.00010	0.0001	0.00526	<0.00010	<0.000050
QUL-58-S	05/10/16	<0.00050	<0.0030	0.0067	<0.00010	<0.00010	0.00496	<0.00010	<0.000050
	09/11/16	<0.00050	0.0054	0.0075	<0.00010	<0.00010	0.00493	<0.00010	<0.000050
	16/11/16	<0.00050	0.0032	0.0077	<0.00010	<0.00010	0.00529	<0.00010	<0.000050
	30/11/16	<0.00050	<0.0030	0.0081	<0.00010	<0.00010	0.00533	<0.00010	<0.000050

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
QUL-18-0m	26/10/16	<0.010	<0.000005	16.8	<0.00050	<0.00010	0.00051	<0.030	<0.000050
QUL-18-100m	26/10/16	<0.010	<0.000005	17.9	<0.00050	<0.00010	0.00089	<0.030	0.000128
QUL-18-20m	26/10/16	<0.010	<0.000005	16.8	<0.00050	<0.00010	0.00066	<0.030	0.000213
QUL-18-50m	26/10/16	<0.010	<0.000005	16.9	<0.00050	<0.00010	0.00052	<0.030	0.000157
QUL-2a-0m	26/10/16	<0.010	<0.000005	16.8	<0.00050	<0.00010	0.00055	<0.030	<0.000050
QUL-2a-20m	26/10/16	<0.010	<0.000005	16.8	<0.00050	<0.00010	0.00075	<0.030	0.00063
QUL-2a-40m	26/10/16	<0.010	<0.000005	17.5	<0.00050	<0.00010	0.00088	<0.030	0.000304
QUL-2a-60m	26/10/16	<0.010	<0.000005	17.8	<0.00050	<0.00010	0.00096	<0.030	0.000257
QUL-58-AT	05/10/16	<0.010	<0.000005	18	<0.00050	<0.00010	0.00104	<0.030	0.000468
	09/11/16	<0.010	<0.000005	17.6	<0.00050	<0.00010	0.0008	<0.030	0.000237
	16/11/16	<0.010	<0.000005	16.4	<0.00050	<0.00010	0.00077	<0.030	0.00107
	30/11/16	<0.010	<0.000005	17.8	<0.00050	<0.00010	0.00083	<0.030	0.00022
QUL-58-B	05/10/16	<0.010	<0.000005	18.8	<0.00050	<0.00010	0.00096	<0.030	0.000173
	09/11/16	<0.010	<0.000005	18.1	<0.00050	<0.00010	0.00139	<0.030	0.000484
	16/11/16	<0.010	<0.000005	17.4	<0.00050	<0.00010	0.00075	<0.030	0.000327
	30/11/16	<0.010	<0.000005	17.7	<0.00050	<0.00010	0.00105	<0.030	0.000188
QUL-58-BT	05/10/16	<0.010	<0.000005	19.9	<0.00050	<0.00010	0.00094	<0.030	0.00025
	09/11/16	<0.010	<0.000005	17.7	<0.00050	<0.00010	0.00113	<0.030	0.000309
QUL-58-MP	16/11/16	<0.010	<0.000005	17.2	<0.00050	<0.00010	0.00067	<0.030	0.000717
QUL-58-S	05/10/16	<0.010	<0.000005	17.4	<0.00050	<0.00010	<0.00050	<0.030	<0.000050
	09/11/16	<0.010	<0.000005	17.2	<0.00050	<0.00010	0.0005	<0.030	<0.000050
	16/11/16	<0.010	<0.000005	15.7	<0.00050	<0.00010	0.00051	<0.030	<0.000050
	30/11/16	<0.010	<0.000005	17.5	<0.00050	<0.00010	0.00137	<0.030	<0.000050

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		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
QUL-18-0m	26/10/16	<0.0010	1.84	0.00024	0.000346	<0.00050	0.462	0.000078	1.46
QUL-18-100m	26/10/16	<0.0010	2.01	0.00059	0.00104	<0.00050	0.544	0.000214	1.64
QUL-18-20m	26/10/16	<0.0010	1.84	0.00016	0.00034	<0.00050	0.457	0.000101	1.45
QUL-18-50m	26/10/16	<0.0010	1.82	0.00014	0.000343	<0.00050	0.467	0.000092	1.46
QUL-2a-0m	26/10/16	<0.0010	1.75	0.00023	0.00033	<0.00050	0.439	0.000077	1.44
QUL-2a-20m	26/10/16	<0.0010	1.77	0.00022	0.000318	<0.00050	0.459	0.000081	1.46
QUL-2a-40m	26/10/16	<0.0010	1.92	0.00027	0.000871	<0.00050	0.53	0.000188	1.59
QUL-2a-60m	26/10/16	<0.0010	1.99	0.00035	0.00101	<0.00050	0.538	0.000217	1.63
QUL-58-AT	05/10/16	<0.0010	1.93	0.00045	0.000449	<0.00050	0.51	0.000113	1.51
	09/11/16	<0.0010	2.09	0.00018	0.000783	<0.00050	0.537	0.000187	1.6
	16/11/16	<0.0010	1.98	0.00016	0.000502	<0.00050	0.488	0.000136	1.5
	30/11/16	<0.0010	2.12	0.00028	0.000675	<0.00050	0.537	0.000148	1.75
QUL-58-B	05/10/16	0.001	2.11	0.00024	0.00113	<0.00050	0.584	0.000253	1.77
	09/11/16	<0.0010	2.18	0.00065	0.00105	<0.00050	0.577	0.000236	1.71
	16/11/16	<0.0010	1.89	0.00018	0.000861	<0.00050	0.482	0.000236	1.7
	30/11/16	<0.0010	2.27	0.00022	0.000896	<0.00050	0.569	0.000214	1.86
QUL-58-BT	05/10/16	0.0011	2.3	0.00083	0.00243	<0.00050	0.718	0.0005	1.76
	09/11/16	<0.0010	2.14	0.00038	0.000896	<0.00050	0.558	0.000192	1.64
QUL-58-MP	16/11/16	<0.0010	2.03	0.00045	0.000891	<0.00050	0.521	0.00025	1.51
QUL-58-S	05/10/16	<0.0010	1.86	0.00016	0.000333	<0.00050	0.494	0.000073	1.52
	09/11/16	<0.0010	2.01	0.00012	0.00043	<0.00050	0.487	0.000105	1.51
	16/11/16	<0.0010	2.03	0.00012	0.00048	<0.00050	0.5	0.000144	1.51
	30/11/16	<0.0010	2.15	0.00024	0.000717	<0.00050	0.543	0.000172	1.75

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
QUL-18-0m	26/10/16	<0.000010	0.886	0.127	<0.000010	<0.00010	<0.010	0.000145	<0.00050
QUL-18-100m	26/10/16	<0.000010	1.2	0.139	<0.000010	<0.00010	<0.010	0.000154	<0.00050
QUL-18-20m	26/10/16	<0.000010	0.867	0.126	<0.000010	<0.00010	<0.010	0.000145	<0.00050
QUL-18-50m	26/10/16	<0.000010	0.871	0.127	<0.000010	<0.00010	<0.010	0.000145	<0.00050
QUL-2a-0m	26/10/16	<0.000010	0.839	0.127	<0.000010	<0.00010	<0.010	0.000146	<0.00050
QUL-2a-20m	26/10/16	<0.000010	0.852	0.127	<0.000010	<0.00010	<0.010	0.000148	<0.00050
QUL-2a-40m	26/10/16	<0.000010	1.1	0.136	<0.000010	<0.00010	<0.010	0.000149	<0.00050
QUL-2a-60m	26/10/16	<0.000010	1.17	0.139	<0.000010	<0.00010	<0.010	0.000153	<0.00050
QUL-58-AT	05/10/16	<0.000010	0.934	0.136	<0.000010	<0.00010	<0.010	0.000156	<0.00050
	09/11/16	<0.000010	1.11	0.139	<0.000010	<0.00010	<0.010	0.000156	<0.00050
	16/11/16	<0.000010	0.953	0.134	<0.000010	<0.00010	<0.010	0.000157	<0.00050
	30/11/16	<0.000010	1.09	0.136	<0.000010	<0.00010	<0.010	0.000155	<0.00050
QUL-58-B	05/10/16	<0.000010	1.24	0.149	<0.000010	<0.00010	<0.010	0.00016	<0.00050
	09/11/16	<0.000010	1.22	0.144	<0.000010	<0.00010	<0.010	0.000162	<0.00050
	16/11/16	<0.000010	1.03	0.145	<0.000010	<0.00010	<0.010	0.000162	<0.00050
	30/11/16	<0.000010	1.22	0.139	<0.000010	<0.00010	<0.010	0.000154	<0.00050
QUL-58-BT	05/10/16	<0.000010	1.67	0.168	<0.000010	<0.00010	<0.010	0.000174	<0.00050
	09/11/16	<0.000010	1.15	0.141	<0.000010	<0.00010	<0.010	0.000142	<0.00050
QUL-58-MP	16/11/16	<0.000010	1.1	0.144	<0.000010	<0.00010	<0.010	0.000162	<0.00050
QUL-58-S	05/10/16	<0.000010	0.891	0.133	<0.000010	<0.00010	<0.010	0.000152	<0.00050
	09/11/16	<0.000010	0.956	0.134	<0.000010	<0.00010	<0.010	0.000152	<0.00050
	16/11/16	<0.000010	0.981	0.128	<0.000010	<0.00010	<0.010	0.000153	<0.00050
	30/11/16	<0.000010	1.14	0.135	<0.000010	<0.00010	<0.010	0.000151	<0.00050

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		Diss-Zinc (Zn) (mg/L)
QUL-18-0m	26/10/16	<0.0030
QUL-18-100m	26/10/16	<0.0030
QUL-18-20m	26/10/16	<0.0030
QUL-18-50m	26/10/16	<0.0030
QUL-2a-0m	26/10/16	<0.0030
QUL-2a-20m	26/10/16	<0.0030
QUL-2a-40m	26/10/16	<0.0030
QUL-2a-60m	26/10/16	<0.0030
QUL-58-AT	05/10/16	<0.0030
	09/11/16	<0.0030
	16/11/16	<0.0030
	30/11/16	<0.0030
QUL-58-B	05/10/16	<0.0030
	09/11/16	<0.0030
	16/11/16	<0.0030
	30/11/16	<0.0030
QUL-58-BT	05/10/16	<0.0030
	09/11/16	<0.0030
QUL-58-MP	16/11/16	<0.0030
QUL-58-S	05/10/16	<0.0030
	09/11/16	<0.0030
	16/11/16	<0.0030
	30/11/16	<0.0030

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
EDC-01	03/10/16	201	97.2	7.98	157	<1.0	0.8	88.4	<0.0050
	01/11/16	119	61.9	7.89	126	2.7	3.02	58.8	0.0081
	06/12/16	190	90.9	8	152	1.8	2.81	74.3	0.0059

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
HAC-05a	03/10/16	1140	515	7.92	853	2	0.53	59.6	0.0206
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	941	391	7.99	705	5.4	3.37	76.2	0.0213
	08/11/16								
	15/11/16								
	22/11/16	316	145	8.15	210	12.6	6.82	108	0.0105
	29/11/16								
	06/12/16	921	389	8.06	659	3.7	2.48	75.7	0.0134
	14/12/16								
	20/12/16								

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This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
EDC-01	03/10/16	0.54	0.056	0.0806	0.0806	<0.0010	0.0011	0.009	0.0101
	01/11/16	<0.50	0.041	0.0655	0.0655	<0.0010	0.002	0.0132	0.0207
	06/12/16	0.83	0.053	0.26	0.26	<0.0010	0.0023	0.0137	0.0168

		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
HAC-05a	03/10/16	14.4	0.59	8.35	8.39	0.0484	<0.0010	0.0031	0.0071
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	9.3	0.48	6.21	6.25	0.0323	0.0022	0.0056	0.0137
	08/11/16								
	15/11/16								
	22/11/16	1.42	0.104	0.135	0.138	0.0026	0.0176	0.0241	0.046
	29/11/16								
	06/12/16	8.8	0.45	5.85	5.87	0.0196	0.0058	0.0098	0.0162
	14/12/16								
	20/12/16								

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
EDC-01	03/10/16	15.6	0.677	16.7	0.0454	<0.00010	0.00103	0.0191	<0.00010
	01/11/16	4.43	0.803	22.5	0.273	<0.00010	0.00065	0.0125	<0.00010
	06/12/16	22.2	0.84	21.7	0.223	0.00011	0.00075	0.0175	<0.00010

		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
HAC-05a	03/10/16	519	8.34	2.25	0.0617	0.00193	0.001	0.0629	<0.00010
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	410	6.33	4.29	0.224	0.00129	0.00114	0.0585	<0.00010
	08/11/16								
	15/11/16								
	22/11/16	58.1	0.415	7.28	0.353	0.00014	0.00112	0.0253	<0.00010
	29/11/16								
	06/12/16	386	5.82	3.44	0.121	0.00124	0.00113	0.0497	<0.00010
	14/12/16								
	20/12/16								

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
EDC-01	03/10/16	<0.000050	0.012	0.0000071	27.5	0.00064	<0.00010	0.00361	0.207
	01/11/16	<0.000050	<0.010	0.0000097	16.9	0.00121	0.00016	0.00396	0.474
	06/12/16	<0.000050	<0.010	0.0000086	23.8	0.00118	0.00014	0.00485	0.398

		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
HAC-05a	03/10/16	<0.000050	0.146	0.0000083	169	<0.00050	<0.00010	0.00399	0.047
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	<0.000050	0.105	<0.000030	121	<0.00050	0.00023	0.0136	0.246
	08/11/16								
	15/11/16								
	22/11/16	<0.000050	0.024	0.0000099	47.5	<0.00050	0.00036	0.021	0.4
	29/11/16								
	06/12/16	<0.000050	0.103	0.0000211	114	<0.00050	0.00014	0.00892	0.111
	14/12/16								
	20/12/16								

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
EDC-01	03/10/16	<0.000050	<0.0010	7.83	0.00873	0.00226	0.0012	0.813	0.000933
	01/11/16	0.000076	<0.0010	4.94	0.0167	0.000697	0.00169	0.62	0.000249
	06/12/16	0.00007	<0.0010	5.75	0.0132	0.00249	0.00157	0.659	0.000798

		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
HAC-05a	03/10/16	<0.000050	0.0179	27.1	0.0265	0.192	0.00066	15.7	0.0335
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	0.000064	0.0118	24.7	0.0742	0.126	0.00079	12.9	0.0251
	08/11/16								
	15/11/16								
	22/11/16	0.000147	0.0012	7.26	0.0999	0.0126	0.00083	1.69	0.000878
	29/11/16								
	06/12/16	<0.000050	0.0113	20.5	0.0496	0.117	0.00052	10.7	0.023
	14/12/16								
	20/12/16								

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
EDC-01	03/10/16	4.41	<0.000010	5.42	0.196	<0.000010	<0.00010	<0.010	0.000155
	01/11/16	4.86	0.000011	2.83	0.109	<0.000010	<0.00010	<0.010	0.000106
	06/12/16	5.54	<0.000010	4.23	0.161	<0.000010	<0.00010	<0.010	0.000175

		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
HAC-05a	03/10/16	4.15	<0.000010	54.4	2.8	<0.000010	<0.00010	<0.010	0.00143
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	4.28	<0.000010	48.1	1.86	<0.000010	<0.00010	0.011	0.00116
	08/11/16								
	15/11/16								
	22/11/16	3.88	<0.000010	10.6	0.383	<0.000010	<0.00010	0.015	0.000424
	29/11/16								
	06/12/16	4.15	<0.000010	42.2	1.73	<0.000010	<0.00010	<0.010	0.00108
	14/12/16								
	20/12/16								

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
EDC-01	03/10/16	0.00069	<0.0030	0.027	<0.00010	0.00094	0.018	<0.00010	<0.000050
	01/11/16	0.00124	<0.0030	0.115	<0.00010	0.00054	0.0113	<0.00010	<0.000050
	06/12/16	0.00123	<0.0030	0.0764	<0.00010	0.00063	0.0182	<0.00010	<0.000050

		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
HAC-05a	03/10/16	0.00114	<0.0030	0.0192	0.00188	0.00099	0.0627	<0.00010	<0.000050
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	0.00167	0.0038	0.0186	0.00122	0.00098	0.0555	<0.00010	<0.000050
	08/11/16								
	15/11/16								
	22/11/16	0.00169	0.0078	0.0166	0.00013	0.00085	0.0174	<0.00010	<0.000050
	29/11/16								
	06/12/16	0.00151	0.0035	0.0126	0.00114	0.00095	0.0464	<0.00010	<0.000050
	14/12/16								
	20/12/16								

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
EDC-01	03/10/16	0.011	0.0000057	26.5	<0.00050	<0.00010	0.00315	0.16	<0.000050
	01/11/16	<0.010	0.0000063	16.5	0.00094	<0.00010	0.00358	0.261	<0.000050
	06/12/16	<0.010	0.0000062	25.8	0.00071	<0.00010	0.00436	0.191	<0.000050

		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
HAC-05a	03/10/16	0.132	0.0000125	162	<0.00050	<0.00010	0.00266	<0.030	<0.000050
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	0.098	<0.000020	117	<0.00050	<0.00010	0.00775	0.038	<0.000050
	08/11/16								
	15/11/16								
	22/11/16	0.022	0.0000059	46.6	<0.00050	0.0001	0.00991	0.053	<0.000050
	29/11/16								
	06/12/16	0.101	0.0000204	120	<0.00050	<0.00010	0.00452	<0.030	<0.000050
	14/12/16								
	20/12/16								

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		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
EDC-01	03/10/16	<0.0010	7.56	0.00656	0.00174	0.00112	0.789	0.000767	4.3
	01/11/16	<0.0010	5.01	0.00529	0.000591	0.0015	0.595	0.000234	4.43
	06/12/16	<0.0010	6.45	0.00659	0.0029	0.00129	0.718	0.00108	5.12

		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
HAC-05a	03/10/16	0.0167	26.9	0.0203	0.172	<0.00050	15.6	0.0346	3.92
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	0.0113	24.3	0.0619	0.115	0.0005	12.8	0.0245	3.62
	08/11/16								
	15/11/16								
	22/11/16	0.001	7.02	0.0743	0.0119	<0.00050	1.62	0.000913	3.13
	29/11/16								
	06/12/16	0.0109	21.7	0.0375	0.117	<0.00050	11.5	0.0217	3.86
	14/12/16								
	20/12/16								

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
EDC-01	03/10/16	<0.000010	4.95	0.187	<0.000010	<0.00010	<0.010	0.000137	0.00054
	01/11/16	<0.000010	2.85	0.105	<0.000010	<0.00010	<0.010	0.000094	0.00084
	06/12/16	<0.000010	4.96	0.176	<0.000010	<0.00010	<0.010	0.000178	0.00057

		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
HAC-05a	03/10/16	<0.000010	53.9	2.66	<0.000010	<0.00010	<0.010	0.0013	0.00092
	11/10/16								
	18/10/16								
	24/10/16								
	01/11/16	<0.000010	47.8	1.78	<0.000010	<0.00010	<0.010	0.00108	0.00097
	08/11/16								
	15/11/16								
	22/11/16	<0.000010	10.5	0.371	<0.000010	<0.00010	<0.010	0.000396	0.00081
	29/11/16								
	06/12/16	<0.000010	42.7	1.73	<0.000010	<0.00010	<0.010	0.000986	0.00089
	14/12/16								
	20/12/16								

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		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
EDC-01	03/10/16	<0.0030	6.531	0.74
	01/11/16	<0.0030	4.8	2.84
	06/12/16	<0.0030	-0.1	2.13

		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAC-05a	03/10/16	<0.0030	13.197	0.83
	11/10/16		10.6	4.75
	18/10/16		10.1	1.72
	24/10/16		10.5	2.46
	01/11/16	0.0036	8.6	3.08
	08/11/16		9	1.79
	15/11/16		6.9	2.33
	22/11/16	0.0048	4.5	6.69
	29/11/16		4.9	1.68
	06/12/16	<0.0030	2.4	2.43
	14/12/16		1.3	1.01
	20/12/16		2.1	0.83

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	1070	473	7.99	782	8.9	1.11	69.4	0.0094
	01/11/16	834	312	8.05	601	15.5	8.03	79.4	0.0085
	22/11/16	317	146	8.19	222	26.8	8.93	107	<0.0050
	06/12/16	882	375	8.1	635	8.4	3.23	83.1	0.0075
	14/12/16								
HAC-10	03/10/16	286	117	8.19	183	7	1.34	98.3	<0.0050
	11/10/16								
	18/10/16								
	24/10/16	272	135	8.19	183	2	1.67	105	<0.0050
	01/11/16	275	120	8.12	190	6.3	1.58	100	0.0062
	08/11/16	277	120	8.15	200	2.2	1.77	105	<0.0050
	15/11/16	277	125	8.19	195	2.4	1.95	104	<0.0050
	22/11/16	278	124	8.07	184	3.5	2.58	100	<0.0050
	29/11/16	285	126	8.09	213	3.4	4.01	99	<0.0050
	06/12/16	284	130	8.21	173	6.3	4.98	105	<0.0050
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	901	380	7.92	655	3.7	2.14	82	0.0089
	11/10/16	965	422	7.94	708	4.2	2.19	79.5	0.0084
	18/10/16	826	352	7.96	622	7.9	5.51	86.2	0.0087
	24/10/16	922	417	7.98	703	6.2	4.74	80.6	0.0088
	01/11/16	813	350	8.06	618	8.8	8.3	84	0.0112
	08/11/16	864	357	8.09	644	5.5	4.44	92.7	0.0073

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	10.5	0.53	7.33	7.36	0.032	<0.0010	0.003	0.0147
	01/11/16	7.7	0.4	5.04	5.05	0.0154	0.0018	0.0054	0.041
	22/11/16	1.49	0.122	0.313	0.313	<0.0010	0.0114	0.017	0.049
	06/12/16	7.8	0.39	5.26	5.27	0.0125	0.0043	0.0082	0.0198
	14/12/16								
HAC-10	03/10/16	1.24	0.084	<0.0050	<0.0051	<0.0010	<0.0010	0.0057	0.0269
	11/10/16								
	18/10/16								
	24/10/16	1.26	0.082	0.0191	0.0191	<0.0010	0.0094	0.0151	0.018
	01/11/16	1.3	0.085	0.0324	0.0324	<0.0010	0.0113	0.0154	0.0186
	08/11/16	1.26	0.085	0.0924	0.0924	<0.0010	0.0254	0.0341	0.0362
	15/11/16	1.26	0.081	0.0794	0.0794	<0.0010	0.0231	0.0276	0.0254
	22/11/16	1.29	0.087	0.0911	0.0911	<0.0010	0.0233	0.0322	0.0268
	29/11/16	1.26	0.087	0.0794	0.0794	<0.0010	0.0215	0.027	0.0297
	06/12/16	1.28	0.087	0.0906	0.0906	<0.0010	0.0189	0.0255	0.0348
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	8.9	0.43	5.59	5.62	0.0255	<0.0010	0.0027	0.0245
	11/10/16	9.3	0.44	6.39	6.41	0.0224	<0.0010	0.0028	0.0089
	18/10/16	7.8	0.42	5.14	5.16	0.0193	<0.0010	0.0048	0.0167
	24/10/16	9.1	0.47	6.24	6.26	0.0211	<0.0010	0.0054	0.013
	01/11/16	7.6	0.4	5	5.02	0.0192	0.0016	0.0053	0.0165
	08/11/16	7.8	0.42	5.19	5.21	0.0181	0.0018	0.006	0.0057

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	468	7.63	2.58	0.146	0.00157	0.00101	0.0651	<0.00010
	01/11/16	339	5.26	7.05	0.604	0.00092	0.00127	0.0586	<0.00010
	22/11/16	63.4	0.65	9.16	0.299	0.0002	0.00111	0.0249	<0.00010
	06/12/16	350	5.55	4.24	0.208	0.00114	0.00108	0.047	<0.00010
	14/12/16								
HAC-10	03/10/16	45.9	0.299	5.53	0.0766	0.00012	0.00089	0.013	<0.00010
	11/10/16								
	18/10/16								
	24/10/16	46.2	0.306	6.65	0.0901	0.00011	0.00086	0.0132	<0.00010
	01/11/16	46.4	0.319	6.11	0.0869	0.00011	0.00093	0.0134	<0.00010
	08/11/16	45.5	0.358	6.15	0.119	0.00012	0.00083	0.0121	<0.00010
	15/11/16	45.2	0.358	6.1	0.108	0.00028	0.00081	0.0124	<0.00010
	22/11/16	45.4	0.339	6.41	0.0929	0.00013	0.00095	0.0133	<0.00010
	29/11/16	44.5	0.367	5.97	0.207	0.00013	0.00092	0.0142	<0.00010
	06/12/16	45.1	0.408	5.97	0.176	0.00013	0.0009	0.0144	<0.00010
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	372	5.98	3.36	0.103	0.00121	0.00098	0.0567	<0.00010
	11/10/16	422	6.36	3.7	0.105	0.00133	0.00107	0.0657	<0.00010
	18/10/16	355	5.06	6.01	0.36	0.00104	0.00115	0.0575	<0.00010
	24/10/16	416	6.48	5.27	0.304	0.00123	0.00109	0.0602	<0.00010
	01/11/16	339	5.03	7.23	0.524	0.00104	0.00129	0.0632	<0.00010
	08/11/16	359	5.23	5.15	0.196	0.00108	0.00113	0.0563	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	<0.000050	0.124	0.000011	144	<0.00050	0.00014	0.00817	0.145
	01/11/16	<0.000050	0.075	0.0000234	89.2	0.00101	0.00042	0.0211	0.662
	22/11/16	<0.000050	0.025	0.0000168	46.8	0.00064	0.00033	0.0242	0.465
	06/12/16	<0.000050	0.097	0.0000205	110	<0.00050	0.00019	0.0104	0.216
	14/12/16								
HAC-10	03/10/16	<0.000050	0.026	<0.000005	42.6	<0.00050	<0.00010	0.00538	0.063
	11/10/16								
	18/10/16								
	24/10/16	<0.000050	0.025	<0.000005	41.6	<0.00050	0.00011	0.00589	0.106
	01/11/16	<0.000050	0.024	<0.000005	38.1	<0.00050	<0.00010	0.00513	0.081
	08/11/16	<0.000050	0.027	<0.000005	40.5	<0.00050	<0.00010	0.00487	0.073
	15/11/16	<0.000050	0.027	<0.000005	41.1	<0.00050	<0.00010	0.0048	0.07
	22/11/16	<0.000050	0.025	<0.000005	41.9	<0.00050	<0.00010	0.00573	0.072
	29/11/16	<0.000050	0.027	<0.000005	41.5	<0.00050	0.00014	0.00855	0.13
	06/12/16	<0.000050	0.025	<0.000005	39.6	<0.00050	0.00012	0.00643	0.143
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	<0.000050	0.104	0.0000161	120	<0.00050	0.00012	0.00672	0.105
	11/10/16	<0.000050	0.117	<0.000030	133	<0.00050	0.00014	0.00762	0.113
	18/10/16	<0.000050	0.089	0.0000184	108	0.00067	0.0003	0.0143	0.439
	24/10/16	<0.000050	0.11	0.0000137	130	0.00051	0.00025	0.0112	0.341
	01/11/16	<0.000050	0.085	0.0000176	104	0.00099	0.00037	0.0186	0.562
	08/11/16	<0.000050	0.1	0.0000201	117	<0.00050	0.00022	0.0115	0.245

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	0.000066	0.0146	25.6	0.0285	0.157	0.00058	14	0.0303
	01/11/16	0.000182	0.0086	22.5	0.0707	0.0883	0.00156	11.1	0.0209
	22/11/16	0.000237	0.0019	7.68	0.0807	0.0144	0.00104	2.07	0.00138
	06/12/16	0.000095	0.0107	18.5	0.0477	0.11	0.00063	9.18	0.0223
	14/12/16								
HAC-10	03/10/16	<0.000050	<0.0010	5.63	0.0131	0.0122	<0.00050	1.33	0.000687
	11/10/16								
	18/10/16								
	24/10/16	<0.000050	0.0011	5.9	0.0383	0.00959	<0.00050	1.39	0.000605
	01/11/16	<0.000050	<0.0010	6.05	0.0194	0.00916	<0.00050	1.47	0.000641
	08/11/16	<0.000050	<0.0010	5.25	0.0218	0.00978	<0.00050	1.34	0.00059
	15/11/16	<0.000050	<0.0010	5.74	0.0172	0.00993	<0.00050	1.4	0.000552
	22/11/16	0.000099	<0.0010	5.71	0.0212	0.00984	<0.00050	1.4	0.000621
	29/11/16	0.000065	<0.0010	6.08	0.0178	0.00965	<0.00050	1.47	0.000611
	06/12/16	0.000075	<0.0010	5.36	0.0296	0.00969	<0.00050	1.34	0.000609
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	<0.000050	0.0115	21.3	0.0692	0.119	0.00058	11	0.0216
	11/10/16	0.000055	0.0116	26.1	0.0715	0.133	0.00077	13	0.0253
	18/10/16	0.000131	0.0086	21.4	0.0817	0.0983	0.00113	10	0.0196
	24/10/16	0.000097	0.012	25.5	0.0964	0.127	0.00104	12.5	0.0247
	01/11/16	0.000165	0.0098	23.5	0.12	0.0998	0.00159	11.3	0.0195
	08/11/16	0.000093	0.0103	22.4	0.0966	0.109	0.00084	10.7	0.0209

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	4.28	<0.000010	50.8	2.35	<0.000010	<0.00010	<0.010	0.00129
	01/11/16	5.12	<0.000010	41.5	1.34	<0.000010	<0.00010	0.026	0.000974
	22/11/16	3.88	<0.000010	10.9	0.436	<0.000010	<0.00010	<0.010	0.000489
	06/12/16	4.5	<0.000010	36.8	1.66	<0.000010	<0.00010	<0.010	0.00111
	14/12/16								
HAC-10	03/10/16	2.18	<0.000010	8.99	0.333	<0.000010	<0.00010	<0.010	0.00029
	11/10/16								
	18/10/16								
	24/10/16	2.71	<0.000010	9.25	0.318	<0.000010	<0.00010	<0.010	0.000272
	01/11/16	2.61	<0.000010	9.84	0.296	<0.000010	<0.00010	<0.010	0.00025
	08/11/16	3.25	<0.000010	8.66	0.307	<0.000010	<0.00010	<0.010	0.000241
	15/11/16	2.99	<0.000010	9.25	0.318	<0.000010	<0.00010	<0.010	0.000265
	22/11/16	2.99	<0.000010	9.58	0.317	<0.000010	<0.00010	<0.010	0.000249
	29/11/16	3.31	<0.000010	9.68	0.311	<0.000010	<0.00010	<0.010	0.000259
	06/12/16	3.27	<0.000010	9.02	0.305	<0.000010	<0.00010	<0.010	0.000276
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	3.81	<0.000010	41.3	1.84	<0.000010	<0.00010	<0.010	0.0011
	11/10/16	3.95	<0.000010	49.6	2.06	<0.000010	<0.00010	<0.010	0.00121
	18/10/16	4.44	<0.000010	38.3	1.58	<0.000010	<0.00010	0.016	0.0011
	24/10/16	4.81	<0.000010	46.2	1.95	<0.000010	<0.00010	0.014	0.00126
	01/11/16	5.03	<0.000010	42.6	1.54	<0.000010	<0.00010	0.022	0.00114
	08/11/16	4.46	<0.000010	42.1	1.7	<0.000010	<0.00010	<0.010	0.00122

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	0.0013	<0.0030	0.0134	0.00159	0.00093	0.0626	<0.00010	<0.000050
	01/11/16	0.00258	0.0045	0.0381	0.00094	0.00097	0.0529	<0.00010	<0.000050
	22/11/16	0.00175	0.0035	0.0677	0.0002	0.00083	0.0188	<0.00010	<0.000050
	06/12/16	0.00156	0.0038	0.0164	0.00105	0.00099	0.0487	<0.00010	<0.000050
	14/12/16								
HAC-10	03/10/16	0.00115	<0.0030	<0.0030	0.0001	0.00083	0.0112	<0.00010	<0.000050
	11/10/16								
	18/10/16								
	24/10/16	0.00096	<0.0030	0.0072	0.00011	0.00077	0.0117	<0.00010	<0.000050
	01/11/16	0.00117	<0.0030	0.0129	<0.00010	0.0009	0.0125	<0.00010	<0.000050
	08/11/16	0.00081	<0.0030	0.0037	<0.00010	0.00083	0.0104	<0.00010	<0.000050
	15/11/16	0.00095	<0.0030	0.0069	<0.00010	0.00078	0.0106	<0.00010	<0.000050
	22/11/16	0.00108	<0.0030	0.0092	<0.00010	0.00082	0.0113	<0.00010	<0.000050
	29/11/16	0.00145	<0.0030	0.0084	0.00011	0.00088	0.0114	<0.00010	<0.000050
	06/12/16	0.00139	<0.0030	0.0086	0.00011	0.00073	0.0112	<0.00010	<0.000050
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	0.0012	<0.0030	0.0122	0.0012	0.00089	0.055	<0.00010	<0.000050
	11/10/16	0.00135	<0.0030	0.018	0.0013	0.00093	0.0633	<0.00010	<0.000050
	18/10/16	0.00206	<0.0030	0.0312	0.00105	0.0009	0.0525	<0.00010	<0.000050
	24/10/16	0.00163	<0.0030	0.0199	0.00119	0.00087	0.057	<0.00010	<0.000050
	01/11/16	0.00229	0.004	0.0387	0.00101	0.00105	0.0581	<0.00010	<0.000050
	08/11/16	0.00149	0.004	0.0165	0.00102	0.00096	0.0531	<0.00010	<0.000050

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	0.12	0.0000059	148	<0.00050	<0.00010	0.00297	<0.030	<0.000050
	01/11/16	0.072	0.0000084	89	<0.00050	<0.00010	0.00974	0.046	<0.000050
	22/11/16	0.022	0.0000078	46.1	<0.00050	<0.00010	0.0122	0.088	<0.000050
	06/12/16	0.092	0.0000131	114	<0.00050	<0.00010	0.00564	<0.030	<0.000050
	14/12/16								
HAC-10	03/10/16	0.024	<0.000005	38.1	<0.00050	<0.00010	0.00302	<0.030	<0.000050
	11/10/16								
	18/10/16								
	24/10/16	0.028	<0.000005	44.6	<0.00050	<0.00010	0.00363	0.035	<0.000050
	01/11/16	0.023	<0.000005	37.9	<0.00050	<0.00010	0.00366	<0.030	<0.000050
	08/11/16	0.024	<0.000005	38.7	<0.00050	<0.00010	0.00261	<0.030	<0.000050
	15/11/16	0.026	<0.000005	40.1	<0.00050	<0.00010	0.00326	<0.030	<0.000050
	22/11/16	0.024	<0.000005	40.2	<0.00050	<0.00010	0.00288	<0.030	<0.000050
	29/11/16	0.026	<0.000005	40.3	<0.00050	<0.00010	0.00338	<0.030	<0.000050
	06/12/16	0.025	<0.000005	42.5	<0.00050	<0.00010	0.00298	<0.030	<0.000050
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	0.096	0.0000211	118	<0.00050	<0.00010	0.00397	<0.030	<0.000050
	11/10/16	0.109	<0.000030	128	<0.00050	<0.00010	0.00471	<0.030	<0.000050
	18/10/16	0.086	0.0000126	106	<0.00050	<0.00010	0.00744	0.037	<0.000050
	24/10/16	0.102	0.0000104	126	<0.00050	<0.00010	0.00622	<0.030	<0.000050
	01/11/16	0.081	0.000016	102	<0.00050	0.0001	0.0108	0.058	<0.000050
	08/11/16	0.088	0.0000122	108	<0.00050	<0.00010	0.00676	<0.030	<0.000050

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		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	0.0149	24.9	0.0143	0.15	<0.00050	13.8	0.0297	3.79
	01/11/16	0.0083	21.8	0.0422	0.0827	0.00064	10.8	0.0204	3.89
	22/11/16	0.0017	7.64	0.0461	0.014	0.0005	2.1	0.00137	3.44
	06/12/16	0.01	21.6	0.0343	0.109	<0.00050	10.9	0.02	3.92
	14/12/16								
HAC-10	03/10/16	<0.0010	5.23	0.00822	0.00884	<0.00050	1.25	0.000739	2.01
	11/10/16								
	18/10/16								
	24/10/16	<0.0010	5.69	0.0348	0.00971	<0.00050	1.35	0.000611	2.51
	01/11/16	<0.0010	6.09	0.0157	0.00868	<0.00050	1.46	0.000639	2.4
	08/11/16	<0.0010	5.66	0.00659	0.0086	<0.00050	1.38	0.000581	2.8
	15/11/16	<0.0010	6.02	0.007	0.00895	<0.00050	1.32	0.000624	2.65
	22/11/16	<0.0010	5.66	0.00598	0.00856	<0.00050	1.36	0.000593	2.76
	29/11/16	<0.0010	6.11	0.00628	0.00847	<0.00050	1.44	0.000577	2.81
	06/12/16	<0.0010	5.82	0.00178	0.00954	<0.00050	1.43	0.000547	2.88
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	0.0108	20.9	0.0587	0.11	<0.00050	10.8	0.0235	3.58
	11/10/16	0.0112	24.6	0.0583	0.125	0.00054	12.3	0.0256	3.59
	18/10/16	0.0083	21.1	0.061	0.0955	0.00055	10.2	0.0192	3.78
	24/10/16	0.0116	24.7	0.0816	0.118	0.00053	12.1	0.0247	4.01
	01/11/16	0.0094	23.2	0.101	0.0923	0.00075	11.2	0.0203	4.11
	08/11/16	0.0094	21.3	0.0789	0.0968	<0.00050	10.4	0.0193	3.69

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
HAC-05a	28/12/16								
HAC-08	03/10/16	<0.000010	49.3	2.37	<0.000010	<0.00010	<0.010	0.00127	0.00085
	01/11/16	<0.000010	40.8	1.33	<0.000010	<0.00010	<0.010	0.000939	0.00097
	22/11/16	<0.000010	10.9	0.423	<0.000010	<0.00010	<0.010	0.000457	0.00085
	06/12/16	<0.000010	41.5	1.65	<0.000010	<0.00010	<0.010	0.00101	0.00082
	14/12/16								
HAC-10	03/10/16	<0.000010	8.69	0.295	<0.000010	<0.00010	<0.010	0.000239	0.00083
	11/10/16								
	18/10/16								
	24/10/16	<0.000010	9.03	0.34	<0.000010	<0.00010	<0.010	0.00026	0.00076
	01/11/16	<0.000010	9.97	0.291	<0.000010	<0.00010	<0.010	0.000239	0.00092
	08/11/16	<0.000010	9.33	0.297	<0.000010	<0.00010	<0.010	0.000217	0.00066
	15/11/16	<0.000010	9.28	0.305	<0.000010	<0.00010	<0.010	0.000231	0.00072
	22/11/16	<0.000010	9.43	0.299	<0.000010	<0.00010	<0.010	0.000222	0.00072
	29/11/16	<0.000010	9.81	0.294	<0.000010	<0.00010	<0.010	0.000234	0.00081
	06/12/16	<0.000010	9.63	0.314	<0.000010	<0.00010	<0.010	0.000264	0.0008
	14/12/16								
	20/12/16								
	28/12/16								
HAC-12	03/10/16	<0.000010	40.5	1.81	<0.000010	<0.00010	<0.010	0.00107	0.00083
	11/10/16	<0.000010	46.8	1.99	<0.000010	<0.00010	<0.010	0.00115	0.00081
	18/10/16	<0.000010	38.1	1.56	<0.000010	<0.00010	<0.010	0.00103	0.00091
	24/10/16	<0.000010	44.7	1.89	<0.000010	<0.00010	<0.010	0.00119	0.00087
	01/11/16	<0.000010	42.8	1.5	<0.000010	<0.00010	<0.010	0.00106	0.00103
	08/11/16	<0.000010	39.7	1.56	<0.000010	<0.00010	<0.010	0.00107	0.00087

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		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAC-05a	28/12/16		1.6	0.78
HAC-08	03/10/16	<0.0030	10.095	2.52
	01/11/16	<0.0030	7.3	6.05
	22/11/16	<0.0030	4.1	10.16
	06/12/16	<0.0030	-0.1	3.69
	14/12/16		-0.1	9.6
HAC-10	03/10/16	<0.0030	12.521	1.28
	11/10/16		6.9	0.67
	18/10/16		8.6	0.88
	24/10/16	<0.0030	8	1.23
	01/11/16	<0.0030	6.4	1.37
	08/11/16	<0.0030	7.4	2.47
	15/11/16	<0.0030	5.3	1.64
	22/11/16	<0.0030	5.4	2.77
	29/11/16	<0.0030	3.5	3.37
	06/12/16	<0.0030	0.9	3.97
	14/12/16		1.1	0.92
	20/12/16		0.7	0.59
	28/12/16		0.8	0.42
HAC-12	03/10/16	<0.0030	8.805	2.07
	11/10/16	<0.0030	6.7	2.49
	18/10/16	<0.0030	8.8	5.14
	24/10/16	<0.0030	9.3	3.82
	01/11/16	<0.0030	7.5	6.91
	08/11/16	0.0039	9.1	4.4

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
HAC-12	15/11/16	856	364	8.11	623	12.8	4.2	88.4	0.0069
	22/11/16	427	178	8.13	297	14.9	13.7	106	<0.0050
	29/11/16	782	330	7.99	564	5.5	3.91	91.5	0.0073
	06/12/16	878	375	8.09	621	5.8	2.99	91.2	0.0092
	14/12/16	832	316	7.89	603	12.1	7.27	89.3	0.0135
	20/12/16	857	339	8.06	613	13.3	5.55	87.4	0.0142
	28/12/16	779	315	7.95	568	4.1	2.18	86.3	0.013
HAC-13 - HAC U/S	02/10/16	314	147	8.12	194	1.6	0.92	106	<0.0050
	03/10/16	324	142	8.11	211	<1.0	1.02	108	0.0303
	11/10/16	379	175	7.99	252	13.8	3.2	121	0.0056
	18/10/16	373	170	8.12	264	1.9	3.34	119	0.0204
	24/10/16	442	220	8.18	322	5.5	7.36	133	0.0092
	01/11/16	365	164	8.17	270	2.8	5.16	117	0.0251
	08/11/16	370	164	8.21	263	2.2	2.46	120	0.0248
	15/11/16	333	153	8.23	228	4.5	5.1	116	0.0101
	22/11/16	303	136	8.1	180	6	3.08	106	0.0063
	29/11/16	330	154	8.08	237	2.4	3.04	111	0.0094
	06/12/16	330	148	8.19	214	4.6	5.64	111	0.0088
	14/12/16	309	119	7.99	209	1.2	0.97	108	0.0077
	20/12/16	318	133	8.17	218	<1.0	0.92	113	0.0112
	28/12/16	306	128	8.04	209	<1.0	0.61	107	0.0114

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
HAC-12	15/11/16	7.7	0.36	5.12	5.13	0.0113	0.002	0.0054	0.0129
	22/11/16	2.47	0.163	1.09	1.09	0.0026	0.0075	0.015	0.0286
	29/11/16	6.8	0.36	4.28	4.29	0.0104	0.0048	0.0086	0.017
	06/12/16	7.8	0.39	5.09	5.11	0.0139	0.0045	0.008	0.0152
	14/12/16	7.2	0.38	4.8	4.82	0.0135	0.0083	0.0118	0.0133
	20/12/16	7.8	0.39	5.09	5.1	0.0146	0.0075	0.0099	0.0129
	28/12/16	6.7	0.37	4.46	4.47	0.0107	0.0099	0.0132	0.0194
HAC-13 - HAC U/S	02/10/16	1.36	0.092	0.0114	0.0114	<0.0010	<0.0010	0.0051	0.0069
	03/10/16	1.42	0.096	0.0251	0.0251	<0.0010	<0.0010	0.0044	0.007
	11/10/16	1.78	0.11	0.103	0.103	<0.0010	0.0013	0.0057	0.0792
	18/10/16	1.78	0.114	0.0529	0.0546	0.0017	0.0014	0.0067	0.0107
	24/10/16	2.12	0.128	0.0864	0.0878	0.0014	0.0017	0.0083	0.0142
	01/11/16	1.68	0.115	0.244	0.249	0.0053	0.0033	0.0094	0.0214
	08/11/16	<2.5	0.1	0.199	0.199	<0.0050	0.0121	0.0168	0.023
	15/11/16	1.49	0.096	0.124	0.126	0.0015	0.0122	0.0187	0.025
	22/11/16	1.39	0.095	0.112	0.114	0.0017	0.0193	0.0244	0.0316
	29/11/16	1.45	0.1	0.113	0.115	0.0013	0.0186	0.0238	0.0228
	06/12/16	1.48	0.097	0.121	0.123	0.002	0.0133	0.0199	0.0301
	14/12/16	1.34	0.09	0.119	0.12	0.0012	0.0224	0.0281	0.0278
	20/12/16	1.45	0.091	0.119	0.12	0.0016	0.0225	0.0258	0.0274
	28/12/16	1.33	0.091	0.117	0.117	<0.0010	0.0255	0.0297	0.0266

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
HAC-12	15/11/16	346	4.99	5.36	0.27	0.00129	0.00105	0.0532	<0.00010
	22/11/16	111	1.47	9.77	0.667	0.00042	0.00111	0.0327	<0.00010
	29/11/16	300	4.46	5.83	0.3	0.00092	0.00112	0.0505	<0.00010
	06/12/16	343	5.16	4.53	0.143	0.00111	0.00106	0.0479	<0.00010
	14/12/16	323	4.79	3.95	0.571	0.00099	0.00146	0.057	<0.00010
	20/12/16	341	5.21	3.61	0.387	0.00104	0.00165	0.0574	<0.00010
	28/12/16	303	4.53	3.81	0.0929	0.0009	0.0012	0.0448	<0.00010
HAC-13 - HAC U/S	02/10/16	55.1	0.289	5.56	0.055	0.00015	0.00085	0.0193	<0.00010
	03/10/16	58.8	0.288	5.51	0.0597	0.0002	0.00072	0.0234	<0.00010
	11/10/16	82.7	0.44	7.16	0.147	0.00018	0.00079	0.0327	<0.00010
	18/10/16	83.8	0.374	7.77	0.163	0.00017	0.00089	0.0265	<0.00010
	24/10/16	118	0.497	9.12	0.384	0.00016	0.0009	0.0354	<0.00010
	01/11/16	79.2	0.59	9.1	0.286	0.00016	0.001	0.0296	<0.00010
	08/11/16	82.8	0.534	5.8	0.13	0.00017	0.00098	0.0239	<0.00010
	15/11/16	63.4	0.494	6.93	0.262	0.0004	0.00095	0.021	<0.00010
	22/11/16	54.3	0.442	6.73	0.277	0.00018	0.001	0.0208	<0.00010
	29/11/16	61.5	0.415	6.56	0.383	0.00018	0.00098	0.0224	<0.00010
	06/12/16	61.2	0.439	6.71	0.192	0.00016	0.00089	0.0188	<0.00010
	14/12/16	52.5	0.407	5.83	0.0571	0.00015	0.00085	0.0144	<0.00010
	20/12/16	55.4	0.418	6.3	0.0358	0.00014	0.00094	0.0151	<0.00010
	28/12/16	51	0.386	6.05	0.0233	0.00011	0.00087	0.0136	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
HAC-12	15/11/16	<0.000050	0.098	<0.000020	113	0.00054	0.00023	0.0112	0.334
	22/11/16	<0.000050	0.035	0.0000252	57	0.00108	0.00051	0.0259	0.755
	29/11/16	<0.000050	0.092	0.0000243	107	0.0005	0.00026	0.0128	0.331
	06/12/16	<0.000050	0.095	0.0000238	110	<0.00050	0.00016	0.00898	0.16
	14/12/16	<0.000050	0.089	0.0000304	110	0.00061	0.00045	0.0195	0.58
	20/12/16	<0.000050	0.097	<0.000030	115	<0.00050	0.00038	0.0162	0.49
	28/12/16	<0.000050	0.086	0.0000174	102	<0.00050	0.00015	0.00875	0.122
HAC-13 - HAC U/S	02/10/16	<0.000050	0.027	0.0000054	45.7	<0.00050	<0.00010	0.0106	0.049
	03/10/16	<0.000050	0.028	0.000007	46.8	<0.00050	<0.00010	0.0122	0.047
	11/10/16	<0.000050	0.032	0.00001	57.6	<0.00050	0.00014	0.0215	0.151
	18/10/16	<0.000050	0.031	0.0000156	54.4	0.00081	0.0002	0.0215	0.2
	24/10/16	<0.000050	0.032	0.000016	71.5	0.00065	0.00034	0.0324	0.441
	01/11/16	<0.000050	0.028	0.0000173	53.1	0.00056	0.00029	0.0279	0.34
	08/11/16	<0.000050	0.033	0.0000122	54.7	<0.00050	0.00019	0.0183	0.125
	15/11/16	<0.000050	0.03	<0.000005	49.6	<0.00050	0.00022	0.0179	0.273
	22/11/16	<0.000050	0.03	0.000007	44.5	<0.00050	0.00023	0.015	0.249
	29/11/16	<0.000050	0.031	0.000015	49.8	0.00058	0.00032	0.017	0.355
	06/12/16	<0.000050	0.027	0.0000112	45.7	<0.00050	0.00019	0.0123	0.184
	14/12/16	<0.000050	0.026	<0.000005	45.9	<0.00050	<0.00010	0.0072	0.037
	20/12/16	<0.000050	0.027	<0.000005	47.8	<0.00050	<0.00010	0.00794	0.035
	28/12/16	<0.000050	0.028	<0.000005	44.6	<0.00050	<0.00010	0.00635	<0.030

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
HAC-12	15/11/16	0.000108	0.0106	21.7	0.081	0.108	0.00093	10.4	0.0195
	22/11/16	0.000281	0.0029	10.2	0.114	0.0291	0.00156	3.5	0.00492
	29/11/16	0.000101	0.0098	20.2	0.0995	0.0909	0.00099	9.21	0.0176
	06/12/16	0.000073	0.0103	18.2	0.0783	0.106	0.00061	8.68	0.021
	14/12/16	0.00024	0.01	19.8	0.0726	0.1	0.00106	10.1	0.0196
	20/12/16	0.000216	0.0099	22	0.0764	0.104	0.00106	9.96	0.019
	28/12/16	0.000057	0.008	17.6	0.0678	0.0928	0.00052	8.86	0.0182
HAC-13 - HAC U/S	02/10/16	<0.000050	<0.0010	6.61	0.0233	0.0126	<0.00050	1.45	0.000745
	03/10/16	<0.000050	<0.0010	6.6	0.00593	0.013	<0.00050	1.45	0.000883
	11/10/16	0.000083	<0.0010	9.11	0.0291	0.0175	0.00061	1.76	0.00082
	18/10/16	0.000067	<0.0010	8.79	0.111	0.0165	0.00061	1.82	0.000821
	24/10/16	0.000155	0.002	11.8	0.118	0.0236	0.00103	2.11	0.000956
	01/11/16	0.000112	<0.0010	9.13	0.095	0.0172	0.00098	1.93	0.000975
	08/11/16	0.000074	0.0014	8.59	0.107	0.0173	<0.00050	1.81	0.000869
	15/11/16	0.00011	<0.0010	7.79	0.0731	0.0145	0.00058	1.66	0.000785
	22/11/16	0.000094	<0.0010	6.54	0.0657	0.0125	0.00063	1.52	0.000733
	29/11/16	0.000327	0.0014	7.68	0.0878	0.0135	0.00081	1.64	0.00069
	06/12/16	0.000076	0.001	6.54	0.0752	0.0126	<0.00050	1.44	0.000677
	14/12/16	<0.000050	<0.0010	6.23	0.0359	0.0107	<0.00050	1.41	0.000613
	20/12/16	<0.000050	<0.0010	6.96	0.0518	0.011	<0.00050	1.49	0.000653
	28/12/16	<0.000050	<0.0010	5.95	0.0267	0.0108	<0.00050	1.45	0.000708

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
HAC-12	15/11/16	4.47	<0.000010	39.8	1.68	<0.000010	<0.00010	0.013	0.00111
	22/11/16	4.99	0.000011	15.4	0.627	<0.000010	<0.00010	0.025	0.000699
	29/11/16	4.63	<0.000010	36.2	1.43	<0.000010	<0.00010	0.013	0.000981
	06/12/16	4.48	<0.000010	35.2	1.61	<0.000010	<0.00010	<0.010	0.00112
	14/12/16	5.48	<0.000010	40.9	1.52	<0.000010	<0.00010	0.028	0.00106
	20/12/16	4.63	<0.000010	40.8	1.59	<0.000010	<0.00010	0.021	0.00101
	28/12/16	3.97	<0.000010	35.6	1.39	<0.000010	<0.00010	<0.010	0.000932
HAC-13 - HAC U/S	02/10/16	2.42	<0.000010	10.2	0.373	<0.000010	<0.00010	<0.010	0.000394
	03/10/16	2.43	0.000013	10.4	0.381	<0.000010	<0.00010	<0.010	0.000472
	11/10/16	3.03	<0.000010	13.4	0.482	<0.000010	<0.00010	<0.010	0.000759
	18/10/16	3.16	<0.000010	12.9	0.464	<0.000010	<0.00010	<0.010	0.000709
	24/10/16	4.17	0.000011	15.7	0.613	<0.000010	<0.00010	0.016	0.00115
	01/11/16	3.57	0.000011	13.2	0.437	<0.000010	<0.00010	<0.010	0.000797
	08/11/16	3.43	<0.000010	12.9	0.455	<0.000010	<0.00010	<0.010	0.000706
	15/11/16	3.46	<0.000010	11.5	0.413	<0.000010	<0.00010	0.01	0.000544
	22/11/16	3.48	<0.000010	10.4	0.345	<0.000010	<0.00010	0.011	0.000387
	29/11/16	3.81	<0.000010	11.4	0.384	<0.000010	<0.00010	0.015	0.000455
	06/12/16	3.55	<0.000010	10.5	0.366	<0.000010	<0.00010	<0.010	0.000466
	14/12/16	3.13	<0.000010	11.1	0.345	<0.000010	<0.00010	<0.010	0.000342
	20/12/16	3.08	<0.000010	11.4	0.356	<0.000010	<0.00010	<0.010	0.000338
	28/12/16	3.04	<0.000010	10.3	0.335	<0.000010	<0.00010	<0.010	0.000319

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
HAC-12	15/11/16	0.00161	0.0038	0.0155	0.001	0.0009	0.0495	<0.00010	<0.000050
	22/11/16	0.00233	0.0043	0.0762	0.00032	0.00083	0.0239	<0.00010	<0.000050
	29/11/16	0.00179	0.0044	0.0268	0.00085	0.00096	0.0456	<0.00010	<0.000050
	06/12/16	0.00137	<0.0030	0.0159	0.00102	0.00092	0.0493	<0.00010	<0.000050
	14/12/16	0.0028	0.0047	0.0072	0.0009	0.00102	0.0498	<0.00010	<0.000050
	20/12/16	0.00235	0.0057	0.0072	0.00098	0.00099	0.0475	<0.00010	<0.000050
	28/12/16	0.00123	0.0031	0.0065	0.00089	0.001	0.0449	<0.00010	<0.000050
HAC-13 - HAC U/S	02/10/16	0.00102	<0.0030	0.0072	0.00014	0.00077	0.0191	<0.00010	<0.000050
	03/10/16	0.001	<0.0030	0.0064	0.00015	0.00069	0.0229	<0.00010	<0.000050
	11/10/16	0.00136	<0.0030	0.0141	0.00016	0.00068	0.0297	<0.00010	<0.000050
	18/10/16	0.00143	<0.0030	0.0139	0.00016	0.00073	0.024	<0.00010	<0.000050
	24/10/16	0.00174	<0.0030	0.016	0.00015	0.00073	0.0306	<0.00010	<0.000050
	01/11/16	0.00166	<0.0030	0.0213	0.00014	0.00087	0.0255	<0.00010	<0.000050
	08/11/16	0.0011	<0.0030	0.0061	0.00016	0.00084	0.0204	<0.00010	<0.000050
	15/11/16	0.0014	<0.0030	0.0081	0.00011	0.00081	0.0173	<0.00010	<0.000050
	22/11/16	0.00138	<0.0030	0.0164	0.00012	0.00086	0.0156	<0.00010	<0.000050
	29/11/16	0.00185	<0.0030	0.0091	0.00013	0.00082	0.0166	<0.00010	<0.000050
	06/12/16	0.0014	0.0031	0.0137	0.00012	0.00067	0.0145	<0.00010	<0.000050
	14/12/16	0.00094	<0.0030	0.0034	0.00011	0.00081	0.013	<0.00010	<0.000050
	20/12/16	0.00091	<0.0030	0.0038	<0.00010	0.00078	0.0129	<0.00010	<0.000050
	28/12/16	0.00089	<0.0030	<0.0030	0.00012	0.00085	0.0133	<0.00010	<0.000050

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
HAC-12	15/11/16	0.087	0.0000143	110	<0.00050	<0.00010	0.00678	<0.030	<0.000050
	22/11/16	0.033	0.0000171	56.1	<0.00050	0.0001	0.0123	0.101	<0.000050
	29/11/16	0.083	0.0000206	100	<0.00050	<0.00010	0.00747	0.042	<0.000050
	06/12/16	0.093	0.0000151	115	<0.00050	<0.00010	0.00594	<0.030	<0.000050
	14/12/16	0.086	0.0000215	95.6	<0.00050	<0.00010	0.00662	<0.030	<0.000050
	20/12/16	0.086	<0.000015	103	<0.00050	<0.00010	0.00583	<0.030	<0.000050
	28/12/16	0.085	0.0000122	97.6	<0.00050	<0.00010	0.0058	<0.030	<0.000050
HAC-13 - HAC U/S	02/10/16	0.027	<0.000005	47.9	<0.00050	<0.00010	0.00893	<0.030	<0.000050
	03/10/16	0.027	<0.000005	46.1	<0.00050	<0.00010	0.0104	<0.030	<0.000050
	11/10/16	0.03	0.0000076	55.8	<0.00050	<0.00010	0.0167	<0.030	<0.000050
	18/10/16	0.028	0.0000136	53.8	<0.00050	0.00011	0.0162	0.032	<0.000050
	24/10/16	0.03	0.0000153	69.7	<0.00050	0.00011	0.0217	0.039	<0.000050
	01/11/16	0.025	0.0000149	51.2	<0.00050	0.00013	0.0204	0.07	<0.000050
	08/11/16	0.029	0.000009	52.3	<0.00050	0.00011	0.0129	<0.030	<0.000050
	15/11/16	0.03	0.0000065	48.8	<0.00050	<0.00010	0.0113	<0.030	<0.000050
	22/11/16	0.025	0.0000055	43.7	<0.00050	<0.00010	0.00853	<0.030	<0.000050
	29/11/16	0.029	0.0000122	48.9	<0.00050	<0.00010	0.00993	<0.030	<0.000050
	06/12/16	0.027	0.000006	48.2	<0.00050	<0.00010	0.00696	<0.030	<0.000050
	14/12/16	0.025	0.0000051	38.3	<0.00050	<0.00010	0.00591	<0.030	<0.000050
	20/12/16	0.027	<0.000005	43.5	<0.00050	<0.00010	0.00606	<0.030	<0.000050
	28/12/16	0.027	<0.000005	42.1	<0.00050	<0.00010	0.00532	<0.030	<0.000050

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		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
HAC-12	15/11/16	0.0095	22	0.0636	0.0993	<0.00050	9.9	0.0202	3.7
	22/11/16	0.0024	9.28	0.0766	0.0256	0.00061	3.19	0.00429	3.64
	29/11/16	0.0087	19.4	0.0813	0.0801	0.00054	8.88	0.0173	3.93
	06/12/16	0.0098	21.1	0.0724	0.106	0.00052	10.3	0.0189	4
	14/12/16	0.0095	18.7	0.0497	0.0915	0.00051	8.85	0.0182	3.72
	20/12/16	0.0092	19.6	0.0517	0.0915	<0.00050	9.91	0.0203	3.72
	28/12/16	0.0076	17.3	0.0594	0.083	<0.00050	8.13	0.0173	3.52
HAC-13 - HAC U/S	02/10/16	<0.0010	6.6	0.0204	0.0118	<0.00050	1.44	0.000761	2.29
	03/10/16	<0.0010	6.57	0.00436	0.0119	<0.00050	1.45	0.000864	2.35
	11/10/16	<0.0010	8.78	0.0245	0.0159	<0.00050	1.68	0.00089	2.7
	18/10/16	<0.0010	8.63	0.104	0.0156	<0.00050	1.74	0.000842	2.87
	24/10/16	0.0017	11.1	0.106	0.0215	0.00051	1.97	0.000977	3.24
	01/11/16	<0.0010	8.71	0.0844	0.0153	0.00063	1.81	0.0009	2.9
	08/11/16	0.0011	8.15	0.0972	0.0155	<0.00050	1.69	0.000811	2.98
	15/11/16	0.001	7.63	0.0616	0.0124	<0.00050	1.47	0.000757	2.8
	22/11/16	<0.0010	6.4	0.046	0.0108	<0.00050	1.44	0.000754	2.87
	29/11/16	0.0012	7.67	0.0703	0.0118	<0.00050	1.56	0.000756	3.03
	06/12/16	<0.0010	6.73	0.0473	0.0123	<0.00050	1.41	0.00063	3.09
	14/12/16	<0.0010	5.76	0.0297	0.00958	<0.00050	1.35	0.000606	2.87
	20/12/16	<0.0010	5.97	0.0432	0.0101	<0.00050	1.39	0.00066	2.82
	28/12/16	<0.0010	5.69	0.0252	0.0101	<0.00050	1.37	0.000674	2.87

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
HAC-12	15/11/16	<0.000010	38	1.61	<0.000010	<0.00010	<0.010	0.000991	0.00081
	22/11/16	<0.000010	14.4	0.607	<0.000010	<0.00010	<0.010	0.00064	0.00082
	29/11/16	<0.000010	34.9	1.34	<0.000010	<0.00010	<0.010	0.000913	0.00078
	06/12/16	<0.000010	39.2	1.61	<0.000010	<0.00010	<0.010	0.00106	0.00086
	14/12/16	<0.000010	36.3	1.42	<0.000010	<0.00010	<0.010	0.000962	0.00077
	20/12/16	<0.000010	37.3	1.51	<0.000010	<0.00010	<0.010	0.000938	0.00087
	28/12/16	<0.000010	33.4	1.31	<0.000010	<0.00010	<0.010	0.00094	0.00084
HAC-13 - HAC U/S	02/10/16	<0.000010	10.3	0.386	<0.000010	<0.00010	<0.010	0.00041	0.00089
	03/10/16	<0.000010	10.4	0.372	<0.000010	<0.00010	<0.010	0.000426	0.00091
	11/10/16	<0.000010	12.9	0.466	<0.000010	<0.00010	<0.010	0.000711	0.00079
	18/10/16	<0.000010	12.5	0.452	<0.000010	<0.00010	<0.010	0.000694	0.00081
	24/10/16	<0.000010	15.1	0.588	<0.000010	<0.00010	<0.010	0.0011	0.00078
	01/11/16	<0.000010	12.7	0.417	<0.000010	<0.00010	<0.010	0.000743	0.00087
	08/11/16	<0.000010	12.3	0.433	<0.000010	<0.00010	<0.010	0.000639	0.00075
	15/11/16	<0.000010	10.8	0.385	<0.000010	<0.00010	<0.010	0.000476	0.00073
	22/11/16	<0.000010	10.3	0.34	<0.000010	<0.00010	<0.010	0.000365	0.00077
	29/11/16	<0.000010	11.6	0.373	<0.000010	<0.00010	<0.010	0.000418	0.00077
	06/12/16	<0.000010	10.4	0.373	<0.000010	<0.00010	<0.010	0.000426	0.0007
	14/12/16	<0.000010	9.52	0.31	<0.000010	<0.00010	<0.010	0.000295	0.00067
	20/12/16	<0.000010	9.64	0.347	<0.000010	<0.00010	<0.010	0.000314	0.00071
	28/12/16	<0.000010	9.49	0.309	<0.000010	<0.00010	<0.010	0.000307	0.00074

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		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAC-12	15/11/16	<0.0030	5.5	4.4
	22/11/16	0.0032	4	12.5
	29/11/16	<0.0030	3.7	3.42
	06/12/16	<0.0030	-0.1	3.46
	14/12/16	<0.0030	-0.1	5.65
	20/12/16	<0.0030	0.3	5.81
	28/12/16	<0.0030	0.4	2.06
HAC-13 - HAC U/S	02/10/16	<0.0030	10.479	2.7
	03/10/16	<0.0030	11.703	1.12
	11/10/16	<0.0030	7.5	3.86
	18/10/16	<0.0030	8.3	3.4
	24/10/16	<0.0030	7	7.18
	01/11/16	<0.0030	5.8	4.76
	08/11/16	<0.0030	7.1	2.94
	15/11/16	<0.0030	4.9	4.76
	22/11/16	<0.0030	4.8	4.86
	29/11/16	<0.0030	3.1	2.65
	06/12/16	<0.0030	0	4.29
	14/12/16	<0.0030	0.3	0.82
	20/12/16	<0.0030	0.3	0.72
	28/12/16	<0.0030	0.3	0.6

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
W1	06/10/16	161	86	7.81	126	2.8	1.48	76	0.0081
	01/11/16	122	55.3	7.69	114	2.7	2.74	45.5	0.0052
	12/12/16	117	57.5	7.72	111	2	1.94	52.6	0.0096
W4a	04/10/16	326	179	8.26	249	<1.0	0.59	150	<0.0050
	11/10/16					2	2.22		
	18/10/16					2.5	3.88		
	02/11/16	288	119	8.2	211	2.4	4.03	113	<0.0050
	14/11/16								
	01/12/16	296	153	8.15	204	1.6	1.19	118	<0.0050
W5	04/10/16	124	63.4	7.78	122	<1.0	1.03	57.3	<0.0050
	08/10/16								
	11/10/16					<1.0	2.65		
	18/10/16					<1.0	3.74		
	27/10/16								
	02/11/16	72.8	36.2	7.51	101	<1.0	2.66	32.8	<0.0050
	01/12/16	77.8	36.8	7.56	83	1	2.07	36.2	<0.0050
W8	04/10/16					<1.0	0.71		
	11/10/16					<1.0	1.15		
	18/10/16					1.5	1.41		
	03/11/16	171	86.8	7.86	162	<1.0	1.29	76.8	0.0069
	22/11/16								
W8z	03/11/16	52.5	31.2	7.36	92	<1.0	1.38	26.1	0.0067
W10	03/10/16	169	81.8	7.98	132	<1.0	0.68	87.4	0.0076

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
W1	06/10/16	3.99	0.06	<0.0050	<0.0051	<0.0010	0.0038	0.0091	0.0114
	01/11/16	6.28	0.047	0.0508	0.0508	<0.0010	<0.0010	0.0096	0.0137
	12/12/16	1.68	0.053	0.0627	0.0627	<0.0010	0.0028	0.0085	0.0142
W4a	04/10/16	0.74	0.079	0.0358	0.0358	<0.0010	0.0128	0.0121	0.0161
	11/10/16								
	18/10/16								
	02/11/16	0.57	0.058	0.0316	0.0316	<0.0010	0.0105	0.0131	0.0175
	14/11/16								
	01/12/16	0.55	0.062	0.0426	0.0426	<0.0010	0.0093	0.0108	0.0128
W5	04/10/16	0.53	0.054	<0.0050	<0.0051	<0.0010	0.0015	0.0117	0.0166
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	<0.50	0.048	0.0257	0.0257	<0.0010	0.0026	0.019	0.0196
	01/12/16	<0.50	0.044	0.0725	0.0725	<0.0010	0.0028	0.0164	0.0148
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	1.73	0.064	0.0172	0.0197	0.0025	0.0049	0.0203	0.0195
	22/11/16								
W8z	03/11/16	<0.50	0.044	0.0672	0.0672	<0.0010	0.0021	0.0191	0.026
W10	03/10/16	<0.50	0.048	<0.0050	<0.0051	<0.0010	0.0013	0.0098	0.0132

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
W1	06/10/16	8.04	0.368	10.4	0.108	<0.00010	0.00041	0.0129	<0.00010
	01/11/16	6.82	0.575	15.6	0.298	<0.00010	0.00044	0.0137	<0.00010
	12/12/16	5.7	0.415	10.6	0.163	0.00011	0.00034	0.0134	<0.00010
W4a	04/10/16	39.8	0.098	3.14	0.037	<0.00010	0.00027	0.0192	<0.00010
	11/10/16								
	18/10/16								
	02/11/16	41.2	0.175	6.61	0.3	0.0001	0.00044	0.0196	<0.00010
	14/11/16								
	01/12/16	42.4	0.13	4.39	0.12	<0.00010	0.00027	0.0166	<0.00010
W5	04/10/16	5.97	0.523	17.1	0.109	<0.00010	0.00044	0.0128	<0.00010
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	3.51	0.714	24.5	0.392	<0.00010	0.00045	0.0115	<0.00010
	01/12/16	2.83	0.598	19.8	0.328	<0.00010	0.0004	0.0102	<0.00010
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	12.7	0.871	33.2	0.256	<0.00010	0.00061	0.0112	<0.00010
	22/11/16								
W8z	03/11/16	0.37	0.897	27.9	0.34	<0.00010	0.00045	0.00674	<0.00010
W10	03/10/16	2.63	0.64	17.8	0.0569	<0.00010	0.00098	0.0124	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
W1	06/10/16	<0.000050	0.073	<0.000005	24.6	<0.00050	0.00011	0.00465	0.406
	01/11/16	<0.000050	0.033	<0.000005	16.4	0.00098	0.00016	0.00846	0.398
	12/12/16	<0.000050	0.042	<0.000005	16.7	<0.00050	<0.00010	0.00555	0.242
W4a	04/10/16	<0.000050	0.035	0.0000059	59	<0.00050	<0.00010	0.005	0.053
	11/10/16								
	18/10/16								
	02/11/16	<0.000050	0.027	0.0000113	41.7	0.00063	0.00016	0.0101	0.305
	14/11/16								
	01/12/16	<0.000050	0.026	0.0000084	50.5	<0.00050	<0.00010	0.00593	0.142
W5	04/10/16	<0.000050	0.021	0.0000058	19.3	0.00063	<0.00010	0.00921	0.218
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	<0.000050	<0.010	0.0000121	10.9	0.00108	0.00017	0.0123	0.374
	01/12/16	<0.000050	0.01	0.0000058	11.2	0.00094	0.00014	0.00961	0.323
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	<0.000050	0.017	0.0000127	24	0.00098	0.00014	0.0087	0.291
	22/11/16								
W8z	03/11/16	<0.000050	<0.010	0.0000151	7.61	0.00149	0.00012	0.00456	0.381
W10	03/10/16	<0.000050	<0.010	<0.000005	21.6	0.0007	<0.00010	0.00228	0.231

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
W1	06/10/16	<0.000050	<0.0010	5.05	0.0491	0.000498	<0.00050	0.438	0.000081
	01/11/16	0.000073	<0.0010	3.61	0.0225	0.000484	0.00073	0.405	0.000104
	12/12/16	<0.000050	<0.0010	3.45	0.0264	0.000579	<0.00050	0.395	0.000087
W4a	04/10/16	<0.000050	<0.0010	7.12	0.00828	0.00618	<0.00050	0.642	0.00121
	11/10/16								
	18/10/16								
	02/11/16	0.000081	<0.0010	4.76	0.0261	0.00634	<0.00050	0.483	0.000963
	14/11/16								
	01/12/16	<0.000050	<0.0010	5.58	0.0235	0.00567	<0.00050	0.405	0.00105
W5	04/10/16	<0.000050	<0.0010	3.88	0.0203	0.00119	0.00086	0.711	0.000155
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	0.00008	<0.0010	2.48	0.0148	0.000362	0.00119	0.541	0.000145
	01/12/16	0.000065	<0.0010	2.6	0.0193	0.000329	0.00109	0.44	0.000146
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	<0.000050	<0.0010	7.81	0.0275	0.00241	0.00164	0.891	0.000651
	22/11/16								
W8z	03/11/16	<0.000050	<0.0010	2.2	0.00386	0.000112	0.00181	0.433	0.000129
W10	03/10/16	<0.000050	0.0011	6.41	0.00543	0.000612	0.00124	0.634	0.000109

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
W1	06/10/16	6.19	<0.000010	4.41	0.163	<0.000010	<0.00010	<0.010	0.000053
	01/11/16	5.49	0.00002	2.91	0.113	<0.000010	<0.00010	<0.010	0.000038
	12/12/16	3.87	<0.000010	2.85	0.126	<0.000010	<0.00010	<0.010	0.000041
W4a	04/10/16	6.77	<0.000010	3.45	0.263	<0.000010	<0.00010	<0.010	0.000284
	11/10/16								
	18/10/16								
	02/11/16	6.33	0.000012	2.25	0.21	<0.000010	<0.00010	<0.010	0.000168
	14/11/16								
	01/12/16	6.44	<0.000010	2.45	0.207	<0.000010	<0.00010	<0.010	0.000192
W5	04/10/16	5.24	0.000012	3.91	0.161	<0.000010	<0.00010	<0.010	0.000087
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	5.34	0.00002	2.21	0.103	<0.000010	<0.00010	<0.010	0.000101
	01/12/16	5.65	0.000016	2.39	0.108	<0.000010	<0.00010	<0.010	0.000097
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	5.1	0.000026	4.94	0.186	<0.000010	<0.00010	<0.010	0.000279
	22/11/16								
W8z	03/11/16	4.78	0.000013	2.52	0.0934	<0.000010	<0.00010	<0.010	0.00011
W10	03/10/16	4.36	<0.000010	3.63	0.148	<0.000010	<0.00010	<0.010	0.000105

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
W1	06/10/16	0.00086	<0.0030	0.0227	<0.00010	0.00032	0.0127	<0.00010	<0.000050
	01/11/16	0.00126	<0.0030	0.164	<0.00010	0.00032	0.0121	<0.00010	<0.000050
	12/12/16	0.0008	<0.0030	0.0316	<0.00010	0.00031	0.0123	<0.00010	<0.000050
W4a	04/10/16	0.0008	0.0099	0.0048	<0.00010	0.00023	0.0179	<0.00010	<0.000050
	11/10/16								
	18/10/16								
	02/11/16	0.00151	0.0076	0.0243	<0.00010	0.00033	0.0164	<0.00010	<0.000050
	14/11/16								
	01/12/16	0.0008	0.0063	0.0111	<0.00010	0.00022	0.0155	<0.00010	<0.000050
W5	04/10/16	0.00069	0.0195	0.081	<0.00010	0.00042	0.0124	<0.00010	<0.000050
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	0.00104	0.0331	0.282	<0.00010	0.00035	0.0103	<0.00010	<0.000050
	01/12/16	0.00083	0.0327	0.223	<0.00010	0.0003	0.00823	<0.00010	0.000053
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	0.00088	<0.0030	0.231	<0.00010	0.00058	0.0106	<0.00010	<0.000050
	22/11/16								
W8z	03/11/16	0.00114	0.0041	0.313	<0.00010	0.00035	0.00645	<0.00010	<0.000050
W10	03/10/16	0.00064	<0.0030	0.032	<0.00010	0.00088	0.0117	<0.00010	<0.000050

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
W1	06/10/16	0.065	<0.000005	25.7	<0.00050	<0.00010	0.0039	0.23	<0.000050
	01/11/16	0.031	<0.000005	16.4	0.0005	<0.00010	0.00691	0.223	<0.000050
	12/12/16	0.047	<0.000005	17.3	<0.00050	<0.00010	0.0037	0.104	<0.000050
W4a	04/10/16	0.037	<0.000005	60.3	<0.00050	<0.00010	0.00377	<0.030	<0.000050
	11/10/16								
	18/10/16								
	02/11/16	0.021	0.0000069	39.8	<0.00050	<0.00010	0.00717	0.041	<0.000050
	14/11/16								
	01/12/16	0.025	<0.000005	52.3	<0.00050	<0.00010	0.00426	<0.030	<0.000050
W5	04/10/16	0.02	<0.000005	19	<0.00050	<0.00010	0.00834	0.175	<0.000050
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	<0.010	0.0000112	10.6	0.00076	0.0001	0.0094	0.247	<0.000050
	01/12/16	<0.010	0.0000066	11.1	0.00075	<0.00010	0.00743	0.222	<0.000050
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	0.015	0.0000088	22.4	0.00093	<0.00010	0.00476	0.247	<0.000050
	22/11/16								
W8z	03/11/16	<0.010	0.0000112	8.8	0.00135	0.00011	0.00461	0.346	<0.000050
W10	03/10/16	<0.010	<0.000005	22.5	<0.00050	<0.00010	0.00205	0.179	<0.000050

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		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
W1	06/10/16	<0.0010	5.29	0.0345	0.000516	<0.00050	0.427	<0.000050	5.84
	01/11/16	<0.0010	3.47	0.00915	0.000434	<0.00050	0.413	0.000088	4.99
	12/12/16	<0.0010	3.47	0.0196	0.00052	<0.00050	0.474	0.000086	3.8
W4a	04/10/16	<0.0010	7	0.00357	0.0063	<0.00050	0.609	0.00109	6.57
	11/10/16								
	18/10/16								
	02/11/16	<0.0010	4.81	0.0122	0.00503	<0.00050	0.445	0.000905	5.89
	14/11/16								
	01/12/16	<0.0010	5.42	0.0162	0.00533	<0.00050	0.412	0.00101	6.53
W5	04/10/16	<0.0010	3.89	0.0155	0.000935	0.00088	0.71	0.000095	5.11
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	<0.0010	2.37	0.00788	0.000303	0.00101	0.522	0.000139	5.13
	01/12/16	<0.0010	2.2	0.0123	0.000381	0.00086	0.383	0.000114	5.26
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	<0.0010	7.52	0.0124	0.00178	0.00149	0.905	0.000249	4.89
	22/11/16								
W8z	03/11/16	<0.0010	2.23	0.00319	0.000082	0.00173	0.462	0.000127	4.53
W10	03/10/16	<0.0010	6.24	0.00241	0.000586	0.00107	0.606	0.000082	4.25

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
W1	06/10/16	<0.000010	4.64	0.17	<0.000010	<0.00010	<0.010	0.000049	0.00056
	01/11/16	0.000014	2.89	0.114	<0.000010	<0.00010	<0.010	0.000033	0.0008
	12/12/16	<0.000010	3.24	0.124	<0.000010	<0.00010	<0.010	0.000034	<0.00050
W4a	04/10/16	<0.000010	3.31	0.273	<0.000010	<0.00010	<0.010	0.000296	0.00057
	11/10/16								
	18/10/16								
	02/11/16	<0.000010	2.24	0.193	<0.000010	<0.00010	<0.010	0.000147	0.00072
	14/11/16								
	01/12/16	<0.000010	2.62	0.196	<0.000010	<0.00010	<0.010	0.00017	0.00056
W5	04/10/16	0.00001	3.92	0.158	<0.000010	<0.00010	<0.010	0.000082	0.00053
	08/10/16								
	11/10/16								
	18/10/16								
	27/10/16								
	02/11/16	0.000018	2.19	0.103	<0.000010	<0.00010	<0.010	0.000095	0.00072
	01/12/16	0.000014	2.19	0.112	<0.000010	<0.00010	<0.010	0.000093	0.00064
W8	04/10/16								
	11/10/16								
	18/10/16								
	03/11/16	0.000019	4.87	0.171	<0.000010	<0.00010	<0.010	0.00027	0.00077
	22/11/16								
W8z	03/11/16	0.000015	2.58	0.109	<0.000010	<0.00010	<0.010	0.000114	0.00091
W10	03/10/16	<0.000010	3.52	0.151	<0.000010	<0.00010	<0.010	0.000104	0.00051

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		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
W1	06/10/16	<0.0030	2.7	1.5
	01/11/16	<0.0030	3.3	2.34
	12/12/16	<0.0030	-0.1	2.2
W4a	04/10/16	0.0085	6.1	0.59
	11/10/16		3.6	1.7
	18/10/16		5.5	2.86
	02/11/16	0.0052	5	3.28
	14/11/16		4.7	2.59
	01/12/16	0.0041	1.6	1.49
W5	04/10/16	0.0192	5	0.91
	08/10/16		5.4	5.13
	11/10/16		2.6	2.43
	18/10/16		5.4	3.49
	27/10/16		4.3	4.36
	02/11/16	0.0327	3.7	2.12
	01/12/16	0.0268	0.3	1.93
W8	04/10/16		4.5	0.74
	11/10/16		3.4	1
	18/10/16		5.9	1.42
	03/11/16	<0.0030	4.8	0.82
	22/11/16		3	5.02
W8z	03/11/16	<0.0030	5.2	0.32
W10	03/10/16	<0.0030	4.492	1.18

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
W10	01/11/16	112	58.9	7.85	124	2.9	3.03	58.8	0.0097
	01/12/16	115	61.2	7.81	106	1.9	2.35	60.2	0.0056
W12	27/10/16								
	01/11/16	150	72.6	7.76	135	1.2	0.85	56.6	<0.0050
W20 Creek	08/11/16	174	78.9	7.73	161	2.4	4.69	47.9	<0.0050

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
QUR-11	12/10/16	103	52.3	7.83	66	1.8	0.52	49.5	<0.0050
	17/11/16	108	49.5	7.85	76	<1.0	0.38	50.2	<0.0050
	19/12/16	114	51.4	7.93	81	<1.0	0.47	51	<0.0050

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		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
W10	01/11/16	<0.50	0.04	0.0506	0.0506	<0.0010	0.0019	0.0148	0.0187
	01/12/16	<0.50	0.041	0.0584	0.0584	<0.0010	0.0029	0.015	0.0187
W12	27/10/16								
	01/11/16	4.13	0.055	0.0055	0.0055	<0.0010	<0.0010	0.0048	0.008
W20 Creek	08/11/16	0.66	0.061	0.142	0.142	<0.0010	0.0053	0.0197	0.0206

		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
QUR-11	12/10/16	<0.50	0.034	0.111	0.111	<0.0010	0.0011	<0.0020	<0.0020
	17/11/16	<0.50	0.033	0.0893	0.0893	<0.0010	<0.0010	<0.0020	<0.0020
	19/12/16	<0.50	0.035	0.13	0.13	<0.0010	<0.0010	<0.0020	<0.0020

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		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
W10	01/11/16	1.8	0.804	24.2	0.257	<0.00010	0.00066	0.0109	<0.00010
	01/12/16	1.99	0.708	22.8	0.257	<0.00010	0.00058	0.0107	<0.00010
W12	27/10/16								
	01/11/16	14.7	0.497	15.4	0.0635	<0.00010	0.00031	0.00881	<0.00010
W20 Creek	08/11/16	35.9	0.793	21.2	0.267	<0.00010	0.00036	0.0141	<0.00010

		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
QUR-11	12/10/16	6.96	0.168	1.9	0.0221	<0.00010	0.00014	0.00571	<0.00010
	17/11/16	6.99	0.158	1.89	0.0215	<0.00010	0.00013	0.00544	<0.00010
	19/12/16	8.09	0.186	2.05	0.0223	<0.00010	0.00011	0.00555	<0.00010

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		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
W10	01/11/16	<0.000050	<0.010	0.0000106	16.3	0.00121	0.00015	0.00348	0.468
	01/12/16	<0.000050	<0.010	0.0000067	16.7	0.00108	0.00014	0.00316	0.391
W12	27/10/16								
	01/11/16	<0.000050	0.034	<0.000005	21.6	<0.00050	<0.00010	0.00667	0.135
W20 Creek	08/11/16	<0.000050	0.119	0.0000086	21.6	0.00067	0.00012	0.00615	0.331

		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
QUR-11	12/10/16	<0.000050	<0.010	<0.000005	19.7	<0.00050	<0.00010	0.00117	<0.030
	17/11/16	<0.000050	<0.010	<0.000005	18.2	<0.00050	<0.00010	0.00101	<0.030
	19/12/16	<0.000050	<0.010	<0.000005	17.7	<0.00050	<0.00010	0.0012	<0.030

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		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
W10	01/11/16	0.000082	<0.0010	4.71	0.0158	0.000431	0.00172	0.574	0.000134
	01/12/16	0.000067	<0.0010	4.69	0.0112	0.000414	0.00152	0.461	0.000163
W12	27/10/16								
	01/11/16	<0.000050	<0.0010	3.76	0.0108	0.000489	<0.00050	0.188	0.000094
W20 Creek	08/11/16	0.000051	<0.0010	5.99	0.0222	0.00132	0.00108	0.604	0.000304

		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
QUR-11	12/10/16	0.000703	<0.0010	2.35	0.00145	0.000494	<0.00050	0.521	0.000143
	17/11/16	0.000607	<0.0010	2.08	0.00154	0.000484	<0.00050	0.52	0.000123
	19/12/16	0.000425	<0.0010	2.05	0.0012	0.000748	<0.00050	0.499	0.000167

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		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
W10	01/11/16	4.78	0.000012	2.6	0.105	<0.000010	<0.00010	<0.010	0.000097
	01/12/16	5.13	<0.000010	2.42	0.107	<0.000010	<0.00010	<0.010	0.000102
W12	27/10/16								
	01/11/16	6	0.000013	3.14	0.111	<0.000010	<0.00010	<0.010	<0.000010
W20 Creek	08/11/16	5.6	0.00003	3.52	0.109	<0.000010	<0.00010	<0.010	0.000043

		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
QUR-11	12/10/16	1.78	<0.000010	1.04	0.145	<0.000010	<0.00010	<0.010	0.000153
	17/11/16	1.64	<0.000010	1.03	0.139	<0.000010	<0.00010	<0.010	0.000157
	19/12/16	1.6	<0.000010	1.04	0.137	<0.000010	<0.00010	<0.010	0.000156

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		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
W10	01/11/16	0.00122	<0.0030	0.158	<0.00010	0.00055	0.00983	<0.00010	<0.000050
	01/12/16	0.00103	0.0035	0.162	<0.00010	0.00052	0.00949	<0.00010	<0.000050
W12	27/10/16								
	01/11/16	<0.00050	<0.0030	0.0479	<0.00010	0.00025	0.00868	<0.00010	<0.000050
W20 Creek	08/11/16	0.00087	<0.0030	0.172	<0.00010	0.00032	0.0131	<0.00010	<0.000050

		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)
QUR-11	12/10/16	<0.00050	<0.0030	0.0077	<0.00010	0.00012	0.0055	<0.00010	<0.000050
	17/11/16	<0.00050	<0.0030	0.0068	<0.00010	<0.00010	0.00506	<0.00010	<0.000050
	19/12/16	<0.00050	<0.0030	0.0058	<0.00010	<0.00010	0.00515	<0.00010	<0.000050

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		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
W10	01/11/16	<0.010	0.0000067	16	0.00092	<0.00010	0.00315	0.303	<0.000050
	01/12/16	<0.010	0.0000054	17	0.00094	<0.00010	0.00284	0.273	<0.000050
W12	27/10/16								
	01/11/16	0.033	<0.000005	22.8	<0.00050	<0.00010	0.0065	0.108	<0.000050
W20 Creek	08/11/16	0.111	0.0000058	21.4	0.00055	<0.00010	0.0059	0.226	<0.000050

		Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)
QUR-11	12/10/16	<0.010	<0.000005	17.6	<0.00050	<0.00010	0.00078	<0.030	0.000738
	17/11/16	<0.010	<0.000005	16.6	<0.00050	<0.00010	0.0006	<0.030	0.000296
	19/12/16	<0.010	<0.000005	17.2	<0.00050	<0.00010	0.00088	<0.030	0.000284

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		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
W10	01/11/16	<0.0010	4.63	0.00342	0.00041	0.00144	0.57	0.000152	4.48
	01/12/16	<0.0010	4.53	0.00336	0.000381	0.00132	0.474	0.000137	5
W12	27/10/16								
	01/11/16	<0.0010	3.83	0.00708	0.000497	<0.00050	0.199	0.000082	5.76
W20 Creek	08/11/16	<0.0010	6.19	0.0139	0.001	0.00094	0.615	0.000311	5.21

		Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)
QUR-11	12/10/16	<0.0010	2.01	0.00039	0.000486	<0.00050	0.513	0.000102	1.6
	17/11/16	<0.0010	1.92	0.00018	0.000442	<0.00050	0.456	0.000116	1.54
	19/12/16	<0.0010	2.04	0.00029	0.000846	<0.00050	0.518	0.000157	1.37

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		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
W10	01/11/16	<0.000010	2.59	0.104	<0.000010	<0.00010	<0.010	0.000093	0.00089
	01/12/16	<0.000010	2.57	0.103	<0.000010	<0.00010	<0.010	0.000084	0.0008
W12	27/10/16								
	01/11/16	0.000011	3.23	0.118	<0.000010	<0.00010	<0.010	<0.000010	<0.00050
W20 Creek	08/11/16	0.000025	3.63	0.108	<0.000010	<0.00010	<0.010	0.00004	0.00068

		Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)
QUR-11	12/10/16	<0.000010	1.04	0.132	<0.000010	<0.00010	<0.010	0.000152	<0.00050
	17/11/16	<0.000010	0.895	0.135	<0.000010	<0.00010	<0.010	0.000155	<0.00050
	19/12/16	<0.000010	1.09	0.138	<0.000010	<0.00010	<0.010	0.000152	<0.00050

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		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
W10	01/11/16	<0.0030	4.4	2.35
	01/12/16	<0.0030	1.1	2.1
W12	27/10/16		3.6	0.55
	01/11/16	<0.0030	2.8	0.76
W20 Creek	08/11/16	<0.0030	6.8	2.43

		Diss-Zinc (Zn) (mg/L)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
QUR-11	12/10/16	<0.0030	8.3	0.31
	17/11/16	<0.0030	6.2	0.31
	19/12/16	<0.0030	3.7	0.66

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Appendix 2

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This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	Static Water Level (m)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)	Chloride (mg/L)	Floride (mg/L)
GW05-01	03/11/16	563	254	8.07		147	<0.0050	<0.50	0.444
GW12-2a	24/10/16	232	48.3	8.02	19.114	46.1	<0.0050	0.71	0.497
	08/11/16	228	47	7.92	19.38	45.2	<0.0050	0.69	0.485
	19/12/16	238	46.5	8.07	20.675	45.4	<0.0050	0.75	0.485
GW12-2b	24/10/16	617	305	8.22	18.288	163	<0.0050	4.26	0.191
	08/11/16	606	291	8.19	18.599	165	<0.0050	4.09	0.185
	19/12/16	612	271	8.06	20.216	168	<0.0050	4.07	0.193
GW12-5b	07/11/16				5.064				
	09/11/16	555	296	7.91	5.12	216	<0.0050	<0.50	0.041
GW14-1	03/11/16	279	133	8.2		163	<0.0050	<0.50	0.063
GW15-1a	22/10/16				22.608				
	24/10/16	280	73.7	8.02	22.752	62.1	<0.0050	6.42	0.265
	07/11/16				24.62				
	09/11/16	281	76.6	7.96	25.05	63.2	<0.0050	6.51	0.266
	19/12/16				30.952				
	21/12/16	284	75.7	8.11	31.334	63.7	<0.0050	6.48	0.259
GW15-1b	24/10/16	740	338	8.15	22.172	128	<0.0050	28.9	<0.10
	08/11/16	703	322	8.16	24.23	134	<0.0050	26.4	0.103
	19/12/16	648	274	8.11	30.494	134	<0.0050	19.4	0.114
GW15-2a	24/10/16	200	56.4	8.10	9.636	63.3	<0.0050	0.51	0.419
	08/11/16	197	53.6	8.06	10.31	62.2	<0.0050	<0.50	0.407
	19/12/16	201	52.4	8.2	12.657	61.4	<0.0050	0.52	0.415
GW15-2b	24/10/16	368	138	8.13	8.368	90.2	0.0088	10.1	0.226

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		Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)	Sulphate (mg/L)	Total Nitrogen (mg/L)	Diss-Aluminum (Al) (mg/L)
GW05-01	03/11/16	0.205	0.205	<0.0010	0.0026	<0.010	160	0.199	<0.0030
GW12-2a	24/10/16	<0.0050	<0.0051	<0.0010	0.0172	0.0146	65.1	<0.030	0.0046
	08/11/16	<0.0050	<0.0051	<0.0010	0.0152	<0.020	65.5	<0.030	0.0041
	19/12/16	<0.0050	<0.0051	<0.0010	0.0159	0.0183	65.8	<0.030	0.0048
GW12-2b	24/10/16	3.08	3.08	<0.0010	0.0100	<0.010	166	2.99	<0.0030
	08/11/16	2.95	2.95	<0.0010	0.0095	0.011	158	2.95	<0.0030
	19/12/16	2.75	2.75	0.0023	0.0092	0.0088	150	2.78	<0.0030
GW12-5b	07/11/16								
	09/11/16	0.231	0.235	0.0041	0.0037	0.0167	99.4	0.271	<0.0030
GW14-1	03/11/16	<0.0050	<0.0051	<0.0010	<0.0020	0.0032	0.48	<0.030	<0.0030
GW15-1a	22/10/16								
	24/10/16	<0.0050	<0.0051	<0.0010	0.0151	0.017	66.3	<0.030	0.0030
	07/11/16								
	09/11/16	<0.0050	<0.0051	<0.0010	0.0124	0.0133	68.2	<0.030	<0.0030
	19/12/16								
	21/12/16	<0.0050	<0.0051	<0.0010	0.0154	0.0148	65.4	<0.030	<0.0030
GW15-1b	24/10/16	1.42	1.42	<0.0050	0.0131	0.0132	234	1.45	<0.0030
	08/11/16	1.37	1.38	0.0021	0.0131	0.012	203	1.45	<0.0030
	19/12/16	1.36	1.37	0.0049	0.012	0.012	172	1.36	<0.0030
GW15-2a	24/10/16	<0.0050	<0.0051	<0.0010	0.0231	0.0196	37.1	<0.030	<0.0030
	08/11/16	<0.0050	<0.0051	<0.0010	0.019	<0.20	37.1	<0.030	<0.0030
	19/12/16	<0.0050	<0.0051	<0.0010	0.0155	0.0161	37.4	<0.030	<0.0030
GW15-2b	24/10/16	0.502	0.514	0.0126	0.0127	0.0127	81.0	0.508	<0.0030

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		Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)	Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)
GW05-01	03/11/16	<0.00010	0.00038	0.00909	<0.00010	<0.000050	0.261	<0.000005	91.7
GW12-2a	24/10/16	<0.00010	0.00224	0.00524	<0.00010	<0.000050	0.369	<0.000005	17.3
	08/11/16	<0.00010	0.0024	0.00506	<0.00010	<0.000050	0.356	<0.000005	16.8
	19/12/16	<0.00010	0.00238	0.00536	<0.00010	<0.000050	0.349	<0.000005	16.5
GW12-2b	24/10/16	<0.00010	0.00052	0.0180	<0.00010	<0.000050	0.096	0.0000074	82.1
	08/11/16	<0.00010	0.00057	0.0176	<0.00010	<0.000050	0.092	0.0000066	77.7
	19/12/16	<0.00010	0.00055	0.0168	<0.00010	<0.000050	0.087	0.0000062	71.8
GW12-5b	07/11/16								
	09/11/16	<0.00010	0.00028	0.024	<0.00010	<0.000050	0.021	0.0000173	105
GW14-1	03/11/16	<0.00010	<0.00010	0.0199	<0.00010	<0.000050	0.01	<0.000005	36.2
GW15-1a	22/10/16								
	24/10/16	<0.00010	0.00432	0.0172	<0.00010	<0.000050	0.382	0.0000099	26.3
	07/11/16								
	09/11/16	<0.00010	0.00416	0.017	<0.00010	<0.000050	0.372	<0.000005	27
	19/12/16								
	21/12/16	<0.00010	0.00408	0.0165	<0.00010	<0.000050	0.403	<0.000005	27.3
GW15-1b	24/10/16	<0.00010	0.00149	0.0728	<0.00010	<0.000050	0.196	0.0000094	110
	08/11/16	<0.00010	0.00155	0.0695	<0.00010	<0.000050	0.182	0.0000101	104
	19/12/16	<0.00010	0.00156	0.0608	<0.00010	<0.000050	0.221	0.000006	88.5
GW15-2a	24/10/16	<0.00010	0.00388	0.0101	<0.00010	<0.000050	0.488	<0.000005	17.7
	08/11/16	<0.00010	0.00412	0.00932	<0.00010	<0.000050	0.474	<0.000005	16.8
	19/12/16	<0.00010	0.0037	0.00877	<0.00010	<0.000050	0.486	<0.000005	16.5
GW15-2b	24/10/16	0.00014	0.00195	0.0394	<0.00010	<0.000050	0.234	<0.000005	44.5

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		Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)	Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)
GW05-01	03/11/16	<0.00050	<0.00010	0.00287	<0.030	<0.000050	0.0015	5.98	0.00194
GW12-2a	24/10/16	<0.00050	0.00031	<0.00050	<0.030	<0.000050	0.0029	1.21	0.0261
	08/11/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0031	1.21	0.0239
	19/12/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0032	1.27	0.0269
GW12-2b	24/10/16	<0.00050	<0.00010	0.00084	<0.030	<0.000050	0.0034	24.3	0.00013
	08/11/16	<0.00050	<0.00010	0.00077	<0.030	<0.000050	0.0034	23.7	0.00017
	19/12/16	<0.00050	<0.00010	0.00071	<0.030	<0.000050	0.0034	22.4	0.0002
GW12-5b	07/11/16								
	09/11/16	<0.00050	0.00011	0.00172	<0.030	<0.000050	0.0034	8.4	0.0413
GW14-1	03/11/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0014	10.5	0.133
GW15-1a	22/10/16								
	24/10/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0033	1.93	0.0228
	07/11/16								
	09/11/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0038	2.23	0.0204
	19/12/16								
	21/12/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0034	1.83	0.0278
GW15-1b	24/10/16	<0.00050	<0.00010	0.00072	<0.030	<0.000050	0.0035	15.4	0.00218
	08/11/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0037	14.8	0.002
	19/12/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0039	13	0.00211
GW15-2a	24/10/16	<0.00050	0.00011	<0.00050	<0.030	<0.000050	0.0026	2.93	0.0249
	08/11/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0026	2.86	0.025
	19/12/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.003	2.71	0.0243
GW15-2b	24/10/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0027	6.48	0.0550

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		Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)	Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)
GW05-01	03/11/16	0.00815	<0.00050	0.418	0.000943	8.12	<0.000010	19.2	0.805
GW12-2a	24/10/16	0.0403	<0.00050	0.093	<0.000050	8.91	<0.000010	27.5	0.0526
	08/11/16	0.0392	<0.00050	0.099	<0.000050	8.65	<0.000010	26.8	0.0518
	19/12/16	0.037	<0.00050	0.098	<0.000050	8.2	<0.000010	27.4	0.0511
GW12-2b	24/10/16	0.0213	<0.00050	0.728	0.00911	7.46	<0.000010	14.3	0.354
	08/11/16	0.0208	<0.00050	0.733	0.00873	7.44	<0.000010	13.7	0.342
	19/12/16	0.0192	<0.00050	0.718	0.00632	6.52	<0.000010	13	0.316
GW12-5b	07/11/16								
	09/11/16	0.00221	0.00072	0.482	0.000531	7.46	<0.000010	5.16	0.222
GW14-1	03/11/16	0.000244	0.0012	1.98	0.000058	7.12	<0.000010	7.33	1.21
GW15-1a	22/10/16								
	24/10/16	0.0259	<0.00050	0.248	0.000065	9.55	<0.000010	27.6	0.138
	07/11/16								
	09/11/16	0.0265	<0.00050	0.249	<0.000050	9.09	<0.000010	27.4	0.141
	19/12/16								
	21/12/16	0.0259	<0.00050	0.234	<0.000050	8.84	<0.000010	26.2	0.137
GW15-1b	24/10/16	0.00479	0.00062	0.589	0.00766	8.16	<0.000010	24.2	0.321
	08/11/16	0.00488	<0.00050	0.574	0.00667	7.91	<0.000010	23.3	0.298
	19/12/16	0.0048	<0.00050	0.592	0.00373	5.89	<0.000010	22.8	0.268
GW15-2a	24/10/16	0.0431	<0.00050	0.416	0.000074	8.37	<0.000010	19.3	0.0386
	08/11/16	0.0417	<0.00050	0.355	0.000058	8.15	<0.000010	18.5	0.0364
	19/12/16	0.0408	<0.00050	0.357	<0.000050	7.89	<0.000010	18	0.0363
GW15-2b	24/10/16	0.0447	<0.00050	0.444	0.000307	6.62	<0.000010	20.4	0.161

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		Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)	Diss-Zinc (Zn) (mg/L)
GW05-01	03/11/16	<0.000010	<0.00010	<0.010	0.000293	0.00071	0.119
GW12-2a	24/10/16	<0.000010	<0.00010	<0.010	0.000048	<0.00050	<0.0030
	08/11/16	<0.000010	<0.00010	<0.010	0.000041	<0.00050	<0.0030
	19/12/16	<0.000010	<0.00010	<0.010	0.000045	<0.00050	<0.0030
GW12-2b	24/10/16	<0.000010	<0.00010	<0.010	0.000797	0.00241	<0.0030
	08/11/16	<0.000010	<0.00010	<0.010	0.000765	0.00242	<0.0030
	19/12/16	<0.000010	<0.00010	<0.010	0.0007	0.00231	<0.0030
GW12-5b	07/11/16						
	09/11/16	<0.000010	<0.00010	<0.010	0.000413	0.00054	<0.0030
GW14-1	03/11/16	<0.000010	<0.00010	<0.010	0.000402	<0.00050	0.0038
GW15-1a	22/10/16						
	24/10/16	<0.000010	<0.00010	<0.010	0.000107	<0.00050	<0.0030
	07/11/16						
	09/11/16	<0.000010	<0.00010	<0.010	0.00011	<0.00050	0.0049
	19/12/16						
	21/12/16	<0.000010	<0.00010	<0.010	0.000116	<0.00050	<0.0030
GW15-1b	24/10/16	<0.000010	<0.00010	<0.010	0.00115	0.00074	<0.0030
	08/11/16	<0.000010	<0.00010	<0.010	0.00114	0.00076	<0.0030
	19/12/16	<0.000010	<0.00010	<0.010	0.00103	0.00072	<0.0030
GW15-2a	24/10/16	<0.000010	<0.00010	<0.010	0.000150	<0.00050	<0.0030
	08/11/16	<0.000010	<0.00010	<0.010	0.000127	<0.00050	<0.0030
	19/12/16	<0.000010	<0.00010	<0.010	0.000102	<0.00050	<0.0030
GW15-2b	24/10/16	<0.000010	<0.00010	<0.010	0.000289	<0.00050	<0.0030

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		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	Static Water Level (m)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)	Chloride (mg/L)	Floride (mg/L)
GW15-2b	08/11/16	358	133	8.11	9.334	91.1	0.0081	10.1	0.221
	19/12/16	353	125	8.14	12.261	87.3	0.0061	10.1	0.233
GW96-3a	25/10/16	920	16.7	9.27	12.924	426	0.0309	3.6	0.14

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		Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)	Sulphate (mg/L)	Total Nitrogen (mg/L)	Diss-Aluminum (Al) (mg/L)
GW15-2b	08/11/16	0.44	0.452	0.0118	0.0104	<0.20	80	0.497	<0.0030
	19/12/16	0.301	0.304	0.0032	0.0098	0.0128	75	0.361	<0.0030
GW96-3a	25/10/16	0.121	0.121	<0.0050	0.0178	0.0219	82.4	0.218	0.522

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		Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)	Diss-Boron (B) (mg/L)	Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)
GW15-2b	08/11/16	0.00014	0.00215	0.0384	<0.00010	<0.000050	0.23	<0.000005	42.9
	19/12/16	0.00013	0.00236	0.0372	<0.00010	<0.000050	0.242	<0.000005	40.3
GW96-3a	25/10/16	0.00063	0.0394	0.00403	<0.00010	<0.000050	1.33	<0.000005	4.28

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		Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)	Diss-Lithium (Li) (mg/L)	Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)
GW15-2b	08/11/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.0027	6.37	0.0549
	19/12/16	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	0.003	6.05	0.0592
GW96-3a	25/10/16	<0.00050	<0.00010	0.00062	<0.030	<0.000050	0.108	1.47	0.0123

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		Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)	Diss-Silver (Ag) (mg/L)	Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)
GW15-2b	08/11/16	0.0437	<0.00050	0.434	0.000377	6.49	<0.000010	19.6	0.157
	19/12/16	0.0423	<0.00050	0.435	0.000242	5.37	<0.000010	19.7	0.146
GW96-3a	25/10/16	0.0173	<0.00050	2.18	0.000101	11.7	<0.000010	220	0.122

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		Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)	Diss-Zinc (Zn) (mg/L)
GW15-2b	08/11/16	<0.000010	<0.00010	<0.010	0.000286	<0.00050	<0.0030
	19/12/16	<0.000010	<0.00010	<0.010	0.000251	<0.00050	<0.0030
GW96-3a	25/10/16	<0.000010	<0.00010	<0.010	0.00734	0.0306	<0.0030

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Appendix 3

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This report covers the period from: 1-Nov-2016 **to:** 31-Jan-2017

		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
EDC-01	01/11/16	122.8	102.8	12.01	8.047	4.8	2.84
	06/12/16	193.3	99.8	13.17	7.926	-0.1	2.13
	03/01/17		91.7	12.42	8.463		0.99

		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
E1	22/11/16	1443			8.295	3.9	14.4
	01/12/16	1416			8.448	2	7.19
	09/01/17	1461			8.582	1.7	11.7
E11	01/11/16	1226			7.991	9.5	4.22
	05/12/16	1261			8.353	3.8	1.87
	03/01/17	1237	88.3	11.43	8.117	0.7	3.52
E11a	01/11/16	1219			8.036	9.5	1.22
	08/11/16	1274			8.052	9.6	1.54
	15/11/16	1221			7.959	8.1	0.92
	22/11/16	1229			8.052	7.3	1.06
	29/11/16	1220			8.07	6.4	1.14
	14/12/16	1225			8.033	2.9	0.7

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This report covers the period from: 1-Nov-2016 **to:** 31-Jan-2017

		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
E11a	20/12/16	1225			8.08	3.5	0.57
	28/12/16	1222			8.06	3.5	1.17
	09/01/17	1202			8.432	2.2	2.34
E19	01/11/16	1218			8.009	10.1	1.21
	08/11/16	1220			8.072	9.8	1.8
	15/11/16	1235			8.003	8.4	0.66
	22/11/16	1228	107.6	11.38	8.035	7.6	0.99
	29/11/16	1223			8.05	6.8	1.13
	06/12/16	1225	119	13.75	8.1	4.7	1.18
	14/12/16	1244			8.055	2.4	0.77
	20/12/16	1222			8.063	3.5	0.53
	28/12/16	1242			8.072	2.9	1.06
	03/01/17	1212	126.7	15.67	8.092	2.6	2.3
	09/01/17	1209			8.147	2.5	2
	10/01/17	1220			8.096	2.3	1.06
	17/01/17	1219			8.09	3	1.92
HAD-3	01/11/16	1221			7.963	9.9	1.02
	08/11/16	1224			8.064	9.8	1.69
	15/11/16	1227			8.016	8.7	0.81
	22/11/16	1224	107.8	11.39	8.065	7.8	1.14
	29/11/16	1224			8.013	7.6	1.52
	06/12/16	1224	123.5	14.06	8.035	4.9	6.74
	14/12/16	1245			8.066	2.5	0.64
	20/12/16	1229			8.023	3.6	0.52
	28/12/16	1247			7.976	3.8	1.09

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		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAD-3	03/01/17	1210	112.1	13.81	8.063	2.8	2.52
	09/01/17	1205			8.089	2.6	1.88
	10/01/17	1214			7.819	2.6	1.18
	17/01/17	1222			8.131	3	2.38

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This report covers the period from: 1-Nov-2016 **to:** 31-Jan-2017

		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAC-05a	01/11/16	994	105.3	10.9	8.193	8.6	3.08
	08/11/16	958			8.282	9	1.79
	15/11/16	949			8.141	6.9	2.33
	22/11/16	333	96.7	11.14	8.029	4.5	6.69
	29/11/16	866			8.077	4.9	1.68
	06/12/16	942	98.2	12.18	8.047	2.4	2.43
	14/12/16	874			8.069	1.3	1.01
	20/12/16	916			8.102	2.1	0.83
	28/12/16	833			8.057	1.6	0.78
	03/01/17	611	98.9	12.89	8.079	0.8	1.3
	10/01/17	483			8.262	0	0.65
	17/01/17	487			8.125	1.3	1.11
HAC-08	01/11/16	872	101.5	11.1	8.291	7.3	6.05
	22/11/16	338	103.1	12.27	8.35	4.1	10.16
	06/12/16	912	100.7	13.71	8.212	-0.1	3.69
	14/12/16	868			8.217	-0.1	9.6
	03/01/17		102.5	13.97	8.214		11.48
HAC-10	01/11/16	289	85.2	9.33	7.865	6.4	1.37
	08/11/16	293			7.869	7.4	2.47
	15/11/16	291			7.953	5.3	1.64
	22/11/16	286	83.1	9.42	7.885	5.4	2.77
	29/11/16	289			8.038	3.5	3.37
	06/12/16	290	88.7	11.43	8.154	0.9	3.97

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		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAC-10	14/12/16	296			7.999	1.1	0.92
	20/12/16	303			8.079	0.7	0.59
	28/12/16	302			8.05	0.8	0.42
	03/01/17	294	84.2	10.98	8.013	0.7	0.25
	10/01/17	295			8.104	0.8	0.22
	17/01/17	298			8.073	1	0.06
HAC-12	01/11/16	860	102.9	11.19	8.101	7.5	6.91
	08/11/16	908	106	11.1	8.256	9.1	4.4
	15/11/16	869	104.2	11.88	8.066	5.5	4.4
	22/11/16	429	101.2	12.08	8.151	4	12.5
	29/11/16	801	100.8	12.1	8.035	3.7	3.42
	06/12/16	843	99	13.48	7.997	-0.1	3.46
	14/12/16	861	100.4	13.53	7.991	-0.1	5.65
	20/12/16	884	98.7	13	8.074	0.3	5.81
	28/12/16	817	100.3	13.36	8.061	0.4	2.06
	03/01/17	449	100.8	13.77	8.11	-0.1	8.03
	10/01/17	512			8.412	-0.1	6.09
	17/01/17	485	87	12.48	8.203	0.5	8.55
HAC-13 - HAC U/S	01/11/16	383	101.7	11.23	8.132	5.8	4.76
	08/11/16	393			8.947	7.1	2.94
	15/11/16	348			8.184	4.9	4.76
	22/11/16	314	92.2	10.49	7.948	4.8	4.86
	29/11/16	339			8.096	3.1	2.65
	06/12/16	338	93.4	12.37	8.228	0	4.29
	14/12/16	316			8.075	0.3	0.82

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		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
HAC-13 - HAC U/S	20/12/16	326			8.091	0.3	0.72
	28/12/16	316			8.075	0.3	0.6
	03/01/17	270	95.5	12.65	8.193	0.1	0.44
	10/01/17	300			8.157	0.2	0.48
	17/01/17	306			8.256	0.9	0.38

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		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
W1	01/11/16	118.7			7.682	3.3	2.34
	12/12/16	118			7.645	-0.1	2.2
	05/01/17	128.7			7.569	1.6	1.19
W10	01/11/16	115.1			7.979	4.4	2.35
	01/12/16	119.9			7.968	1.1	2.1
	03/01/17	188.3	99.6	13.58	8.056	-0.1	1.1
W12	01/11/16	155.1			7.646	2.8	0.76
W20 Creek	08/11/16	171.5			7.697	6.8	2.43
W4a	02/11/16	294			8.294	5	3.28
	14/11/16	322			8.352	4.7	2.59
	01/12/16	311			8.369	1.6	1.49
	05/01/17	341			8.27	0.1	0.3
W5	02/11/16	74.1			8.554	3.7	2.12
	01/12/16	77.3			7.556	0.3	1.93
W8	03/11/16	176.4			7.669	4.8	0.82
	22/11/16	165.2			7.904	3	5.02
W8z	03/11/16	59.3			7.36	5.2	0.32

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		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Sample Depth (m)	Secchi Depth (m)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
P1-B	23/11/16	289.9	74.6	9.31	7.69	28		5.886	3.17
P1-S	23/11/16	289.8	77.4	9.64	7.48	0	2.5	5.933	2.76
P1-10	23/11/16	289.8	75.8	9.45	7.64	10		5.915	2.85
P1-20	23/11/16	289.9	75	9.35	7.68	20		5.908	2.85
P2-B	23/11/16	290	72.5	9.05	7.73	27		5.874	6.17
P2-S	23/11/16	289.5	81	10.09	7.69	0	2	5.939	3.87
P2-10	23/11/16	290	74.4	9.27	7.73	10		5.953	4.32
P2-20	23/11/16	290	73.4	9.15	7.74	20		5.918	4.26

Printed Date: 09/02/2017

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Nov-2016 **to:** 31-Jan-2017

		Cond (in situ) (µs/cm)	Dissolved Oxygen (In (%)	Dissolved Oxygen (in (mg/L)	pH (in situ) (pH)	Sample Depth (m)	Secchi Depth (m)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
QUL-18-0m	21/11/16	109.7	87.6	10.43	7.79	0	9	7.797	2.48
QUL-18-100m	21/11/16	118.2	78.1	9.96	7.6	100		5.034	1.84
QUL-18-20m	21/11/16	110	86.3	10.28	7.75	20		7.738	2.14
QUL-18-50m	21/11/16	113.7	82.1	10.01	7.72	50		6.7	2.46
QUL-2a-0m	21/11/16	107.5	92.3	11.06	7.19	0	8	7.524	0.54
QUL-2a-20m	21/11/16	108.2	86.2	10.32	7.34	20		7.576	0.06
QUL-2a-40m	21/11/16	113.3	82.5	10.04	7.41	40		6.641	0.26
QUL-2a-60m	21/11/16	116.5	78.4	9.88	7.34	60		5.481	0.44
QUL-58-AP	21/11/16	110.3	86.5	10.33	7.68	20	6.5	7.672	0.2
QUL-58-AT	09/11/16	104.2	83.7	9.97		48		7.435	0.57
	16/11/16	106.5	88.8	10.47	7.68	18		8.143	0.38
	30/11/16	106.8	85	10.37	7.72	50		6.794	0
QUL-58-B	09/11/16	108.5	81	10.24		66		5.386	1.41
	16/11/16	113	81.3	10.26	7.52	68		5.468	1.07
	30/11/16	106.6	81.9	10.21	7.75	68		5.95	0
QUL-58-BT	09/11/16	107.1	82.9	10.21		54		6.403	0.55
QUL-58-MP	16/11/16	111.7	87.2	10.31	7.68	40		8.024	0.47
	21/11/16	113.6	85	10.15	7.69	40		7.627	0.38
QUL-58-S	09/11/16	100.8	91.2	10.64		0	9.6	8.58	0.21
	16/11/16	106.1	96	11.36	7.39	0	9.85	8.054	0.45
	30/11/16	101.7	93.7	11.45	7.49	0	6	6.791	0.72

Printed Date: 09/02/2017

Mount Polley
Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Nov-2016 **to:** 31-Jan-2017

		Cond (in situ) (µs/cm)	pH (in situ) (pH)	Temp (in situ) (Degrees Celcius)	NTU - in situ (ntu)
QUR-11	17/11/16	153.4	8.144	6.2	0.31
	19/12/16	133.4	7.995	3.7	0.66
	09/01/17	129.6	8.394	1.3	0.42

Printed Date: 09/02/2017

Appendix 4

Monitoring data report for:
Permitted Hydrology Sites

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Q (m3/s)	Staff Gauge (m)
H1 Up HAC Hydrology	07/10/16	0.327	0.49
	28/10/16	0.421	0.52
	09/11/16	0.4182	0.528
H2 Low HAC Hydrology	07/10/16	0.4096	0.484
	28/10/16	0.5084	0.502
	09/11/16	0.5541	0.51
	23/11/16	0.5638	0.522
H3 Low EDC Hydrology	07/10/16	0.1452	0.47
	20/10/16		0.692
	08/11/16		0.628
	23/11/16		0.77
H4 POL Weir Hydrolog	28/10/16	0.078	0.564
	09/11/16	0.1384	0.584
	22/11/16	0.4539	0.668

Printed Date: 25-Jan-2017

Monitoring data report for:
Permitted Surface Water Quality Site

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Q (m3/s)	Staff Gauge (m)
W4a	04/10/16	0.00082	
	18/10/16	0.00353	
	02/11/16	0.00508	
	14/11/16	0.00362	
	01/12/16	0.00317	
W5	04/10/16		0.099
	08/10/16	0.0265	0.158
	11/10/16		0.13
	18/10/16		0.154
	27/10/16	0.0259	0.16
	02/11/16		0.17
	01/12/16		0.14
W12	27/10/16	0.0531	0.744

Printed Date: 25-Jan-2017

Appendix 5

Nautilus Environmental

Mount Polley Mining Corporation
ATTN: Colleen Hughes
Box 12
Likely, BC
V0L 1N0

Report Date: October 24, 2016
Work Order: 161084 - 161085

Data Report

Species: Rainbow trout (*Oncorhynchus mykiss*)
Protocol: EPS 1/RM/13 (Second Ed. 2000 with 2007 & 2016 amendments)

Species: *Daphnia magna*
Protocol: EPS 1/RM/14 (Second Ed. 2000 with 2016 amendments)

Table 1. Results for the 96-h rainbow trout acute LC50 toxicity test.

Sample ID	Collection Date and Time	96-h LC50 (%v/v)
HAD-3	October 11, 2016 @ 1052h	>100

Table 2. Results for the 48-h *Daphnia magna* acute LC50 toxicity test.

Sample ID	Collection Date and Time	48-h LC50 (%v/v)
HAD-3	October 11, 2016 @ 1052h	>100

The tests met performance criteria and there were no deviations from the test methods. The results relate only to the sample tested.

Yvonne Lam, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P.Bio.
Senior Reviewer

Rainbow Trout Summary Sheet

Client: Mount Polley

Start Date/Time: Oct 13 16 @ 1100h

Work Order No.: 161084

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: HAD-3
Sample Date: Oct 11 16
Date Received: Oct 12 16
Sample Volume: 2 X 20 L
Other: /

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 11

Test Organism Information:

Batch No.: 092316
Source: Aqua Farms
No. Fish/Volume (L): 10/10L
Loading Density (g/L): 0.32
Mean Length ± SD (mm): 31 ± 1 Range: 28 - 33
Mean Weight ± SD (g): 0.32 ± 0.02 Range: 0.29 - 0.35

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZn51
Stock Solution ID: 162n02
Date Initiated: Oct 13/16
96-h LC50 (95% CL): 45.8 (27.1 - 75.2) mg/L Zn

Reference Toxicant Mean and Historical Range: 65.5 (26.3 - 163.2) mg/L Zn
Reference Toxicant CV (%): 58 %

Test Results: The 96 h LC50 is estimated to be >100% (v/v).

Reviewed by: [signature]

Date reviewed: Oct. 24 2016

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Mount Polley
Sample I.D. HAO-3
W.O. # 161084
RBT Batch #: 092316
Date Collected/Time: Oct 11/16 @ 1052h
Date Setup/Time: Oct 13/16 @ 1100h
Sample Setup By: EC

Number Fish/Volume: 10/10 L
7-d % Mortality: 0.8
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: CER#2 **D.O. meter:** 2
Cond./Salinity: 2 **pH meter:** 1

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.0		15.0
D.O. (mg/L)	9.8		9.9
pH	7.5		7.4
Cond. (µS/cm)	1209		1209
Salinity (ppt)	0.6		0.6

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	10.0	9.8	9.9	9.8	9.9	7.0	7.0	6.9	7.0	7.0	34	42
6.25				10	10	10	8	15.0	15.0	15.0	15.0	15.0	9.9	9.9	9.8	9.9	9.9	6.9	6.8	7.1	7.1	7.0	128	135
12.5				10	10	10	8	15.0	15.0	15.0	15.0	15.0	9.9	9.9	9.9	9.8	9.9	7.0	7.0	7.2	7.3	7.1	213	219
25				10	10	10	8	15.0	15.0	15.0	15.0	15.0	9.8	9.8	9.7	9.9	9.7	7.1	7.1	7.4	7.4	7.2	375	379
50				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.9	9.8	9.8	9.8	9.9	7.2	7.2	7.3	7.4	7.3	671	675
100				10	10	10	7	15.0	15.0	15.0	15.0	15.0	9.9	9.9	9.8	9.8	9.8	7.4	7.4	7.9	7.3	7.6	1209	1213
Initials				EC	A	A	EC	EC	EC	A	A	EC	EC	EC	A	A	EC	EC	EC	A	A	EC	EC	EC

Sample Description/Comments: Clear, Colorless, No odour, No particulates -

Fish Description at 96 h: All surviving fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations:

Reviewed by: Date Reviewed: Oct. 24, 2016

Daphnia magna Summary Sheet

Client: Mount Polley
Work Order No.: 161085

Start Date/Time: October 12, 2016 @ 1420h
Test Species: *Daphnia magna*
Set up by: YNL

Sample Information:

Sample ID: HAD-3
Sample Date: October 11, 2016
Date Received: October 12, 2016
Sample Volume: 2 X 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 092116A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 19
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DMTC40
Stock Solution ID: 16NaCl02
Date Initiated: October 12, 2016
48-h LC50 (95% CL): 4.2 (3.7-4.8) g/L NaCL

Reference Toxicant Mean and Historical Range: 4.1 (3.0-5.4) g/L NaCL
Reference Toxicant CV (%): 16

Test Results: The 48h LC50 is estimated to be >100% (v/v)

Reviewed by: [signature]
Date reviewed: Oct. 24 2016

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Mt. Polley
Sample ID: MAD-3
Work Order No.: 161085

Start Date/Time: October 12, 2016 @ 1420h
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: YUE

Thermometer: temp-11 DO meter: DO-213 pH meter: pH-113 Cond./Salinity: C-213

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.5	19.0	19.0	8.6	8.5	8.0	7.5	7.6	7.6	348	362
	B														
	C														
	D														
6.25	A	10	10	0	19.5	19.0	19.0	8.7	8.5	8.1	7.6	7.6	7.6	421	424
	B														
	C														
	D														
12.5	A	10	10	0	19.5	19.0	19.0	8.8	8.5	8.1	7.5	7.6	7.6	484	487
	B														
	C														
	D														
25	A	10	10	0	19.0	19.0	19.0	8.7	8.5	8.2	7.6	7.6	7.6	584	589
	B														
	C														
	D														
50	A	10	10	0	19.0	19.0	19.0	8.8	8.6	8.1	7.5	7.6	7.5	808	803
	B														
	C														
	D														
100	A	10[6]	10[6]	0	18.5	19.0	19.0	9.1	8.5	8.1	7.6	7.6	7.4	1201	1197
	B														
	C														
	D														
Technician Initials		YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE	YUE

Concentration	Hardness* (mg/L as CaCO3)	Alkalinity* (mg/L as CaCO3)
Control (MHW)	94	72
Highest conc.	560	50
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	18.5		
DO (mg/L)	9.1		
pH	7.6		
Cond (µS/cm)	1201		
Salinity (ppt)	0.6		

Comments: Organisms on surface

Mortality: Heartbeat checked under microscope not noted

Sample Description: clear, no colour, no odour, no particulates

Batch#: 092116A 7-d previous # young/brood: 19 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: Oct. 24, 2016

Client: Mt. Polley

W.O.#: 161085

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Subsample Date	Date Measured	Sample Volume (mL)	(mL) 0.02N HCl/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCl/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/L CaCO_3$)	Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L CaCO_3$)	Technician
HAD-3	Oct. 12/16	Oct. 12/16	50	2.6	2.7	50	100①	5.6	560	YW
MHW	↓	↓	50	3.7	3.8	72	50	4.7	94	↓

Notes: ① Diluted to 100 mL w/ DI water.

Reviewed by: [signature]

Date Reviewed: Oct. 21, 2016

Nautilus Environmental

Chain of Custody (electronic)

[X] British Columbia: 8664 Commerce Court, Burnaby, BC, V5A 4N7

WO # 161084 161085

10/11/2016 Page 1 of 1

Sample Collection By: EW, VH

	Report to:	Invoice to:
Company	Mount Polley Mining Corporation	Mount Polley Mining Corporation
Address	Box 12	Box 12
City/Prov/Postal Code	Likely BC V0L 1N0	Likely BC V0L 1N0
Contact	Colleen Hughes	Colleen Hughes
Phone	(250) 790-2617	(250) 790-2617
Email	chughes@mountpolley.com	chughes@mountpolley.com

	SAMPLE ID	DATE	TIME	MATRIX	CONTAINER TYPE	# OF CONTAINERS	COMMENTS	ANALYSES REQUIRED: 96hr RBT LC50	48hr D. magna LC50	Receipt Temperature (°C)
1	HAD-3	10/11/2016	10:52	water	20L	2	40L total	X	X	7.5
2										
3										
4										
5										
6										
7										
8										
9										
10										

PROJECT INFORMATION	SAMPLE RECEIPT		RELIQUINSHED BY (CLIENT)	RELIQUINSHED BY (COURIER)
Client: Mount Polley Mining Corporation	Total # Containers:	2	Signature:	Signature:
P.O. No.:	Good Condition?	Y	Print: Valerie Holweck	Print:
Shipped Via: Greyhound	Matches Schedule?	Y	Company: MPMC	Company:
			07/13/2016 3:30:00 PM	Time/Date:
SPECIAL INSTRUCTIONS/COMMENTS:			RECEIVED BY (COURIER)	RECEIVED BY (LABORATORY)
Clear, Colorless, No odour. No particulates.			Signature:	Signature: NY
			Print:	Print: Nan Yamamoto
			Company:	Company: Nautilus
			Time/Date:	Time/Date: Oct 12/16 @ 09:10.

Additional costs may be required for sample disposal or storage. Not 30 unless otherwise contracted.

NAUTILUS ENVIRONMENTAL

MMER Toxicity Testing for Mount Polley Mining Corporation

Sample Collected on October 24, 2016

Final Report

December 2, 2016

Submitted to: **Mount Polley Mining Corporation**
Likely, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

TABLE OF CONTENTS

List of Tables

List of Appendices

SIGNATURE PAGE

Report By:
Jeslin Wijaya, B.Sc.
Laboratory Biologist

Reviewed By:
Armando Tang, R.P.Bio.
Senior Reviewer

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

SUMMARY

A summary of sample information and test results from the *Ceriodaphnia dubia*, *Oncorhynchus mykiss*, *Lemna minor*, and *Pseudokirchneriella subcapitata* sub-lethal toxicity tests are provided in the tables below. Testing was initiated on October 25 and 26 2016 at the Nautilus Environmental laboratory in Burnaby, BC.

Sample and Test Type Information

Sample ID	HAD-3
Sample collection date	October 24, 2016 at 1144h
Sample receipt date	October 25, 2016 at 1040h
Sample receipt temperature	10.5°C
Test types	*Ceriodaphnia dubia* survival and reproduction 7-d rainbow trout *(Oncorhynchus mykiss)* embryo viability 7-d *Lemna minor* growth inhibition 72-h *Pseudokirchneriella subcapitata* growth inhibition

Results

Endpoint	HAD-3 % v/v (95% CL)
C. dubia survival LC50	>100
C. dubia reproduction IC25	68.6 (49.0 – 85.9)
C. dubia reproduction IC50	>100
O. mykiss embryo viability EC25	>100
O. mykiss embryo viability EC50	>100
L. minor frond count IC25	33.2 (21.6 – 40.3)
L. minor frond count IC50	>97
L. minor dry weight IC25	67.4 (41.0 – 97)
L. minor dry weight IC50	>97
P. subcapitata growth IC25	>95.2
P. subcapitata growth IC50	>95.2

LC = Lethal Concentration, IC = Inhibition Concentration, EC = Effective Concentration, CL = Confidence Limits.

1.0 INTRODUCTION

Nautilus Environmental Company Inc. conducted sub-lethal toxicity tests for Mount Polley Mining Corporation as part of their requirements under the Metal Mining Effluent Regulations (MMER) and Environmental Effects Monitoring (EEM). Sample HAD-3 was collected on October 24, 2016 and delivered to the Nautilus Environmental laboratory in Burnaby, BC on October 25, 2016. The sample was transported in five 20-L plastic containers and was received at a temperature of 10.5°C. The sample was stored in the dark at 4 ± 2°C prior to testing. The following toxicity tests were performed on the sample:

- *Ceriodaphnia dubia* survival and reproduction
- 7-d rainbow trout *(Oncorhynchus mykiss)* embryo viability
- 7-d *Lemna minor* growth inhibition
- 72-h *Pseudokirchneriella subcapitata* growth inhibition

This report describes the results of these toxicity tests. Copies of raw laboratory data sheets and statistical analyses for each test species are provided in Appendices A to D. The chain-of-custody form is provided in Appendix E.

2.0 METHODS

Methods for the toxicity tests are summarized in Tables 1 to 4. Testing was conducted according to procedures described by Environment Canada (2007a, 2007b and 2007c). The rainbow trout embryo viability test followed modified procedures described by Environment Canada (1998) and Canaria et al. (1999). Statistical analyses for all tests were performed using CETIS (Tidepool Scientific Software, 2013).

Table 1. Summary of test conditions: *Ceriodaphnia dubia* survival and reproduction test.

Test species	*Ceriodaphnia dubia*
Organism source	In-house culture
Organism age	<24 hour old neonates, produced within a 12 hour window
Test type	Static-renewal
Test duration	7 ± 1 day
Test vessel	20-mL glass test tube
Test volume	15 mL
Test solution depth	10 cm
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	10 per treatment
Number of organisms	1 per replicate
Control/dilution water	20% Perrier water and 80% deionized water + 5 µg/L Se and 2 µg/L vitamin B12
Test solution renewal	Daily (100% renewal)
Test temperature	25 ± 1°C
Feeding	Daily with *Pseudokirchneriella subcapitata* and YCT (3:1 ratio)
Light intensity	100 to 600 lux at water surface
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen, pH and conductivity measured daily; hardness and alkalinity of undiluted sample measured at test initiation; survival and reproduction checked daily
Test protocol	Environment Canada (2007a), EPS 1/RM/21
Statistical software	CETIS Version 1.8.7
Test endpoints	Survival and reproduction
Test acceptability criteria for controls	≥80% survival; ≥15 young per surviving control producing three broods; ≥60% of controls producing three or more broods; no ephippia present
Reference toxicant	Sodium chloride (NaCl)

Table 2. Summary of test conditions: rainbow trout (*Oncorhynchus mykiss*) embryo viability test.

Test species	*Oncorhynchus mykiss*
Organism source	Vancouver Island Trout Hatchery
Organism age	<30 minutes post fertilization, <24 hour old gametes
Test type	Static-renewal
Test duration	7 days
Test vessel	2-L plastic container
Test volume	2 L
Test solution depth	17 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	4 per treatment
Number of organisms	30 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	Daily (80% renewal)
Test temperature	14 ± 1°C
Feeding	None
Light intensity	Dark
Photoperiod	24 hours dark
Aeration	Continuous gentle aeration
Test measurements	Temperature, dissolved oxygen, pH and conductivity measured daily; hardness and alkalinity of undiluted sample measured at test initiation; survival checked daily
Test protocol	Environment Canada (1998), EPS 1/RM/28; Canaria et al. (1999)
Statistical software	CETIS Version 1.8.7
Test endpoints	Embryo viability
Test acceptability criteria for controls	Embryo viability ≥70%
Reference toxicant	Sodium dodecyl sulphate (SDS)

Table 3. Summary of test conditions: *Lemna minor* growth inhibition test.

Test species	*Lemna minor*, strain CPCC# 490
Organism source	In-house axenic culture, obtained from Canadian Phycological Culture Centre, and originally isolated from Wainfleet, Stinking Barn, Niagara Peninsula, Ontario, Canada
Organism age	7- to 10-day old culture
Test type	Static
Test duration	7 days
Test vessel	250-mL glass container
Test volume	100 mL
Test solution depth	4 cm
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	4 per treatment
Number of organisms	Two 3-frond plants per replicate
Control/dilution water	Modified APHA media (deionized water plus 1% of each APHA stock solution A, B and C)
Test solution renewal	None
Test temperature	25 ± 2°C
Feeding	None
Light intensity	4000 to 5600 lux
Photoperiod	24 hours light
Aeration	None
Test measurements	Test area temperature measured daily; temperature, pH and conductivity measured in all concentrations at test initiation; dissolved oxygen of highest concentration measured at test initiation; temperature and pH measured at test termination
Test protocol	Environment Canada (2007b), EPS 1/RM/37
Statistical software	CETIS Version 1.8.7
Test endpoints	Number of fronds and dry weight
Test acceptability criteria for controls	≥ 8-fold increase in number of fronds
Reference toxicant	Potassium chloride (KCl)

Table 4. Summary of test conditions: *Pseudokirchneriella subcapitata* growth inhibition test.

Test species	*Pseudokirchneriella subcapitata*, strain UTCC# 37
Organism source	In-house axenic culture, obtained from Canadian Phycological Culture Center, and originally isolated from Nivelta River, Norway.
Organism age	3-to 7-day old culture in logarithmic growth phase
Test type	Static
Test duration	72 hours
Test vessel	Microplate
Test volume	220 µL
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	4 per treatment; 8 for laboratory control
Number of organisms	10,000 cells/mL
Control/dilution water	Deionized water supplemented with nutrients
Test solution renewal	None
Test temperature	24 ± 2°C
Feeding	None
Light intensity	3600 to 4400 lux
Photoperiod	24 hours light
Aeration	None
Test measurements	Test area temperature measured daily; temperature and pH measured at test initiation; pH of two control wells measured at test termination
Test protocol	Environment Canada (2007c), EPS 1/RM/25
Statistical software	CETIS Version 1.8.7
Test endpoints	Algal cell growth inhibition
Test acceptability criteria for controls	>16-fold increase in number of algal cells; CV ≤ 20%; no trend when analyzed using Mann-Kendall test
Reference toxicant	Zinc (added as $ZnCl_2$)

3.0 RESULTS

Results of the toxicity tests are summarized in Tables 5 to 8. There were no adverse effects observed on survival of *C. dubia* (Table 5), embryo viability of *O. mykiss* (Table 6), or cell yield of *P. subcapitata* (Table 8). The LC, EC and IC values were therefore greater than the highest test concentration for each of these endpoints in the toxicity tests. *P.subcapitata* cell yield stimulation was observed in all test concentrations; percent stimulation ranged from 28.8 to 482.6%.

Inhibitory effects were observed on the reproduction of *C. dubia*. The reproduction IC25 and IC50 were 68.6 and >100%, respectively. Inhibitory effects were also observed on frond growth and dry weight of *L. minor* (Table 7). The IC25 values for frond growth and dry weight were 33.2 and 67.4%, respectively. The IC50 values for both endpoints were >97%.

Table 5. Results: *Ceriodaphnia dubia* survival and reproduction test.

Concentration (% v/v)	Survival (%)	Reproduction (Mean ± SD)
Laboratory Control	100	20.4 ± 3.7
1.56	100	19.5 ± 3.6
3.12	100	20.8 ± 4.7
6.25	100	19.9 ± 4.5
12.5	100	17.9 ± 4.2
25	100	18.4 ± 3.1
50	100	17.6 ± 5.5
100	100	10.5 ± 3.7
Test endpoint (% v/v)		
LC50	>100	--
IC25 (95% CL)	--	68.6 (49.0 – 85.9)
IC50	--	>100

SD = Standard Deviation, LC = Lethal Concentration, IC = Inhibition Concentration, CL = Confidence Limits, n/a = not available.

Table 6. Results: rainbow trout (*Oncorhynchus mykiss*) embryo viability test.

Concentration (% v/v)	Embryo Viability (%) (Mean ± SD)
Laboratory Control	96.7 ± 2.7
6.25	96.7 ± 0.0
12.5	99.2 ± 1.7
25	97.4 ± 3.3
50	98.3 ± 1.9
100	96.7 ± 3.8
Test endpoint (% v/v)	
EC25	>100
EC50	>100

SD = Standard Deviation, EC = Effective Concentration.

Table 7. Results: *Lemna minor* growth inhibition test.

Concentration	Frond Growth (No. of Fronds) (Mean ± SD)	Dry Weight (mg) (Mean ± SD)
Laboratory Control	94.2 ± 4.6	7.7 ± 0.8
1.5	103.0 ± 14.5†	8.8 ± 1.4
3.0	106.3 ± 7.0†	8.8 ± 0.8
6.1	104.8 ± 8.5†	8.9 ± 0.8
12.1	88.8 ± 7.5	7.5 ± 0.9
24.2	78.5 ± 8.7	6.6 ± 0.7
48.5	61.2 ± 4.0	6.0 ± 0.5
97	53.8 ± 0.5	5.7 ± 0.7
Test endpoint (% v/v)		
IC25 (95% CL)	33.2 (21.6 – 40.3)	67.4 (41.0 – 97)
IC50	>97	>97

SD = Standard Deviation, IC = Inhibition Concentration, CL = Confidence Limits.
† = The data did not fit the hormesis regression model; therefore the frond growth was adjusted to that of the control value and analyzed using linear interpolation.

Table 8. Results: *Pseudokirchneriella subcapitata* growth inhibition test.

Concentration	Cell Density (x 10^4 cells/mL) (Mean ± SD)	Stimulation (%)
Laboratory Control	33.0 ± 2.3	--
1.5	42.5 ± 4.0*	28.8
3.0	47.2 ± 4.3*	43.2
6.0	65.8 ± 7.9*	99.2
11.9	96.5 ± 6.2*	192.4
23.8	121.0 ± 3.2*	266.7
47.6	173.3 ± 4.2*	425.0
95.2	192.3 ± 7.0*	482.6
Test endpoint (% v/v)		
IC25	>95.2	--
IC50	>95.2	--

SD = Standard Deviation, IC = Inhibition Concentration.
* = Indicates cell yield that were significantly greater than the control.

4.0 QA/QC

The health histories of the test organisms used in the exposures were acceptable and met the requirements of the Environment Canada protocols. The tests met all control acceptability criteria and water quality parameters remained within ranges specified in the protocols throughout the tests. Uncertainty associated with these tests is best described by the standard deviations around the mean and/or the confidence limits around the point estimates.

There were no deviations from the test methodologies, with one exception in the rainbow trout embryo toxicity test. Only three out of four sperm sources were used to fertilize the eggs due to a lack of motility observed in the remaining source. This did not seem to affect the results of the test since control criterion was met at the end of the seven day exposure.

Results of the reference toxicant tests conducted during the testing program are summarized in Table 9. These tests were performed under the same conditions as the sample tested. Results for these tests fell within the acceptable range for organism performance of mean and two standard deviation range, based on historical results obtained by the laboratory with these tests. Thus, the sensitivity of the organisms used in these tests was appropriate.

Table 9. Reference toxicant test results.

Test Species	Endpoint	Historical Mean (2 SD Range)	CV (%)	Test Date
C. dubia	Survival (LC50): 2.0 g/L NaCl	2.0 (1.8–2.2)	5	October 13, 2016
	Reproduction (IC50): 1.4 g/L NaCl	1.6 (1.2–2.0)	13	
O. mykiss	Viability (EC50): 5.5 mg/L SDS	4.0 (2.1 - 7.4)	37	October 25, 2016
L. minor	No. Fronds (IC50): 3.5 g/L KCl	3.9 (3.2–4.9)	11	October 13, 2016
P. subcapitata	Growth (IC50): 36.9 µg/L Zn	32.6 (24.0–44.3)	16	October 14, 2016

SD = Standard Deviation, CV = Coefficient of Variation, LC = Lethal Concentration, IC = Inhibition Concentration, EC = Effect Concentration.

5.0 REFERENCES

Canaria, E.C., J.R. Elphick and H.C. Bailey. 1999. A simplified procedure for conducting small-scale short-term embryo toxicity tests with salmonids. Environ Toxicol 14:301-307.

Environment Canada. 1998. Biological test method: toxicity tests using early life stages of salmonid fish (rainbow trout). Environmental Protection Series EPS 1/RM/28. Second Edition, July 1998. Environment Canada, Method Development and Application Section, Environmental Technology Centre, Ottawa, ON. 102 pp.

Environment Canada. 2007a. Biological test method: test of reproduction and survival using the cladoceran *Ceriodaphnia dubia*. Environmental Protection Series. Report EPS 1/RM/21, Second Edition, February 2007. Environment Canada, Method Development and Application Section, Environmental Science and Technology Centre, Science and Technology Branch, Ottawa, ON. 74 pp.

Environment Canada. 2007b. Biological test method: tests for measuring the inhibition of growth using the freshwater macrophyte, *Lemna minor*. Environmental Protection Series, Report EPS 1/RM/37. Second Edition. January 2007. Environment Canada, Method Development and Application Section, Environmental Technology Centre, Ottawa, ON. 112 pp.

Environment Canada. 2007c. Biological test method: growth inhibition test using the freshwater alga. Environmental Protection Series, Report EPS 1/RM/25. Second Edition, March 2007. Environment Canada, Method Development and Application Section, Environmental Science and Technology Centre, Science and Technology Branch, Ottawa, ON. 53 pp.

Tidepool Scientific Software. 2013. CETIS comprehensive environmental toxicity information system, version 1.8.7.16 Tidepool Scientific Software, McKinleyville, CA. 275 pp.

APPENDIX A – *Ceriodaphnia dubia* Toxicity Test Data

Ceriodaphnia dubia Summary Sheet

Client: MH Pellets
Work Order No.: 161126

Start Date/Time: Oct 26/16 @ 1030
Set up by: EMM

Sample Information:

Sample ID: HAP-3
Sample Date: Oct 24/16
Date Received: Oct 25/16
Sample Volume: 5x2L

Test Validity Criteria:

1) Mean survival of first generation controls is ≥80 %
2) At least 60% of controls have produced three broods within 8 days
3) An average of ≥15 live young produced per surviving female in the control solutions during the first three broods.
4) Invalid if ephippia observed in any control solution at any time.

WQ Ranges:

T (°C) = 25 ± 1; DO (mg/L) = 3.3 to 8.4 ; pH = 6.0 to 8.5

Test Organism Information:

Broodstock No.: 10216BD
Age of young (Day 0): <24-h (within 12-h)
Avg No. young in first 3 broods of previous 7 d: 48
Mortality (%) in previous 7 d: 15
Individual female # used ≥8 young on test day: 23>33

NaCl Reference Toxicant Results:

Reference Toxicant ID: cd150
Stock Solution ID: 16Na02
Date Initiated: Oct 13/16

7-d LC50 (95% CL): 2.0 (1.9-2.3) g/L NaCL
7-d IC50 (95% CL): 1.4 (1.2-1.7) g/L NaCL

7-d LC50 Reference Toxicant Mean and Historical Range: 2.0 (1.8-2.2) g/L NaCL CV (%): 5
7-d IC50 Reference Toxicant Mean and Historical Range: 1.6 (1.2-2.0) g/L NaCL CV (%): 13

Test Results:

	Survival	Reproduction
LC50 % (v/v) (95% CL)	>100	
IC25 % (v/v) (95% CL)		68.6 (49.0-85.9)
IC50 % (v/v) (95% CL)		~~100.0 (89.2-100.0)~~ >100 EMM

Reviewed by: JDa

Date reviewed: Nov 29/16

Chronic Freshwater Toxicity Test
Initial and Final Water Quality Measurements

Client: Mt. Polley
Sample ID: HAD-3
Work Order #: 161166

Start Date & Time: ~~Oct~~ November 16 @ 1030h ~~Oct 26~~
Stop Date & Time: NOV 1/16 @ 1930h
Test Species: *Ceriodaphnia dubia*

Concentration control	0	1		2		3		4		5		Finals 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.0	7.6	8.0	7.5	8.0	7.4	8.2	7.6	8.0	7.5	8.1	7.6		
pH	8.0	7.7	8.0	7.9	8.0	7.7	8.1	7.7	8.1	7.7	8.0	7.7		
Cond. (µS/cm)	222	222		221		220		220		221		221		
Initials	EMM	EMM		EMM		A		MLJ		EMM		EMM		

Concentration (v/v) 15%	0	1		2		3		4		5		Finals 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.0	7.6	8.1	7.5	8.1	7.5	8.2	7.6	8.0	7.5	8.1	7.6		
pH	8.0	7.8	8.0	7.9	8.0	7.8	7.9	7.7	7.9	7.7	8.0	7.8		
Cond. (µS/cm)	238	236		235		240		243		241		245		
Initials	EMM	EMM		EMM		A		MLJ		EMM		EMM		

Concentration (v/v) 12.5%	0	1		2		3		4		5		Finals 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.0	7.6	8.2	7.5	8.1	7.5	8.3	7.5	8.1	7.4	8.1	7.5		
pH	7.9	7.8	7.9	8.0	8.0	8.0	7.9	7.9	7.9	7.8	7.8	7.8		
Cond. (µS/cm)	356	360		359		364		368		369		371		
Initials	EMM	EMM		EMM		A		MLJ		EMM		EMM		

Concentration (v/v) 100%	0	1		2		3		4		5		Finals 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.1	7.6	8.2	7.5	8.1	7.5	8.3	7.5	8.1	7.4	8.2	7.5		
pH	7.6	7.5	7.6	7.7	7.6	7.7	7.5	7.6	7.6	7.6	7.6	7.7		
Cond. (µS/cm)	1190	1216		1205		1209		1206		1206		1216		
Initials	EMM	EMM		EMM		A		MLJ		EMM		EMM		

Thermometer: 4 **DO meter:** 2/1 **pH meter:** 2/1 **Conductivity meter:** 2/1

	Control	100% (v/v)		
Hardness*	100	530		
Alkalinity*	98	56		

* mg/L as CaCO3

Analysts: EMM, MLT, JS, AW
Reviewed by: TGM
Date reviewed: Nov 29/16

Sample Description: clear, colourless, odourless, some particulates present

Comments: **Broodboard Used:** 101216BD

Version 1.3 Issued May 22, 2015

Chronic Freshwater Toxicity Test
C. dubia Reproduction Data

emm OCT 26
NOV

Client: Mt Polley
Sample ID: HAO-3 8
Work Order: 1611616

Start Date & Time: Oct 16@ 1030h
Stop Date & Time: NOV 1/16@ 1930h
Set up by: EMM

% Cv/v)

Days	Concentration: Control										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	4	3	✓	4	3	3	✓	✓	✓	4	A
5	6	6	7	6	9	8	6	6	9	8	EMM
6	10	13	9	14	11	13	12	11	11	13	EMM
7											
8											
Total	20	22	16	24	23	24	18	17	15	25	EMM

Days	Concentration: 1.56										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	2	2	✓	✓	3	2	✓	✓	2	✓	A
5	8	8	6	7	8	6	4	4	5	6	EMM
6	13	11	13	15	14	13	10	10	11	12	EMM
7											
8											
Total	23	21	19	22	25	21	14	14	18	18	EMM

Days	Concentration: 3.12										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	✓	2	3	✓	4	✓	✓	2	3	2	A
5	4	8	8	4	8	9	6	8	9	9	EMM
6	14	13	12	9	9	11	12	14	16	14	EMM
7											
8											
Total	18	23	23	13	21	15	18	24	28	25	EMM

Days	Concentration: 6.25										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	A
4	✓	✓	✓	2	✓	4	3	3	✓	3	A
5	4	6	6	8	4	8	9	9	4	8	EMM
6	13	12	9	13	8	13	12	12	14	14	EMM
7											
8											
Total	17	18	15	23	12	25	24	23	18	24	EMM

Days	Concentration: 12.5										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	✓	2	✓	✓	2	✓	✓	✓	3	2	A
5	4	8	4	4	3	4	5	5	8	4	EMM
6	8	11	10	8	10	13	14	12	11	13	EMM
7											
8											
Total	12	21	14	12	21	17	19	17	22	19	EMM

Days	Concentration: 25										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	2	✓	✓	3	2	✓	3	✓	✓	✓	A
5	4	4	4	8	4	6	5	6	3	4	A
6	8	11	10	9	11	11	12	13	13	12	EMM
7											
8											
Total	19	15	14	20	19	17	20	19	25	16	EMM

Days	Concentration: 50										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	3	4	4	4	3	2	3	4	2	4	A
5	8	4	4	8	6	6	7	4	6	4	EMM
6	13	9	10	14	11	✓	11	12	13	10	EMM
7											
8											
Total	23	13	14	26	20	8	21	16	21	14	EMM

Days	Concentration: 100										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
5	4	5	4	4	3	4	3	3	2	2	EMM
6	10	11	6	6	✓	9	4	6	8	11	EMM
7											
8											
Total	14	16	10	10	3	13	7	9	10	13	EMM

Days	Concentration:										
	A	B	C	D	E	F	G	H	I	J	Init
1											
2											
3											
4											
5											
6											
7											
8											
Total											

Notes: X = mortality.

Sample Description: See water quality datasheet
Comments: Total # Young only based on the first 3 Broods. Fourth and subsequent broods not included in total count.

Reviewed by: JGW

Date reviewed: Nov. 29/16

CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test

Nautilus Environmental

Analysis ID:	21-3832-2778	**Endpoint:**	6d Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:14	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	05-3521-5677	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Emma Marus
Start Date:	26 Oct-16 10:30	**Protocol:**	EC/EPS 1/RM/21	**Diluent:**	20% Perrier Water
Ending Date:	01 Nov-16 19:30	**Species:**	Ceriodaphnia dubia	**Brine:**	
Duration:	6d 9h	**Source:**	In-House Culture	**Age:**	<24h
Sample ID:	13-5112-4696	**Code:**	508886D8	**Client:**	Mount Polley
Sample Date:	24 Oct-16 11:44	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	47h (10.5 °C)	**Station:**	HAD-3		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	139589	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC5	>100	N/A	N/A	<1	NA	NA
EC10	>100	N/A	N/A	<1	NA	NA
EC15	>100	N/A	N/A	<1	NA	NA
EC20	>100	N/A	N/A	<1	NA	NA
EC25	>100	N/A	N/A	<1	NA	NA
EC40	>100	N/A	N/A	<1	NA	NA
EC50	>100	N/A	N/A	<1	NA	NA

6d Survival Rate Summary

			Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Negative Control	10	1	1	1	0	0	0.0%	0.0%	10	10
1.56		10	1	1	1	0	0	0.0%	0.0%	10	10
3.12		10	1	1	1	0	0	0.0%	0.0%	10	10
6.25		10	1	1	1	0	0	0.0%	0.0%	10	10
12.5		10	1	1	1	0	0	0.0%	0.0%	10	10
25		10	1	1	1	0	0	0.0%	0.0%	10	10
50		10	1	1	1	0	0	0.0%	0.0%	10	10
100		10	1	1	1	0	0	0.0%	0.0%	10	10

6d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1	1	1	1	1	1	1	1	1	1
1.56		1	1	1	1	1	1	1	1	1	1
3.12		1	1	1	1	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	1	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

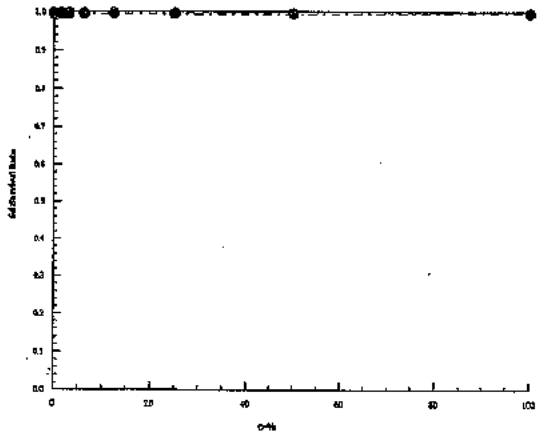
Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental**

Analysis ID:	21-3832-2778	**Endpoint:**	6d Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:14	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

6d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
1.56		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3.12		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental**

Analysis ID:	17-5811-2029	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:14	**Analysis:**	Nonlinear Regression	**Official Results:**	Yes
Batch ID:	05-3521-5677	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Emma Marus
Start Date:	26 Oct-16 10:30	**Protocol:**	EC/EPS 1/RM/21	**Diluent:**	20% Perrier Water
Ending Date:	01 Nov-16 19:30	**Species:**	Ceriodaphnia dubia	**Brine:**	
Duration:	6d 9h	**Source:**	In-House Culture	**Age:**	<24h
Sample ID:	13-5112-4696	**Code:**	508886D8	**Client:**	Mount Polley
Sample Date:	24 Oct-16 11:44	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	47h (10.5 °C)	**Station:**	HAD-3		

Non-Linear Regression Options

Model Function	X Transform	Y Transform	Weighting Function	PTBS Function
3P Log-Gompertz EV [Y=A*exp(log(0.5)(X/D)^C)]	None	None	Normal [W=1]	Off [Y*=Y]

Regression Summary

Iters	Log LL	AICc	BIC	Adj R2	Optimize	F Stat	Critical	P-Value	Decision(α:5%)
18	-152.1	310.6	317.4	0.3318	Yes	0.596	2.342	0.7031	Non-Significant Lack of Fit

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	29.35	N/A	47.12	3.408	2.122	NA
IC10	41.84	N/A	61.19	2.39	1.634	NA
IC15	51.81	24.01	71.21	1.93	1.404	4.165
IC20	60.57	37.61	79.12	1.651	1.264	2.659
IC25	68.65	49.02	85.94	1.457	1.164	2.04
IC40	91.11	74.59	107.6	1.098	0.9291	1.341
IC50	105.9	84.15	129.5	0.9443	0.7722	1.188

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(α:5%)
A	19.73	0.6089	18.53	20.92	32.4	<0.0001	Significant Parameter
C	2.029	0.7784	0.5031	3.556	2.606	0.0110	Significant Parameter
D	105.9	11.29	83.76	128	9.377	<0.0001	Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Model	706.6885	706.6885	1	41.22	<0.0001	Significant
Lack of Fit	52.46154	10.49231	5	0.596	0.7031	Non-Significant
Pure Error	1267.6	17.60556	72			
Residual	1320.062	17.14366	77			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Variances	Bartlett Equality of Variance	3.838	14.07	0.7982	Equal Variances
	Mod Levene Equality of Variance	1.156	2.14	0.3385	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.98	0.9691	0.2421	Normal Distribution
	Anderson-Darling A2 Normality	0.5581	2.492	0.1631	Normal Distribution

Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental**

Analysis ID:	17-5811-2029	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:14	**Analysis:**	Nonlinear Regression	**Official Results:**	Yes

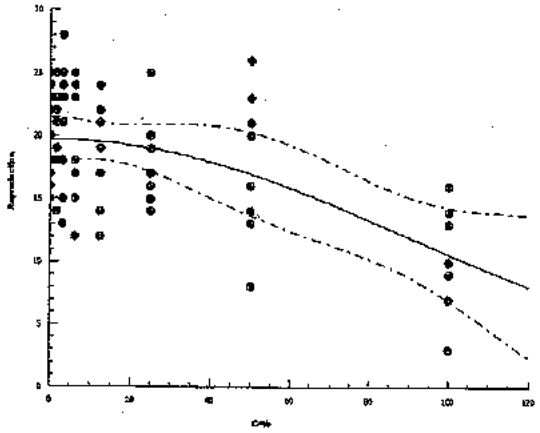
Reproduction Summary

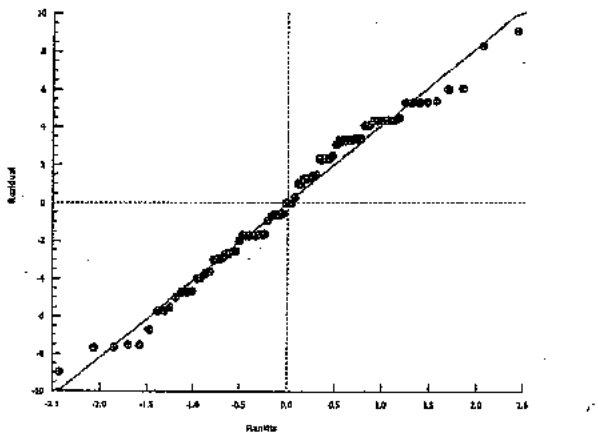
			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	10	20.4	15	25	1.166	3.688	18.08%	0.0%
1.56		10	19.5	14	25	1.147	3.629	18.61%	4.41%
3.12		10	20.8	13	28	1.489	4.709	22.64%	-1.96%
6.25		10	19.9	12	25	1.418	4.483	22.53%	2.45%
12.5		10	17.9	12	24	1.337	4.228	23.62%	12.25%
25		10	18.4	14	25	0.9911	3.134	17.03%	9.8%
50		10	17.6	8	26	1.733	5.481	31.14%	13.73%
100		10	10.5	3	16	1.186	3.749	35.71%	48.53%

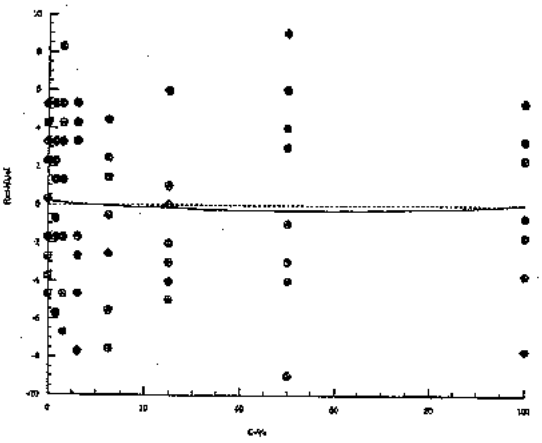
Reproduction Detail

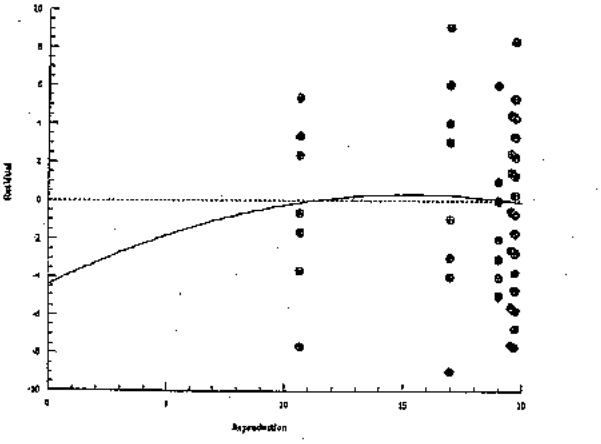
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	20	22	16	24	23	24	18	17	15	25
1.56		23	21	19	22	25	21	14	14	18	18
3.12		18	23	23	13	21	15	18	24	28	25
6.25		17	18	15	23	12	25	24	23	18	24
12.5		12	21	14	12	21	17	19	17	22	24
25		19	15	14	20	19	17	20	19	25	16
50		23	13	14	26	20	8	21	16	21	14
100		14	16	10	10	3	13	7	9	10	13

Graphics — 3P Log-Gompertz EV [Y=A*exp(log(0.5)(X/D)^C)]









Client: Mt. Polley

W.O.#: 161166

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Subsample Date	Date Measured	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/LCaCO_3$)	Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L\ CaCO_3$)	Technician
HAD-3	06/26/16	06/26/16	50	2.9	3.0	56	100①	5.3	530	YL
HAC-12	↓	↓	50	3.9	4.0	76	100①	4.0	400	YL emm
20% perox			50	5.0	5.1	98	50	5.0	100	EMM

Notes: ① Diluted sample to 100 mL w/ D.I. water

Reviewed by: JOH Date Reviewed: Nov. 29/16

APPENDIX B – ***Oncorhynchus mykiss*** **Toxicity Test Data**

Rainbow Trout Early Life Stage Summary Sheet

Client: Mount Polley

Start Date/Time: Oct 25/16 C1625h

Work Order No.: 161165

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: HAD-3
Sample Date: Oct 24/16
Date Received: Oct 25/16
Sample Volume: 5 X 20L

Dilution Water:

Type: Dechlorinated Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 4

Test Organism Information:

Batch No.: 102516
Source: Vancouver Island Trout Hatchery
Loading Density: 1.0 g/L

Number of male broodstock used: 3
Number of female broodstock used: 4
Sperm motility check: Verification of sperm motility using a compound microscope

SDS Reference Toxicant Results:

Reference Toxicant ID: RTE89
Stock Solution ID: 16502 (1000 mg/L SDS)
Date Initiated: Oct 25/16
7-d EC50 (95% CL): 5.5 (5.2 - 5.8) mg/L SDS

Reference Toxicant Mean and Range: 4.0 (2.1 - 7.4) mg/L SDS
Reference Toxicant CV (%): 37

Test Results:

	Sample ID		
	HAD-3		
EC25 % (v/v) (95% CL)	>100		
EC50 % (v/v) (95% CL)	>100		

Reviewed by: JGL

Date reviewed: Nov 9/16

7-d Chronic Freshwater Toxicity Test
Initial and Final Water Quality Measurements

Client: Mount Polley
Sample ID: MAD-3
Work Order #: 161165

Start Date & Time: Oct 25 /16 @ 1625h
Stop Date & Time: Nov 1/16 @ 1000h
Test Species: *Oncorhynchus mykiss*

% (v/v) Concentration (conc)	Days													
	0	1		2		3		4		5		6		7
	init.	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	14.5	14.5	14.0	14.0	14.0	14.9	14.0	14.5	14.0	14.6	14.0	14.5	14.0	14.0
DO (mg/L)	9.9	10.1	10.1	10.0	10.0	10.0	10.1	10.1	9.9	10.1	9.9	10.0	10.0	10.2
pH	7.1	6.9	6.9	7.0	6.9	6.9	6.8	6.8	7.1	6.8	7.1	7.0	7.0	6.9
Cond. (µS/cm)	28	28		28		28		28		28		28		29
Initials	KL	KL		KL		KL		AS		AS		KL		KL

Concentration 6.25	Days													
	0	1		2		3		4		5		6		7
	init.	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	14.0	14.0	14.0	14.0	14.0	14.5	14.0	14.5	14.0	14.5	14.0	14.05	14.0	14.0
DO (mg/L)	9.8	10.0	10.1	10.1	10.1	10.0	10.1	10.1	9.9	10.0	9.8	10.0	10.0	10.2
pH	7.0	7.1	7.0	7.1	7.1	7.1	7.1	7.1	7.1	7.2	7.2	7.0	7.0	7.0
Cond. (µS/cm)	123	KL	~~107~~ 109	115		114		111		109		117		116
Initials	KL	KL		KL		KL		AS		AS		KL		KL

Concentration 25	Days													
	0	1		2		3		4		5		6		7
	init.	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	13.5	14.5	14.0	14.0	14.0	14.5	14.0	14.6	14.0	14.5	14.0	14.5	14.0	14.0
DO (mg/L)	9.9	10.1	10.1	10.1	10.1	10.1	10.1	10.1	9.9	10.0	9.8	10.0	10.0	10.2
pH	6.9	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.3	7.3	7.2	7.1	7.2	7.1
Cond. (µS/cm)	382	388		390		402		400		392		403		393
Initials	KL	KL		KL		KL		AS		AS		KL		KL

Concentration 100	Days													
	0	1		2		3		4		5		6		7
	init.	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	13.5	14.5	14.0	14.0	14.0	14.5	14.0	14.5	14.0	14.6	14.0	14.05	14.0	14.0
DO (mg/L)	10.1	10.0	10.1	10.1	10.1	10.0	10.1	10.0	9.8	10.0	9.9	10.0	10.0	10.2
pH	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.7	7.7	7.8	7.7
Cond. (µS/cm)	1218	1215		1215		1217		1212		1213		1218		1214
Initials	KL	KL		KL		KL		AS		AS		KL		KL

Thermometer: Temp-3 **DO meter:** DO-2 **pH meter:** PH-1 **Conductivity meter:** C-2

	Control	100%		
Hardness*	10	640		
Alkalinity*	4	48		

* mg/L as $CaCO_3$

Analysts: AWD, KL

Reviewed by: JGa
Date reviewed: Nov. 9/16

Sample Description: clear, colourless, odourless, some particulate.

Comments:

Embryo Toxicity Test
Daily Mortality

Client: Mount Polley
Sample ID: HAD-3
Work Order #: ~~16465~~ 16465

Start Date & Time: Oct 25 /16 @ 1625h
Stop Date & Time: Nov 1/16 @ 0000h.
Test Species: *Oncorhynchus mykiss*

Concentration %(v/v)	Rep	Day of Test - No. of Mortalities							Total Dead Eggs	Total Undeveloped	Total No. Embryo	Total Exposed
		1	2	3	4	5	6	7				
control	1	0	0	0	0	0	1	1	2	0	28	30
	2	↓	↓	↓	↓	↓	1	0	1	0	29	30
	3	↓	↓	↓	↓	↓	0	1	1	0	29	30
	4	↓	↓	↓	↓	↓	0	0	0	0	30	30
6.25	1	↓	↓	↓	↓	↓	0	0	0	1	29	30
	2	↓	↓	↓	↓	↓	1	0	1	0	29	30
	3	↓	↓	↓	↓	↓	1	0	1	0	29	30
	4	↓	↓	↓	↓	↓	0	1	1	0	29	30
12.5	1	↓	↓	↓	↓	↓	↓	0	0	0	30	30
	2	↓	↓	↓	↓	↓	↓	↓	0	0	30	30
	3	↓	↓	↓	↓	↓	↓	↓	0	0	30	30
25%	4	↓	↓	1	↓	↓	↓	↓	1	0	29	30
25	1	↓	↓	0	↓	↓	1	↓	1	0	29	30
	2	↓	↓	↓	↓	↓	0	↓	0	0	30	30
	3	↓	↓	↓	↓	↓	0	↓	0	0	30	30
	4	↓	↓	↓	↓	↓	1	↓	1	1	27	29
50	1	↓	↓	↓	↓	↓	0	↓	0	0	30	30
	2	↓	↓	↓	↓	↓	0	↓	0	0	30	30
	3	↓	↓	↓	↓	↓	1	↓	1	0	29	30
	4	↓	↓	↓	↓	↓	0	↓	0	1	29	30
100	1	↓	↓	↓	↓	↓	0	↓	0	0	30	30
	2	↓	↓	↓	↓	1	0	1	1	1	28	30
	3	↓	↓	↓	↓	1	0	0	1	1	28	30
	4	↓	↓	↓	—	0	0	0	0	0	30	30
	1											
	2											
	3											
	4											
	1											
	2											
	3											
	4											
Tech Initials		VK	VK	VK	AT	AT	VK	VK	VK	VK	VK	VK

Comments: _____

Reviewed by: VGK **Date reviewed:** Nov. 9/16

CETIS Analytical Report

Salmonid Embryo Survival and Development Test — **Nautilus Environmental**

Analysis ID:	05-1869-9756	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.8.7
Analyzed:	04 Nov-16 16:18	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	09-6780-3267	**Test Type:**	Development	**Analyst:**	Kania Lywe
Start Date:	25 Oct-16 16:25	**Protocol:**	EC/EPS 1/RM/28	**Diluent:**	Dechlorinated Tap Water
Ending Date:	01 Nov-16 10:00	**Species:**	Oncorhynchus mykiss	**Brine:**	
Duration:	6d 18h	**Source:**	Vancouver Island Trout Hatchery	**Age:**	
Sample ID:	03-5397-0818	**Code:**	15192A82	**Client:**	Mount Polley
Sample Date:	24 Oct-16 11:44	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	29h (10.5 °C)	**Station:**	HAD-3		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1986148	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC5	>100	N/A	N/A	<1	NA	NA
EC10	>100	N/A	N/A	<1	NA	NA
EC15	>100	N/A	N/A	<1	NA	NA
EC20	>100	N/A	N/A	<1	NA	NA
EC25	>100	N/A	N/A	<1	NA	NA
EC40	>100	N/A	N/A	<1	NA	NA
EC50	>100	N/A	N/A	<1	NA	NA

Proportion Normal Summary

			Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Negative Control	4	0.9667	0.9333	1	0.01361	0.02722	2.82%	0.0%	116	120
6.25		4	0.9667	0.9667	0.9667	0	0	0.0%	0.0%	116	120
12.5		4	0.9917	0.9667	1	0.008333	0.01667	1.68%	-2.59%	119	120
25		4	0.9744	0.931	1	0.01646	0.03292	3.38%	-0.8%	116	119
50		4	0.9833	0.9667	1	0.009622	0.01924	1.96%	-1.72%	118	120
100		4	0.9667	0.9333	1	0.01924	0.03849	3.98%	0.0%	116	120

Proportion Normal Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	0.9333	0.9667	0.9667	1
6.25		0.9667	0.9667	0.9667	0.9667
12.5		1	1	1	0.9667
25		0.9667	1	1	0.931
50		1	1	0.9667	0.9667
100		1	0.9333	0.9333	1

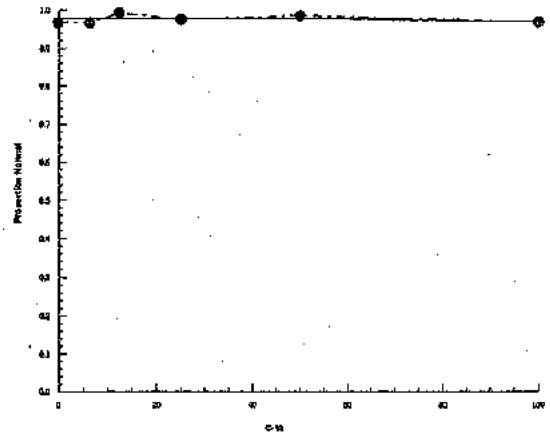
Proportion Normal Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	28/30	29/30	29/30	30/30
6.25		29/30	29/30	29/30	29/30
12.5		30/30	30/30	30/30	29/30
25		29/30	30/30	30/30	27/29
50		30/30	30/30	29/30	29/30
100		30/30	28/30	28/30	30/30

Salmonid Embryo Survival and Development Test — **Nautilus Environmental**

Analysis ID:	05-1869-9756	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.8.7
Analyzed:	04 Nov-16 16:18	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Graphics



Client: Mount Polley

W.O.#: 161165

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Subsample Date	Date Measured	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/L CaCO_3$)	Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L CaCO_3$)	Technician
Decnor	Oct 25/16	Oct 25/16	100 ~~50~~	0.5	0.6	4	100	1.0	10	VL
HAC-12	Oct 24/16	↓	50	4.0	4.2	76	10①	4.0	400	↓
HAD-3	Oct 24/16	↓	50	2.5	2.6	48	10①	6.4	640	↓

Notes: ① Sample diluted w/ DI water up to 100mL

Reviewed by: JCL Date Reviewed: Nov-9/16

APPENDIX C – ***Lemna minor*** **Toxicity Test Data**

Lemna minor Summary Sheet

Client: Mount Polley Mining Corporation
Work Order No.: 161168
Start Date: October 26 / 2016
Set up by: JW

Sample Information:

Sample ID: HAD - 3
Sample Date: October 24 / 2016
Date Received: October 25 / 2016
Sample Volume: 5 x 20L

Test Organism Information:

Culture Date: 101916
Age of culture (Day 0): 7 days
>8X growth in APHA?: Y (38 fronds)

KCl Reference Toxicant Results:

Reference Toxicant ID: Lm 138
Date Initiated: October 13 / 2016

7-d No. of Fronds IC50 (95% CL): 3.6 (3.2 - 3.9) g/L KCl

7-d No. Fronds IC50 Reference Toxicant Mean (2 SD Range): 3.9 (3.2 - 4.9) g/L KCl CV (%): 11

Test Results:

	Number of Fronds	Dry Weight
IC25 %(v/v) (95% CL)	33.2 (21.6 - 40.3)	67.4 (41.0 - 97)
IC50 %(v/v) (95% CL)	> 97	> 97

Reviewed by: JGL
Date reviewed: Nov. 25/16

Plant Growth Inhibition Toxicity Test
Water Quality Measurements

Client: Mt. Polley | Setup by: JW

Sample ID: JW HAD - Ø3 | Test Date: October 26, 2016

Work Order No.: 161168 | Test Species: *Lemna minor*

Culture Source: CPCC # 490

Test Culture Age: 7 days | > 8X Growth? (Y/N): Y (38 fronds)

Light Intensity Range: 4190 - 5090 lux | Date Measured: October 26, 2016

Day	0	1	2	3	4	5	6	7
Shelf Temp (°C)	25.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Initials	JW	JW	JW	[illegible]	[illegible]	JW	JW	JW

Sample Characteristics:	Initial Water Quality		Adjusted Water Quality
Temperature (°C)	25.0	Aeration?: 20 min	25.0
DO (mg/L)	9.1	Nutrients added?[1]: Y →	8.4
pH	7.7		7.7
Conductivity (µS)	1199		1927

[1] 10 mL of each APHA stock (A,B and C) added to 970 mL sample.

Concentration % (v/v)	Temperature (°C)		pH		Conductivity (µS)
	Day 0	Day 7	Day 0	Day 7	0 h
Control	25.5	JW 25.0 5	8.3	8.4	889
1.5	JW 25.0 5	JW 25.0 5	8.0	8.9	916
3	25.5	25.5	8.0	9.0	941
6.1	25.5	25.5	8.0	9.4	972
12.1	25.5	25.5	8.0	9.4	1050
24.2	25.5	25.5	8.0	9.1	1193
48.5	25.0	25.5	7.9	9.1	1450
97	25.0	25.5	7.7	9.3	1927
Initials	JW	JW	JW	JW	JW

Thermometer: 4 Cond. Meter: 2 pH meter: 1 Light meter: 1

Sample Description: clear, colorless, odorless, some particulates present.

Comments:

Reviewed: JGL Date Reviewed: Nov-15/16

Lemna minor Toxicity Test Data Sheet - 7-d Frond Counts

Client: Mt. Polley
Sample ID: HAD - Ø3 JW
Work Order #: 161168

Start Date: October 26, 2016
Termination Date: November 2, 2016
Test set up by: JW

Concentration %o (V/V)	Rep	No. of fronds Day 0	No. of fronds Day 7	Chlorosis	Necrosis	Yellow	Abnormal size	Gibbosity	Single fronds	Root destruction	Lose of buoyancy	Comments	Initials
control	A	6	100										JW
	B	6	102										
	C	6	105										
	D	6	94										
1.5	A	6	102										
	B	6	115										
	C	6	93										
	D	6	126										
3.0	A	6	116										
	B	6	111										
	C	6	103										
	D	6	119										
6.1	A	6	116										
	B	6	100										
	C	6	108										
	D	6	119										
12.1	A	6	102										
	B	6	91										
	C	6	86										
	D	6	100										
24.2	A	6	86										
	B	6	88										
	C	6	72										
	D	6	92										↓

Comments:

Reviewed by: JGL

Date Reviewed: Nov. 25/16

Lemna minor Toxicity Test Data Sheet - 7-d Frond Counts

Client: Mt. Polley
Sample ID: HA0 - 03 SW
Work Order #: 161168

Start Date: October 26, 2016
Termination Date: November 2, 2016
Test set up by: JW

Concentration % (v/v)	Rep	No. of fronds Day 0	No. of fronds Day 7	Chlorosis	Necrosis	Yellow	Abnormal size	Gibbosity	Single fronds	Root destruction	Loss of buoyancy	Comments	Initials
48.5	A	6	73										JW
	B	6	67										
	C	6	64										
	D	6	65										
97	A	6	60			X							
	B	6	60		X	X							
	C	6	59			X							
	D	6	60			X							✓
	A												
	B												
	C												
	D												
	A												
	B												
	C												
	D												
	A												
	B												
	C												
	D												
	A												
	B												
	C												
	D												

Comments:

Reviewed by: JGR

Date Reviewed: Nov. 28/16

7-d *Lemna minor* Weight Data Sheet

Client: Mount Polley
Sample ID: HAD - 03 JW
WO #: 161168

Start Date: October 26 , 2016
Termination Date: November 2 , 2016
Balance ID: Bal - 1

Concentration % (v/v)	Rep	Pan No.	Pan weight (mg)	Pan + plant weight (mg)	Initials
		HAD-3 Blue			
	A	1	1022.72	1029.79	JW / JW
CONTROL	B	2	1013.28	1020.85	
	C	3	1011.66	1020.58	
	D	4	1008.12	1015.21	
	A	5	1008.24	1016.24	
1.5	B	6	1006.88	1015.95	
	C	7	1003.23	1010.66	
	D	8	1009.94	1020.59	
	A	9	1016.10	1025.76	
3.0	B	10	1012.67	1021.45	
	C	11	1028.25	1035.98	
	D	12	1025.43	1034.57	
	A	13	1029.16	1038.54	
6.1	B	14	1008.20	1015.95	
	C	15	1035.69	1044.86	
	D	16	1016.62	1025.83	
	A	17	1022.79	1031.49	
12.1	B	18	1013.24	1020.05	
	C	19	999.65	1006.56	
	D	20	1010.49	1018.21	
	A	21	1008.21	1014.96	
24.2	B	22	1003.91	1010.37	
	C	23	1007.09	1012.86	
	D	24	1005.59	1012.98	
	A	25	1006.24	1012.81	
48.5	B	26	991.48	996.94	
	C	27	1015.70	1021.64	
	D	28	1001.43	1007.31	↓

Comments: 10 % Re-weigh = # 5 . 1016.27 # 22 . 1010.30
14 . 1015.87 # 30 . 1024.13

Reviewed by: JW Date Reviewed: Nov. 15/16

7-d *Lemna minor* Weight Data Sheet

Client: Mount Polley
Sample ID: HAD - Ø3 JW
WO #: 161168

Start Date: october 26, 2016
Termination Date: November 2, 2016
Balance ID: Bal - 1

Concentration	Rep	Pan No.	Pan weight (mg)	Pan + plant (mg)	Initials
% (v/v)		HAD-3 Blue			
	A	29	1041.775 JW	1048.05	JW / JW
97	B	30	1018.34	1024.28	↓
	C	31	1006.74	1012.47	
	D	32	1017.78	1022.51	
	A				
	B				
	C				
	D				
	A				
	B				
	C				
	D				
	A				
	B				
	C				
	D				
	A				
	B				
	C				
	D				
	A				
	B				
	C				
	D				
	A				
	B				
	C				
	D				

Comments:

Reviewed by: JGh

Date Reviewed: Nov. 25/16

CETIS Analytical Report

Lemna Growth Inhibition Test — **Nautilus Environmental**

Analysis ID:	09-5800-9697	**Endpoint:**	Frond Count	**CETIS Version:**	CETISv1.8.7
Analyzed:	16 Nov-16 10:06	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	05-9803-4038	**Test Type:**	Lemna Growth	**Analyst:**	Jeslin Wijaya
Start Date:	26 Oct-16	**Protocol:**	EC/EPS 1/RM/37	**Diluent:**	Modified APHA
Ending Date:	02 Nov-16	**Species:**	Lemna minor	**Brine:**	
Duration:	7d 0h	**Source:**	CPCC#490	**Age:**	7d
Sample ID:	03-5397-0818	**Code:**	15192A82	**Client:**	Mount Polley
Sample Date:	24 Oct-16 11:44	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	36h (10.5 °C)	**Station:**	HAD-3		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1572833	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	7.979	4.036	12.19	12.53	8.203	24.78
IC10	10.36	6.701	16.57	9.657	6.036	14.92
IC15	13.88	8	26.54	7.204	3.768	12.5
IC20	19.61	8.098	32.59	5.099	3.068	12.35
IC25	26.2	11.58	36.11	3.817	2.77	8.635
IC40	48.56	35.72	74.87	2.059	1.336	2.8
IC50	>97	N/A	N/A	<1.031	NA	NA

Frond Count Summary

			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	4	94.25	88	99	2.323	4.646	4.93%	0.0%
1.5		4	103	87	120	7.246	14.49	14.07%	-9.28%
3		4	106.3	97	113	3.497	6.994	6.58%	-12.73%
6.1		4	104.8	94	113	4.27	8.539	8.15%	-11.14%
12.1		4	88.75	80	96	3.772	7.544	8.5%	5.84%
24.2		4	78.5	66	86	4.349	8.699	11.08%	16.71%
48.5		4	61.25	58	67	2.016	4.031	6.58%	35.01%
97		4	53.75	53	54	0.25	0.5	0.93%	42.97%

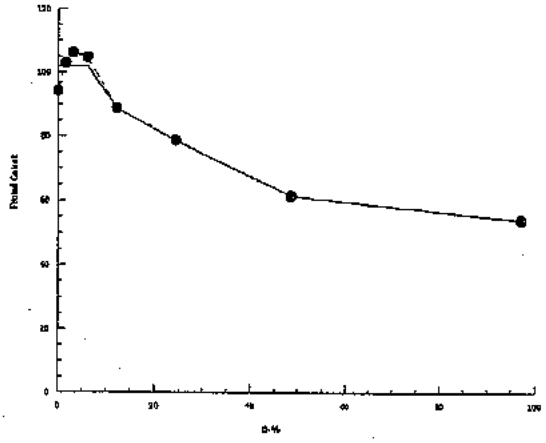
Frond Count Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	94	96	99	88
1.5		96	109	87	120
3		110	105	97	113
6.1		110	94	102	113
12.1		96	85	80	94
24.2		80	82	66	86
48.5		67	61	58	59
97		54	54	53	54

Lemna Growth Inhibition Test **Nautilus Environmental**

Analysis ID:	09-5800-9697	**Endpoint:**	Frond Count	**CETIS Version:**	CETISv1.8.7
Analyzed:	16 Nov-16 10:06	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Graphics



Lemna Growth Inhibition Test — Nautilus Environmental

Analysis ID:	15-5107-9324	Endpoint:	Frond Count	CETIS Version:	CETISv1.8.7
Analyzed:	16 Nov-16 10:11	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	05-9803-4038	Test Type:	Lemna Growth	Analyst:	Jeslin Wijaya
Start Date:	26 Oct-16	Protocol:	EC/EPS 1/RM/37	Diluent:	Modified APHA
Ending Date:	02 Nov-16	Species:	Lemna minor	Brine:	
Duration:	7d 0h	Source:	CPCC#490	Age:	7d
Sample ID:	13-5112-4696	Code:	508886D8	Client:	Mount Polley
Sample Date:	24 Oct-16 11:44	Material:	Water Sample	Project:	
Receive Date:	25 Oct-16 10:40	Source:	Mount Polley (MT POLLEY)		
Sample Age:	36h	Station:	HAD-3		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1435432	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	11	0.9694	17.81	9.091	5.616	103.2
IC10	15.83	5.402	27.22	6.317	3.674	18.51
IC15	21.74	9.318	31.45	4.601	3.18	10.73
IC20	27.45	13.7	35.15	3.643	2.845	7.301
IC25	33.21	21.55	40.33	3.011	2.48	4.64
IC40	74.94	40.08	86.4	1.334	1.157	2.495
IC50	>97	N/A	N/A	<1.031	NA	NA

Frond Count Summary

			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	4	94.25	88	99	2.323	4.646	4.93%	0.0%
1.5		4	94.25	88	99	2.323	4.646	4.93%	0.0%
3		4	94.25	88	99	2.323	4.646	4.93%	0.0%
6.1		4	94.25	88	99	2.323	4.646	4.93%	0.0%
12.1		4	88.75	80	96	3.772	7.544	8.5%	5.84%
24.2		4	78.5	66	86	4.349	8.699	11.08%	16.71%
48.5		4	61.25	58	67	2.016	4.031	6.58%	35.01%
97		4	53.75	53	54	0.25	0.5	0.93%	42.97%

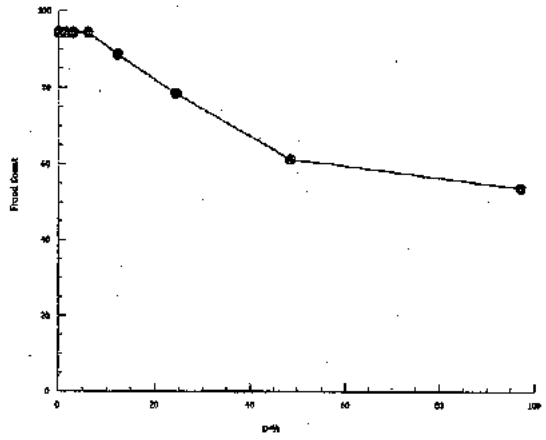
Frond Count Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	94	96	99	88
1.5		94	96	99	88
3		94	96	99	88
6.1		94	96	99	88
12.1		96	86	80	94
24.2		80	82	66	86
48.5		67	61	58	59
97		54	54	53	54

Lemna Growth Inhibition Test — **Nautilus Environmental**

Analysis ID:	15-5107-9324	**Endpoint:**	Frond Count	**CETIS Version:**	CETISv1.8.7
Analyzed:	16 Nov-16 10:11	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Graphics



Lemna Growth Inhibition Test — Nautilus Environmental

Analysis ID:	12-2632-9642	Endpoint:	Total Dry Weight-mg	CETIS Version:	CETISv1.8.7
Analyzed:	16 Nov-16 10:07	Analysis:	Nonlinear Regression	Official Results:	Yes
Batch ID:	05-9803-4038	Test Type:	Lemna Growth	Analyst:	Jeslin Wijaya
Start Date:	26 Oct-16	Protocol:	EC/EPS 1/RM/37	Diluent:	Modified APHA
Ending Date:	02 Nov-16	Species:	Lemna minor	Brine:	
Duration:	7d 0h	Source:	CPCC#490	Age:	7d
Sample ID:	03-6397-0818	Code:	15192A82	Client:	Mount Polley
Sample Date:	24 Oct-16 11:44	Material:	Water Sample	Project:	
Receive Date:	25 Oct-16 10:40	Source:	Mount Polley (MT POLLEY)		
Sample Age:	36h (10.5 °C)	Station:	HAD-3		

Non-Linear Regression Options

Model Function	X Transform	Y Transform	Weighting Function	PTBS Function
4P Log-Logistic+Hormesis EV [Y=A(1+EX)/(1+(2ED+1)(X/D)^C)]	None	None	Normal [W=1]	Off [Y*=Y]

Regression Summary

Iters	Log LL	AICc	BIC	Adj R2	Optimize	F Stat	Critical	P-Value	Decision(α:5%)
19	-7.962	25.4	29.79	0.6707	Yes	0.5835	2.776	0.6775	Non-Significant Lack of Fit

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	17.54	N/A	25.29	5.701	3.954	NA
IC10	24.15	17.24	34.1	4.141	2.933	5.8
IC15	33.49	23.64	48.19	2.986	2.075	4.23
IC20	47.08	31.41	72.47	2.124	1.38	3.183
IC25	67.43	41.01	116.2	1.483	0.8609	2.438
IC40	~~233.3~~	~~94.27~~	~~693.9~~	0.4287	0.1441	1.061
IC50	647.8	185.3	N/A	0.1544	NA	~~0.5397~~ JW

} > 97 % (V/V)

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(α:5%)
A	7.653	0.4153	6.839	8.467	18.43	<0.0001	Significant Parameter
C	1.177	0.03739	1.103	1.25	31.47	<0.0001	Significant Parameter
D	647.7	504.8	-341.6	1637	1.283	0.2099	Non-Significant Parameter
E	0.5229	0.4091	-0.279	1.325	1.278	0.2117	Non-Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Model	45.73302	45.73302	1	66.13	<0.0001	Significant
Lack of Fit	1.716243	0.4290608	4	0.5835	0.6775	Non-Significant
Pure Error	17.64636	0.7352649	24			
Residual	19.3626	0.6915215	28			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Variances	Bartlett Equality of Variance	4.001	14.07	0.7797	Equal Variances
	Mod Levene Equality of Variance	0.7314	2.423	0.6475	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9786	0.9338	0.7593	Normal Distribution
	Anderson-Darling A2 Normality	0.3007	2.492	0.6101	Normal Distribution

Analysis ID: 12-2632-9642 Endpoint: Total Dry Weight-mg CETIS Version: CETISv1.8.7
Analyzed: 16 Nov-16 10:07 Analysis: Nonlinear Regression Official Results: Yes

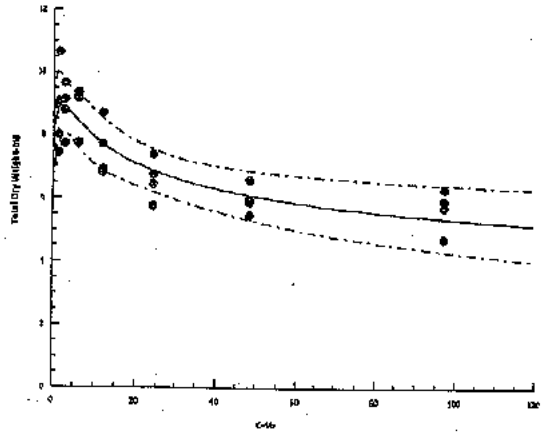
Total Dry Weight-mg Summary

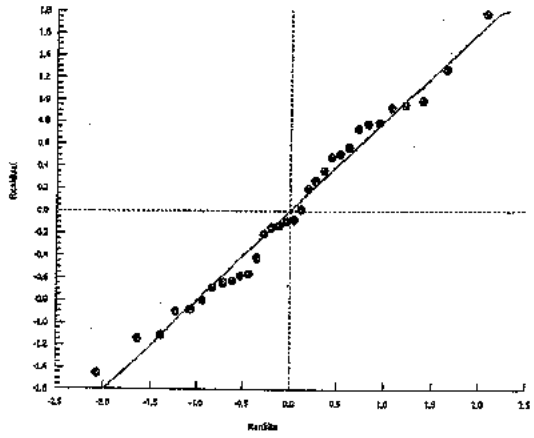
			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	4	7.663	7.07	8.92	0.4348	0.8696	11.35%	0.0%
1.5		4	8.788	7.43	10.65	0.7078	1.416	16.11%	-14.68%
3		4	8.827	7.73	9.66	0.408	0.816	9.24%	-15.2%
6.1		4	8.878	7.75	9.38	0.3786	0.7572	8.53%	-15.86%
12.1		4	7.535	6.81	8.7	0.4385	0.8771	11.64%	1.66%
24.2		4	6.592	5.77	7.39	0.336	0.672	10.19%	13.96%
48.5		4	5.963	5.46	6.57	0.2289	0.4578	7.68%	22.19%
97		4	5.675	4.73	6.3	0.3363	0.6726	11.85%	25.94%

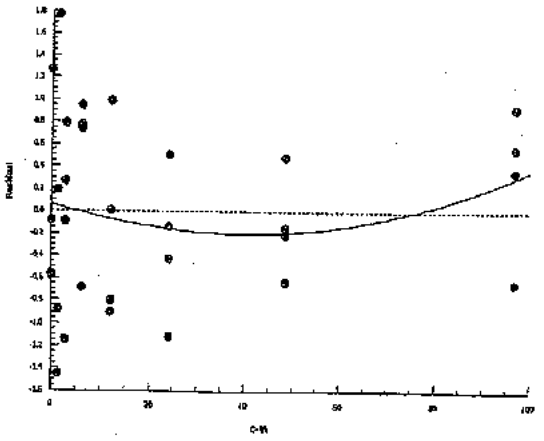
Total Dry Weight-mg Detail

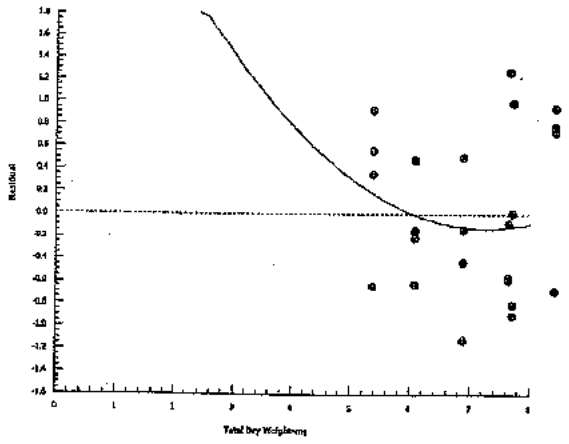
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	7.07	7.57	8.92	7.09
1.5		8	9.07	7.43	10.65
3		9.66	8.78	7.73	9.14
6.1		9.38	7.75	9.17	9.21
12.1		8.7	6.81	6.91	7.72
24.2		6.75	6.46	5.77	7.39
48.5		6.57	5.46	5.94	5.88
97		6.3	5.94	5.73	4.73

Graphics — 4P Log-Logistic+Hormesis EV [Y=A(1+EX)/(1+(2ED+1)(X/D)^C)]









APPENDIX D – *Pseudokirchneriella subcapitata* Toxicity Test Data

Pseudokirchneriella subcapitata Summary Sheet

Client: Mount Polley
Work Order No.: 161167

Start Date: Oct 27/16
Set up by: MLJ

Sample Information:

Sample ID: HAD-3
Sample Date: Oct 24/16
Date Received: Oct 25/16
Sample Volume: 5x20L

Test Organism Information:

Culture Date: Oct 21/16
Age of culture (Day 0): bd

Zinc Reference Toxicant Results:

Reference Toxicant ID: SC150
Stock Solution ID: 163n01
Date Initiated: Oct 14/16

72-h IC50 (95% CL): 36.9 (31.6-41.0) ug/L Zn

72-h IC50 Reference Toxicant Mean and Range: 32.6 (24.0-44.3) ug/L Zn CV (%): 16

Test Results:

	Algal Growth
IC25 %(v/v) (95% CL)	>95.2
IC50 %(v/v) (95% CL)	>95.2

Reviewed by: JGL

Date reviewed: Nov. 29/16

72-h Algal Growth Inhibition Toxicity Test
Water Quality Measurements

Client: Mount Polley | Setup by: MLT

Sample ID: HAD-3 | Test Date/Time: Oct 27/16 @0900h

Work Order No.: N1167 | Test Species: *Pseudokirchneriella subcapitata*

Culture Date: Oct 21/16 | Age of Culture: 6d | Culture Health: Good

Culture Count: 1 450 2 410 | Average: 430 | Culture Cell Density (c1): 430 x 10⁴ cells/mL

v1 = 220,000 cells/ml x 100 ml / (c1) 430x10⁴ cells/ml = 5.12mL

Time Zero Counts: 1 23 2 24 | Average: 23.5

No. of Cells/mL: 23.5x10⁴ | Initial Density: # cells/mL ÷ 220 µL x 10 µL = 10682 cells/mL

Concentration %(v/v)	Water Quality		Incubator Temperature (°C)				Microplates rotated 2X per day?			
	pH	Temp (°C)								
	0 h	0 h	0 h	24 h	48 h	72 h	0 h	24 h	48 h	72 h
Control	6.9	23.0	25.0	25.0	25.0	25.0	✓	✓	✓	✓
1.5	6.9	23.0	↓	↓	↓	↓	✓	✓	↓	↓
3.0	6.9	23.0					✓	✓		
6.0	7.0	23.0					✓	✓		
11.9	7.1	23.0					✓	✓		
23.8	7.3	23.0					✓	✓		
47.6	7.4	23.0					✓	✓	✓	✓
95.2	7.7	23.0	↓	↓	↓	↓	✓	✓		
Initials	MLT	MG	MLT	MLT	A	MG	MLT	MLT	A	MG

Initial control pH: Well 1: 6.9 Well 2: 6.9

Final control pH: Well 1: 6.7 Well 2: 6.7

Light intensity (lux): 4090 Date measured: Oct 27/16

Instruments: Thermometer 4 pH meter 2 4 MG Light meter 1

Sample Description: clear, colourless, odourless, some particulates present.

Comments:

Reviewed: JGH Date reviewed: Nov. 29/16

Pseudokirchneriella subcapitata Toxicity Test Data Sheet
72-h Algal Cell Counts

Client: Mount Polley
Work Order #: 161167
Sample ID: HAD-3
%(v/v)

Start Date/Time: Oct 27/16 @ 0900h
Termination Date: Oct 30/16 @ 0900h
Test set up by: ML

Concentration	Rep	Count 1	Count 2	Count 3	Count 4	Comments	Initials
Control	A	33					ML
	B	38					
	C	37					
	D	33					
	E	30					
	F	33					
	G	34					
	H	32					
1.5	A	40					
	B	49					
	C	44					
	D	41					
3.0	A	49					
	B	52					
	C	48					
	D	50					
6.0	A	78					
	B	66					
	C	60					
	D	63					
11.9	A	104					
	B	95					
	C	90					
	D	101					
23.8	A	121					
	B	124					
	C	118					
	D	125					
47.6	A	180					
	B	173					
	C	174					
	D	170					
95.2	A	200					
	B	190					
	C	185					
	D	198					

Comments:

Reviewed by: JGL Date Reviewed: Nov. 29/16

Pseudokirchneriella subcapitata Algal Counts

Client:	Mount Polley	Start Date/Time:	27-Oct-16 @ 0900h
WO#:	161167	Termination Date/Time	30-Oct-16 @ 0900h
Sample ID:	HAD-3		
		Initial Cell Density:	10682 cell/mL

Concentration %(v/v)	Rep	Count 1 ($\times 10^4$)	Count 2 ($\times 10^4$)	Count 3 ($\times 10^4$)	Count 4 ($\times 10^4$)	Mean ($\times 10^4$)	Cell Yield ($\times 10^4$) cell/mL		
									235000
									0.22
									0.01
									10681.82
Control	A	33				33	31.9	mean	32.9
	B	38				38	36.9	SD	2.267787
	C	37				37	35.9	CV	6.886309
	D	33				33	31.9		
	E	32				32	30.9		
	F	33				33	31.9		
	G	34				34	32.9		
	H	32				32	30.9		
1.5	A	40				40	38.9		
	B	49				49	47.9		
	C	44				44	42.9		
	D	41				41	39.9		
3	A	49				49	47.9		
	B	52				52	50.9		
	C	42				42	40.9		
	D	50				50	48.9		
6	A	78				78	76.9		
	B	66				66	64.9		
	C	60				60	58.9		
	D	63				63	61.9		
11.9	A	104				104	102.9		
	B	95				95	93.9		
	C	90				90	88.9		
	D	101				101	99.9		
23.8	A	121				121	119.9		
	B	124				124	122.9		
	C	118				118	116.9		
	D	125				125	123.9		
47.6	A	180				180	178.9		
	B	173				173	171.9		
	C	174				174	172.9		
	D	170				170	168.9		
95.2	A	200				200	198.9		
	B	190				190	188.9		
	C	185				185	183.9		
	D	198				198	196.9		

Reviewed by: JGL

Date reviewed: Nov. 29/16

EC Alga Growth Inhibition Test

Nautilus Environmental

Analysis ID:	01-6881-8403	**Endpoint:**	Cell Yield	**CETIS Version:**	CETISv1.8.7
Analyzed:	16 Nov-16 16:15	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	19-4628-7095	**Test Type:**	Cell Growth	**Analyst:**	Mimi Tran
Start Date:	27 Oct-16 09:00	**Protocol:**	EC/EPS 1/RM/25	**Diluent:**	Deionized Water + nutrients
Ending Date:	30 Oct-16 09:00	**Species:**	Pseudokirchneriella subcapitata	**Brine:**	
Duration:	72h	**Source:**	In-House Culture	**Age:**	6d
Sample ID:	03-5397-0818	**Code:**	15192A82	**Client:**	Mount Polley
Sample Date:	24 Oct-16 11:44	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	69h (10.5 °C)	**Station:**	HAD-3		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	811837	200	Yes	Two-Point Interpolation

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Control Trend	Mann-Kendall Trend			0.1411	Non-significant Trend in Controls

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	>95.2	N/A	N/A	<1.05	NA	NA
IC10	>95.2	N/A	N/A	<1.05	NA	NA
IC15	>95.2	N/A	N/A	<1.05	NA	NA
IC20	>95.2	N/A	N/A	<1.05	NA	NA
IC25	>95.2	N/A	N/A	<1.05	NA	NA
IC40	>95.2	N/A	N/A	<1.05	NA	NA
IC50	>95.2	N/A	N/A	<1.05	NA	NA

Cell Yield Summary

			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	8	33	31	37	0.8018	2.268	6.87%	0.0%
1.5		4	42.5	39	48	2.021	4.041	9.51%	-28.79%
3		4	47.25	41	51	2.175	4.349	9.21%	-43.18%
6		4	65.75	59	77	3.945	7.89	12.0%	-99.24%
11.9		4	96.5	89	103	3.122	6.245	6.47%	-192.4%
23.8		4	121	117	124	1.581	3.162	2.61%	-266.7%
47.6		4	173.3	169	179	2.097	4.193	2.42%	-425.0%
95.2		4	192.3	184	199	3.497	6.994	3.64%	-482.6%

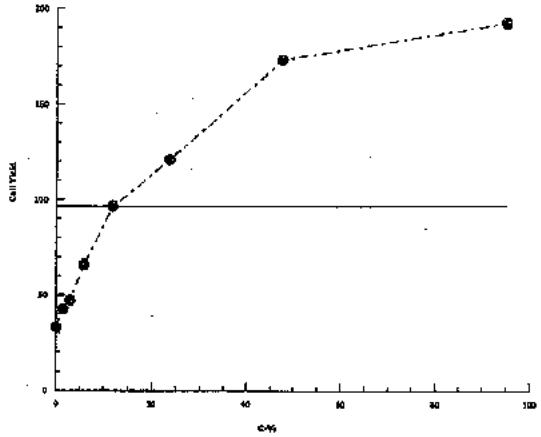
Cell Yield Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	Negative Control	32	37	36	32	31	32	33	31
1.5		39	48	43	40				
3		48	51	41	49				
6		77	65	59	62				
11.9		103	94	89	100				
23.8		120	123	117	124				
47.6		179	172	173	169				
95.2		199	189	184	197				

EC Alga Growth Inhibition Test — **Nautilus Environmental**

Analysis ID:	01-6881-8403	**Endpoint:**	Cell Yield	**CETIS Version:**	CETISv1.8.7
Analyzed:	16 Nov-16 16:15	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Graphics



CETIS Analytical Report

EC Alga Growth Inhibition Test — **Nautilus Environmental**

Analysis ID:	09-9077-5164	**Endpoint:**	Cell Yield	**CETIS Version:**	CETISv1.8.7
Analyzed:	16 Nov-16 16:15	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	19-4628-7095	**Test Type:**	Cell Growth	**Analyst:**	Mimi Tran
Start Date:	27 Oct-16 09:00	**Protocol:**	EC/EPS 1/RM/25	**Diluent:**	Deionized Water + nutrients
Ending Date:	30 Oct-16 09:00	**Species:**	Pseudokirchneriella subcapitata	**Brine:**	
Duration:	72h	**Source:**	In-House Culture	**Age:**	6d
Sample ID:	03-5397-0818	**Code:**	15192A82	**Client:**	Mount Polley
Sample Date:	24 Oct-16 11:44	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	69h (10.5 °C)	**Station:**	HAD-3		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Untransformed	NA	C < T	NA	NA	23.0%	<1.5	1.5	NA	>66.67

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Negative Control		1.5*	3.16	2.526	7.596	10	0.0117	CDF	Significant Effect
		3*	4.739	2.526	7.596	10	0.0002	CDF	Significant Effect
		6*	10.89	2.526	7.596	10	<0.0001	CDF	Significant Effect
		11.9*	21.12	2.526	7.596	10	<0.0001	CDF	Significant Effect
		23.8*	29.27	2.526	7.596	10	<0.0001	CDF	Significant Effect
		47.6*	46.65	2.526	7.596	10	<0.0001	CDF	Significant Effect
		95.2*	52.97	2.526	7.596	10	<0.0001	CDF	Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Control Trend	Mann-Kendall Trend			0.1411	Non-significant Trend in Controls

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	118221.6	16888.79	7	700.6	<0.0001	Significant Effect
Error	675	24.10714	28			
Total	118896.6		35			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	8.855	18.48	0.2632	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9826	0.9166	0.8304	Normal Distribution

Cell Yield Summary

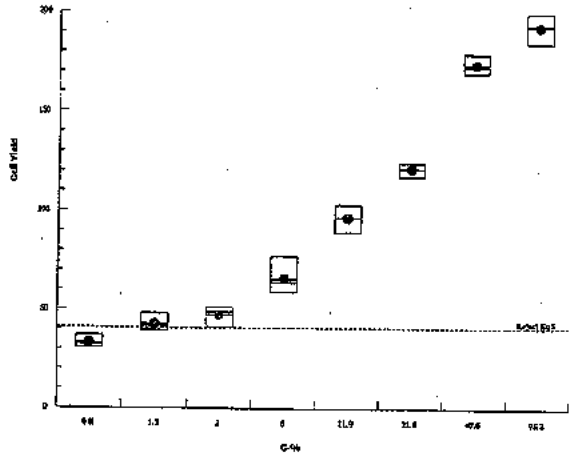
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Negative Control	8	33	31.1	34.9	32	31	37	0.8018	6.87%	0.0%
1.5		4	42.5	36.07	48.93	41.5	39	48	2.021	9.51%	-28.79%
3		4	47.25	40.33	54.17	48.5	41	51	2.175	9.21%	-43.18%
6		4	65.75	53.2	78.3	63.5	59	77	3.945	12.0%	-99.24%
11.9		4	96.5	86.56	106.4	97	89	103	3.122	6.47%	-192.4%
23.8		4	121	116	126	121.5	117	124	1.581	2.61%	-266.7%
47.6		4	173.3	166.6	179.9	172.5	169	179	2.097	2.42%	-425.0%
95.2		4	192.3	181.1	203.4	193	184	199	3.497	3.64%	-482.6%

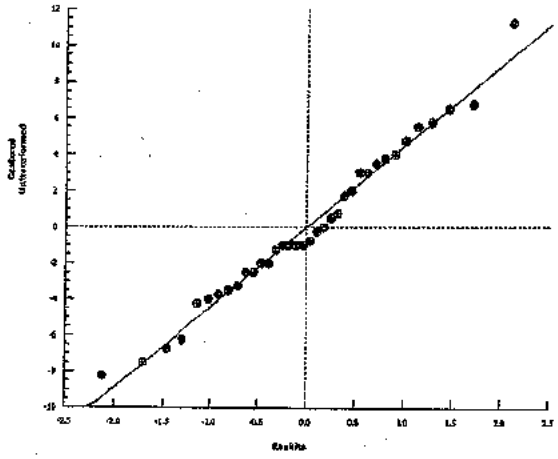
Analysis ID: 09-9077-5164 | Endpoint: Cell Yield | CETIS Version: CETISv1.8.7
Analyzed: 16 Nov-16 16:15 | Analysis: Parametric-Control vs Treatments | Official Results: Yes

Cell Yield Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	Negative Control	32	37	36	32	31	32	33	31
1.5		39	48	43	40				
3		48	51	41	49				
6		77	65	59	62				
11.9		103	94	89	100				
23.8		120	123	117	124				
47.6		179	172	173	169				
95.2		199	189	184	197				

Graphics





Analyst:_____ QA: 11/16

APPENDIX E – **Chain-of-Custody Form**

NAUTILUS ENVIRONMENTAL

TESTING LOCATION (Please Circle)

Burnaby (●)
8664 Commerce Court
Burnaby, British Columbia, Canada
V5A 4N7
Phone 604.420.8773

Calgary (○)
#4, 6125 12 Street SE
Calgary, Alberta, Canada
T2H 2K1
Phone 403.253.7121

COC # 161165 — 161166 — 161167 — 161168

Chain of Custody

Date 24-10-16 Page __ of __

Report to:		Invoice To:	
Company	Mount Polley Mining Corporation	Company	Mount Polley Mining Corporation
Address	Box 12	Address	Box 12
City/Prov/PC	Likely BC V0L 1N0	City/Prov/PC	Likely BC V0L 1N0
Contact	Colleen Hughes	Contact	Colleen Hughes
Phone	(250) 790-2617	Phone	(250) 790-2617
Email	chughes@mountpolley.com	Email	chughes@mountpolley.com
		PO No.	

Sample Collection By:

Sample Type: Grab (●) OR Composite (○)

	SAMPLE ID	DATE (DD/MM/YY)	TIME	MATRIX	# OF CONTAINERS AND VOLUME (e.g. 1 x 20 L)	COMMENTS	7d Rbt Embryo	7d cerio	72 H P. Subcapitata	7d Lemna	Receipt Temperature (°C)
1	HAC-12	24-10-16	14:17	Water	5 x 20L		✓	✓			9.0
2	HAD-3	24-10-16	11:44	Water	5 x 20L	MMER suite	✓	✓	✓	✓	10.5
3											
4											
5											
6											
7											
8											
9											
10											

ANALYSES REQUIRED

SPECIAL INSTRUCTIONS/COMMENTS (CLIENT)

(2) Clear, colourless, Odourless, Some particulates present
(1) Clear, light yellow, odourless, some particulates present

SAMPLE RECEIPT DETAILS (LABORATORY)

1. Total No. of Containers	10	4. Ice Present in Cooler?	(Y) / N
2. Courier	Greyhound	5. Seal Present?	(Y) N
3. Good Condition?	(Y) N	6. Initials Present on Seal?	Y / N

SAMPLE DESCRIPTION AND COMMENTS (LABORATORY)

RELINQUISHED BY (CLIENT)

(Printed Name) Chrissie C Hughes (Signature)

(Company) MPMC 15:30 24/10/16 (Date DD/MM/YY and Time)

RECEIVED BY (LABORATORY)

(Printed Name) Nan Yamamoto NY (Signature)

(Company) Nautilus Oct 25/16 @ 10:40 (Date DD/MM/YY and Time)

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling, or transport of the sample, application or interpretation of the test data or results in part or in whole.

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.

END OF REPORT

NAUTILUS ENVIRONMENTAL

Toxicity testing for Mount Polley Mining Corporation

HAC-12

Final Report

December 7, 2016

Submitted to: **Mount Polley Mining Corporation**
Likely, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

TABLE OF CONTENTS

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SIGNATURE PAGE

Report By:
Emma Marus, B.Sc.
Laboratory Biologist

Reviewed By:
Armando Tang, R.P.Bio
Senior Reviewer

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the sample tested.

SUMMARY

A summary of sample information and test results from the *Ceriodaphnia dubia* and *Oncorhynchus mykiss* toxicity tests are provided in the tables below. Testing was initiated on October 25 and 26, 2016 at the Nautilus Environmental laboratory in Burnaby, BC.

Sample and Test Type Information

Sample ID	HAC-12
Sample collection date	October 24, 2016
Sample receipt date	October 25, 2016
Sample receipt temperature	9.0°C
Test types	*Ceriodaphnia dubia* survival and reproduction test 7-d rainbow trout *(Oncorhynchus mykiss)* embryo viability test

Results

Endpoint	HAC-12 % (v/v)
C. dubia survival LC50	>100
C. dubia reproduction IC25 (95% CL)	60.5 (36.5 – 71.0)
O. mykiss survival EC25	>100
O. mykiss biomass EC50	>100

LC = Lethal Concentration, IC = Inhibition Concentration, IC = Inhibition Concentration, EC = Effect Concentration, CL = Confidence Limits

1.0 INTRODUCTION

Nautilus Environmental Company Inc. conducted sub-lethal toxicity tests for Mount Polley Mining Corporation on a sample identified as HAC-12 collected on October 24, 2016 and delivered to the laboratory in Burnaby, BC on October 25, 2016. The sample was transported in five 20-L plastic containers and received at a temperature of 9.0°C. The sample was stored in the dark at 4 ± 2°C prior to testing. The following sub-lethal toxicity tests were performed on the sample:

- *Ceriodaphnia dubia* survival and reproduction
- 7-d rainbow trout (*Oncorhynchus mykiss*) embryo viability

This report describes the results of these toxicity tests. Copies of laboratory data sheets and printouts of statistical analyses for each test species are provided in Appendices A and B. The chain-of-custody form is provided in Appendix C.

2.0 METHODS

Methods for the toxicity tests are summarized in Tables 1 and 2. Testing was conducted according to procedures described by the Environment Canada (2007). The rainbow trout embryo viability test followed modified procedures described by Environment Canada (1998) and Canaria et al. (1999). Statistical analyses for all tests were performed using CETIS (Tidepool Scientific Software, 2013).

Table 1. Summary of test conditions: *Ceriodaphnia dubia* survival and reproduction test.

Test species	*Ceriodaphnia dubia*
Organism source	In-house culture
Organism age	<24 hour old neonates, produced within a 12 hour window
Test type	Static-renewal
Test duration	7 ± 1 day
Test vessel	20-mL glass test tube
Test volume	15 mL
Test solution depth	10 cm
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	10 per treatment
Number of organisms	1 per replicate
Control/dilution water	20% Perrier water and 80% deionized water + 5 µg/L Se and 2 µg/L vitamin B12
Test solution renewal	Daily (100% renewal)
Test temperature	25 ± 1°C
Feeding	Daily with *Pseudokirchneriella subcapitata* and YCT (3:1 ratio)
Light intensity	100 to 600 lux at water surface
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen, pH and conductivity measured daily; hardness and alkalinity of undiluted sample measured at test initiation; survival and reproduction checked daily
Test protocol	Environment Canada (2007), EPS 1/RM/21
Statistical software	CETIS Version 1.8.7
Test endpoints	Survival and reproduction
Test acceptability criteria for controls	≥80% survival; ≥15 young per surviving control producing three broods; ≥60% of controls producing three or more broods; no ephippia present
Reference toxicant	Sodium chloride (NaCl)

Table 2. Summary of test conditions: rainbow trout (*Oncorhynchus mykiss*) embryo viability test.

Test species	*Oncorhynchus mykiss*
Organism source	Vancouver Island Trout Hatchery
Organism age	<30 minutes post fertilization, <24 hour old gametes
Test type	Static-renewal
Test duration	7 days
Test vessel	2-L plastic container
Test volume	2 L
Test solution depth	17 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	4 per treatment
Number of organisms	30 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	Daily (80% renewal)
Test temperature	14 ± 1°C
Feeding	None
Light intensity	Dark
Photoperiod	24 hours dark
Aeration	Continuous gentle aeration
Test measurements	Temperature, dissolved oxygen, pH and conductivity measured daily; hardness and alkalinity of undiluted sample measured at test initiation; survival checked daily
Test protocol	Environment Canada (1998), EPS 1/RM/28; Canaria et al. (1999)
Statistical software	CETIS Version 1.8.7
Test endpoints	Embryo viability
Test acceptability criteria for controls	Embryo viability ≥70%
Reference toxicant	Sodium dodecyl sulphate (SDS)

3.0 RESULTS

Results of the toxicity tests are summarized in Tables 3 and 4. There were no adverse effects observed on survival of *C. dubia*, resulting in an LC50 of >100%. Adverse effects were observed on reproduction of *C. dubia*, resulting in IC25 and IC50 values of 60.5 and 93.8%, respectively. There were no adverse effects on embryo viability of rainbow trout; the EC values were >100%.

Table 3. Results: *Ceriodaphnia dubia* survival and reproduction test on sample.

Concentration (% v/v)	Survival (%)	Reproduction (Mean ± SD)
Laboratory Control	100	18.5 ± 4.1
1.56	100	18.5 ± 3.1
3.12	100	19.3 ± 3.8
6.25	100	18.1 ± 3.4
12.5	100	14.9 ± 6.3
25	100	19.2 ± 3.4
50	100	16.1 ± 4.5
100	100	8.7 ± 4.3
Test endpoint (% v/v)		
LC50	>100	--
IC25 (95% CL)	--	60.5 (36.5 – 71.0)
IC50 (95% CL)	--	93.8 (77.3 – N/A)

SD = Standard Deviation, LC = Lethal Concentration, IC = Inhibition Concentration, N/A = Not Available

Table 4. Results: rainbow trout (*Oncorhynchus mykiss*) embryo viability test on sample.

Concentration (% v/v)	Embryo Viability (%) (Mean ± SD)
Laboratory Control	98.3 ± 3.3
6.25	97.5 ± 1.7
12.5	100.0 ± 0.0
25	98.3 ± 1.9
50	98.3 ± 1.9
100	95.8 ± 1.7
Test endpoint (% v/v)	
EC25	>100
EC50	>100

SD = Standard Deviation, EC = Effective Concentration

4.0 QA/QC

The health histories of the test organisms used in the exposures were acceptable and met the requirements of the Environment Canada protocols. The tests met all control acceptability criteria and water quality parameters remained within ranges specified in the protocols throughout the tests. There were no deviations from the test methodologies. Uncertainty associated with these tests is best described by the standard deviations around the mean and/or the confidence limits around the point estimates.

Results of the reference toxicant tests conducted during the testing program are summarized in Table 5. These tests were performed under the same conditions as the sample tested. Results for these tests fell within the acceptable range for organism performance of mean and two standard deviations, based on historical results obtained by the laboratory with these tests. Thus, the sensitivity of the organisms used in these tests was appropriate. The reference toxicant tests were performed under the same conditions as those used for the sample.

Table 5. Reference toxicant test results.

Test Species	Endpoint	Historical Mean (2SD Range)	CV (%)	Test Date
C. dubia	Survival (LC50): 2.0 g/L NaCl	2.0 (1.8 – 2.2)	5	October 13, 2016
	Reproduction (IC50): 1.4 g/L NaCl	1.6 (1.2 – 2.0)	13	
O. mykiss	Viability (EC50): 5.5 mg/L SDS	4.0 (2.1 - 7.4)	37	October 25, 2016

SD = Standard Deviation, CV = Coefficient of Variation, LC = Lethal Concentration, IC = Inhibition Concentration, EC = Effect Concentration

5.0 REFERENCES

Canaria, E.C., J.R. Elphick and H.C. Bailey. 1999. A simplified procedure for conducting small-scale short-term embryo toxicity tests with salmonids. Environ Toxicol 14:301-307.

Environment Canada. 1998. Biological test method: toxicity tests using early life stages of salmonid fish (rainbow trout). Environmental Protection Series EPS 1/RM/28. Second Edition, July 1998. Environment Canada, Method Development and Application Section, Environmental Technology Centre, Ottawa, ON. 102 pp.

Environment Canada. 2007. Biological test method: test of reproduction and survival using the cladoceran *Ceriodaphnia dubia*. Environmental Protection Series. Report EPS 1/RM/21, Second Edition, February 2007. Environment Canada, Method Development and Application Section, Environmental Science and Technology Centre, Science and Technology Branch, Ottawa, ON. 74 pp.

Tidepool Scientific Software. 2013. CETIS comprehensive environmental toxicity information system, version 1.8.4.29 Tidepool Scientific Software, McKinleyville, CA. 222 pp.

APPENDIX A – ***Ceriodaphnia dubia*** **Toxicity Test Data**

Ceriodaphnia dubia Summary Sheet

Client: Mt Polley
Work Order No.: 1616 0

Start Date/Time: Oct 26/16 @ 1640h
Set up by: EMM

Sample Information:

Sample ID: HAC-12
Sample Date: Oct 24/16
Date Received: Oct 25/16
Sample Volume: 5X2L

Test Validity Criteria:

1) Mean survival of first generation controls is ≥80 %
2) At least 60% of controls have produced three broods within 8 days
3) An average of ≥15 live young produced per surviving female in the control solutions during the first three broods.
4) Invalid if ephippia observed in any control solution at any time.

WQ Ranges:

T (°C) = 25 ± 1; DO (mg/L) = 3.3 to 8.4 ; pH = 6.0 to 8.5

Test Organism Information:

Broodstock No.: 10121681
Age of young (Day 0): <24-h (within 12-h)
Avg No. young in first 3 broods of previous 7 d: 48
Mortality (%) in previous 7 d: 15
Individual female # used ≥8 young on test day: 23733

NaCl Reference Toxicant Results:

Reference Toxicant ID: cd150
Stock Solution ID: 16Na02
Date Initiated: Oct 13/16

7-d LC50 (95% CL): 2.0 (1.9-2.3) g/L NaCL
7-d IC50 (95% CL): 1.4 (1.2-1.7) g/L NaCL

7-d LC50 Reference Toxicant Mean and Historical Range: 2.0 (1.8-2.2) g/L NaCL CV (%): 5
7-d IC50 Reference Toxicant Mean and Historical Range: 1.6 (1.2-2.0) g/L NaCL CV (%): 13

Test Results:

	Survival	Reproduction
LC50 % (v/v) (95% CL)	>100	
IC25 % (v/v) (95% CL)		60.5 (36.5-71.0)
IC50 % (v/v) (95% CL)		93.8 (77.3-N/a)

Reviewed by: JGL

Date reviewed: Nov-29/16

Chronic Freshwater Toxicity Test
Initial and Final Water Quality Measurements

Oct 26/16

Client: Mt. Polley
Sample ID: HAC-121
Work Order #: 161166

Start Date & Time: Nov Oct 26/16 @ 1040h
Stop Date & Time: Nov 1/16 @ 1900h
Test Species: *Ceriodaphnia dubia*

Concentration: control	Days 0	1		2		3		4		5		Final 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.0	7.4	8.0	7.6	8.0	7.4	8.2	7.4	8.0	7.5	8.1	7.4		
pH	8.0	7.8	8.0	7.9	8.0	7.7	8.1	7.9	8.1	7.7	8.0	7.7		
Cond. (µS/cm)	222	222		221		220		220		222		229		
Initials	EMM	EMM		EMM		AS		MLT		EMM		EMM		

(v/v) Concentration: 1.56%	Days 0	1		2		3		4		5		Final 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.0	7.6	8.1	7.6	8.1	7.5	8.2	7.5	8.0	7.5	8.2	7.6		
pH	8.0	7.8	8.0	7.9	8.0	7.9	7.9	7.9	7.9	7.8	7.9	7.8		
Cond. (µS/cm)	234	231		246		234		240		239		240		
Initials	EMM	EMM		EMM		AS		MLT		EMM		EMM		

(v/v) Concentration: 12.5%	Days 0	1		2		3		4		5		Final 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.0	25.0	24.0	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	8.0	7.6	8.2	7.6	8.1	7.5	8.2	7.4	8.0	7.4	8.2	7.6		
pH	8.0	7.8	7.9	8.0	7.9	7.9	7.9	7.8	7.9	7.8	7.9	7.8		
Cond. (µS/cm)	331	328		329		322		325		328		329		
Initials	EMM	EMM		EMM		AS		MLT		EMM		EMM		

(v/v) Concentration: 100%	Days 0	1		2		3		4		5		Final 6		7
	init.	old	new	old	new	old	new	old	new	old	new	old	new	final
Temperature (°C)	24.5	25.0	24.6	24.5	24.0	25.0	24.0	25.0	24.0	25.0	24.0	25.0		
DO (mg/L)	7.9	7.6	8.2	7.5	8.1	7.4	8.2	7.5	8.1	7.4	8.2	7.6		
pH	7.8	7.8	7.8	7.9	7.9	7.8	7.9	7.7	7.9	7.7	7.8	7.7		
Cond. (µS/cm)	977	991		995		988		986		991		980		
Initials	EMM	EMM		EMM		AS		MLT		EMM		EMM		

Thermometer: 4 DO meter: 2/1 pH meter: 2/1 Conductivity meter: 2/1

	Control	100% (v/v)		
Hardness*	100	400		
Alkalinity*	98	76		

* mg/L as $CaCO_3$

Analysts: EMM, MLT, JS, AW
Reviewed by: JGL
Date reviewed: Nov 29/16

Sample Description: clear, light yellow, odourless, some particulates present

Comments: Broodboard Used: 101216BD

Chronic Freshwater Toxicity Test
C. dubia Reproduction Data

Client: Mt Polley
Sample ID: HAC-12 8
Work Order: 1611666

EMM OCT 26
Start Date & Time: Oct 26/16 1040h
Stop Date & Time: NOV 1/16 1900h
Set up by: EMM

% (v/v)

Days	Concentration: control										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	2	✓	✓	3	3	3	3	✓	2	✓	A
5	8	9	9	7	6	6	7	9	6	9	EMM
6	10	9	10	14	11	12	14	10	13	11	EMM
7											
8											
Total	20	18	19	24	20	21	23	19	21	15	EMM

Days	Concentration: 1.56										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	3	5	3	3	4	4	3	5	✓	✓	A
5	6	7	8	8	4	4	8	6	6	9	EMM
6	13	9	11	11	12	12	12	13	11	10	EMM
7											
8											
Total	22	16	21	22	16	16	22	19	17	19	EMM

Days	Concentration: 3.12										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	2	3	✓	2	3	2	2	✓	3	✓	A
5	5	6	5	8	8	9	4	4	8	9	EMM
6	9	13	12	11	11	14	10	14	13	9	EMM
7											
8											
Total	16	22	17	21	22	25	16	18	23	13	EMM

Days	Concentration: 6.25										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	✓	2	✓	✓	✓	✓	✓	3	3	2	A
5	5	8	5	9	9	6	9	8	8	9	EMM
6	11	15	14	10	10	11	12	10	9	13	EMM
7											
8											
Total	16	25	19	19	19	17	16	21	20	19	EMM

Days	Concentration: 12.5										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	2	2	✓	✓	✓	2	✓	✓	3	2	A
5	8	8	4	4	2	✓	8	8	4	4	EMM
6	9	10	11	11	10	9	✓	9	11	12	EMM
7											
8											
Total	19	20	15	15	12	11	0	17	22	18	EMM

Days	Concentration: 25										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
5	3	2	2	3	4	4	2	2	✓	3	EMM
6	13	13	12	12	11	9	13	13	11	10	EMM
7											
8											
Total	23	23	18	22	15	13	21	20	17	20	EMM

Days	Concentration: 50										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	3	3	2	2	✓	2	2	✓	2	✓	A
5	8	6	8	7	9	8	7	3	3	2	EMM
6	9	10	10	11	13	✓	12	9	6	9	EMM
7											
8											
Total	20	19	20	20	17	10	21	12	11	11	EMM

Days	Concentration: 100										
	A	B	C	D	E	F	G	H	I	J	Init
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EMM
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	KW
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
4	✓	✓	✓	✓	✓	3	✓	✓	✓	✓	A
5	2	4	2	2	✓	3	4	5	4	5	EMM
6	✓	8	6	✓	✓	✓	8	10	6	✓	EMM
7											
8											
Total	10	12	8	2	10	10	12	13	10	10	EMM

Days	Concentration:										
	A	B	C	D	E	F	G	H	I	J	Init
1											
2											
3											
4											
5											
6											
7											
8											
Total											

Notes: X = mortality.

Sample Description: See water quality datasheet
Comments: Total # Young only based on the first 3 Broods. Fourth and subsequent broods not included in total count.

Reviewed by: JBe

Date reviewed: Nov. 29/16

Version 2.1 Issued July 29, 2008

Nautilus Environmental

Ceriodaphnia 7-d Survival and Reproduction Test — Nautilus Environmental

Analysis ID:	09-3894-6744	Endpoint:	6d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	17 Nov-16 15:10	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	12-1714-9572	Test Type:	Reproduction-Survival (7d)	Analyst:	Emma Marus
Start Date:	26 Oct-16 10:40	Protocol:	EC/EPS 1/RM/21	Diluent:	20% Perrier Water
Ending Date:	01 Nov-16 19:00	Species:	Ceriodaphnia dubia	Brine:	
Duration:	6d 8h	Source:	In-House Culture	Age:	<24h
Sample ID:	10-2460-8058	Code:	3D12473A	Client:	Mount Polley
Sample Date:	24 Oct-16 14:17	Material:	Water Sample	Project:	
Receive Date:	25 Oct-16 10:40	Source:	Mount Polley (MT POLLEY)		
Sample Age:	44h (9 °C)	Station:	HAC-12		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1758172	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC5	>100	N/A	N/A	<1	NA	NA
EC10	>100	N/A	N/A	<1	NA	NA
EC15	>100	N/A	N/A	<1	NA	NA
EC20	>100	N/A	N/A	<1	NA	NA
EC25	>100	N/A	N/A	<1	NA	NA
EC40	>100	N/A	N/A	<1	NA	NA
EC50	>100	N/A	N/A	<1	NA	NA

6d Survival Rate Summary

			Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Negative Control	10	1	1	1	0	0	0.0%	0.0%	10	10
1.56		10	1	1	1	0	0	0.0%	0.0%	10	10
3.12		10	1	1	1	0	0	0.0%	0.0%	10	10
6.25		10	1	1	1	0	0	0.0%	0.0%	10	10
12.5		10	1	1	1	0	0	0.0%	0.0%	10	10
25		10	1	1	1	0	0	0.0%	0.0%	10	10
50		10	1	1	1	0	0	0.0%	0.0%	10	10
100		10	1	1	1	0	0	0.0%	0.0%	10	10

6d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1	1	1	1	1	1	1	1	1	1
1.56		1	1	1	1	1	1	1	1	1	1
3.12		1	1	1	1	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	1	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

Ceriodaphnia 7-d Survival and Reproduction Test

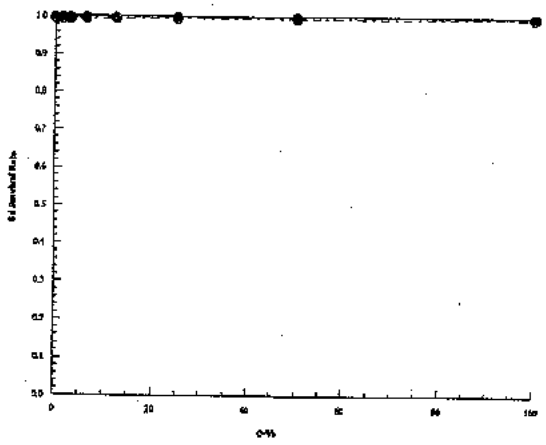
Nautilus Environmental

Analysis ID:	09-3894-6744	**Endpoint:**	6d Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:10	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

6d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
1.56		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3.12		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



Analyst:_____ QA: 29/11

CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test

Nautilus Environmental

Analysis ID:	18-6554-4921	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:10	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	12-1714-9572	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Emma Marus
Start Date:	26 Oct-16 10:40	**Protocol:**	EC/EPS 1/RM/21	**Diluent:**	20% Perrier Water
Ending Date:	01 Nov-16 19:00	**Species:**	Ceriodaphnia dubia	**Brine:**	
Duration:	6d 8h	**Source:**	In-House Culture	**Age:**	<24h
Sample ID:	10-2460-8058	**Code:**	3D12473A	**Client:**	Mount Polley
Sample Date:	24 Oct-16 14:17	**Material:**	Water Sample	**Project:**	
Receive Date:	25 Oct-16 10:40	**Source:**	Mount Polley (MT POLLEY)		
Sample Age:	44h (9 °C)	**Station:**	HAC-12		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	941833	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	7.515	0.7296	50.69	13.31	1.973	137.1
IC10	28.12	3.481	54.09	3.556	1.849	28.73
IC15	50.7	5.71	59.22	1.972	1.689	17.51
IC20	55.38	10.85	64.82	1.806	1.543	9.217
IC25	60.49	36.53	70.95	1.653	1.41	2.738
IC40	78.74	64.22	94.88	1.27	1.054	1.557
IC50	93.82	77.33	N/A	1.066	NA	1.293

Reproduction Summary

			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	10	18.5	13	24	1.293	4.089	22.1%	0.0%
1.56		10	18.5	14	22	0.969	3.064	16.56%	0.0%
3.12		10	19.3	13	25	1.212	3.831	19.85%	-4.32%
6.25		10	18.1	14	25	1.08	3.414	18.86%	2.16%
12.5		10	14.9	0	22	1.98	6.262	42.03%	19.46%
25		10	19.2	13	23	1.073	3.393	17.67%	-3.78%
50		10	16.1	10	21	1.433	4.533	28.15%	12.97%
100		10	8.7	0	13	1.367	4.322	49.68%	52.97%

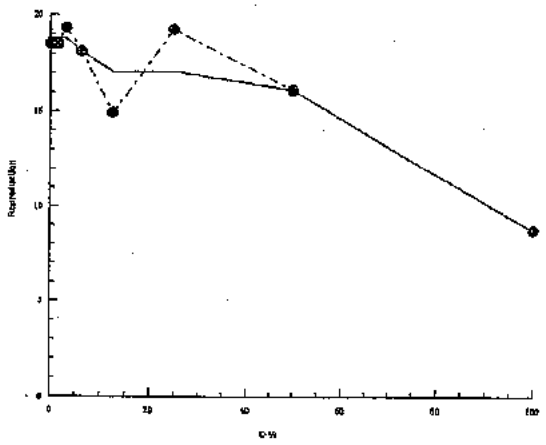
Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	20	13	14	24	20	21	23	14	21	15
1.56		22	16	21	22	16	16	22	19	17	14
3.12		16	22	17	21	22	25	16	18	23	13
6.25		16	25	19	14	14	17	16	21	20	19
12.5		19	20	15	15	12	11	0	17	22	18
25		23	23	18	22	15	13	21	20	17	20
50		20	19	20	20	17	10	21	12	11	11
100		10	12	8	2	0	10	12	13	10	10

Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental**

Analysis ID:	18-6554-4921	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.7
Analyzed:	17 Nov-16 15:10	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Graphics



APPENDIX B – **Rainbow Trout (*Oncorhynchus mykiss*) Toxicity Test Data**

Rainbow Trout Early Life Stage Summary Sheet

Client: Mount Polley

Start Date/Time: Oct 25/16 @ 1625h

Work Order No.: 161165

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: HAC-12
Sample Date: Oct 24/16
Date Received: Oct 25/16
Sample Volume: 5x20L

Dilution Water:

Type: Dechlorinated Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 4

Test Organism Information:

Batch No.: 102516
Source: Vancouver Island Trout Hatchery
Loading Density: 1.0 g/L

Number of male broodstock used: 3
Number of female broodstock used: 4
Sperm motility check: Verification of sperm motility using a compound microscope

SDS Reference Toxicant Results:

Reference Toxicant ID: RTC89
Stock Solution ID: 160502 (10000mg/L SDS)
Date Initiated: Oct 25/16
7-d EC50 (95% CL): 5.5 (5.2 - 5.8) mg/L SDS

Reference Toxicant Mean and Range: 4.0 (2.1 - 7.4) mg/L SDS
Reference Toxicant CV (%): 37

Test Results:

	Sample ID		
	HAC-12		
EC25 % (v/v) (95% CL)	>100		
EC50 % (v/v) (95% CL)	>100		

Reviewed by: JCL

Date reviewed: Nov-9/16

7-d Chronic Freshwater Toxicity Test
Initial and Final Water Quality Measurements

Client: Mount Polley
Sample ID: KMC-2
Work Order #: 1116S

Start Date & Time: Oct 25 /16 @ 1625h
Stop Date & Time: Nov1/16 @ 1015h
Test Species: *Oncorhynchus mykiss*

% (v/v) Concentration (control)	Days													
	0	1		2		3		4		5		6		7
	initial	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	14.5	14.5	14.0	14.0	14.0	14.5	14.0	14.6	14.0	14.6	14.0	14.5	14.0	14.0
DO (mg/L)	9.9	10.4	10.0	10.0	10.0	10.0	10.1	10.1	9.9	10.1	9.9	10.0	10.0	10.2
pH	7.1	6.9	6.9	7.0	~~6.85~~ 6.9	6.9	6.8	6.8	7.1	6.8	7.1	6.9	6.9	6.9
Cond. (µS/cm)	28	28		28		28		28		28		28		29
Initials														

Concentration 6.25	Days													
	0	1		2		3		4		5		6		7
	initial	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	14.0	14.5	14.0	15.0	14.0	14.5	14.0	14.5	14.0	14.0	14.0	14.0	14.0	14.0
DO (mg/L)	10.0	10.4	10.0	10.0	10.0	10.0	10.0	10.0	9.8	10.1	9.8	10.0	10.0	10.2
pH	7.2	7.4	7.4	7.2	7.2	7.0	6.9	7.1	7.2	7.0	7.1	7.0	7.0	7.2
Cond. (µS/cm)	111	95		99		99		97		99		110		103
Initials														

Concentration 25	Days													
	0	1		2		3		4		5		6		7
	initial	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	13.5	14.5	14.0	15.0	14.0	14.5	14.0	14.6	14.0	14.6	14.0	14.0	14.0	14.0
DO (mg/L)	10.0	10.1	10.0	10.0	10.0	10.0	10.0	10.1	9.8	10.1	9.9	10.0	10.0	10.2
pH	7.2	7.4	7.3	7.4	7.3	7.4	7.3	7.3	7.4	7.2	7.3	7.4	7.4	7.3
Cond. (µS/cm)	308	~~321~~ 321		315		311		324		329		318		316
Initials														

Concentration 100	Days													
	0	1		2		3		4		5		6		7
	initial	new	old	new	old	new	old	new	old	new	old	new	old	final
Temperature (°C)	13.5	14.5	14.0	15.0	14.0	15.0	14.0	14.6	14.0	14.6	14.0	14.0	14.0	14.0
DO (mg/L)	10.1	10.4	10.0	10.0	10.0	10.0	10.0	10.1	9.8	10.0	9.8	10.0	10.0	10.2
pH	7.8	7.8	7.8	7.8	7.9	7.8	7.9	7.9	7.9	7.8	7.8	7.9	8.0	7.9
Cond. (µS/cm)	1004	1000		1000		998		999		996		1002		1004
Initials														

Thermometer: Temp-3 DO meter: DO-2 pH meter: pH-1 Conductivity meter: C-2

	Control	100%		
Hardness*	10	400		
Alkalinity*	4	76		

* mg/L as CaCO3

Analysts: AWP, IL

Reviewed by: JGL

Date reviewed: Nov-9/16

Sample Description: Clear, slightly yellowish, some particulates, odourless

Comments:

Embryo Toxicity Test
Daily Mortality

Client: Mount Polley
Sample ID: HAC-12
Work Order #: 161165

Start Date & Time: Oct 25 16 C 1625h
Stop Date & Time: Nov 1/16 @ 1015h
Test Species: *Oncorhynchus mykiss*

Concentration % (v/v)	Rep	Day of Test - No. of Mortalities							Total Dead Eggs	Total Undeveloped	Total No. Embryo	Total Exposed
		1	2	3	4	5	6	7				
Control	1	0	0	2	0	0	0	0	2	0	28	30
	2	↓	↓	0	↓	↓	↓	↓	0	0	30	30
	3			0					↓	0	30	30
	4			0						0	30	30
6.25	1			0						1	29	30
	2			0			↓		↓	1	29	30
	3			0			1		1	0	29	30
	4			0			0		0	0	30	30
12.5	1			↓					↓	0	30	30
	2									0	30	30
	3									0	30	30
	4							↓	↓	0	30	30
25	1							1	1	0	29	30
	2							0	0	0	30	30
	3							1	1	0	29	30
	4							0	0	0	30	30
50	1					~		↓	0	0	30	30
	2					1			1	0	29	30
	3					0			0	1	29	30
	4					↓	↓	↓	0	0	30	30
100	1						1	1	1	0	29	30
	2						0	1	1	0	29	30
	3						2	0	2	0	28	30
	4	↓	↓	↓	↓	↓	1	0	1	0	29	30
	1											
	2											
	3											
	4											
	1											
	2											
	3											
	4											
Tech Initials		KL	KL	KL	KL	KL	KL	KL	KL	KL	KL	KL

Comments:

Reviewed by: JGL **Date reviewed:** Nov-9/16

Salmonid Embryo Survival and Development Test — Nautilus Environmental

Analysis ID:	09-8901-4078	Endpoint:	Proportion Normal	CETIS Version:	CETISv1.8.7
Analyzed:	04 Nov-16 16:24	Analysis:	Linear Regression (MLE)	Official Results:	Yes
Batch ID:	03-0701-6465	Test Type:	Development	Analyst:	Kania Lywe
Start Date:	25 Oct-16 16:25	Protocol:	EC/EPS 1/RM/28	Diluent:	Dechlorinated Tap Water
Ending Date:	01 Nov-16 10:15	Species:	Oncorhynchus mykiss	Brine:	
Duration:	6d 18h	Source:	Vancouver Island Trout Hatchery	Age:	
Sample ID:	16-4406-8403	Code:	6DEA4033	Client:	Mount Polley
Sample Date:	24 Oct-16 14:17	Material:	Water Sample	Project:	
Receive Date:	25 Oct-16 10:40	Source:	Mount Polley (MT POLLEY)		
Sample Age:	26h (9 °C)	Station:	HAC-12		

Linear Regression Options

Model Function	Threshold Option	Threshold	Optimized	Pooled	Het Corr	Weighted
Log-Angle [Asin(P^0.5)=A+B*log(X)]	Control Threshold	0.0166667	Yes	No	No	Yes

Regression Summary

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision(α:5%)
7	-67.5	142.2	144.5	1.584			2.34	3.16	0.1076	Non-Significant Lack of Fit

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC5	440.4	N/A	N/A	0.7125	NA	NA
EC10	244.1	N/A	N/A	0.4097	NA	NA
EC15	377.7	N/A	N/A	0.2647	NA	NA
EC20	551.9	N/A	N/A	0.1812	NA	NA
EC25	779	N/A	N/A	0.1284	NA	NA
EC40	1967	N/A	N/A	0.05083	NA	NA
EC50	3510	N/A	N/A	0.02849	NA	NA

> 100

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(α:5%)
Threshold	0.01458	0.005472	0.003859	0.02531	2.665	0.0145	Significant Parameter
Slope	0.4005	0.4904	-0.5606	1.362	0.8167	0.4233	Non-Significant Parameter
Intercept	-0.6344	0.9586	-2.513	1.244	-0.6618	0.5153	Non-Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Model	0.7591874	0.7591874	1	0.9702	0.3358	Non-Significant
Lack of Fit	4.611013	1.537004	3	2.34	0.1076	Non-Significant
Pure Error	11.82122	0.6567344	18			
Residual	16.43223	0.7824873	21			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Goodness-of-Fit	Pearson Chi-Sq GOF	16.43	32.67	0.7449	Non-Significant Heterogenity
	Likelihood Ratio GOF	17.92	32.67	0.6539	Non-Significant Heterogenity
Variances	Mod Levene Equality of Variance	0.7971	2.773	0.5659	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.7671	0.9169	<0.0001	Non-normal Distribution
	Anderson-Darling A2 Normality	2.597	2.492	<0.0001	Non-normal Distribution

Proportion Normal Summary

			Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Negative Control	4	0.9833	0.9333	1	0.01667	0.03333	3.39%	0.0%	118	120
6.25		4	0.975	0.9667	1	0.008333	0.01667	1.71%	0.85%	117	120
12.5		4	1	1	1	0	0	0.0%	-1.7%	120	120
25		4	0.9833	0.9667	1	0.009622	0.01924	1.96%	0.0%	118	120
50		4	0.9833	0.9667	1	0.009622	0.01924	1.96%	0.0%	118	120
100		4	0.9583	0.9333	0.9667	0.008333	0.01667	1.74%	2.54%	115	120

Analysis ID: 09-8901-4078 Endpoint: Proportion Normal CETIS Version: CETISv1.8.7
Analyzed: 04 Nov-16 16:24 Analysis: Linear Regression (MLE) Official Results: Yes

Proportion Normal Detail

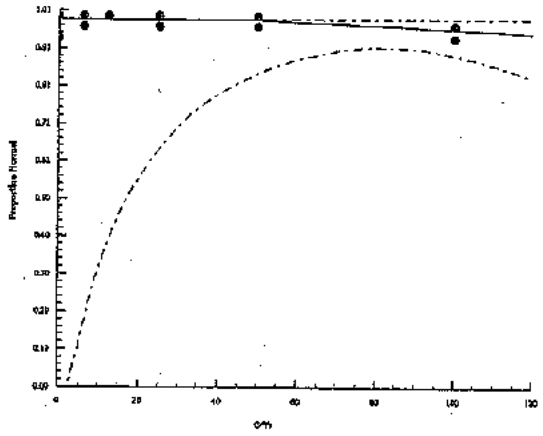
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	0.9333	1	1	1
6.25		0.9667	0.9667	0.9667	1
12.5		1	1	1	1
25		0.9667	1	0.9667	1
50		1	0.9667	0.9667	1
100		0.9667	0.9667	0.9333	0.9667

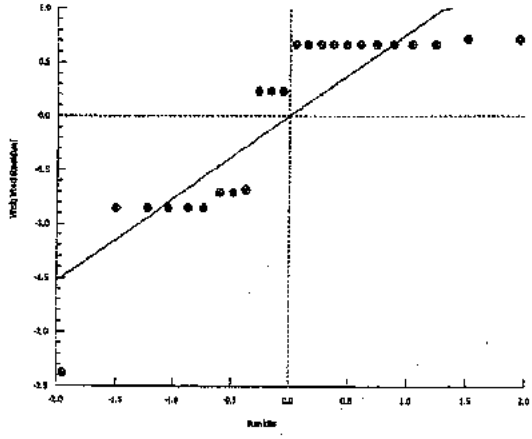
Proportion Normal Binomials

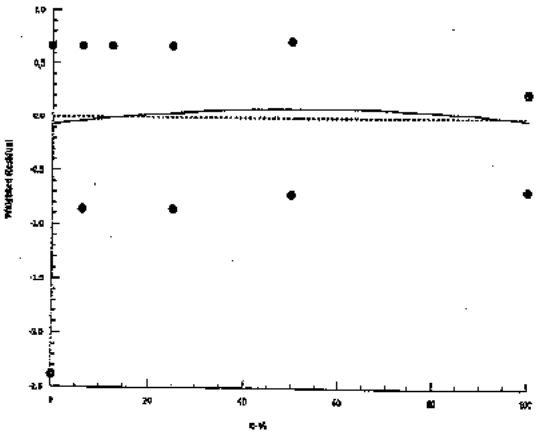
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Control	28/30	30/30	30/30	30/30
6.25		29/30	29/30	29/30	30/30
12.5		30/30	30/30	30/30	30/30
25		29/30	30/30	29/30	30/30
50		30/30	29/30	29/30	30/30
100		29/30	29/30	28/30	29/30

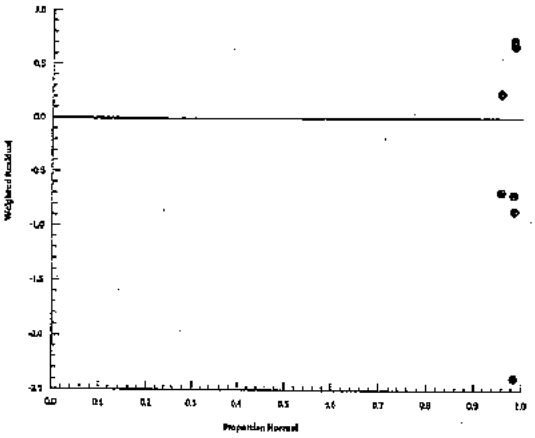
Graphics

Log-Angle [Asin(P^0.5)=A+B*log(X)]









APPENDIX C – **Chain-of-Custody Form**

NAUTILUS ENVIRONMENTAL

TESTING LOCATION (Please Circle)

Burnaby
8664 Commerce Court
Burnaby, British Columbia, Canada
V5A 4N7
Phone 604.420.8773

Calgary
#4, 6125 12 Street SE
Calgary, Alberta, Canada
T2H 2K1
Phone 403.253.7121

Lot # 161165 / 161166 / 161167 / 161168

Chain of Custody

Date 24-10-16 Page __ of __

Report to:		Invoice To:	
Company	Mount Polley Mining Corporation	Company	Mount Polley Mining Corporation
Address	Box 12	Address	Box 12
City/Prov/PC	Likely BC V0L 1N0	City/Prov/PC	Likely BC V0L 1N0
Contact	Colleen Hughes	Contact	Colleen Hughes
Phone	(250) 790-2617	Phone	(250) 790-2617
Email	chughes@mountpolley.com	Email	chughes@mountpolley.com
		PO No.	

Sample Collection By: **Sample Type:** Grab ◉ OR Composite ○

	SAMPLE ID	DATE (DD/MM/YY)	TIME	MATRIX	# OF CONTAINERS AND VOLUME (e.g. 1 x 20 L)	COMMENTS	7d Rbt Embryo	7d Larva	72 H P. Subcapitata	7d Lemna	Receipt Temperature (°C)
1	① HAC-12	24-10-16	14:17	Water	5 x 20L		✓	✓			9.0
2	② HAD-3	24-10-16	11:44	Water	5 x 20L	MMER suite	✓	✓	✓	✓	10.5
3											
4											
5											
6											
7											
8											
9											
10											

SPECIAL INSTRUCTIONS/COMMENTS (CLIENT)

② clear, colourless, odourless, some particulates present
① clear, light yellow, odourless, some particulates present

SAMPLE RECEIPT DETAILS (LABORATORY)

1. Total No. of Containers	10	4. Ice Present in Cooler?	(Y) / N
2. Courier	Greyhound	5. Seal Present?	(Y) / N
3. Good Condition?	(Y) / N	6. Initials Present on Seal?	Y / N

SAMPLE DESCRIPTION AND COMMENTS (LABORATORY)

RELINQUISHED BY (CLIENT)

(Printed Name) Gabrielle Hughes (Signature)

(Company) MPMC 15:30 24/10/16 (Date DD/MM/YY and Time)

RECEIVED BY (LABORATORY)

(Printed Name) Nan Yamamoto (Signature) NY

(Company) Nautilus Oct 25/16 @ 10:40 (Date DD/MM/YY and Time)

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling, or transport of the sample, application or interpretation of the test data or results in part or in whole.

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.

END OF REPORT

NAUTILUS
ENVIRONMENTAL

Acute Toxicity Test Results

Sample collected November 15, 2016

Final Report

November 28, 2016

Submitted to: **Mount Polley Mining Corporation**
Likely, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates				Receipt temperature
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation	
HAD-3	15-Nov-16 at 1237h	16-Nov-16 at 1010h	17-Nov-16 at 1340h	16-Nov-16 at 1550h	6.5°C

TESTS

- Rainbow trout 96-h LC50 test
- *Daphnia magna* 48-h LC50 test

RESULTS

Toxicity test results

Sample ID	LC50 (% v/v)	
	Rainbow trout	*Daphnia magna*
HAD-3	>100	>100

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CI)	40.6 (34.1 – 48.4) µg/L Zn[1]	4.5 (3.8 – 5.4) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	60.8 (22.0 – 167.6) µg/L Zn	4.1 (3.1 – 5.5) g/L NaCl
Reference toxicant CV	66%	15%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1] Test date: November 14, 2016; [2] Test Date: November 2, 2016

Report By:
Yvonne Lam, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P.Bio
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – **Summary of test conditions**

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) LC50 test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Statistical software	CETIS Version 1.8.7
Test endpoints	Survival (96-hour LC50)
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnCl_2$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* LC50 test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Statistical software	CETIS Version 1.8.7
Test endpoints	Survival (48-hour LC50)
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – **Toxicity test data**

Rainbow Trout Summary Sheet

Client: Mount Polley Mining

Start Date/Time: Nov 17. 116 @ 1340 h

Work Order No.: 161241

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: HAD-3
Sample Date: Nov 15 116
Date Received: Nov 16 116
Sample Volume: 2 x 20 L
Other: ✓

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 8
Alkalinity (mg/L $CaCO_3$): 4

Test Organism Information:

Batch No.: 110116
Source: Vancouver Island Trout Hatchery
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.20
Mean Length ± SD (mm): 30 ± 1 Range: 27 - 31
Mean Weight ± SD (g): 0.30 ± 0.02 Range: 0.27 - 0.35

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZn54
Stock Solution ID: 162n02
Date Initiated: Nov 14/16
96-h LC50 (95% CL): 40.6 (34.1 - 48.4) mg/L

Reference Toxicant Mean and Historical Range: 60.8 (22.0-167.6) mg/L Zn
Reference Toxicant CV (%): 66.1 %

Test Results: The 96h LC50 is estimated to be >100% (v/v).

Reviewed by: [signature]

Date reviewed: Nov. 25, 2016

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Mount Polley Mining
Sample I.D. HAD-3
W.O. # 161241
RBT Batch #: 110116
Date Collected/Time: Nov 15/16 @ 1237h
Date Setup/Time: Nov 17/16 @ 1340h
Sample Setup By: EC

Number Fish/Volume: 10/15L
7-d % Mortality: 0
Total Pre-aeration Time (mins): 90
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: CER#2 **D.O. meter:** 2
Cond./Salinity: 2 **pH meter:** 1

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	10.3		9.9
pH	7.7		7.5
Cond. (µS/cm)	1188		1188
Salinity (ppt)	0.6		0.6

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
CH				10	10	10	10	14.0	15.0	14.5	14.5	15.0	9.8	9.8	9.7	9.9	9.8	6.8	7.0	6.9	6.8	7.0	26	32
6.25				10	10	10	10	14.0	15.0	14.5	14.5	15.0	9.8	9.9	9.8	9.6	9.7	6.7	7.2	7.1	7.0	7.3	136	139
12.5				10	10	10	10	14.0	15.0	14.5	14.5	15.0	9.9	9.9	9.7	9.8	9.8	6.7	7.1	7.2	7.2	7.2	219	222
25				10	10	10	10	14.0	15.0	14.5	14.5	15.0	9.9	10.0	9.8	9.8	9.8	6.7	7.0	7.3	7.3	7.2	338	362
50				10	10	10	10	14.0	15.0	14.5	14.5	15.0	10.0	10.0	9.7	9.7	9.9	6.9	7.0	7.3	7.5	7.3	546	552
100				10	10	10	10	14.0	15.0	14.5	14.6	15.0	9.9	10.0	9.7	9.8	9.9	7.5	7.5	7.6	7.5	7.7	1188	1199
Initials				EC	AM	AM	EC	EC	EC	AM	AM	EC	EC	EC	AM	AM	EC	EC	EC	AM	AM	EC	EC	EC

Sample Description/Comments: Clear, Colorless, No particulates, Odourless

Fish Description at 96 h All fish appear normal **Number of Stressed Fish at 96 h** 0

Other Observations:

Reviewed by: [signature] **Date Reviewed:** NOV 25 2016

Daphnia magna Summary Sheet

Client: Mt Polley
Work Order No.: 1612A2

Start Date/Time: November 16, 2016 @ 1550h
Test Species: *Daphnia magna*
Set up by: YHL

Sample Information:

Sample ID: HAD-3
Sample Date: November 15, 2016
Date Received: November 16, 2016
Sample Volume: 2 x 20L

Test Validity Criteria:
≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.
WQ Ranges:
T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 102616A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 17
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmTC41
Stock Solution ID: 16NaO2
Date Initiated: November 2, 2016
48-h LC50 (95% CL): 4.5 (3.8 - 5.4) g/L NaCL

Reference Toxicant Mean and Historical Range: 4.1 (3.1 - 5.5) g/L NaCL
Reference Toxicant CV (%): 15

Test Results: The 48h LC50 is estimated to be >100% (v/v)

Reviewed by: [signature]
Date reviewed: Nov. 25, 2016

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Mt. Polley
Sample ID: HAD-3
Work Order No.: 16L242

Start Date/Time: November 16, 2016 @ 1550h
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: YMC

Thermometer: temp-11 DO meter: DO-213 pH meter: pH-113 Cond./Salinity: C-213

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	18.5	18.5	8.6	8.5	8.3	7.6	7.6	7.4	352	377
	B														
	C														
	D														
6.25	A	10	10	0	19.0	18.5	18.5	8.6	8.4	8.2	7.6	7.6	7.4	416	421
	B														
	C														
	D														
12.5	A	10	10	0	19.0	18.5	18.5	8.6	8.5	8.2	7.6	7.6	7.4	497	500
	B														
	C														
	D														
25	A	10	10	0	19.0	18.5	18.5	8.8	8.4	8.2	7.6	7.6	7.4	534	536
	B														
	C														
	D														
50	A	10	10	0	19.0	18.5	18.5	8.9	8.5	8.3	7.6	7.6	7.4	799	803
	B														
	C														
	D														
100	A	10	10	0	19.0	18.5	18.5	9.2	8.4	8.2	7.7	7.6	7.3	1204	1195
	B														
	C														
	D														
Technician Initials		YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC	YMC

Concentration	Hardness* (mg/L as CaCO3)	Alkalinity* (mg/L as CaCO3)
Control (MHW)	96	66
Highest conc.	710	42
Hardness adjusted		

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	9.2		
pH	7.7		
Cond (µS/cm)	1204		
Salinity (ppt)	0.6		

Comments:

Mortality: Heartbeat checked under microscope at 24hrs

Sample Description: clear, no odour, no particulates, no odour.

Batch#: 102616A 7-d previous # young/brood: 17 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: Nov 25, 2016

Client: Mt. Polley

W.O.#: 161242

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Subsample Date	Date Measured	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/LCaCO_3$)	Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L\ CaCO_3$)	Technician
HAD-3	Nov-16/16	Nov-16/16	50	2.3	2.5	42	10	7.1	710	JS
MHW	Nov-16/16	Nov-16/16	50	3.4	3.5	66	50	9.8	96	YM

Notes:

Reviewed by: [signature] Date Reviewed: Nov. 25, 2016

APPENDIX C – **Chain-of-custody form**

NAUTILUS ENVIRONMENTAL

TESTING LOCATION (Please Circle)

Burnaby
8664 Commerce Court
Burnaby, British Columbia, Canada
V5A 4N7
Phone 604.420.8773

Calgary
#4, 6125 12 Street SE
Calgary, Alberta, Canada
T2H 2K1
Phone 403.253.9121

161241
161242

Chain of Custody

Date 15-11-16 Page ___ of ___

Report to:		Invoice To:	
Company	Mount Polley Mining Corporation	Company	Mount Polley Mining Corporation
Address	Box 12	Address	Box 12
City/Prov/PC	Likely BC V0L 1N0	City/Prov/PC	Likely BC V0L 1N0
Contact	Colleen Hughes	Contact	Colleen Hughes
Phone	(250) 790-2617	Phone	(250) 790-2617
Email	chughes@mountpolley.com	Email	chughes@mountpolley.com
		PO No.	

Sample Collection By: TS, VH Sample Type: Grab (●) OR Composite ( )

	SAMPLE ID	DATE (DD/MM/YY)	TIME	MATRIX	# OF CONTAINERS AND VOLUME (e.g. 1 x 20 L)	COMMENTS	ANALYSES REQUIRED: 96hr RBT LC50	48hr D. magna LC50	Receipt Temperature (°C)
1	HAD-3	15-11-16	12:37	Water	2x20L		✓	✓	6.5
2									
3									
4									
5									
6									
7									
8									
9									
10									

SPECIAL INSTRUCTIONS/COMMENTS (CLIENT)

Clear, Colorless, No particulates, Odourless.

SAMPLE RECEIPT DETAILS (LABORATORY)

1. Total No. of Containers	2	4. Ice Present in Cooler?	Y/N
2. Custody Seal Present?	Y/N	5. Seal Present on Cooler?	Y/N
3. Good Condition?	Y/N	6. Initials Present on Seal	Y/N

SAMPLE DESCRIPTION AND COMMENTS (LABORATORY)

RELINQUISHED BY (CLIENT)

(Printed Name) (Signature)

(Company) (Date DD/MM/YY and Time)

RECEIVED BY (LABORATORY)

Nan Yamanaka (Printed Name) (Signature)

Nautilus (Company) Nov 16/16 @ 10:10 (Date DD/MM/YY and Time)

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling, or transport of the sample, application or interpretation of the test data or results in part or in whole.

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.

END OF REPORT

NAUTILUS ENVIRONMENTAL

Acute Toxicity Test Results

Sample HAD-3, collected December 6, 2016

Final Report (Revised)

January 18, 2017

Submitted to: **Mount Polley Mining Corporation**
Likely, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates				Receipt temperature
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation	
HAD-3	06-Dec-16 at 1259h	07-Dec-16 at 0955h	08-Dec-16 at 1350h	08-Dec-16 at 1600h	2.0 °C

TESTS

- Rainbow trout 96-h LC50 test
- *Daphnia magna* 48-h LC50 test
-

RESULTS

Toxicity test results

Sample ID	LC50 (% v/v)	
	Rainbow trout	*Daphnia magna*
HAD-3	>100	>100

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CI)	39.4 (32.2 – 48.4) µg/L Zn[1]	4.2 (3.7 – 4.8) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	58.3 (21.0 – 161.7) µg/L Zn	4.1 (3.1 – 5.5) g/L NaCl
Reference toxicant CV	66%	15%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1] Test date: December 2, 2016; [2] Test date: December 14, 2016.

Report By:
Yvonne Lam, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P.Bio
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – **Summary of test conditions**

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) LC50 test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Statistical software	CETIS Version 1.8.7
Test endpoints	Survival (96-hour LC50)
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnCl_2$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* LC50 test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Statistical software	CETIS Version 1.8.7
Test endpoints	Survival (48-hour LC50)
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

Rainbow Trout Summary Sheet

Client: Mount Polley

Start Date/Time: Dec 9 /16 @ 1350 h

Work Order No.: 161322

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: HAD-3
Sample Date: Dec 6 /16
Date Received: Dec 7 /16
Sample Volume: 2 x 20 L
Other: /

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 9
Alkalinity (mg/L $CaCO_3$): 5

Test Organism Information:

Batch No.: 110916(B)
Source: Vancouver Island Trout Hatchery
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.36
Mean Length ± SD (mm): 36 ± 3 Range: 33 - 41
Mean Weight ± SD (g): 0.43 ± 0.10 Range: 0.32 - 0.58

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZn56
Stock Solution ID: 16Zn02
Date Initiated: Dec 2/16
96-h LC50 (95% CL): 39.4 (32.2 - 48.4) mg/L Zn

Reference Toxicant Mean and Historical Range: 58.3 (21.0 - 161.7) mg/L Zn
Reference Toxicant CV (%): 66%

Test Results: The 96 h LC50 is estimated to be >100% (v/v).

Reviewed by: [signature] Date reviewed: Dec. 20, 2016

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Mount Polley
Sample I.D. MAD-3
W.O. # 161322
RBT Batch #: 11091b (F)
Date Collected/Time: Dec 6/16 @ 1259h
Date Setup/Time: Dec. 8/16 @ 1350h
Sample Setup By: EC/AWD/MM

Number Fish/Volume: 10/12 L
7-d % Mortality: 1.5
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: CER#2
Cond./Salinity: 2
D.O. meter: 2
pH meter: 1

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	10.3		10.2
pH	7.6		7.5
Cond. (µS/cm)	1194		1197
Salinity (ppt)	~~0.5~~ 0.6		~~0.5~~ 0.6

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctl				10	10	10	10	14.0	15.0	15.0	15.0	14.5	10.3	9.9	9.9	9.8	9.9	6.7	6.8	6.9	7.0	7.0	126	135
6.25				10	10	10	10	14.0	15.0	15.0	15.0	14.5	10.1	9.8	9.9	9.9	10.0	6.7	6.9	7.0	7.1	7.2	142	149
12.5				10	10	10	10	14.0	15.0	15.0	15.0	14.5	10.1	9.7	9.8	9.7	10.0	6.7	6.9	7.1	7.3	7.3	225	239
25				10	10	10	9	14.0	15.0	15.0	15.0	14.5	10.2	9.7	9.9	9.8	10.0	6.9	7.0	7.2	7.4	7.4	392	404
50				10	10	10	10	14.0	15.0	15.0	15.0	14.5	10.2	9.8	9.8	9.8	9.9	7.1	7.4	7.4	7.6	7.6	638	662
100				10	10	10	9	14.0	15.0	15.0	15.0	14.5	10.2	9.8	9.8	9.8	10.0	7.5	7.7	7.6	7.8	7.7	1157	1201
Initials				AD	AD	AD	MM	EC	EC	AD	AD	MM	EC	EC	AD	AD	MM	EC	EC	AD	AD	MM	EC	MM

Sample Description/Comments: Clear, Colorless, No odour, No particulates

Fish Description at 96 h: all surviving fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations:

Reviewed by: Date Reviewed: Dec 20, 2016

Daphnia magna Summary Sheet

Client: Mount Polley
Work Order No.: 161323

Start Date/Time: December 8, 2016 @ 1600h
Test Species: *Daphnia magna*
Set up by: YM

Sample Information:

Sample ID: MAD-3
Sample Date: December 6, 2016
Date Received: December 7, 2016
Sample Volume: 2 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 112316A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 17
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmTC43
Stock Solution ID: 16NaO2
Date Initiated: December 14, 2016
48-h LC50 (95% CL): 4.2 (3.7 - 4.8) g/L NaCl

Reference Toxicant Mean and Historical Range: 4.1 (3.1-5.5) g/L NaCl
Reference Toxicant CV (%): 15

Test Results: The 48h LC50 is estimated to be >100% (v/v)

Reviewed by: [signature]
Date reviewed: Dec. 20, 2016

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Mount Polley
Sample ID: HAC-3
Work Order No.: 161323

Start Date/Time: December 8, 2016 @ 1600h
No. Organisms/volume: 10/200ml
Test Organism: D.magna
Set up by: YMC

Thermometer: Temp-5 DO meter: DO 2/3 pH meter: pH 1/3 Cond./Salinity: C-2/3

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	18.5	18.5	19.0	8.5	8.4	8.5	7.5	7.6	7.9	355	365
	B														
	C														
	D														
6.25	A	10	10	0	18.5	18.5	19.0	8.7	8.3	8.0	7.6	7.7	7.9	429	432
	B														
	C														
	D														
12.5	A	10	10	0	18.5	18.5	19.0	8.6	8.5	8.5	7.7	7.7	7.8	478	486
	B														
	C														
	D														
25	A	10	10	0	18.5	18.5	19.0	8.6	8.5	8.6	7.7	7.7	7.9	571	580
	B														
	C														
	D														
50	A	10	10	0	18.5	18.5	19.0	8.6	8.4	8.5	7.6	7.6	7.8	801	804
	B														
	C														
	D														
100	A	10	10	0	18.5	18.5	19.0	8.8	8.4	8.0	7.6	7.5	7.8	1185	1193
	B														
	C														
	D														
Technician Initials		YMC	AMO	AMO	YMC	YMC	AMO	YMC	YMC	AMO	YMC	YMC	AMO	YMC	AMO

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCO3)	
Control (MHW)	100	70
Highest conc.	560	52
Hardness adjusted		

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	18.5		
DO (mg/L)	8.8		
pH	7.6		
Cond (uS/cm)	1185		
Salinity (ppt)	0.6		

Comments: Mortality: Heartbeat checked under microscope NO

Sample Description: Clear, no colour, no odour, no particulates.

Batch#: 112316A 7-d previous # young/brood: 17 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: Date reviewed: Dec. 30, 2016

Client: MC Polley

W.O.#: 161323

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Subsample Date	Date Measured	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/L CaCO_3$)	Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L CaCO_3$)	Technician
HAD-3	Dec. 8/16	Dec. 8/16	50	2.8	3.0	52	10①	5.6	560	JS
MHW	Dec. 8/16	Dec. 8/16	50	3.6	3.7	70	50	50	100	YL

Notes: ①Diluted to 100 mL w/ DI water

Reviewed by: [signature]

Date Reviewed: Dec 19, 2016

APPENDIX C – **Chain-of-custody form**

NAUTILUS ENVIRONMENTAL

TESTING LOCATION (Please Circle)

Burnaby ●
8664 Commerce Court
Burnaby, British Columbia, Canada
V5A 4N7
Phone 604.420.8773

Calgary ○
#4, 6125 12 Street SE
Calgary, Alberta, Canada
T2H 2K1
Phone 403.253.7121

16132 16132

Chain of Custody

Date 06-12-16 Page __ of __

Report to:		Invoice To:	
Company	Mount Polley Mining Corporation	Company	Mount Polley Mining Corporation
Address	Box 12	Address	Box 12
City/Prov/PC	Likely BC V0L 1N0	City/Prov/PC	Likely BC V0L 1N0
Contact	Colleen Hughes	Contact	Colleen Hughes
Phone	(250) 790-2617	Phone	(250) 790-2617
Email	chughes@mountpolley.com	Email	chughes@mountpolley.com
		PO No.	

Sample Collection By: TS, VH

Sample Type: Grab ● OR Composite ○

	SAMPLE ID	DATE (DD/MM/YY)	TIME	MATRIX	# OF CONTAINERS AND VOLUME (e.g. 1 x 20 L)	COMMENTS	ANALYSES REQUIRED: 96hr RBT LC50	48hr D. magna LC50	Receipt Temperature (°C)
1	HAD-3	06-12-16	12:59	Water	2x20L		✓	✓	2.0
2									
3									
4									
5									
6									
7									
8									
9									
10									

SPECIAL INSTRUCTIONS/COMMENTS (CLIENT)

Clear, Colorless, No odour, No particulates.

SAMPLE RECEIPT DETAILS (LABORATORY)

1. Total No. of Containers	2	4. Ice Present in Cooler?	(Y) / N
2. Courier	Chapman	5. Seal Present?	(Y) / N
3. Good Condition?	(Y) / N	6. Initials Present on Seal?	Y / (N)

RELINQUISHED BY (CLIENT)

Teresa Snodgrass (Printed Name) (Signature)

MPMC (Company) 06/12/16 15:30 (Date DD/MM/YY and Time)

RECEIVED BY (LABORATORY)

Nan Yamamoto (Printed Name) (Signature)

Nautilus (Company) Dec 07/16 09:55 (Date DD/MM/YY and Time)

SAMPLE DESCRIPTION AND COMMENTS (LABORATORY)

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling, or transport of the sample, application or interpretation of the test data or results in part or in whole.

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.

END OF REPORT

Appendix 6

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Hardness (mg/L)	Diss-Aluminum (Al) (mg/L)	Diss-Antimony (Sb) (mg/L)	Diss-Arsenic (As) (mg/L)	Diss-Barium (Ba) (mg/L)	Diss-Beryllium (Be) (mg/L)	Diss-Bismuth (Bi) (mg/L)	Diss-Boron (B) (mg/L)
Filter Blank	11/10/16	<0.50	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010	<0.000050	<0.010

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
KEM1	05/10/16	<2.0	<0.50	5.34	<10	<1.0	0.42	<1.0	<0.0050
	09/11/16	<2.0	<0.50	5.45	<10	<1.0	0.12	<1.0	<0.0050

Printed Date: 25-Jan-2017

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Diss-Cadmium (Cd) (mg/L)	Diss-Calcium (Ca) (mg/L)	Diss-Chromium (Cr) (mg/L)	Diss-Cobalt (Co) (mg/L)	Diss-Copper (Cu) (mg/L)	Diss-Iron (Fe) (mg/L)	Diss-Lead (Pb) (mg/L)	Diss-Lithium (Li) (mg/L)
Filter Blank	11/10/16	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030	<0.000050	<0.0010

		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
KEM1	05/10/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	0.0015	0.0025	0.0038
	09/11/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020

Printed Date: 25-Jan-2017

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Diss-Magnesium (Mg) (mg/L)	Diss-Manganese (Mn) (mg/L)	Diss-Molybdenum (Mo) (mg/L)	Diss-Nickel (Ni) (mg/L)	Diss-Potassium (K) (mg/L)	Diss-Selenium (mg/L)	Diss-Silicon (Si) (mg/L)	Diss-Silver (Ag) (mg/L)
Filter Blank	11/10/16	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050	<0.050	<0.000010

		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
KEM1	05/10/16	<0.30	<0.030	<0.50	0.0091	<0.00010	<0.00010	0.000147	<0.00010
	09/11/16	<0.30	<0.030	<0.50	0.0035	<0.00010	<0.00010	0.000057	<0.00010

Printed Date: 25-Jan-2017

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Diss-Sodium (Na) (mg/L)	Diss-Strontium (Sr) (mg/L)	Diss-Thallium (Tl) (mg/L)	Diss-Tin (Sn) (mg/L)	Diss-Titanium (Ti) (mg/L)	Diss-Uranium (U) (mg/L)	Diss-Vanadium (V) (mg/L)	Diss-Zinc (Zn) (mg/L)
Filter Blank	11/10/16	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010	<0.00050	<0.0030

		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
KEM1	05/10/16	<0.000050	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030
	09/11/16	<0.000050	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030

Printed Date: 25-Jan-2017

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
KEM1	05/10/16	0.000125	<0.0010	<0.10	0.00026	<0.000050	<0.00050	<0.050	<0.000050
	09/11/16	0.000577	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050

Printed Date: 25-Jan-2017

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
KEM1	05/10/16	<0.050	<0.000010	<0.050	0.00027	<0.000010	<0.00010	<0.010	<0.000010
	09/11/16	<0.050	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010

Printed Date: 25-Jan-2017

Monitoring data report for:
DI/Filter Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)
KEM1	05/10/16	<0.00050	<0.0030
	09/11/16	<0.00050	<0.0030

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
Field Blank	04/10/16	<2.0	<0.50	5.28	<10	<1.0	0.11	<1.0	<0.0050
	01/12/16	<2.0	<0.50	5.37	<10	<1.0	<0.10	<1.0	0.0127
HAC-13-FB	15/11/16	<2.0	<0.50	5.37	<10	<1.0	<0.10	<1.0	<0.0050

		Conductivity (µs/cm)	Hardness (mg/L)	pH (pH)	TDS (mg/L)	TSS (mg/L)	NTU (ntu)	Alkalinity (CaCO3) (mg/L)	Ammonia (as N) (mg/L)
QUL-TB	05/10/16	<2.0	<0.50	5.44	<10	<1.0	0.49	<1.0	<0.0050
QUR-TB	19/12/16	<2.0	<0.50	5.47	<10	<1.0	<0.10	<1.0	<0.0050
Travel Blank	01/11/16	<2.0	<0.50	5.25	<10	<1.0	<0.10	<1.0	<0.0050

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
Field Blank	04/10/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020
	01/12/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020
HAC-13-FB	15/11/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020

		Chloride (mg/L)	Floride (mg/L)	Nitrate (N) (mg/L)	Nitrate and Nitrite (mg/L)	Nitrite (N) (mg/L)	Diss-Orthophosphate (mg/L)	Diss-Phosphorus (mg/L)	Total Phosphorus (mg/L)
QUL-TB	05/10/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020
QUR-TB	19/12/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020
Travel Blank	01/11/16	<0.50	<0.020	<0.0050	<0.0051	<0.0010	<0.0010	<0.0020	<0.0020

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Sulphate (mg/L)	Total Nitrogen (mg/L)	Dissolved Organic Ca (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)
Field Blank	04/10/16	<0.30	<0.030	<0.50	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010
	01/12/16	<0.30	<0.030	<0.50	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010
HAC-13-FB	15/11/16	<0.30	<0.030	<0.50	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010

		Sulphate (mg/L)	Total Nitrogen (mg/L)	Total Aluminum (mg/L)	Antimony (Sb)-Total (mg/L)	Arsenic (As)-Total (mg/L)	Barium (Ba)-Total (mg/L)	Beryllium (Be)-Total (mg/L)	Bismuth (Bi)-Total (mg/L)
QUL-TB	05/10/16	<0.30	<0.030	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010	<0.000050
QUR-TB	19/12/16	<0.30	<0.030	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010	<0.000050
Travel Blank	01/11/16	<0.30	<0.030	<0.0030	<0.00010	<0.00010	<0.000050	<0.00010	<0.000050

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Bismuth (Bi)-Total (mg/L)	Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)
Field Blank	04/10/16	<0.000050	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030
	01/12/16	<0.000050	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030
HAC-13-FB	15/11/16	<0.000050	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030

		Boron (B)-Total (mg/L)	Total Cadmium (mg/L)	Calcium (Ca)-Total (mg/L)	Chromium (Cr)-Total (mg/L)	Cobalt (Co)-Total (mg/L)	Total Copper (mg/L)	Total Iron (mg/L)	Total Lead (mg/L)
QUL-TB	05/10/16	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030	<0.000050
QUR-TB	19/12/16	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030	<0.000050
Travel Blank	01/11/16	<0.010	<0.000005	<0.050	<0.00050	<0.00010	<0.00050	<0.030	<0.000050

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Total Lead (mg/L)	Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)
Field Blank	04/10/16	<0.000050	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050
	01/12/16	<0.000050	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050
HAC-13-FB	15/11/16	<0.000050	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050

		Lithium (Li)-Total (mg/L)	Magnesium (Mg)-Total (mg/L)	Total Manganese (mg/L)	Total Molybdenum (mg/L)	Nickel (Ni)-Total (mg/L)	Potassium (K)-Total (mg/L)	Total Selenium (mg/L)	Silicon (Si)-Total (mg/L)
QUL-TB	05/10/16	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050	<0.050
QUR-TB	19/12/16	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050	<0.050
Travel Blank	01/11/16	<0.0010	<0.10	<0.00010	<0.000050	<0.00050	<0.050	<0.000050	<0.050

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Silicon (Si)-Total (mg/L)	Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)
Field Blank	04/10/16	<0.050	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010
	01/12/16	<0.050	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010
HAC-13-FB	15/11/16	<0.050	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010

		Silver (Ag)-Total (mg/L)	Sodium (Na)-Total (mg/L)	Strontium (Sr)-Total (mg/L)	Thallium (Tl)-Total (mg/L)	Tin (Sn)-Total (mg/L)	Titanium (Ti)-Total (mg/L)	Uranium (U)-Total (mg/L)	Vanadium (V)-Total (mg/L)
QUL-TB	05/10/16	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010	<0.00050
QUR-TB	19/12/16	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010	<0.00050
Travel Blank	01/11/16	<0.000010	<0.050	<0.00020	<0.000010	<0.00010	<0.010	<0.000010	<0.00050

Printed Date: 25-Jan-2017

Monitoring data report for:
Field Blanks

Mount Polley Mining Corporation
IMPERIAL METALS CORPORATION

This report covers the period from: 1-Oct-2016 **to:** 31-Dec-2016

		Vanadium (V)-Total (mg/L)	Zinc (Zn)-Total (mg/L)
Field Blank	04/10/16	<0.00050	<0.0030
	01/12/16	<0.00050	<0.0030
HAC-13-FB	15/11/16	<0.00050	<0.0030

		Zinc (Zn)-Total (mg/L)
QUL-TB	05/10/16	<0.0030
QUR-TB	19/12/16	<0.0030
Travel Blank	01/11/16	<0.0030

Printed Date: 25-Jan-2017

Appendix 7

Q4

Item	Description1	Change over Quarter
Springer Pit Elevation (m)	1,012.24	-14.18
Springer Pit Volume (m3) - Total	6,270,185	-2,683,582
Springer Pit Volume (m3) - Tailings + Interstitial Water	3,609,362	0
TSF Elevation (m)	952.68	4.68
TSF Volume (m3) - Total	4,218,664	2,585,800
TSF Volume (m3) - Tailings + Interstitial Water	2,478,849	1,175,802
Total Free Water Volume (Springer + TSF)	4,400,640	-1,273,583
Total Water Discharged (m3)	2,208,113	-
Weather Statistics - Q4 Actual	Mean Temperature = 13.2°C	-
	Snowmelt = 20 mm	
	Snowpack = 86 mm (SWE)	
	Rainfall = 117.5 mm	
Weather Statistics – Q4 Average	Mean Temperature = 13.8°C	-
	Snowpack = 107 mm (SWE)	
	Rainfall = 87.7 mm	

Notes:
1) Elevations for end of quarter