HEMMERA ENVIROCHEM INC.
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Date Received: 03-SEP-15
Report Date: 09-NOV-15 10:38 (MT)
Version: FINAL REV. 3

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1667552

Project P.O. #:	NOT SUBMITTED
Job Reference:	1343-005.11
C of C Numbers:	1-1346-005.11, 2-1346-005.11, 3-1346-005.11
Legal Site Desc:	

Comments: 9-NOV-2015 This report replaces the previous version and contains additional analyses, as requested.

Brent Mack, B.Sc.
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1667552-1	L1667552-2	L1667552-3	L1667552-4	L1667552-5
Description	Water	Water	Water	Water	Water
Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15
Sampled Time	17:50	10:30	10:55	08:41	09:30
Client ID	GSI-DC-03B	GSI-DC-02B	GSI-HA-01A	GSI-HA-03A	GSI-DC-01B
Grouping / **Analyte**					
WATER					
Physical Tests					
Conductivity (uS/cm)	1200	820	814	582	
Hardness (as CaCO3) (mg/L)	761	557	454	498	
pH (pH)	7.68	7.94	7.97	7.23	
Anions and Nutrients					
Alkalinity, Total (as CaCO3) (mg/L)	239	246	192	108	
Ammonia, Total (as N) (mg/L)	0.165				
Chloride (Cl) (mg/L)	<1.0 DLA	0.52	<0.50	<0.50	
Fluoride (F) (mg/L)	0.141	0.120	0.132	0.070	
Nitrate (as N) (mg/L)	0.011	0.417	0.0081	0.0405	
Nitrite (as N) (mg/L)	<0.0020 DLA	0.0281	0.0011	0.0013	
Total Kjeldahl Nitrogen (mg/L)	0.481	0.735	0.365	1.02	
Sulfate (SO4) (mg/L)	475	218	264	199	
Sulphide as S (mg/L)	<0.020				
Anion Sum (meq/L)	14.7	9.52	9.34	6.30	
Cation Sum (meq/L)	15.7	11.9	9.41	13.0	
Cation - Anion Balance (%)	3.3	11.1	0.4	34.7	
Cyanides					
Cyanide, Weak Acid Diss (mg/L)	<0.0050				
Cyanide, Total (mg/L)	0.0062				
Thiocyanate (SCN) (mg/L)	<0.50				
Cyanide, Free (mg/L)	<0.0050				
Organic / Inorganic Carbon					
Total Inorganic Carbon (mg/L)					
Total Organic Carbon (mg/L)	8.87				
Total Metals					
Aluminum (Al)-Total (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)					
Boron (B)-Total (mg/L)					
Cadmium (Cd)-Total (mg/L)					
Calcium (Ca)-Total (mg/L)					
Chromium (Cr)-Total (mg/L)					
Cobalt (Co)-Total (mg/L)					
Copper (Cu)-Total (mg/L)					
Iron (Fe)-Total (mg/L)					
Lead (Pb)-Total (mg/L)					
Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-6 Water 31-AUG-15 12:10 MW09-16	L1667552-7 Water 31-AUG-15 09:50 GSI-HA-02A	L1667552-8 Water 31-AUG-15 11:37 GSI-HA-05A	L1667552-9 Water 31-AUG-15 16:17 MW09-18	L1667552-10 Water 31-AUG-15 15:25 MW09-17
WATER						
Physical Tests	Conductivity (uS/cm)	1580	921	943	2540	2570
	Hardness (as CaCO3) (mg/L)	1020	530	552	1810	1850
	pH (pH)	7.08	6.72	7.23	7.42	7.40
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	284	155	194	458	446
	Ammonia, Total (as N) (mg/L)	<0.0050	1.09	0.748	0.0237	<0.0050
	Chloride (Cl) (mg/L)	<2.5 DLA	<1.0 DLA	<1.0 DLA	<5.0 DLA	<5.0 DLA
	Fluoride (F) (mg/L)	0.14	<0.040 DLA	0.067	<0.20 DLA	<0.20
	Nitrate (as N) (mg/L)	0.148	<0.010 DLA	<0.010 DLA	<0.050	0.395 DLA
	Nitrite (as N) (mg/L)	<0.0050	<0.0020	<0.0020	0.011	<0.010
	Total Kjeldahl Nitrogen (mg/L)	0.110	1.54	1.07	0.123	0.098
	Sulfate (SO4) (mg/L)	724	366	340	1270	1360
	Sulphide as S (mg/L)	<0.020	0.063	0.057	<0.020	<0.020
	Anion Sum (meq/L)	20.8	10.7	11.0	35.6	37.2
	Cation Sum (meq/L)	21.1	15.7	13.1	36.9	37.6
	Cation - Anion Balance (%)	0.7	18.8	8.8	1.8	0.5
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)	62.1	32.3	44.2	105	104
	Total Organic Carbon (mg/L)	3.55	10.9	8.04	2.98	2.83
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1667552-11	L1667552-12	L1667552-13	L1667552-14	L1667552-15
Description	Water	Water	Water	Water	Water
Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	01-SEP-15
Sampled Time	17:40	13:40	12:10	12:10	17:10
Client ID	MW09-19	GSI-HA-04A	MW15-100	FB15-100	MWO9-01
Grouping / **Analyte**					
WATER					
Physical Tests Conductivity (uS/cm)	2050	340	1600	<2.0	2880
Hardness (as CaCO3) (mg/L)	1370	179	1030	<0.50	1540
pH (pH)	6.84	7.08	7.35	5.48	7.75
Anions and Nutrients Alkalinity, Total (as CaCO3) (mg/L)	438	74.3	286	<1.0	320
Ammonia, Total (as N) (mg/L)	4.04	0.132	<0.0050	<0.0050	19.1
Chloride (Cl) (mg/L)	<2.5 DLA	<0.50	<2.5 DLA	<0.50	<5.0 DLA
Fluoride (F) (mg/L)	0.14	0.079	0.14	<0.020	0.26
Nitrate (as N) (mg/L)	<0.025 DLA	<0.0050	0.143	<0.0050	<0.050 DLA
Nitrite (as N) (mg/L)	<0.0050 DLA	<0.0010	<0.0050 DLA	<0.0010	0.010
Total Kjeldahl Nitrogen (mg/L)	5.25	1.33	0.117	<0.050	22.2
Sulfate (SO4) (mg/L)	910	92.4	715	<0.30	1540
Sulphide as S (mg/L)	0.176	0.040	<0.020	<0.020	0.044
Anion Sum (meq/L)	27.7	3.41	20.6	<0.10	38.5
Cation Sum (meq/L)	29.7	3.98	21.1	<0.10	38.4
Cation - Anion Balance (%)	3.5	7.7	1.3	0.0	-0.1
Cyanides Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	0.0279
Thiocyanate (SCN) (mg/L)	0.57	<0.50	<0.50	<0.50	18.8
Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon Total Inorganic Carbon (mg/L)	102	16.4	64.2	<0.50	66.5
Total Organic Carbon (mg/L)	24.8	26.9	3.51	<0.50	20.5
Total Metals Aluminum (Al)-Total (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)					
Boron (B)-Total (mg/L)					
Cadmium (Cd)-Total (mg/L)					
Calcium (Ca)-Total (mg/L)					
Chromium (Cr)-Total (mg/L)					
Cobalt (Co)-Total (mg/L)					
Copper (Cu)-Total (mg/L)					
Iron (Fe)-Total (mg/L)					
Lead (Pb)-Total (mg/L)					
Lithium (Li)-Total (mg/L)					

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-16 Water 01-SEP-15 16:15 MWO9-02	L1667552-17 Water 01-SEP-15 14:45 MWO9-03	L1667552-18 Water 01-SEP-15 15:32 MWO9-04	L1667552-19 Water 01-SEP-15 09:45 GLL07-3	L1667552-20 Water 01-SEP-15 10:45 CH-P-13-05/50
WATER						
Physical Tests	Conductivity (uS/cm)	2840	2540	1090	760	2840
	Hardness (as CaCO3) (mg/L)	1480	1660	662	407	1980
	pH (pH)	6.42	7.78	7.60	6.66	5.98
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	35.7	113	181	70.9	65.5
	Ammonia, Total (as N) (mg/L)	12.3 DLA	3.46 DLA	<0.0050 DLA	0.0326	0.0368 DLA
	Chloride (Cl) (mg/L)	<5.0	<5.0	<1.0	<0.50	<5.0
	Fluoride (F) (mg/L)	0.53	0.34	0.049	0.108	0.24
	Nitrate (as N) (mg/L)	<0.050 DLA	0.822	2.74	0.499	<0.050 DLA
	Nitrite (as N) (mg/L)	<0.010 DLA	0.089	0.0293	0.0111	<0.010 DLA
	Total Kjeldahl Nitrogen (mg/L)	16.5	3.82	0.385	0.484	0.119
	Sulfate (SO4) (mg/L)	1700	1650	435	328	1890
	Sulphide as S (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Anion Sum (meq/L)	36.2	36.7	12.9	8.28	40.6
	Cation Sum (meq/L)	38.7	36.1	13.7	8.68	43.1
	Cation - Anion Balance (%)	3.3	-0.9	3.0	2.4	3.0
Cyanides	Cyanide, Weak Acid Diss (mg/L)	0.0135	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	0.0977	0.0127	0.0057	<0.0050	<0.0050
	Thiocyanate (SCN) (mg/L)	0.89	<2.5 DLM	<0.50	<0.50	<0.50
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)	8.05	25.2	44.7	13.8	10.7
	Total Organic Carbon (mg/L)	6.14	7.23	6.66	7.0	2.33
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1667552-21	L1667552-22	L1667552-23	L1667552-24	L1667552-25
Description	Water	Water	Water	Water	Water
Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
Sampled Time	12:15	11:24	09:15	12:56	14:20
Client ID	MWO9-23	MWO9-22	GSI-DC-5B	MP09-05	MWO9-21
Grouping / **Analyte**					
WATER					
Physical Tests					
Conductivity (uS/cm)	1890	1600	1580	2000	2690
Hardness (as CaCO3) (mg/L)	1150	874	1040	1190	1640
pH (pH)	7.10	6.26	7.89	7.37	6.62
Anions and Nutrients					
Alkalinity, Total (as CaCO3) (mg/L)	297	131	276	268	221
Ammonia, Total (as N) (mg/L)	3.17	1.60	0.664	6.78	11.5
Chloride (Cl) (mg/L)	<2.5 DLA	<2.5 DLA	<2.5 DLA	<2.5 DLA	<5.0 DLA
Fluoride (F) (mg/L)	0.16	<0.10 DLA	<0.10 DLA	<0.10 DLA	<0.20 DLA
Nitrate (as N) (mg/L)	<0.025 DLA	<0.025 DLA	<0.025 DLA	1.89	0.071
Nitrite (as N) (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	0.0419	0.017
Total Kjeldahl Nitrogen (mg/L)	4.47	3.49	1.37	9.22	18.7
Sulfate (SO4) (mg/L)	905	847	731	996	1510
Sulphide as S (mg/L)	0.038	0.030	<0.020	<0.020	0.032
Anion Sum (meq/L)	24.8	20.3	20.7	26.2	35.9
Cation Sum (meq/L)	26.7	22.2	21.8	26.7	40.7
Cation - Anion Balance (%)	3.7	4.5	2.4	0.9	6.2
Cyanides					
Cyanide, Weak Acid Diss (mg/L)	<0.0050	0.0068	<0.0050	<0.0050	0.0053 CNP
Cyanide, Total (mg/L)	0.0756	0.0171	<0.0050	0.0092	0.0109 CNP
Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	<0.50	0.66
Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050 CNP
Organic / Inorganic Carbon					
Total Inorganic Carbon (mg/L)	67.3	20.7	53.3	58.3	44.4
Total Organic Carbon (mg/L)	19.0	14.5	15.0	16.4	26.5
Total Metals					
Aluminum (Al)-Total (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)					
Boron (B)-Total (mg/L)					
Cadmium (Cd)-Total (mg/L)					
Calcium (Ca)-Total (mg/L)					
Chromium (Cr)-Total (mg/L)					
Cobalt (Co)-Total (mg/L)					
Copper (Cu)-Total (mg/L)					
Iron (Fe)-Total (mg/L)					
Lead (Pb)-Total (mg/L)					
Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-26	L1667552-27	L1667552-28	L1667552-29	L1667552-30
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	
	Sampled Time	16:59	12:56	16:02	14:45	
	Client ID	MWO9-08	MW15-200	MP09-04	FB15-200	TRIP BLANK
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	288	2000	2660	<2.0	<2.0
	Hardness (as CaCO3) (mg/L)	137	1180	1660	<0.50	<0.50
	pH (pH)	6.53	7.45	8.09	5.57	5.94
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	119	290	94.4	<1.0	<1.0
	Ammonia, Total (as N) (mg/L)	2.34	7.32 DLA	7.83 DLA	<0.0050	0.0190
	Chloride (Cl) (mg/L)	<0.50 DLM	<2.5 DLA	<5.0	<0.50	<0.50
	Fluoride (F) (mg/L)	<0.20	<0.10	0.38 DLA	<0.020	<0.020
	Nitrate (as N) (mg/L)	<0.0050	1.72	<0.050 DLA	<0.0050	<0.0050
	Nitrite (as N) (mg/L)	<0.0010	0.0378	<0.010	<0.0010	<0.0010
	Total Kjeldahl Nitrogen (mg/L)	3.24	11.9	10.8	<0.050	<0.050
	Sulfate (SO4) (mg/L)	28.7	883	1800	<0.30	<0.30
	Sulphide as S (mg/L)	0.080	<0.020	<0.020	<0.020	<0.020
	Anion Sum (meq/L)	2.98	24.3	39.3	<0.10	
	Cation Sum (meq/L)	5.74	26.4	36.8	<0.10	
	Cation - Anion Balance (%)	31.6	4.1	-3.4	0.0	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	0.0095	<0.0050	<0.0050	<0.0050
	Thiocyanate (SCN) (mg/L)	0.58	<0.50	<0.50	<0.50	<0.50
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)	25.7	56.6	18.7	<0.50	<0.50
	Total Organic Carbon (mg/L)	22.6	16.1	6.39	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)					<0.0030
	Antimony (Sb)-Total (mg/L)					<0.00010
	Arsenic (As)-Total (mg/L)					<0.00010
	Barium (Ba)-Total (mg/L)					<0.000050
	Beryllium (Be)-Total (mg/L)					<0.000020
	Bismuth (Bi)-Total (mg/L)					<0.000050
	Boron (B)-Total (mg/L)					<0.010
	Cadmium (Cd)-Total (mg/L)					<0.0000050
	Calcium (Ca)-Total (mg/L)					<0.050
	Chromium (Cr)-Total (mg/L)					<0.00010
	Cobalt (Co)-Total (mg/L)					<0.00010
	Copper (Cu)-Total (mg/L)					<0.00050
	Iron (Fe)-Total (mg/L)					<0.010
	Lead (Pb)-Total (mg/L)					<0.000050
	Lithium (Li)-Total (mg/L)					<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-31	L1667552-32	L1667552-33	L1667552-34	L1667552-35
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15
	Sampled Time	12:10	09:50	11:37	16:17	15:25
	Client ID	MW09-16-DISS.ALK.	GSI-HA-02A-DISS.ALK.	GSI-HA-05A-DISS.ALK.	MW09-18-DISS.ALK.	MW09-17-DISS.ALK.
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)					
	Hardness (as CaCO3) (mg/L)					
	pH (pH)					
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	284	165	206	459	462
	Ammonia, Total (as N) (mg/L)					
	Chloride (Cl) (mg/L)					
	Fluoride (F) (mg/L)					
	Nitrate (as N) (mg/L)					
	Nitrite (as N) (mg/L)					
	Total Kjeldahl Nitrogen (mg/L)					
	Sulfate (SO4) (mg/L)					
	Sulphide as S (mg/L)					
	Anion Sum (meq/L)					
	Cation Sum (meq/L)					
	Cation - Anion Balance (%)					
Cyanides	Cyanide, Weak Acid Diss (mg/L)					
	Cyanide, Total (mg/L)					
	Thiocyanate (SCN) (mg/L)					
	Cyanide, Free (mg/L)					
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)					
	Total Organic Carbon (mg/L)					
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-36	L1667552-37	L1667552-38	L1667552-39	L1667552-40
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	01-SEP-15
	Sampled Time	17:40	13:40	12:10	12:10	17:10
	Client ID	MW09-19-DISS.ALK.	GSI-HA-04A-DISS.ALK.	MW15-100-DISS.ALK.	FB15-100-DISS.ALK.	MW09-01-DISS.ALK.
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)					
	Hardness (as CaCO3) (mg/L)					
	pH (pH)					
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	444	77.1	281	<1.0	336
	Ammonia, Total (as N) (mg/L)					
	Chloride (Cl) (mg/L)					
	Fluoride (F) (mg/L)					
	Nitrate (as N) (mg/L)					
	Nitrite (as N) (mg/L)					
	Total Kjeldahl Nitrogen (mg/L)					
	Sulfate (SO4) (mg/L)					
	Sulphide as S (mg/L)					
	Anion Sum (meq/L)					
	Cation Sum (meq/L)					
	Cation - Anion Balance (%)					
Cyanides	Cyanide, Weak Acid Diss (mg/L)					
	Cyanide, Total (mg/L)					
	Thiocyanate (SCN) (mg/L)					
	Cyanide, Free (mg/L)					
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)					
	Total Organic Carbon (mg/L)					
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-41	L1667552-42	L1667552-43	L1667552-44	L1667552-45
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	16:15	14:45	15:32	09:45	10:45
	Client ID	MW09-02-DISS.ALK.	MW09-03-DISS.ALK.	MW09-04-DISS.ALK.	GLL07-3-DISS.ALK.	CH-P-13-05/50-DISS.ALK.
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)					
	Hardness (as CaCO3) (mg/L)					
	pH (pH)					
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	29.6	114	96.2	68.2	66.7
	Ammonia, Total (as N) (mg/L)					
	Chloride (Cl) (mg/L)					
	Fluoride (F) (mg/L)					
	Nitrate (as N) (mg/L)					
	Nitrite (as N) (mg/L)					
	Total Kjeldahl Nitrogen (mg/L)					
	Sulfate (SO4) (mg/L)					
	Sulphide as S (mg/L)					
	Anion Sum (meq/L)					
	Cation Sum (meq/L)					
	Cation - Anion Balance (%)					
Cyanides	Cyanide, Weak Acid Diss (mg/L)					
	Cyanide, Total (mg/L)					
	Thiocyanate (SCN) (mg/L)					
	Cyanide, Free (mg/L)					
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)					
	Total Organic Carbon (mg/L)					
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-46	L1667552-47	L1667552-48	L1667552-49	L1667552-50
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	12:15	11:24	09:15	12:56	14:20
	Client ID	MW09-23-DISS.ALK.	MW09-22-DISS.ALK.	GSI-DC-5B-DISS.ALK.	MP09-05-DISS.ALK.	MW09-21-DISS.ALK.
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)					
	Hardness (as CaCO3) (mg/L)					
	pH (pH)					
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	299	141	213	279	223
	Ammonia, Total (as N) (mg/L)					
	Chloride (Cl) (mg/L)					
	Fluoride (F) (mg/L)					
	Nitrate (as N) (mg/L)					
	Nitrite (as N) (mg/L)					
	Total Kjeldahl Nitrogen (mg/L)					
	Sulfate (SO4) (mg/L)					
	Sulphide as S (mg/L)					
	Anion Sum (meq/L)					
	Cation Sum (meq/L)					
	Cation - Anion Balance (%)					
Cyanides	Cyanide, Weak Acid Diss (mg/L)					
	Cyanide, Total (mg/L)					
	Thiocyanate (SCN) (mg/L)					
	Cyanide, Free (mg/L)					
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)					
	Total Organic Carbon (mg/L)					
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-51	L1667552-52	L1667552-53	L1667552-54	
	Description	Water	Water	Water	Water	
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	
	Sampled Time	16:59	12:56	16:02	14:45	
	Client ID	MW09-08-DISS.ALK.	MW15-200-DISS.ALK.	MP09-04-DISS.ALK.	FB15-200-DISS.ALK.	
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)					
	Hardness (as CaCO3) (mg/L)					
	pH (pH)					
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	123	278	193	<1.0	
	Ammonia, Total (as N) (mg/L)					
	Chloride (Cl) (mg/L)					
	Fluoride (F) (mg/L)					
	Nitrate (as N) (mg/L)					
	Nitrite (as N) (mg/L)					
	Total Kjeldahl Nitrogen (mg/L)					
	Sulfate (SO4) (mg/L)					
	Sulphide as S (mg/L)					
	Anion Sum (meq/L)					
	Cation Sum (meq/L)					
	Cation - Anion Balance (%)					
Cyanides	Cyanide, Weak Acid Diss (mg/L)					
	Cyanide, Total (mg/L)					
	Thiocyanate (SCN) (mg/L)					
	Cyanide, Free (mg/L)					
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)					
	Total Organic Carbon (mg/L)					
Total Metals	Aluminum (Al)-Total (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)					
	Boron (B)-Total (mg/L)					
	Cadmium (Cd)-Total (mg/L)					
	Calcium (Ca)-Total (mg/L)					
	Chromium (Cr)-Total (mg/L)					
	Cobalt (Co)-Total (mg/L)					
	Copper (Cu)-Total (mg/L)					
	Iron (Fe)-Total (mg/L)					
	Lead (Pb)-Total (mg/L)					
	Lithium (Li)-Total (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1667552-1	L1667552-2	L1667552-3	L1667552-4	L1667552-5
Description	Water	Water	Water	Water	Water
Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15
Sampled Time	17:50	10:30	10:55	08:41	09:30
Client ID	GSI-DC-03B	GSI-DC-02B	GSI-HA-01A	GSI-HA-03A	GSI-DC-01B
Grouping / **Analyte**					
WATER					
Total Metals Magnesium (Mg)-Total (mg/L)					
Manganese (Mn)-Total (mg/L)					
Mercury (Hg)-Total (mg/L)					
Molybdenum (Mo)-Total (mg/L)					
Nickel (Ni)-Total (mg/L)					
Phosphorus (P)-Total (mg/L)					
Potassium (K)-Total (mg/L)					
Selenium (Se)-Total (mg/L)					
Silicon (Si)-Total (mg/L)					
Silver (Ag)-Total (mg/L)					
Sodium (Na)-Total (mg/L)					
Strontium (Sr)-Total (mg/L)					
Sulfur (S)-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)					
Zinc (Zn)-Total (mg/L)					
Zirconium (Zr)-Total (mg/L)					
Dissolved Metals Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
Aluminum (Al)-Dissolved (mg/L)	0.0031	0.0065	0.0044	0.0294	
Antimony (Sb)-Dissolved (mg/L)	0.00044	0.00042	0.00367	0.00040	
Arsenic (As)-Dissolved (mg/L)	0.00677	0.0122	0.00444	0.0406	
Barium (Ba)-Dissolved (mg/L)	0.0259	0.0930	0.0854	0.0771	
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	
Cadmium (Cd)-Dissolved (mg/L)	0.000561	0.0000555	0.0000120	0.0000335	
Calcium (Ca)-Dissolved (mg/L)	188	144	118	123	
Chromium (Cr)-Dissolved (mg/L)	0.00315	0.00037	0.00096	0.00426	
Cobalt (Co)-Dissolved (mg/L)	0.00270	0.00168	0.00022	0.00057	
Copper (Cu)-Dissolved (mg/L)	0.00156	0.00252	0.00574	0.00052	
Iron (Fe)-Dissolved (mg/L)	0.404	7.57	0.510	49.5	
Lead (Pb)-Dissolved (mg/L)	0.000108	<0.000050	<0.000050	0.000144	
Lithium (Li)-Dissolved (mg/L)	0.0059	0.0028	0.0050	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-6 Water 31-AUG-15 12:10 MW09-16	L1667552-7 Water 31-AUG-15 09:50 GSI-HA-02A	L1667552-8 Water 31-AUG-15 11:37 GSI-HA-05A	L1667552-9 Water 31-AUG-15 16:17 MW09-18	L1667552-10 Water 31-AUG-15 15:25 MW09-17
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0011	0.0392	0.0210	<0.0020 DLA	<0.0020 DLA
	Antimony (Sb)-Dissolved (mg/L)	0.0610	0.00015	0.00017	0.00031	0.00035
	Arsenic (As)-Dissolved (mg/L)	0.00802	0.0844	0.103	0.0517	0.0193
	Barium (Ba)-Dissolved (mg/L)	0.0132	0.243	0.0703	0.00843	0.00752
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000040 DLA	<0.000040 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.00010 DLA	<0.00010 DLA
	Boron (B)-Dissolved (mg/L)	0.169	<0.010	<0.010	<0.020 DLA	0.093
	Cadmium (Cd)-Dissolved (mg/L)	0.0210	<0.0000050	<0.0000050	0.000049	0.000013
	Calcium (Ca)-Dissolved (mg/L)	235	127	145	335	323
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00017	<0.00010	<0.00020 DLA	<0.00020 DLA
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
	Copper (Cu)-Dissolved (mg/L)	0.00547	<0.00020	<0.00020	<0.00040 DLA	0.00064
	Iron (Fe)-Dissolved (mg/L)	<0.010	83.4	29.1	0.068	<0.010
	Lead (Pb)-Dissolved (mg/L)	0.00503	<0.000050	<0.000050	<0.00010 DLA	<0.00010 DLA
	Lithium (Li)-Dissolved (mg/L)	0.0098	<0.0010	0.0029	0.0185	0.0187

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-11	L1667552-12	L1667552-13	L1667552-14	L1667552-15
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	01-SEP-15
	Sampled Time	17:40	13:40	12:10	12:10	17:10
	Client ID	MW09-19	GSI-HA-04A	MW15-100	FB15-100	MWO9-01
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0110	0.0516	0.0011	<0.0010	0.0178
	Antimony (Sb)-Dissolved (mg/L)	0.00021	0.00048	0.0591	<0.00010	0.0217
	Arsenic (As)-Dissolved (mg/L)	0.121	0.0328	0.00818	<0.00010	0.343
	Barium (Ba)-Dissolved (mg/L)	0.0450	0.0516	0.0136	<0.000050	0.0202
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.00010 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.00025 DLA
	Boron (B)-Dissolved (mg/L)	0.150	<0.010	0.157	<0.010	0.094
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.0000133	0.0214	<0.0000050	0.00316
	Calcium (Ca)-Dissolved (mg/L)	299	44.5	237	<0.050	513
	Chromium (Cr)-Dissolved (mg/L)	0.00015	0.00017	<0.00010	<0.00010	<0.00050 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.00189	0.00026	<0.00010	<0.00010	0.0278
	Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00031	0.00553	<0.00020	0.0041
	Iron (Fe)-Dissolved (mg/L)	17.6	4.28	<0.010	<0.010	1.99
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000102	0.00484	<0.000050	0.00541
	Lithium (Li)-Dissolved (mg/L)	0.0115	0.0014	0.0096	<0.0010	0.0080

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-16 Water 01-SEP-15 16:15 MWO9-02	L1667552-17 Water 01-SEP-15 14:45 MWO9-03	L1667552-18 Water 01-SEP-15 15:32 MWO9-04	L1667552-19 Water 01-SEP-15 09:45 GLL07-3	L1667552-20 Water 01-SEP-15 10:45 CH-P-13-05/50
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0230	0.0168	0.0017	0.0048	0.0717
	Antimony (Sb)-Dissolved (mg/L)	0.00377	0.420	0.00146	<0.00010	<0.00050 DLA
	Arsenic (As)-Dissolved (mg/L)	18.0	2.11	0.00087	<0.00010	0.00400
	Barium (Ba)-Dissolved (mg/L)	0.00664	0.0224	0.0747	0.0117	0.00547
	Beryllium (Be)-Dissolved (mg/L)	<0.00010 DLA	<0.000040 DLA	<0.000020	<0.000020	0.00012
	Bismuth (Bi)-Dissolved (mg/L)	<0.00025 DLA	<0.00010 DLA	<0.000050	<0.000050	<0.00025 DLA
	Boron (B)-Dissolved (mg/L)	0.057	0.200	0.013	<0.010	<0.050 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.000439	0.000932	0.0000630	0.330	0.330
	Calcium (Ca)-Dissolved (mg/L)	469	491	160	125	461
	Chromium (Cr)-Dissolved (mg/L)	<0.00050 DLA	<0.00020 DLA	0.00023	<0.00010	<0.00050 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.0110	0.00192	0.00018	0.00286	0.0392
	Copper (Cu)-Dissolved (mg/L)	<0.0010 DLA	0.00070	0.00277	0.00560	0.0993
	Iron (Fe)-Dissolved (mg/L)	44.2	0.039	<0.010	1.34	14.7
	Lead (Pb)-Dissolved (mg/L)	<0.00025 DLA	0.00015	<0.000050	0.000103	0.00632
	Lithium (Li)-Dissolved (mg/L)	0.0247	0.0022	<0.0010	0.0106	0.0416

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-21	L1667552-22	L1667552-23	L1667552-24	L1667552-25
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	12:15	11:24	09:15	12:56	14:20
	Client ID	MWO9-23	MWO9-22	GSI-DC-5B	MP09-05	MWO9-21
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0238	0.0421	0.0027	0.0123	0.0774
	Antimony (Sb)-Dissolved (mg/L)	0.00027	0.00016	0.00035	0.00033	0.00039
	Arsenic (As)-Dissolved (mg/L)	0.0261	0.00674	0.00308	0.00861	0.105
	Barium (Ba)-Dissolved (mg/L)	0.0556	0.0488	0.0341	0.0535	0.215
	Beryllium (Be)-Dissolved (mg/L)	<0.000040 DLA	<0.000020	<0.000020	<0.000040 DLA	<0.000040 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 DLA	<0.000050	<0.000050	<0.00010 DLA	<0.00010 DLA
	Boron (B)-Dissolved (mg/L)	0.070	0.028	0.017	0.093	0.059
	Cadmium (Cd)-Dissolved (mg/L)	0.000021	0.0000964	0.0000427	0.000248	0.000035
	Calcium (Ca)-Dissolved (mg/L)	291	303	215	363	497
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 DLA	0.00045	0.00023	<0.00020 DLA	0.00068
	Cobalt (Co)-Dissolved (mg/L)	0.0149	0.0138	0.00395	0.0162	0.0252
	Copper (Cu)-Dissolved (mg/L)	<0.00040 DLA	0.00108	0.00084	0.00254	0.00076
	Iron (Fe)-Dissolved (mg/L)	23.5	46.2	0.903	3.03	66.0
	Lead (Pb)-Dissolved (mg/L)	<0.00010 DLA	<0.000050	0.000100	<0.00010 DLA	<0.00010 DLA
	Lithium (Li)-Dissolved (mg/L)	<0.0020 DLA	0.0014	0.0035	<0.0020 DLA	<0.0020 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-26 Water 01-SEP-15 16:59 MWO9-08	L1667552-27 Water 01-SEP-15 12:56 MW15-200	L1667552-28 Water 01-SEP-15 16:02 MP09-04	L1667552-29 Water 01-SEP-15 14:45 FB15-200	L1667552-30 Water TRIP BLANK
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					<0.10
	Manganese (Mn)-Total (mg/L)					<0.00010
	Mercury (Hg)-Total (mg/L)					<0.0000050
	Molybdenum (Mo)-Total (mg/L)					<0.000050
	Nickel (Ni)-Total (mg/L)					<0.00050
	Phosphorus (P)-Total (mg/L)					<0.050
	Potassium (K)-Total (mg/L)					<0.10
	Selenium (Se)-Total (mg/L)					<0.000050
	Silicon (Si)-Total (mg/L)					<0.050
	Silver (Ag)-Total (mg/L)					<0.000010
	Sodium (Na)-Total (mg/L)					<0.050
	Strontium (Sr)-Total (mg/L)					<0.00020
	Sulfur (S)-Total (mg/L)					<0.50
	Thallium (Tl)-Total (mg/L)					<0.000010
	Tin (Sn)-Total (mg/L)					<0.00010
	Titanium (Ti)-Total (mg/L)					<0.00030
	Uranium (U)-Total (mg/L)					<0.000010
	Vanadium (V)-Total (mg/L)					<0.00050
	Zinc (Zn)-Total (mg/L)					<0.0030
	Zirconium (Zr)-Total (mg/L)					<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.0921	0.0120	0.0098	<0.0010	
	Antimony (Sb)-Dissolved (mg/L)	0.00020	0.00031	0.317	<0.00010	
	Arsenic (As)-Dissolved (mg/L)	0.0869	0.00899	3.38	<0.00010	
	Barium (Ba)-Dissolved (mg/L)	0.143	0.0535	0.00847	<0.000050	
	Beryllium (Be)-Dissolved (mg/L)	0.000020	<0.000040 DLA	<0.000040 DLA	<0.000020	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.00010 DLA	<0.00010 DLA	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.010	0.092	0.245	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.000257	0.000039	<0.0000050	
	Calcium (Ca)-Dissolved (mg/L)	40.7	360	474	<0.050	
	Chromium (Cr)-Dissolved (mg/L)	0.00137	<0.00020 DLA	<0.00020 DLA	<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	0.00140	0.0162	0.00128	<0.00010	
	Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00260	<0.00040 DLA	<0.00020	
	Iron (Fe)-Dissolved (mg/L)	47.5	3.01	0.011	<0.010	
	Lead (Pb)-Dissolved (mg/L)	0.000055	0.00021	0.00021	<0.000050	
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0020 DLA	0.0126	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-31	L1667552-32	L1667552-33	L1667552-34	L1667552-35
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15
	Sampled Time	12:10	09:50	11:37	16:17	15:25
	Client ID	MW09-16-DISS.ALK.	GSI-HA-02A-DISS.ALK.	GSI-HA-05A-DISS.ALK.	MW09-18-DISS.ALK.	MW09-17-DISS.ALK.
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location					
	Dissolved Metals Filtration Location					
	Aluminum (Al)-Dissolved (mg/L)					
	Antimony (Sb)-Dissolved (mg/L)					
	Arsenic (As)-Dissolved (mg/L)					
	Barium (Ba)-Dissolved (mg/L)					
	Beryllium (Be)-Dissolved (mg/L)					
	Bismuth (Bi)-Dissolved (mg/L)					
	Boron (B)-Dissolved (mg/L)					
	Cadmium (Cd)-Dissolved (mg/L)					
	Calcium (Ca)-Dissolved (mg/L)					
	Chromium (Cr)-Dissolved (mg/L)					
	Cobalt (Co)-Dissolved (mg/L)					
	Copper (Cu)-Dissolved (mg/L)					
	Iron (Fe)-Dissolved (mg/L)					
	Lead (Pb)-Dissolved (mg/L)					
	Lithium (Li)-Dissolved (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-36	L1667552-37	L1667552-38	L1667552-39	L1667552-40
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	01-SEP-15
	Sampled Time	17:40	13:40	12:10	12:10	17:10
	Client ID	MW09-19-DISS.ALK.	GSI-HA-04A-DISS.ALK.	MW15-100-DISS.ALK.	FB15-100-DISS.ALK.	MW09-01-DISS.ALK.
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location					
	Dissolved Metals Filtration Location					
	Aluminum (Al)-Dissolved (mg/L)					
	Antimony (Sb)-Dissolved (mg/L)					
	Arsenic (As)-Dissolved (mg/L)					
	Barium (Ba)-Dissolved (mg/L)					
	Beryllium (Be)-Dissolved (mg/L)					
	Bismuth (Bi)-Dissolved (mg/L)					
	Boron (B)-Dissolved (mg/L)					
	Cadmium (Cd)-Dissolved (mg/L)					
	Calcium (Ca)-Dissolved (mg/L)					
	Chromium (Cr)-Dissolved (mg/L)					
	Cobalt (Co)-Dissolved (mg/L)					
	Copper (Cu)-Dissolved (mg/L)					
	Iron (Fe)-Dissolved (mg/L)					
	Lead (Pb)-Dissolved (mg/L)					
	Lithium (Li)-Dissolved (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-41	L1667552-42	L1667552-43	L1667552-44	L1667552-45
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	16:15	14:45	15:32	09:45	10:45
	Client ID	MW09-02-DISS.ALK.	MW09-03-DISS.ALK.	MW09-04-DISS.ALK.	GLL07-3-DISS.ALK.	CH-P-13-05/50-DISS.ALK.
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location					
	Dissolved Metals Filtration Location					
	Aluminum (Al)-Dissolved (mg/L)					
	Antimony (Sb)-Dissolved (mg/L)					
	Arsenic (As)-Dissolved (mg/L)					
	Barium (Ba)-Dissolved (mg/L)					
	Beryllium (Be)-Dissolved (mg/L)					
	Bismuth (Bi)-Dissolved (mg/L)					
	Boron (B)-Dissolved (mg/L)					
	Cadmium (Cd)-Dissolved (mg/L)					
	Calcium (Ca)-Dissolved (mg/L)					
	Chromium (Cr)-Dissolved (mg/L)					
	Cobalt (Co)-Dissolved (mg/L)					
	Copper (Cu)-Dissolved (mg/L)					
	Iron (Fe)-Dissolved (mg/L)					
	Lead (Pb)-Dissolved (mg/L)					
	Lithium (Li)-Dissolved (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-46	L1667552-47	L1667552-48	L1667552-49	L1667552-50
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	12:15	11:24	09:15	12:56	14:20
	Client ID	MW09-23-DISS.ALK.	MW09-22-DISS.ALK.	GSI-DC-5B-DISS.ALK.	MP09-05-DISS.ALK.	MW09-21-DISS.ALK.
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location					
	Dissolved Metals Filtration Location					
	Aluminum (Al)-Dissolved (mg/L)					
	Antimony (Sb)-Dissolved (mg/L)					
	Arsenic (As)-Dissolved (mg/L)					
	Barium (Ba)-Dissolved (mg/L)					
	Beryllium (Be)-Dissolved (mg/L)					
	Bismuth (Bi)-Dissolved (mg/L)					
	Boron (B)-Dissolved (mg/L)					
	Cadmium (Cd)-Dissolved (mg/L)					
	Calcium (Ca)-Dissolved (mg/L)					
	Chromium (Cr)-Dissolved (mg/L)					
	Cobalt (Co)-Dissolved (mg/L)					
	Copper (Cu)-Dissolved (mg/L)					
	Iron (Fe)-Dissolved (mg/L)					
	Lead (Pb)-Dissolved (mg/L)					
	Lithium (Li)-Dissolved (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-51	L1667552-52	L1667552-53	L1667552-54	
	Description	Water	Water	Water	Water	
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	
	Sampled Time	16:59	12:56	16:02	14:45	
	Client ID	MW09-08-DISS.ALK.	MW15-200-DISS.ALK.	MP09-04-DISS.ALK.	FB15-200-DISS.ALK.	
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Mercury (Hg)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Selenium (Se)-Total (mg/L)					
	Silicon (Si)-Total (mg/L)					
	Silver (Ag)-Total (mg/L)					
	Sodium (Na)-Total (mg/L)					
	Strontium (Sr)-Total (mg/L)					
	Sulfur (S)-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)					
	Zinc (Zn)-Total (mg/L)					
	Zirconium (Zr)-Total (mg/L)					
Dissolved Metals	Dissolved Mercury Filtration Location					
	Dissolved Metals Filtration Location					
	Aluminum (Al)-Dissolved (mg/L)					
	Antimony (Sb)-Dissolved (mg/L)					
	Arsenic (As)-Dissolved (mg/L)					
	Barium (Ba)-Dissolved (mg/L)					
	Beryllium (Be)-Dissolved (mg/L)					
	Bismuth (Bi)-Dissolved (mg/L)					
	Boron (B)-Dissolved (mg/L)					
	Cadmium (Cd)-Dissolved (mg/L)					
	Calcium (Ca)-Dissolved (mg/L)					
	Chromium (Cr)-Dissolved (mg/L)					
	Cobalt (Co)-Dissolved (mg/L)					
	Copper (Cu)-Dissolved (mg/L)					
	Iron (Fe)-Dissolved (mg/L)					
	Lead (Pb)-Dissolved (mg/L)					
	Lithium (Li)-Dissolved (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-1 Water 31-AUG-15 17:50 GSI-DC-03B	L1667552-2 Water 31-AUG-15 10:30 GSI-DC-02B	L1667552-3 Water 31-AUG-15 10:55 GSI-HA-01A	L1667552-4 Water 31-AUG-15 08:41 GSI-HA-03A	L1667552-5 Water 31-AUG-15 09:30 GSI-DC-01B
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	70.7	48.1	38.6	46.4	
	Manganese (Mn)-Dissolved (mg/L)	2.66	1.90	0.0657	3.86	
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	0.0000087	<0.0000050	0.0000081
	Molybdenum (Mo)-Dissolved (mg/L)	0.00654	0.00249	0.000765	0.00190	
	Nickel (Ni)-Dissolved (mg/L)	0.0348	0.0114	0.00449	0.0115	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	0.067	
	Potassium (K)-Dissolved (mg/L)	3.32	3.60	4.87	1.95	
	Selenium (Se)-Dissolved (mg/L)	0.000064	0.000054	<0.000050	<0.000050	
	Silicon (Si)-Dissolved (mg/L)	7.82	7.47	5.64	7.92	
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
	Sodium (Na)-Dissolved (mg/L)	5.76	4.41	4.20	4.72	
	Strontium (Sr)-Dissolved (mg/L)	0.427	0.293	0.245	0.354	
	Sulfur (S)-Dissolved (mg/L)	164	88.4	78.3	111	
	Thallium (Tl)-Dissolved (mg/L)	0.000013	<0.000010	0.000022	<0.000010	
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	0.00015	
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	0.00124	
	Uranium (U)-Dissolved (mg/L)	0.00129	0.00141	0.000969	0.000036	
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	0.00060	
	Zinc (Zn)-Dissolved (mg/L)	0.0589	0.0087	0.0046	0.0175	
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-6 Water 31-AUG-15 12:10 MW09-16	L1667552-7 Water 31-AUG-15 09:50 GSI-HA-02A	L1667552-8 Water 31-AUG-15 11:37 GSI-HA-05A	L1667552-9 Water 31-AUG-15 16:17 MW09-18	L1667552-10 Water 31-AUG-15 15:25 MW09-17
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	106	51.7	46.3	237	253
	Manganese (Mn)-Dissolved (mg/L)	0.00857	5.56	3.30	0.575	DLA <0.00020
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.000073	<0.000050	0.000113	DLA <0.00010	DLA <0.00010
	Nickel (Ni)-Dissolved (mg/L)	0.00329	<0.00050	<0.00050	DLA <0.0010	DLA <0.0010
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	0.168	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	5.97	3.46	2.57	7.05	7.12
	Selenium (Se)-Dissolved (mg/L)	0.000076	0.000064	0.000053	0.00017	0.00014
	Silicon (Si)-Dissolved (mg/L)	5.65	8.54	8.07	5.15	5.32
	Silver (Ag)-Dissolved (mg/L)	0.000013	<0.000010	<0.000010	DLA <0.000020	DLA <0.000020
	Sodium (Na)-Dissolved (mg/L)	7.91	5.11	5.47	11.0	11.9
	Strontium (Sr)-Dissolved (mg/L)	0.501	0.390	0.368	0.889	0.969
	Sulfur (S)-Dissolved (mg/L)	236	125	115	434	437
	Thallium (Tl)-Dissolved (mg/L)	0.000239	<0.000010	<0.000010	0.000248	0.000088
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	DLA <0.00020	DLA <0.00020
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	0.00150	0.00084	DLA <0.00060	DLA <0.00060
	Uranium (U)-Dissolved (mg/L)	0.00222	0.000016	0.000043	0.00628	0.00676
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	0.00054	DLA <0.0010	DLA <0.0010
	Zinc (Zn)-Dissolved (mg/L)	3.19	0.0021	0.0016	0.0022	DLA <0.0020
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	DLA <0.00060	DLA <0.00060

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1667552-11	L1667552-12	L1667552-13	L1667552-14	L1667552-15
Description	Water	Water	Water	Water	Water
Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	01-SEP-15
Sampled Time	17:40	13:40	12:10	12:10	17:10
Client ID	MW09-19	GSI-HA-04A	MW15-100	FB15-100	MWO9-01
Grouping / **Analyte**					
WATER					
Dissolved Metals Magnesium (Mg)-Dissolved (mg/L)	152	16.6	106	<0.10	63.6
Manganese (Mn)-Dissolved (mg/L)	5.40	0.452	0.00819	<0.00010	22.2
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000059
Molybdenum (Mo)-Dissolved (mg/L)	0.000143	0.000235	0.000065	<0.000050	0.00301
Nickel (Ni)-Dissolved (mg/L)	0.00162	<0.00050	0.00335	<0.00050	0.0087
Phosphorus (P)-Dissolved (mg/L)	0.172	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved (mg/L)	8.45	0.95	6.01	<0.10	15.6
Selenium (Se)-Dissolved (mg/L)	0.00108	0.000072	0.000092	<0.000050	<0.00025 DLA
Silicon (Si)-Dissolved (mg/L)	10.0	8.45	5.73	<0.050	7.29
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	0.000012	<0.000010	0.000093
Sodium (Na)-Dissolved (mg/L)	14.5	2.52	8.01	<0.050	110
Strontium (Sr)-Dissolved (mg/L)	1.01	0.116	0.494	<0.00020	1.10
Sulfur (S)-Dissolved (mg/L)	303	33.4	234	<0.50	510
Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	0.000239	<0.000010	0.000364
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050 DLA
Titanium (Ti)-Dissolved (mg/L)	<0.0018 DLM	0.00143	<0.00030	<0.00030	<0.0015 DLA
Uranium (U)-Dissolved (mg/L)	0.000523	0.000048	0.00214	<0.000010	0.00241
Vanadium (V)-Dissolved (mg/L)	0.00090	0.00095	<0.00050	<0.00050	<0.0025 DLA
Zinc (Zn)-Dissolved (mg/L)	0.0019	0.0022	3.16	<0.0010	2.67
Zirconium (Zr)-Dissolved (mg/L)	0.00035	<0.00030	<0.00030	<0.00030	<0.0015 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-16 Water 01-SEP-15 16:15 MWO9-02	L1667552-17 Water 01-SEP-15 14:45 MWO9-03	L1667552-18 Water 01-SEP-15 15:32 MWO9-04	L1667552-19 Water 01-SEP-15 09:45 GLL07-3	L1667552-20 Water 01-SEP-15 10:45 CH-P-13-05/50
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	74.4	105	63.8	23.0	202
	Manganese (Mn)-Dissolved (mg/L)	32.5	17.9	0.00146	1.36	34.3
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.00461	0.00518	0.000165	0.000161	DLA <0.00025
	Nickel (Ni)-Dissolved (mg/L)	0.0029	DLA <0.0010	<0.00050	0.0103	0.0148
	Phosphorus (P)-Dissolved (mg/L)	<0.050	0.076	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	78.8	28.2	1.77	1.68	5.06
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00025	DLA <0.00010	0.000692	0.000134	DLA <0.00025
	Silicon (Si)-Dissolved (mg/L)	6.97	12.3	6.37	2.24	7.79
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000050	DLA <0.000020	<0.000010	<0.000010	DLA <0.000050
	Sodium (Na)-Dissolved (mg/L)	61.1	29.6	9.05	5.67	8.17
	Strontium (Sr)-Dissolved (mg/L)	0.924	1.31	0.527	0.152	0.543
	Sulfur (S)-Dissolved (mg/L)	602	556	146	113	682
	Thallium (Tl)-Dissolved (mg/L)	0.000196	0.000034	<0.000010	0.000120	0.000520
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00020	<0.00010	<0.00010	DLA <0.00050
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.0015	DLA <0.00060	<0.00030	<0.00030	DLA <0.0015
	Uranium (U)-Dissolved (mg/L)	0.000573	0.00129	0.00152	0.000041	0.000671
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0025	DLA <0.0010	<0.00050	<0.00050	DLA <0.0025
	Zinc (Zn)-Dissolved (mg/L)	0.230	0.0029	0.0042	4.53	31.1
	Zirconium (Zr)-Dissolved (mg/L)	DLA <0.0015	DLA <0.00060	<0.00030	<0.00030	DLA <0.0015

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-21 Water 01-SEP-15 12:15 MWO9-23	L1667552-22 Water 01-SEP-15 11:24 MWO9-22	L1667552-23 Water 01-SEP-15 09:15 GSI-DC-5B	L1667552-24 Water 01-SEP-15 12:56 MP09-05	L1667552-25 Water 01-SEP-15 14:20 MWO9-21
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	103	28.8	122	69.8	96.5
	Manganese (Mn)-Dissolved (mg/L)	17.9	8.22	4.98	6.99	6.91
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.00230	0.000174	0.00181	0.00037	0.00043
	Nickel (Ni)-Dissolved (mg/L)	0.0017	0.00276	0.0169	0.0026	0.0022
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	8.09	4.47	3.90	9.13	15.1
	Selenium (Se)-Dissolved (mg/L)	0.00011	0.000323	0.000086	0.00014	0.00024
	Silicon (Si)-Dissolved (mg/L)	6.99	4.96	8.75	4.79	5.99
	Silver (Ag)-Dissolved (mg/L)	<0.000020 DLA	0.000016	<0.000010	<0.000020 DLA	<0.000020 DLA
	Sodium (Na)-Dissolved (mg/L)	31.3	39.0	13.1	38.6	67.4
	Strontium (Sr)-Dissolved (mg/L)	0.784	0.885	0.706	0.983	1.39
	Sulfur (S)-Dissolved (mg/L)	308	284	250	335	527
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 DLA	<0.000010	0.000014	0.000058	<0.000020 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.0015 DLM	<0.0018 DLM	<0.00030	<0.00060 DLA	<0.0045 DLM
	Uranium (U)-Dissolved (mg/L)	0.00193	0.000592	0.00314	0.00137	0.000748
	Vanadium (V)-Dissolved (mg/L)	0.0021	0.00125	<0.00050	<0.0010 DLA	0.0050
	Zinc (Zn)-Dissolved (mg/L)	0.118	0.0022	0.0101	0.0175	0.0054
	Zirconium (Zr)-Dissolved (mg/L)	0.00078	0.00047	<0.00030	<0.00060 DLA	0.00148

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1667552-26 Water 01-SEP-15 16:59 MWO9-08	L1667552-27 Water 01-SEP-15 12:56 MW15-200	L1667552-28 Water 01-SEP-15 16:02 MP09-04	L1667552-29 Water 01-SEP-15 14:45 FB15-200	L1667552-30 Water TRIP BLANK
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	8.65	67.9	115	<0.10	
	Manganese (Mn)-Dissolved (mg/L)	3.42	7.05	6.91	<0.00010	
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	0.00036	0.00768	<0.000050	
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	0.0026	<0.0010 DLA	<0.00050	
	Phosphorus (P)-Dissolved (mg/L)	0.109	<0.050	0.089	<0.050	
	Potassium (K)-Dissolved (mg/L)	1.51	9.09	41.5	<0.10	
	Selenium (Se)-Dissolved (mg/L)	0.000435	0.00011	<0.00010 DLA	<0.000050	
	Silicon (Si)-Dissolved (mg/L)	10.0	4.76	15.3	<0.050	
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000010	
	Sodium (Na)-Dissolved (mg/L)	2.43	38.8	40.6	<0.050	
	Strontium (Sr)-Dissolved (mg/L)	0.172	0.982	1.28	<0.00020	
	Sulfur (S)-Dissolved (mg/L)	12.8	323	574	<0.50	
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	0.000056	0.000089	<0.000010	
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00010	
	Titanium (Ti)-Dissolved (mg/L)	0.00437	<0.00060 DLA	<0.00060 DLA	<0.00030	
	Uranium (U)-Dissolved (mg/L)	0.000093	0.00135	0.000235	<0.000010	
	Vanadium (V)-Dissolved (mg/L)	0.00406	<0.0010 DLA	<0.0010 DLA	<0.00050	
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0138	0.471	<0.0010	
	Zirconium (Zr)-Dissolved (mg/L)	0.00087	<0.00060 DLA	<0.00060 DLA	<0.00030	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-31	L1667552-32	L1667552-33	L1667552-34	L1667552-35
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15
	Sampled Time	12:10	09:50	11:37	16:17	15:25
	Client ID	MW09-16-DISS.ALK.	GSI-HA-02A-DISS.ALK.	GSI-HA-05A-DISS.ALK.	MW09-18-DISS.ALK.	MW09-17-DISS.ALK.
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)					
	Manganese (Mn)-Dissolved (mg/L)					
	Mercury (Hg)-Dissolved (mg/L)					
	Molybdenum (Mo)-Dissolved (mg/L)					
	Nickel (Ni)-Dissolved (mg/L)					
	Phosphorus (P)-Dissolved (mg/L)					
	Potassium (K)-Dissolved (mg/L)					
	Selenium (Se)-Dissolved (mg/L)					
	Silicon (Si)-Dissolved (mg/L)					
	Silver (Ag)-Dissolved (mg/L)					
	Sodium (Na)-Dissolved (mg/L)					
	Strontium (Sr)-Dissolved (mg/L)					
	Sulfur (S)-Dissolved (mg/L)					
	Thallium (Tl)-Dissolved (mg/L)					
	Tin (Sn)-Dissolved (mg/L)					
	Titanium (Ti)-Dissolved (mg/L)					
	Uranium (U)-Dissolved (mg/L)					
	Vanadium (V)-Dissolved (mg/L)					
	Zinc (Zn)-Dissolved (mg/L)					
	Zirconium (Zr)-Dissolved (mg/L)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-36	L1667552-37	L1667552-38	L1667552-39	L1667552-40
	Description	Water	Water	Water	Water	Water
	Sampled Date	31-AUG-15	31-AUG-15	31-AUG-15	31-AUG-15	01-SEP-15
	Sampled Time	17:40	13:40	12:10	12:10	17:10
	Client ID	MW09-19-DISS.ALK.	GSI-HA-04A-DISS.ALK.	MW15-100-DISS.ALK.	FB15-100-DISS.ALK.	MW09-01-DISS.ALK.
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)					
	Manganese (Mn)-Dissolved (mg/L)					
	Mercury (Hg)-Dissolved (mg/L)					
	Molybdenum (Mo)-Dissolved (mg/L)					
	Nickel (Ni)-Dissolved (mg/L)					
	Phosphorus (P)-Dissolved (mg/L)					
	Potassium (K)-Dissolved (mg/L)					
	Selenium (Se)-Dissolved (mg/L)					
	Silicon (Si)-Dissolved (mg/L)					
	Silver (Ag)-Dissolved (mg/L)					
	Sodium (Na)-Dissolved (mg/L)					
	Strontium (Sr)-Dissolved (mg/L)					
	Sulfur (S)-Dissolved (mg/L)					
	Thallium (Tl)-Dissolved (mg/L)					
	Tin (Sn)-Dissolved (mg/L)					
	Titanium (Ti)-Dissolved (mg/L)					
	Uranium (U)-Dissolved (mg/L)					
	Vanadium (V)-Dissolved (mg/L)					
	Zinc (Zn)-Dissolved (mg/L)					
	Zirconium (Zr)-Dissolved (mg/L)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-41	L1667552-42	L1667552-43	L1667552-44	L1667552-45
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	16:15	14:45	15:32	09:45	10:45
	Client ID	MW09-02-DISS.ALK.	MW09-03-DISS.ALK.	MW09-04-DISS.ALK.	GLL07-3-DISS.ALK.	CH-P-13-05/50-DISS.ALK.
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)					
	Manganese (Mn)-Dissolved (mg/L)					
	Mercury (Hg)-Dissolved (mg/L)					
	Molybdenum (Mo)-Dissolved (mg/L)					
	Nickel (Ni)-Dissolved (mg/L)					
	Phosphorus (P)-Dissolved (mg/L)					
	Potassium (K)-Dissolved (mg/L)					
	Selenium (Se)-Dissolved (mg/L)					
	Silicon (Si)-Dissolved (mg/L)					
	Silver (Ag)-Dissolved (mg/L)					
	Sodium (Na)-Dissolved (mg/L)					
	Strontium (Sr)-Dissolved (mg/L)					
	Sulfur (S)-Dissolved (mg/L)					
	Thallium (Tl)-Dissolved (mg/L)					
	Tin (Sn)-Dissolved (mg/L)					
	Titanium (Ti)-Dissolved (mg/L)					
	Uranium (U)-Dissolved (mg/L)					
	Vanadium (V)-Dissolved (mg/L)					
	Zinc (Zn)-Dissolved (mg/L)					
	Zirconium (Zr)-Dissolved (mg/L)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-46	L1667552-47	L1667552-48	L1667552-49	L1667552-50
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15
	Sampled Time	12:15	11:24	09:15	12:56	14:20
	Client ID	MW09-23-DISS.ALK.	MW09-22-DISS.ALK.	GSI-DC-5B-DISS.ALK.	MP09-05-DISS.ALK.	MW09-21-DISS.ALK.
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)					
	Manganese (Mn)-Dissolved (mg/L)					
	Mercury (Hg)-Dissolved (mg/L)					
	Molybdenum (Mo)-Dissolved (mg/L)					
	Nickel (Ni)-Dissolved (mg/L)					
	Phosphorus (P)-Dissolved (mg/L)					
	Potassium (K)-Dissolved (mg/L)					
	Selenium (Se)-Dissolved (mg/L)					
	Silicon (Si)-Dissolved (mg/L)					
	Silver (Ag)-Dissolved (mg/L)					
	Sodium (Na)-Dissolved (mg/L)					
	Strontium (Sr)-Dissolved (mg/L)					
	Sulfur (S)-Dissolved (mg/L)					
	Thallium (Tl)-Dissolved (mg/L)					
	Tin (Sn)-Dissolved (mg/L)					
	Titanium (Ti)-Dissolved (mg/L)					
	Uranium (U)-Dissolved (mg/L)					
	Vanadium (V)-Dissolved (mg/L)					
	Zinc (Zn)-Dissolved (mg/L)					
	Zirconium (Zr)-Dissolved (mg/L)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1667552-51	L1667552-52	L1667552-53	L1667552-54	
	Description	Water	Water	Water	Water	
	Sampled Date	01-SEP-15	01-SEP-15	01-SEP-15	01-SEP-15	
	Sampled Time	16:59	12:56	16:02	14:45	
	Client ID	MW09-08-DISS.ALK.	MW15-200-DISS.ALK.	MP09-04-DISS.ALK.	FB15-200-DISS.ALK.	
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)					
	Manganese (Mn)-Dissolved (mg/L)					
	Mercury (Hg)-Dissolved (mg/L)					
	Molybdenum (Mo)-Dissolved (mg/L)					
	Nickel (Ni)-Dissolved (mg/L)					
	Phosphorus (P)-Dissolved (mg/L)					
	Potassium (K)-Dissolved (mg/L)					
	Selenium (Se)-Dissolved (mg/L)					
	Silicon (Si)-Dissolved (mg/L)					
	Silver (Ag)-Dissolved (mg/L)					
	Sodium (Na)-Dissolved (mg/L)					
	Strontium (Sr)-Dissolved (mg/L)					
	Sulfur (S)-Dissolved (mg/L)					
	Thallium (Tl)-Dissolved (mg/L)					
	Tin (Sn)-Dissolved (mg/L)					
	Titanium (Ti)-Dissolved (mg/L)					
	Uranium (U)-Dissolved (mg/L)					
	Vanadium (V)-Dissolved (mg/L)					
	Zinc (Zn)-Dissolved (mg/L)					
	Zirconium (Zr)-Dissolved (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1667552-30	TRIP BLANK	WSMT	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Conductivity	B	L1667552-27
Duplicate	Beryllium (Be)-Dissolved	DLA	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Duplicate	Chromium (Cr)-Dissolved	DLA	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Duplicate	Vanadium (V)-Dissolved	DLA	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Fluoride (F)	K	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -3, -4, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -3, -4, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Total Kjeldahl Nitrogen	MS-B	L1667552-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -4, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19,

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
			-2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1667552-26, -27, -28, -29, -30
Matrix Spike	Total Organic Carbon	MS-B	L1667552-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -22, -28, -29, -30, -6, -7, -8, -9
Matrix Spike	Total Organic Carbon	MS-B	L1667552-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -22, -28, -29, -30, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1667552-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -6, -7, -8, -9
Matrix Spike	Total Inorganic Carbon	MS-B	L1667552-10, -11, -12, -13, -14, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -6, -8, -9
Matrix Spike	Total Inorganic Carbon	MS-B	L1667552-7
Matrix Spike	Total Inorganic Carbon	MS-B	L1667552-7
Matrix Spike	Total Inorganic Carbon	MS-B	L1667552-15, -16
Matrix Spike	Aluminum (Al)-Total	MS-B	L1667552-30
Matrix Spike	Manganese (Mn)-Total	MS-B	L1667552-30
Matrix Spike	Sodium (Na)-Total	MS-B	L1667552-30
Matrix Spike	Strontium (Sr)-Total	MS-B	L1667552-30

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
CNP	Cyanide test sample appears to have been preserved, but pH was <10 at time of testing. Results may be biased low, particularly for Free CN species.
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Reference Information

CARBONS-TIC-VA	Water	Total inorganic carbon by CO2 purge	APHA 5310B TOTAL ORGANIC CARBON (TOC)

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CARBONS-TOC-VA	Water	Total organic carbon by combustion	APHA 5310B TOTAL ORGANIC CARBON (TOC)

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CL-IC-N-WR	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237

This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.

CN-SCN-VA	Water	Thiocyanate by Colour	APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN- M "Thiocyanate" Thiocyanate is determined by the ferric nitrate colourimetric method.

CN-T-CFA-VA	Water	Total Cyanide in water by CFA	ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

CN-WAD-CFA-VA	Water	Weak Acid Diss. Cyanide in water by CFA	APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.

EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

F-IC-N-WR	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA	Water	Hardness	APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA	Water	Diss. Mercury in Water by CVAAS or CVAFS	APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA	Water	Ion Balance Calculation	APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-DIS-LOW-ICP-VA	Water	Dissolved Metals in Water by ICPOES	EPA 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Reference Information

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-TOT-LOW-ICP-VA Water Total Metals in Water by ICPOES EPA 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

NH3-F-VA Water Ammonia in Water by Fluorescence APHA 4500 NH3-NITROGEN (AMMONIA)

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-L-IC-N-WR Water Nitrite in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-WR Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H "pH Value"

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

S-DIS-ICP-VA Water Dissolved Sulfur in Water by ICPOES EPA SW-846 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method will not give total sulfur results for all samples. Sulfide or other volatile forms of sulfur that may be present in submitted samples, is often lost during the sampling, preservation and analysis process. The data reported as total and/or dissolved sulfur represents all non-volatile forms of sulfur present in a particular sample.

S-TOT-ICP-VA Water Total Sulfur in Water by ICPOES EPA SW-846 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method will not give total sulfur results for all samples. Sulfide or other volatile forms of sulfur that may be present in submitted samples, is often lost during the sampling, preservation and analysis process. The data reported as total and/or dissolved sulfur represents all non-volatile forms of sulfur present in a particular sample.

S2-T-COL-VA Water Total Sulphide by Colorimetric APHA 4500-S2 Sulphide

This analysis is carried out using procedures adapted from APHA Method 4500-S2 "Sulphide". Sulphide is determined using the methlyene blue colourimetric method.

SO4-IC-N-WR Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TKN-F-VA Water TKN in Water by Fluorescence APHA 4500-NORG D.

This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.

Reference Information

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

1-1346-005.11 2-1346-005.11 3-1346-005.11

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Chain of Custody (COC) / Analytical Request Form

L1667552-COFC

COC Number: 1 - 1343-005.11

Page 1 of 3

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hemmera Environchem Inc.	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natasha Sandys	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	230 - 2237 2nd Avenue Whitehorse, YT	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-456-4865	Email 1 or Fax nsandys@hemmera.com, rmartinka@hemmera.com	Specify Date Required for E2,E or P:
		Email 2 chris@elr.ca	

Invoice To		Invoice Distribution
	Same as Report To ☑ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX
	Copy of Invoice with Report ☐ Yes ☑ No	
Company:	Hemmera Environchem Inc.	Email 1 or Fax nsandys@hemmera.com
Contact:	Natasha Sandys	Email 2 chris@elr.ca

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50588	Approver ID:	Cost Center:
Job #:	1343-005.11	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: RM, JC, AN, MN

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P Dissolved Metals, Hardness	F/P Dissolved Mercury	Nitrate, Nitrite, Total Kjeldahl N (TKN)	Cl, Fl, Sulfate, conductivity, pH, alkalinity	Anion Sum, Cation Sum, Cation/Anion Balance	P Cyanide - Weak Acid Diss., Total, Free	P Ammonia N (total), Total Organic Carbon	P Thiocyanate (SCN)	P Sulphide as S	Total Inorganic Carbon	F Dissolved Alkalinity			Number of Containers
	GCI-DC-03B	31/08/2015	17:30	Water	R	R	R	R	R	R	R	R	R					7
	GCI-DC-02B	31/08/2015	10:30	Water	R	R	R	R	R									3
	GSI-HA-01A	31/08/2015	10:55	Water	R	R	R	R	R									3
	GSI-HA-03A	31/08/2015	8:41	Water	R	R	R	R	R									3
	GSI-DC-01B	31/08/2015	9:30	Water		R												1
	MW09-16	31/08/2015	12:10	Water	R	R	R	R	R	R	R	R	R	R	R			9
	GSI-HA-02A*	31/08/2015	9:50	Water	R	R	R	R	R	R	R	R	R	R	R			x9
	GSI-HA-05A*	31/08/2015	11:37	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-18	31/08/2015	16:17	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-17	31/08/2015	15:25	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-19	31/08/2015	17:40	Water	R	R	R	R	R	R	R	R	R	R	R			9
	GSI-HA-04A*	31/08/2015	13:40	Water	R	R	R	R	R	R	R	R	R	R	R			9

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)	SAMPLE CONDITION AS RECEIVED (lab use only)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	- See attached parameter sheet for list of full parameters and metals required.	Frozen ☐ SIF Observations Yes ☐ No ☐
Are samples for human drinking water use? ☐ Yes ☑ No	Heidi to send confirmation email about Sample ID # for GCI-DC-03B.	Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐
		Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C		
6.0	4.7	7.1	3.3	4.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Justin Hains	Date: Sept 2/15	Time: 8:00	Received by:	Date: 3Sep15	Time: 1000	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326c v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Chain of Custody (COC) / Analytical Request Form

ALS

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1667552-COFC

COC Number: 1 - 1343-005.11

Page 1 of 3

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hemmera Environchem Inc.	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natasha Sandys	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	230 - 2237 2nd Avenue Whitehorse, YT	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	867-456-4865	Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax	nsandys@hemmera.com, rmartinka@hemmera.com	Specify Date Required for E2,E or P:
		Email 2	chris@elr.ca	

Invoice To			Invoice Distribution		
	Same as Report To	☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX	
	Copy of Invoice with Report	☐ Yes ☑ No	Email 1 or Fax	nsandys@hemmera.com	
Company:	Hemmera Environchem Inc.		Email 2	chris@elr.ca	
Contact:	Natasha Sandys				

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50588	Approver ID:	Cost Center:
Job #:	1343-005.11	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: RM, JC, AN, MM

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P Dissolved Metals, Hardness	F/P Dissolved Mercury	Nitrate, Nitrite, Total Kjeldahl N (TKN)	Cl, Fl, Sulfate, conductivity, pH, alkalinity	Anion Sum, Cation Sum, Cation/Anion Balan	P Cyanide - Weak Acid Diss., Total, Free	P Ammonia N (total), Total Organic Carbon	P Thiocyanate (SCN)	P Sulphide as S	Total Inorganic Carbon	F Dissolved Alkalinity			Number of Containers
	MW15-100	31/08/2015	12:10	Water	R	R	R	R	R	R	R	R	R	R	R			9
	FB15-100	31/08/2015	12:10	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-01	01-Sep-15	17:10	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-02	01-Sep-15	16:15	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-03	01-Sep-15	14:45	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-04	01-Sep-15	15:32	Water	R	R	R	R	R	R	R	R	R	R	R			9
	GLI.07-3	01-Sep-15	9:45	Water	R	R	R	R	R	R	R	R	R	R	R			9
	CH-P-13-05/50	01-Sep-15	10:45	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-23	01-Sep-15	12:15	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-22	01-Sep-15	11:24	Water	R	R	R	R	R	R	R	R	R	R	R			9
	GSI-DC-5B	01-Sep-15	9:15	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MP09-05	01-Sep-15	12:56	Water	R	R	R	R	R	R	R	R	R	R	R			9

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No Are samples for human drinking water use? ☐ Yes ☑ No	- See attached parameter sheet for list of full parameters and metals required.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐			SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐		Custody seal intact	Yes ☐	No ☐	
Cooling Initiated	☐						

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C		
6.6	4.7	7.1	3.3	4.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Justin Harms	Date: Sept 2, 15	Time: 8:00	Received by:	Date: Sept 15	Time: 1000	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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NA-FM-0326a v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1667552-COFC

COC Number: 1 - 1343-005.11

Page 1 of 3

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hemmera Environchem Inc.	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3-pm - business days)
Contact:	Natasha Sandys	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	230 - 2237 2nd Avenue Whitehorse, YT	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-456-4865	Email 1 or Fax	nsandys@hemmera.com, rmartinka@hemmera.com	Specify Date Required for E2,E or P:
		Email 2	chris@elr.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☐ Yes ☑ No	Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Company:	Hemmera Environchem Inc.	Email 1 or Fax	nsandys@hemmera.com
Contact:	Natasha Sandys	Email 2	chris@elr.ca

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50588	Approver ID:	Cost Center:
Job #:	1343-005.11	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: RM, JC, AN, MM

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P Dissolved Metals, Hardness	F/P Dissolved Mercury	Nitrate, Nitrite, Total Kjeldahl N (TKN)	Cl, Fl, Sulfate, conductivity, pH, alkalinity	Anion Sum, Cation Sum, Cation/Anion Balan	P Cyanide - Weak Acid Diss., Total, Free	P Ammonia N (total), Total Organic Carbon	P Thiocyanate (SCN)	P Sulphide as S	Total Inorganic Carbon	F Dissolved Alkalinity			Number of Containers
	GCI-DC-03B	31/08/2015	17:30	Water	R	R	R	R	R	R	R	R	R					7
	GCI-DC-02B	31/08/2015	10:30	Water	R	R	R	R	R									3
	GSI-HA-01A	31/08/2015	10:55	Water	R	R	R	R	R									3
	GSI-HA-03A	31/08/2015	8:41	Water	R	R	R	R	R									3
	GSI-DC-01B	31/08/2015	9:30	Water		R												1
	MW09-16	31/08/2015	12:10	Water	R	R	R	R	R	R	R	R	R	R	R			9
	GSI-HA-02A*	31/08/2015	9:50	Water	R	R	R	R	R	R	R	R	R	R	R			x9
	GSI-HA-05A*	31/08/2015	11:37	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-18	31/08/2015	16:17	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-17	31/08/2015	15:25	Water	R	R	R	R	R	R	R	R	R	R	R			9
	MW09-19	31/08/2015	17:40	Water	R	R	R	R	R	R	R	R	R	R	R			9
	GSI-HA-04A*	31/08/2015	13:40	Water	R	R	R	R	R	R	R	R	R	R	R			9

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	- See attached parameter sheet for list of full parameters and metals required.
Are samples for human drinking water use? ☐ Yes ☑ No	Heidi to send confirmation email about Sample ID # for GCI-DC-03B.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C		
6.0	4.7	7.1	3.3	4.1		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Justin Hains	Date: Sept 2/15	Time: 8:00	Received by:	Date: 3Sep15	Time: 1000	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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HA-FM-0326e v08 Front/04 January 2014

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1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.