



HEMMERA ENVIROCHEM INC.
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Date Received: 27-JUL-15
Report Date: 11-SEP-15 14:48 (MT)
Version: FINAL REV. 3

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1648323
Project P.O. #: NOT SUBMITTED
Job Reference: 1343-005.10
C of C Numbers: 1, 2
Legal Site Desc:

Comments: 11-SEP-2015 This report replaces the previous work order and contains additional parameters as requested.

Brent Mack, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1648323-1	L1648323-2	L1648323-3	L1648323-4	L1648323-5
					Water	Water	Water	Water	Water
		24-JUL-15	14:15	E1	24-JUL-15	25-JUL-15	24-JUL-15	25-JUL-15	23-JUL-15
					14:15	09:05	10:30	09:15	18:05
					E1	E1	E2	E2	E3
Grouping	Analyte								
WATER									
Physical Tests	Conductivity (uS/cm)					514		789	
	Hardness (as CaCO3) (mg/L)	263					400		444
	pH (pH)					8.07		7.87	
	Total Suspended Solids (mg/L)					<3.0		<3.0	
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	0.0164					0.0216		0.0126
	Nitrate (as N) (mg/L)					0.103		0.107	
	Nitrite (as N) (mg/L)					0.0018		0.0013	
	Phosphorus (P)-Total (mg/L)	0.0035					0.0037		0.0065
	Sulfate (SO4) (mg/L)					135		244	
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	17.0					14.2		13.5
Total Metals	Aluminum (Al)-Total (mg/L)	0.0410					0.0310		0.135
	Antimony (Sb)-Total (mg/L)	0.00040					0.00050		0.00112
	Arsenic (As)-Total (mg/L)	0.00094					0.00120		0.00145
	Barium (Ba)-Total (mg/L)	0.0560					0.0529		0.0636
	Beryllium (Be)-Total (mg/L)	<0.000020					<0.000020		<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050					<0.000050		<0.000050
	Boron (B)-Total (mg/L)	0.011					0.037		0.083
	Cadmium (Cd)-Total (mg/L)	0.0000377					0.0000602		0.0000257
	Calcium (Ca)-Total (mg/L)	56.7					76.0		76.7
	Chromium (Cr)-Total (mg/L)	0.00066					0.00074		0.00137
	Cobalt (Co)-Total (mg/L)	0.00025					0.00060		0.00028
	Copper (Cu)-Total (mg/L)	0.00300					0.00236		0.00236
	Iron (Fe)-Total (mg/L)	0.182					0.277		0.402
	Lead (Pb)-Total (mg/L)	0.000061					<0.000050		0.000139
	Lithium (Li)-Total (mg/L)	0.0029					0.0081		0.0055
	Magnesium (Mg)-Total (mg/L)	28.5					50.3		60.8
	Manganese (Mn)-Total (mg/L)	0.0584					0.0879		0.0624
	Mercury (Hg)-Total (mg/L)	0.0000065					<0.0000050		<0.0000050
	Molybdenum (Mo)-Total (mg/L)	0.00137					0.00176		0.00154
	Nickel (Ni)-Total (mg/L)	0.00606					0.0161		0.0131
	Phosphorus (P)-Total (mg/L)	<0.050					<0.050		<0.050
	Potassium (K)-Total (mg/L)	0.56					0.83		0.84
	Selenium (Se)-Total (mg/L)	0.00121					0.00129		0.00132
	Silicon (Si)-Total (mg/L)	4.09					4.49		5.98
Silver (Ag)-Total (mg/L)	<0.000010					<0.000010		<0.000010	
Sodium (Na)-Total (mg/L)	2.56					3.56		4.63	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1648323-6 Water 25-JUL-15 08:45 E3	L1648323-7 Water 24-JUL-15 15:00 E4	L1648323-8 Water 25-JUL-15 08:30 E4	L1648323-9 Water 24-JUL-15 17:30 E7	L1648323-10 Water 25-JUL-15 19:10 E8	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	840		858	817	295
	Hardness (as CaCO3) (mg/L)		431		469	120
	pH (pH)	8.12		7.87	7.93	7.95
	Total Suspended Solids (mg/L)	<3.0		<3.0	4.7	5.3
Anions and Nutrients	Ammonia, Total (as N) (mg/L)		0.0145		0.0138	0.0069
	Nitrate (as N) (mg/L)	0.0781		0.0962	0.0907	0.0464
	Nitrite (as N) (mg/L)	0.0016		0.0014	0.0011	<0.0010
	Phosphorus (P)-Total (mg/L)		0.0024		0.0041	0.0034
	Sulfate (SO4) (mg/L)	255		264	263	47.3
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)		13.2		12.9	10.4
Total Metals	Aluminum (Al)-Total (mg/L)		0.0323		0.0503	2.32
	Antimony (Sb)-Total (mg/L)		0.00056		0.00046	0.00026
	Arsenic (As)-Total (mg/L)		0.00125		0.00098	0.00254
	Barium (Ba)-Total (mg/L)		0.0526		0.0544	0.0883
	Beryllium (Be)-Total (mg/L)		<0.000020		<0.000020	0.000092
	Bismuth (Bi)-Total (mg/L)		<0.000050		<0.000050	<0.000050
	Boron (B)-Total (mg/L)		0.057		0.052	<0.010
	Cadmium (Cd)-Total (mg/L)		0.0000562		0.0000644	0.000131
	Calcium (Ca)-Total (mg/L)		80.2		80.2	31.5
	Chromium (Cr)-Total (mg/L)		0.00080		0.00080	0.00576
	Cobalt (Co)-Total (mg/L)		0.00066		0.00060	0.00254
	Copper (Cu)-Total (mg/L)		0.00208		0.00224	0.00821
	Iron (Fe)-Total (mg/L)		0.294		0.298	3.83
	Lead (Pb)-Total (mg/L)		<0.000050		0.000081	0.00213
	Lithium (Li)-Total (mg/L)		0.0120		0.0128	0.0062
	Magnesium (Mg)-Total (mg/L)		57.8		58.1	11.7
	Manganese (Mn)-Total (mg/L)		0.122		0.196	0.157
	Mercury (Hg)-Total (mg/L)		<0.0000050		<0.0000050	<0.0000050
	Molybdenum (Mo)-Total (mg/L)		0.00180		0.00159	0.000662
	Nickel (Ni)-Total (mg/L)		0.0183		0.0157	0.0105
	Phosphorus (P)-Total (mg/L)		<0.050		<0.050	0.120
	Potassium (K)-Total (mg/L)		0.97		1.05	1.44
	Selenium (Se)-Total (mg/L)		0.00106		0.000857	0.000334
	Silicon (Si)-Total (mg/L)		4.76		4.86	8.04
Silver (Ag)-Total (mg/L)		<0.000010		<0.000010	0.000052	
Sodium (Na)-Total (mg/L)		4.52		4.57	4.25	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1648323-11 Water 25-JUL-15 14:00 R1	L1648323-12 Water 25-JUL-15 10:40 R2	L1648323-13 Water 24-JUL-15 14:20 R4	L1648323-14 Water 25-JUL-15 08:30 R4	L1648323-15 Water 24-JUL-15 18:36 R6
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	795	733		846	297
	Hardness (as CaCO3) (mg/L)	411	383	418		128
	pH (pH)	7.95	7.98		8.10	7.55
	Total Suspended Solids (mg/L)	4.7	3.3		<3.0	100
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	0.0361	0.0104	0.0232		0.0138
	Nitrate (as N) (mg/L)	0.117	0.0277		0.116	0.0449
	Nitrite (as N) (mg/L)	0.0010	<0.0010		<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0028	0.0037	0.0048		0.0098
	Sulfate (SO4) (mg/L)	232	187		237	55.6
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	12.1	8.23	13.1		10.9
Total Metals	Aluminum (Al)-Total (mg/L)	0.0659	0.0568	0.0667		0.378
	Antimony (Sb)-Total (mg/L)	0.00027	0.00058	0.00047		0.00017
	Arsenic (As)-Total (mg/L)	0.00066	0.00088	0.00187		0.00076
	Barium (Ba)-Total (mg/L)	0.0566	0.0562	0.0648		0.0494
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	<0.000020		0.000026
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050		<0.000050
	Boron (B)-Total (mg/L)	0.012	0.015	<0.010		<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000937	0.0000274	0.000112		0.0000393
	Calcium (Ca)-Total (mg/L)	88.8	68.8	87.0		29.2
	Chromium (Cr)-Total (mg/L)	0.00042	0.00058	0.00058		0.00111
	Cobalt (Co)-Total (mg/L)	0.00060	0.00019	0.00083		0.00055
	Copper (Cu)-Total (mg/L)	0.00238	0.00156	0.00241		0.00350
	Iron (Fe)-Total (mg/L)	0.382	0.230	0.315		0.646
	Lead (Pb)-Total (mg/L)	0.000104	<0.000050	0.000075		0.000314
	Lithium (Li)-Total (mg/L)	0.0040	0.0067	0.0049		0.0041
	Magnesium (Mg)-Total (mg/L)	43.8	50.2	47.1		10.2
	Manganese (Mn)-Total (mg/L)	0.335	0.0895	0.203		0.0509
	Mercury (Hg)-Total (mg/L)	0.0000071	<0.0000050	<0.0000050		0.0000090
	Molybdenum (Mo)-Total (mg/L)	0.00162	0.000844	0.00138		0.000496
	Nickel (Ni)-Total (mg/L)	0.00500	0.00288	0.0136		0.00334
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050		<0.050
	Potassium (K)-Total (mg/L)	0.69	0.83	0.56		1.11
	Selenium (Se)-Total (mg/L)	0.00126	0.000832	0.00225		0.000207
Silicon (Si)-Total (mg/L)	4.69	5.57	5.16		4.84	
Silver (Ag)-Total (mg/L)	<0.000010	<0.000010	<0.000010		0.000013	
Sodium (Na)-Total (mg/L)	3.62	3.42	4.96		4.17	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

11-SEP-15 14:48 (MT)

Version: FINAL REV. 3

Sample ID Description Sampled Date Sampled Time Client ID	L1648323-16 Water 25-JUL-15 12:33 R8	L1648323-17 Water 25-JUL-15 16:30 R9	L1648323-18 Water 24-JUL-15 11:45 GWCC-5	L1648323-19 Water 25-JUL-15 09:10 GWCC-5	L1648323-20 Water 26-JUL-15 09:00 SL	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	217	589		999	1790
	Hardness (as CaCO3) (mg/L)	93.0	302	540		1070
	pH (pH)	7.56	7.64		7.43	8.29
	Total Suspended Solids (mg/L)	11.3	4.0		8.0	<3.0
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	0.0066	0.0369	0.0195		0.0103
	Nitrate (as N) (mg/L)	<0.0050	0.200		0.0141	<0.025 ^{DLA}
	Nitrite (as N) (mg/L)	<0.0010	0.0050		<0.0010	<0.0050 ^{DLA}
	Phosphorus (P)-Total (mg/L)	0.0056	0.0089	0.0103		0.0031
	Sulfate (SO4) (mg/L)	48.6	171		287	885
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	17.7	23.8	7.51		6.52
Total Metals	Aluminum (Al)-Total (mg/L)	0.147	0.0512	<0.0030		0.0052
	Antimony (Sb)-Total (mg/L)	0.00072	0.00026	0.00085		0.00302
	Arsenic (As)-Total (mg/L)	0.00050	0.00096	0.00079		0.0146
	Barium (Ba)-Total (mg/L)	0.0419	0.0984	0.0589		0.0223
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	<0.000020		<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050		<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	0.039		0.046
	Cadmium (Cd)-Total (mg/L)	0.0000589	0.0000619	0.000130		0.0000278
	Calcium (Ca)-Total (mg/L)	21.8	74.1	123		231
	Chromium (Cr)-Total (mg/L)	0.00124	0.00083	0.00059		0.00137
	Cobalt (Co)-Total (mg/L)	0.00014	0.00056	0.00020		<0.00010
	Copper (Cu)-Total (mg/L)	0.00326	0.00380	0.00086		0.00088
	Iron (Fe)-Total (mg/L)	0.288	1.38	0.075		0.011
	Lead (Pb)-Total (mg/L)	0.000145	0.000084	<0.000050		<0.000050
	Lithium (Li)-Total (mg/L)	<0.0010	<0.0010	0.0099		0.0106
	Magnesium (Mg)-Total (mg/L)	8.67	26.4	55.4		111
	Manganese (Mn)-Total (mg/L)	0.0111	0.358	0.0134		0.00227
	Mercury (Hg)-Total (mg/L)	0.0000099	<0.0000050	<0.0000050		<0.0000050
	Molybdenum (Mo)-Total (mg/L)	0.000616	0.00159	0.00206		0.00203
	Nickel (Ni)-Total (mg/L)	0.00375	0.00382	0.0192		0.0180
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050		<0.050
	Potassium (K)-Total (mg/L)	0.14	0.58	0.87		1.37
	Selenium (Se)-Total (mg/L)	0.000722	0.00156	0.00351		0.0159
	Silicon (Si)-Total (mg/L)	6.14	5.03	4.98		4.66
Silver (Ag)-Total (mg/L)	0.000015	<0.000010	<0.000010		<0.000010	
Sodium (Na)-Total (mg/L)	3.18	2.61	3.78		2.81	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1648323-21	L1648323-22	L1648323-23		
Description	Water	Water	Water		
Sampled Date	24-JUL-15	25-JUL-15	24-JUL-15		
Sampled Time	10:30	09:15	11:30		
Client ID	DUP-1	DUP-1	FB-1		
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (uS/cm)		795	<2.0	
	Hardness (as CaCO3) (mg/L)	391		<0.50	
	pH (pH)		7.83	5.40	
	Total Suspended Solids (mg/L)		<3.0	<3.0	
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	0.0203		<0.0050	
	Nitrate (as N) (mg/L)		0.109	<0.0050	
	Nitrite (as N) (mg/L)		0.0015	<0.0010	
	Phosphorus (P)-Total (mg/L)	0.0037		<0.0020	
	Sulfate (SO4) (mg/L)		244	<0.30	
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	14.3		<0.50	
Total Metals	Aluminum (Al)-Total (mg/L)	0.0511		<0.0030	
	Antimony (Sb)-Total (mg/L)	0.00049		<0.00010	
	Arsenic (As)-Total (mg/L)	0.00126		<0.00010	
	Barium (Ba)-Total (mg/L)	0.0513		<0.000050	
	Beryllium (Be)-Total (mg/L)	<0.000020		<0.000020	
	Bismuth (Bi)-Total (mg/L)	<0.000050		<0.000050	
	Boron (B)-Total (mg/L)	0.036		<0.010	
	Cadmium (Cd)-Total (mg/L)	0.0000687		<0.0000050	
	Calcium (Ca)-Total (mg/L)	68.6		<0.050	
	Chromium (Cr)-Total (mg/L)	0.00163		<0.00010	
	Cobalt (Co)-Total (mg/L)	0.00071		<0.00010	
	Copper (Cu)-Total (mg/L)	0.00245		<0.00050	
	Iron (Fe)-Total (mg/L)	0.449		<0.010	
	Lead (Pb)-Total (mg/L)	0.000150		<0.000050	
	Lithium (Li)-Total (mg/L)	0.0076		<0.0010	
	Magnesium (Mg)-Total (mg/L)	46.0		<0.10	
	Manganese (Mn)-Total (mg/L)	0.0904		<0.00010	
	Mercury (Hg)-Total (mg/L)	<0.0000050		<0.0000050	
	Molybdenum (Mo)-Total (mg/L)	0.00168		<0.000050	
	Nickel (Ni)-Total (mg/L)	0.0175		<0.00050	
	Phosphorus (P)-Total (mg/L)	<0.050		<0.050	
	Potassium (K)-Total (mg/L)	0.77		<0.10	
	Selenium (Se)-Total (mg/L)	0.00114		<0.000050	
	Silicon (Si)-Total (mg/L)	4.23		<0.050	
	Silver (Ag)-Total (mg/L)	<0.000010		<0.000010	
	Sodium (Na)-Total (mg/L)	3.44		<0.050	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1648323-1	L1648323-2	L1648323-3	L1648323-4	L1648323-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	24-JUL-15	25-JUL-15	24-JUL-15	25-JUL-15	23-JUL-15
		Sampled Time	14:15	09:05	10:30	09:15	18:05
		Client ID	E1	E1	E2	E2	E3
Grouping	Analyte						
WATER							
Total Metals	Strontium (Sr)-Total (mg/L)		0.254		0.409		0.395
	Sulfur (S)-Total (mg/L)		44.8		78.1		82.6
	Thallium (Tl)-Total (mg/L)		0.000013		0.000030		<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010		<0.00010		<0.00010
	Titanium (Ti)-Total (mg/L)		0.00088		0.00076		0.00328
	Uranium (U)-Total (mg/L)		0.00179		0.00206		0.00385
	Vanadium (V)-Total (mg/L)		0.00053		<0.00050		0.00101
	Zinc (Zn)-Total (mg/L)		<0.0030		<0.0030		<0.0030
	Zirconium (Zr)-Total (mg/L)		0.00077		0.00066		0.00069
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD		FIELD		FIELD
	Dissolved Metals Filtration Location		FIELD		FIELD		FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0326		0.0236		0.0242
	Antimony (Sb)-Dissolved (mg/L)		0.00038		0.00047		0.00105
	Arsenic (As)-Dissolved (mg/L)		0.00086		0.00108		0.00125
	Barium (Ba)-Dissolved (mg/L)		0.0548		0.0521		0.0578
	Beryllium (Be)-Dissolved (mg/L)		<0.000020		<0.000020		<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050		<0.000050		<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010		0.034		0.077
	Cadmium (Cd)-Dissolved (mg/L)		0.0000395		0.0000662		0.0000229
	Calcium (Ca)-Dissolved (mg/L)		58.3		76.9		77.0
	Chromium (Cr)-Dissolved (mg/L)		0.00053		0.00056		0.00112
	Cobalt (Co)-Dissolved (mg/L)		0.00021		0.00058		0.00021
	Copper (Cu)-Dissolved (mg/L)		0.00283		0.00229		0.00210
	Iron (Fe)-Dissolved (mg/L)		0.153		0.231		0.095
	Lead (Pb)-Dissolved (mg/L)		<0.000050		<0.000050		<0.000050
	Lithium (Li)-Dissolved (mg/L)		0.0029		0.0081		0.0054
	Magnesium (Mg)-Dissolved (mg/L)		28.4		50.5		61.0
	Manganese (Mn)-Dissolved (mg/L)		0.0492		0.0828		0.0542
	Mercury (Hg)-Dissolved (mg/L)		0.0000063		<0.0000050		<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.00134		0.00170		0.00142
	Nickel (Ni)-Dissolved (mg/L)		0.00573		0.0156		0.0127
	Phosphorus (P)-Dissolved (mg/L)		<0.050		<0.050		<0.050
	Potassium (K)-Dissolved (mg/L)		0.59		0.84		0.82
	Selenium (Se)-Dissolved (mg/L)		0.00121		0.00121		0.00129
	Silicon (Si)-Dissolved (mg/L)		4.23		4.51		5.74
	Silver (Ag)-Dissolved (mg/L)		<0.000010		<0.000010		<0.000010
	Sodium (Na)-Dissolved (mg/L)		2.45		3.62		4.59

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

11-SEP-15 14:48 (MT)

Version: FINAL REV. 3

Sample ID Description Sampled Date Sampled Time Client ID	L1648323-6 Water 25-JUL-15 08:45 E3	L1648323-7 Water 24-JUL-15 15:00 E4	L1648323-8 Water 25-JUL-15 08:30 E4	L1648323-9 Water 24-JUL-15 17:30 E7	L1648323-10 Water 25-JUL-15 19:10 E8
Grouping	Analyte				
WATER					
Total Metals	Strontium (Sr)-Total (mg/L)		0.477	0.488	0.174
	Sulfur (S)-Total (mg/L)		84.7	87.3	15.8
	Thallium (Tl)-Total (mg/L)		0.000024	0.000014	0.000035
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00107	0.00181	0.0893
	Uranium (U)-Total (mg/L)		0.00229	0.00231	0.00126
	Vanadium (V)-Total (mg/L)		0.00052	<0.00050	0.00734
	Zinc (Zn)-Total (mg/L)		<0.0030	<0.0030	0.0204
	Zirconium (Zr)-Total (mg/L)		0.00083	0.00109	0.00051
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0155	0.0121	0.0778
	Antimony (Sb)-Dissolved (mg/L)		0.00054	0.00045	0.00014
	Arsenic (As)-Dissolved (mg/L)		0.00114	0.00084	0.00052
	Barium (Ba)-Dissolved (mg/L)		0.0520	0.0550	0.0421
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		0.053	0.047	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.0000487	0.0000557	0.0000222
	Calcium (Ca)-Dissolved (mg/L)		78.7	84.1	30.7
	Chromium (Cr)-Dissolved (mg/L)		0.00060	0.00052	0.00026
	Cobalt (Co)-Dissolved (mg/L)		0.00063	0.00053	0.00022
	Copper (Cu)-Dissolved (mg/L)		0.00197	0.00202	0.00243
	Iron (Fe)-Dissolved (mg/L)		0.207	0.186	0.135
	Lead (Pb)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)		0.0124	0.0132	0.0043
	Magnesium (Mg)-Dissolved (mg/L)		57.1	62.8	10.6
	Manganese (Mn)-Dissolved (mg/L)		0.118	0.191	0.0229
	Mercury (Hg)-Dissolved (mg/L)		<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.00179	0.00163	0.000520
	Nickel (Ni)-Dissolved (mg/L)		0.0178	0.0152	0.00264
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		0.94	1.08	1.08
	Selenium (Se)-Dissolved (mg/L)		0.00116	0.000877	0.000251
	Silicon (Si)-Dissolved (mg/L)		4.70	4.95	4.60
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		4.52	4.54	4.24

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1648323-11	L1648323-12	L1648323-13	L1648323-14	L1648323-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	25-JUL-15	25-JUL-15	24-JUL-15	25-JUL-15	24-JUL-15
		Sampled Time	14:00	10:40	14:20	08:30	18:36
		Client ID	R1	R2	R4	R4	R6
Grouping	Analyte						
WATER							
Total Metals	Strontium (Sr)-Total (mg/L)		0.423	0.376	0.478		0.159
	Sulfur (S)-Total (mg/L)		77.6	62.4	74.2		15.7
	Thallium (Tl)-Total (mg/L)		<0.000010	<0.000010	<0.000010		<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010		<0.00010
	Titanium (Ti)-Total (mg/L)		0.00193	0.00201	0.00205		0.0116
	Uranium (U)-Total (mg/L)		0.00280	0.00487	0.00595		0.00100
	Vanadium (V)-Total (mg/L)		0.00052	0.00064	0.00060		0.00159
	Zinc (Zn)-Total (mg/L)		<0.0030	<0.0030	<0.0030		0.0053
	Zirconium (Zr)-Total (mg/L)		0.00068	0.00039	0.00108		0.00043
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD		FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD		FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0158	0.0130	0.0217		0.0738
	Antimony (Sb)-Dissolved (mg/L)		0.00025	0.00055	0.00044		0.00013
	Arsenic (As)-Dissolved (mg/L)		0.00057	0.00080	0.00177		0.00053
	Barium (Ba)-Dissolved (mg/L)		0.0565	0.0552	0.0626		0.0485
	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	0.012	<0.010		<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.0000859	0.0000213	0.000105		0.0000241
	Calcium (Ca)-Dissolved (mg/L)		90.2	69.5	88.5		32.5
	Chromium (Cr)-Dissolved (mg/L)		0.00021	0.00035	0.00035		0.00030
	Cobalt (Co)-Dissolved (mg/L)		0.00054	0.00015	0.00079		0.00028
	Copper (Cu)-Dissolved (mg/L)		0.00223	0.00143	0.00219		0.00257
	Iron (Fe)-Dissolved (mg/L)		0.255	0.156	0.214		0.163
	Lead (Pb)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050		<0.000050
	Lithium (Li)-Dissolved (mg/L)		0.0041	0.0067	0.0049		0.0042
	Magnesium (Mg)-Dissolved (mg/L)		45.0	50.7	48.0		11.5
	Manganese (Mn)-Dissolved (mg/L)		0.339	0.0869	0.197		0.0424
	Mercury (Hg)-Dissolved (mg/L)		0.0000053	<0.0000050	<0.0000050		<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.00164	0.000802	0.00139		0.000462
	Nickel (Ni)-Dissolved (mg/L)		0.00478	0.00276	0.0131		0.00249
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050		<0.050
	Potassium (K)-Dissolved (mg/L)		0.67	0.84	0.56		1.17
	Selenium (Se)-Dissolved (mg/L)		0.00137	0.000797	0.00240		0.000199
	Silicon (Si)-Dissolved (mg/L)		4.65	5.53	5.14		4.73
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010		<0.000010
	Sodium (Na)-Dissolved (mg/L)		3.63	3.36	5.04		4.26

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1648323-16 Water 25-JUL-15 12:33 R8	L1648323-17 Water 25-JUL-15 16:30 R9	L1648323-18 Water 24-JUL-15 11:45 GWCC-5	L1648323-19 Water 25-JUL-15 09:10 GWCC-5	L1648323-20 Water 26-JUL-15 09:00 SL
Grouping	Analyte				
WATER					
Total Metals	Strontium (Sr)-Total (mg/L)	0.0912	0.275	0.730	1.09
	Sulfur (S)-Total (mg/L)	15.7	57.7	98.0	260
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	0.000026	0.000017
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.00251	0.00177	<0.00030	<0.00030
	Uranium (U)-Total (mg/L)	0.000072	0.000779	0.00221	0.00407
	Vanadium (V)-Total (mg/L)	0.00068	0.00085	<0.00050	<0.00050
	Zinc (Zn)-Total (mg/L)	0.0035	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	0.00064	0.00096	<0.00030	<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)	0.0458	0.0367	0.0019	0.0024
	Antimony (Sb)-Dissolved (mg/L)	0.00068	0.00025	0.00081	0.00299
	Arsenic (As)-Dissolved (mg/L)	0.00037	0.00089	0.00075	0.0148
	Barium (Ba)-Dissolved (mg/L)	0.0387	0.0991	0.0574	0.0227
	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	0.035	0.044
	Cadmium (Cd)-Dissolved (mg/L)	0.0000376	0.0000577	0.000112	0.0000325
	Calcium (Ca)-Dissolved (mg/L)	22.5	75.8	124	241
	Chromium (Cr)-Dissolved (mg/L)	0.00101	0.00075	0.00047	0.00099
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	0.00055	0.00018	<0.00010
	Copper (Cu)-Dissolved (mg/L)	0.00239	0.00374	0.00081	0.00084
	Iron (Fe)-Dissolved (mg/L)	0.066	1.17	0.061	<0.010
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	0.0099	0.0109
	Magnesium (Mg)-Dissolved (mg/L)	8.93	27.3	55.6	114
	Manganese (Mn)-Dissolved (mg/L)	0.00560	0.367	0.0128	0.00207
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.000513	0.00156	0.00192	0.00205
	Nickel (Ni)-Dissolved (mg/L)	0.00337	0.00381	0.0191	0.0178
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	<0.10	0.55	0.85	1.42
	Selenium (Se)-Dissolved (mg/L)	0.000722	0.00159	0.00357	0.0169
	Silicon (Si)-Dissolved (mg/L)	6.20	5.13	5.02	4.86
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	3.27	2.67	3.74	2.74

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1648323-21 Water 24-JUL-15 10:30 DUP-1	L1648323-22 Water 25-JUL-15 09:15 DUP-1	L1648323-23 Water 24-JUL-15 11:30 FB-1	
Grouping	Analyte				
WATER					
Total Metals	Strontium (Sr)-Total (mg/L)	0.384		<0.00020	
	Sulfur (S)-Total (mg/L)	74.6		<0.50	
	Thallium (Tl)-Total (mg/L)	0.000029		<0.000010	
	Tin (Sn)-Total (mg/L)	<0.00010		<0.00010	
	Titanium (Ti)-Total (mg/L)	0.00135		<0.00030	
	Uranium (U)-Total (mg/L)	0.00198		<0.000010	
	Vanadium (V)-Total (mg/L)	0.00057		<0.00050	
	Zinc (Zn)-Total (mg/L)	<0.0030		<0.0030	
	Zirconium (Zr)-Total (mg/L)	0.00065		<0.00030	
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD		FIELD	
	Dissolved Metals Filtration Location	FIELD		FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.0214		<0.0010	
	Antimony (Sb)-Dissolved (mg/L)	0.00047		<0.00010	
	Arsenic (As)-Dissolved (mg/L)	0.00109		<0.00010	
	Barium (Ba)-Dissolved (mg/L)	0.0522		<0.000050	
	Beryllium (Be)-Dissolved (mg/L)	<0.000020		<0.000020	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050		<0.000050	
	Boron (B)-Dissolved (mg/L)	0.034		<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.0000572		<0.0000050	
	Calcium (Ca)-Dissolved (mg/L)	74.2		<0.050	
	Chromium (Cr)-Dissolved (mg/L)	0.00052		<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	0.00055		<0.00010	
	Copper (Cu)-Dissolved (mg/L)	0.00222		<0.00020	
	Iron (Fe)-Dissolved (mg/L)	0.222		<0.010	
	Lead (Pb)-Dissolved (mg/L)	<0.000050		<0.000050	
	Lithium (Li)-Dissolved (mg/L)	0.0080		<0.0010	
	Magnesium (Mg)-Dissolved (mg/L)	49.9		<0.10	
	Manganese (Mn)-Dissolved (mg/L)	0.0792		<0.00010	
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050		<0.0000050	
	Molybdenum (Mo)-Dissolved (mg/L)	0.00171		<0.000050	
	Nickel (Ni)-Dissolved (mg/L)	0.0152		<0.00050	
	Phosphorus (P)-Dissolved (mg/L)	<0.050		<0.050	
	Potassium (K)-Dissolved (mg/L)	0.82		<0.10	
	Selenium (Se)-Dissolved (mg/L)	0.00124		<0.000050	
	Silicon (Si)-Dissolved (mg/L)	4.50		<0.050	
	Silver (Ag)-Dissolved (mg/L)	<0.000010		<0.000010	
	Sodium (Na)-Dissolved (mg/L)	3.47		<0.050	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

11-SEP-15 14:48 (MT)

Version: FINAL REV. 3

Sample ID Description Sampled Date Sampled Time Client ID	L1648323-1 Water 24-JUL-15 14:15 E1	L1648323-2 Water 25-JUL-15 09:05 E1	L1648323-3 Water 24-JUL-15 10:30 E2	L1648323-4 Water 25-JUL-15 09:15 E2	L1648323-5 Water 23-JUL-15 18:05 E3
Grouping	Analyte				
WATER					
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.256		0.407	0.387
	Sulfur (S)-Dissolved (mg/L)	45.2		78.6	82.7
	Thallium (Tl)-Dissolved (mg/L)	0.000012		0.000028	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00010		<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	0.00063		0.00057	0.00053
	Uranium (U)-Dissolved (mg/L)	0.00172		0.00199	0.00379
	Vanadium (V)-Dissolved (mg/L)	<0.00050		<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.0013		0.0016	<0.0010
	Zirconium (Zr)-Dissolved (mg/L)	0.00081		0.00070	0.00062
Speciated Metals	Chromium (III)-Dissolved (mg/L)				0.00112
	Chromium (III)-Total (mg/L)				0.00137
	Hexavalent Chromium (mg/L)				<0.0010
	Hexavalent Chromium-Dissolved (mg/L)				<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1648323-6	L1648323-7	L1648323-8	L1648323-9	L1648323-10
					Water	Water	Water	Water	Water
		25-JUL-15	08:45	E3	25-JUL-15	24-JUL-15	25-JUL-15	24-JUL-15	25-JUL-15
					08:45	15:00	08:30	17:30	19:10
					E3	E4	E4	E7	E8
Grouping	Analyte								
WATER									
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)					0.481		0.499	0.166
	Sulfur (S)-Dissolved (mg/L)					85.9		91.0	16.0
	Thallium (Tl)-Dissolved (mg/L)					0.000024		0.000014	<0.000010
	Tin (Sn)-Dissolved (mg/L)					<0.00010		<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)					<0.00030		<0.00030	0.00051
	Uranium (U)-Dissolved (mg/L)					0.00225		0.00232	0.000938
	Vanadium (V)-Dissolved (mg/L)					<0.00050		<0.00050	0.00059
	Zinc (Zn)-Dissolved (mg/L)					<0.0010		0.0012	0.0020
	Zirconium (Zr)-Dissolved (mg/L)					0.00088		0.00104	0.00049
Speciated Metals	Chromium (III)-Dissolved (mg/L)								
	Chromium (III)-Total (mg/L)								0.00576
	Hexavalent Chromium (mg/L)								<0.0010
	Hexavalent Chromium-Dissolved (mg/L)								

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1648323-11 Water 25-JUL-15 14:00 R1	L1648323-12 Water 25-JUL-15 10:40 R2	L1648323-13 Water 24-JUL-15 14:20 R4	L1648323-14 Water 25-JUL-15 08:30 R4	L1648323-15 Water 24-JUL-15 18:36 R6
Grouping	Analyte					
WATER						
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.432	0.373	0.480		0.168
	Sulfur (S)-Dissolved (mg/L)	78.7	63.4	76.1		17.3
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010		<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010		<0.00010
	Titanium (Ti)-Dissolved (mg/L)	0.00036	0.00033	0.00057		0.00057
	Uranium (U)-Dissolved (mg/L)	0.00287	0.00475	0.00595		0.000930
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050		0.00064
	Zinc (Zn)-Dissolved (mg/L)	0.0012	<0.0010	0.0020		0.0023
	Zirconium (Zr)-Dissolved (mg/L)	0.00074	0.00040	0.00120		0.00054
Speciated Metals	Chromium (III)-Dissolved (mg/L)					
	Chromium (III)-Total (mg/L)					0.00111
	Hexavalent Chromium (mg/L)					<0.0010
	Hexavalent Chromium-Dissolved (mg/L)					

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1648323-16 Water 25-JUL-15 12:33 R8	L1648323-17 Water 25-JUL-15 16:30 R9	L1648323-18 Water 24-JUL-15 11:45 GWCC-5	L1648323-19 Water 25-JUL-15 09:10 GWCC-5	L1648323-20 Water 26-JUL-15 09:00 SL
Grouping	Analyte					
WATER						
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.0935	0.272	0.698		1.10
	Sulfur (S)-Dissolved (mg/L)	16.1	58.9	97.3		267
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	0.000024		0.000017
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010		<0.00010
	Titanium (Ti)-Dissolved (mg/L)	0.00065	0.00135	<0.00030		<0.00030
	Uranium (U)-Dissolved (mg/L)	0.000049	0.000768	0.00217		0.00411
	Vanadium (V)-Dissolved (mg/L)	<0.00050	0.00063	<0.00050		<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.0015	<0.0010	<0.0010		<0.0010
	Zirconium (Zr)-Dissolved (mg/L)	0.00073	0.00099	<0.00030		<0.00030
Speciated Metals	Chromium (III)-Dissolved (mg/L)	0.00101				
	Chromium (III)-Total (mg/L)	0.00124				0.00137
	Hexavalent Chromium (mg/L)	<0.0010				<0.0010
	Hexavalent Chromium-Dissolved (mg/L)	<0.0010				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1648323-21 Water 24-JUL-15 10:30 DUP-1	L1648323-22 Water 25-JUL-15 09:15 DUP-1	L1648323-23 Water 24-JUL-15 11:30 FB-1	
Grouping	Analyte				
WATER					
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.405		<0.00020	
	Sulfur (S)-Dissolved (mg/L)	80.2		<0.50	
	Thallium (Tl)-Dissolved (mg/L)	0.000029		<0.000010	
	Tin (Sn)-Dissolved (mg/L)	<0.00010		<0.00010	
	Titanium (Ti)-Dissolved (mg/L)	0.00041		<0.00030	
	Uranium (U)-Dissolved (mg/L)	0.00199		<0.000010	
	Vanadium (V)-Dissolved (mg/L)	<0.00050		<0.00050	
	Zinc (Zn)-Dissolved (mg/L)	0.0010		<0.0010	
	Zirconium (Zr)-Dissolved (mg/L)	0.00070		<0.00030	
Speciated Metals	Chromium (III)-Dissolved (mg/L)				
	Chromium (III)-Total (mg/L)	0.00163			
	Hexavalent Chromium (mg/L)	<0.0010			
	Hexavalent Chromium-Dissolved (mg/L)				

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

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Beryllium (Be)-Dissolved	DLA	L1648323-15
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1648323-15
Duplicate	Cadmium (Cd)-Dissolved	DLA	L1648323-15
Duplicate	Chromium (Cr)-Dissolved	DLA	L1648323-15
Duplicate	Copper (Cu)-Dissolved	DLA	L1648323-15
Duplicate	Nickel (Ni)-Dissolved	DLA	L1648323-15
Duplicate	Silver (Ag)-Dissolved	DLA	L1648323-15
Duplicate	Tin (Sn)-Dissolved	DLA	L1648323-15
Duplicate	Titanium (Ti)-Dissolved	DLA	L1648323-15
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1648323-15
Duplicate	Antimony (Sb)-Dissolved	DLA	L1648323-15
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1648323-15
Duplicate	Cadmium (Cd)-Dissolved	DLA	L1648323-15
Duplicate	Chromium (Cr)-Dissolved	DLA	L1648323-15
Duplicate	Cobalt (Co)-Dissolved	DLA	L1648323-15
Duplicate	Copper (Cu)-Dissolved	DLA	L1648323-15
Duplicate	Lead (Pb)-Dissolved	DLA	L1648323-15
Duplicate	Nickel (Ni)-Dissolved	DLA	L1648323-15
Duplicate	Selenium (Se)-Dissolved	DLA	L1648323-15
Duplicate	Silver (Ag)-Dissolved	DLA	L1648323-15
Duplicate	Thallium (Tl)-Dissolved	DLA	L1648323-15
Duplicate	Tin (Sn)-Dissolved	DLA	L1648323-15
Duplicate	Titanium (Ti)-Dissolved	DLA	L1648323-15
Duplicate	Vanadium (V)-Dissolved	DLA	L1648323-15
Duplicate	Zinc (Zn)-Dissolved	DLA	L1648323-15
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1648323-15
Duplicate	Beryllium (Be)-Dissolved	DLA	L1648323-15
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1648323-15
Duplicate	Chromium (Cr)-Dissolved	DLA	L1648323-15
Duplicate	Cobalt (Co)-Dissolved	DLA	L1648323-15
Duplicate	Nickel (Ni)-Dissolved	DLA	L1648323-15
Duplicate	Titanium (Ti)-Dissolved	DLA	L1648323-15
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1648323-15
Matrix Spike	Sulfate (SO4)	MS-B	L1648323-10, -11, -12, -14, -15, -16, -17, -19, -2, -20, -22, -23, -4, -6, -8, -9
Matrix Spike	Dissolved Organic Carbon	MS-B	L1648323-10, -11, -12, -13, -15, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Dissolved Organic Carbon	MS-B	L1648323-10, -11, -12, -13, -15, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Copper (Cu)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23,

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Strontium (Sr)-Total	MS-B	-3, -5, -7, -9 L1648323-15, -16, -17, -18, -20, -21, -23
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1648323-1, -10, -11, -12, -13, -16, -17, -18, -20, -21, -23, -3, -5, -7, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1648323-15
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1648323-15
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1648323-15
Matrix Spike	Arsenic (As)-Dissolved	MS-B	L1648323-15
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1648323-15
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1648323-15
Matrix Spike	Antimony (Sb)-Dissolved	MS-B	L1648323-15
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1648323-15
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1648323-15
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1648323-15
Matrix Spike	Antimony (Sb)-Dissolved	MS-B	L1648323-15
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1648323-15
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1648323-15
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1648323-15
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1648323-15
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1648323-15
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1648323-15
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1648323-15
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1648323-15
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1648323-15
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1648323-15
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1648323-15
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1648323-15
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1648323-15
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1648323-15
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1648323-15
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1648323-15
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1648323-15
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1648323-15
Matrix Spike	Zinc (Zn)-Dissolved	MS-B	L1648323-15

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

Reference Information

ALS Test Code	Matrix	Test Description	Method Reference**
BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS 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.	APHA 3030B/6020A (mod)
BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS 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.	EPA 200.2/6020A (mod)
CARBONS-DOC-VA	Water	Dissolved organic carbon by combustion This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". Dissolved carbon (DOC) fractions are determined by filtering the sample through a 0.45 micron membrane filter prior to analysis.	APHA 5310B TOTAL ORGANIC CARBON (TOC)
CR-CR3-DIS-CALC-ED	Water	Dissolved Trivalent Chromium in Water Chromium (III)-Dissolved is calculated as the difference between the dissolved chromium and the dissolved hexavalent chromium (Cr(VI)) results.	CALCULATION
CR-CR3-ED	Water	Chromium, Trivalent (Cr +3) Chromium (III) is calculated as the difference between Total Chromium and Chromium (VI) results.	Total Dissolved Cr - Cr(+6)
CR-CR3-TOT-CALC-ED	Water	Total Trivalent Chromium in Water Chromium (III)-Total is calculated as the difference between the total chromium and the hexavalent chromium (Cr(VI)) results.	CALCULATION
CR-CR6-ED	Water	Chromium, Hexavalent (Cr +6) This analysis is carried out using procedures adapted from method 3500-Cr C in "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from Method 1636 published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution. Results are based on an un-filtered, field-preserved sample.	APHA 3500-Cr C (Ion Chromatography)
CR6-D-IC-ED	Water	Chromium, Dissolved Hexavalent (Cr +6) This analysis is carried out using procedures adapted from method 3500-Cr C in "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from Method 1636 published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution. Results are based on a field-filtered, field-preserved sample.	APHA 3500-Cr C (Ion Chromatography)
EC-MAN-WR	Water	Conductivity by Meter This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using an electrode.	APHA 2510 (B)
ETL-CR3DIS-ED	Water	Chromium, Total Dissolved for Speciation	APHA 3120 B-ICP-OES
HARDNESS-CALC-VA	Water	Hardness 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.	APHA 2340B
HG-D-CVAA-VA	Water	Diss. Mercury in Water by CVAAS or CVAFS 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.	APHA 3030B/EPA 1631E (mod)
HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.	EPA 1631E (mod)
MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS 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.	APHA 3030B/6020A (mod)
MET-DIS-LOW-ICP-VA	Water	Dissolved Metals in Water by ICPOES 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).	EPA 3005A/6010B
MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Reference Information

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.

MET-TOT-LOW-ICP-VA	Water	Total Metals in Water by ICPOES	EPA 3005A/6010B
<p>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).</p>			
NH3-F-VA	Water	Ammonia in Water by Fluorescence	APHA 4500 NH3-NITROGEN (AMMONIA)
<p>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.</p>			
NH3-F-VA	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC
<p>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.</p>			
NO2-L-IC-N-WR	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
NO3-L-IC-N-WR	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
P-T-PRES-COL-VA	Water	Total P in Water by Colour	APHA 4500-P Phosphorus
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.</p>			
PH-MAN-WR	Water	pH by Meter	APHA 4500-H+
<p>pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 – 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.</p>			
S-DIS-ICP-VA	Water	Dissolved Sulfur in Water by ICPOES	EPA SW-846 3005A/6010B
<p>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).</p>			
<p>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.</p>			
S-TOT-ICP-VA	Water	Total Sulfur in Water by ICPOES	EPA SW-846 3005A/6010B
<p>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).</p>			
<p>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.</p>			
SO4-IC-N-WR	Water	Sulfate in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
TSS-MAN-WR	Water	Total Suspended Solids by Gravimetric	APHA 2540 D
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids are determined by filtering a sample through a glass fibre filter and drying the filter at 104 degrees celsius.</p>			

** 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
----------------------------	---------------------

Reference Information

Chain of Custody Numbers:

1

2

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 ww - 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

Canada Toll Free: 1 800 668 9878



L1648323-COFC

COC Number: 1 -

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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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> 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			Analysis Request											

Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX			F/P P P F/P P F/P											
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Email 1 or Fax nsandys@hemmera.com			Low Level Diss. Met (incl. Hg) and Hardness											
Company: Hemmera Environchem Inc.		Email 2 chris@elr.ca			Low Level Tot. Met (incl. Hg) and Hardness											
Contact: Natasha Sandys					Chromium Speciation (III/VI) - Total											
Project Information		Oil and Gas Required Fields (client use)			Chromium Speciation (III/VI) - Dissolved											
ALS Quote #: Q61108		Approver ID:			Ammonia - N											
Job #: 1343-005.10		GL Account:			Dissolved Organic Carbon (DOC)											
PO / AFE:		Routing Code:			Nitrate-N											
LSD:		Activity Code:			Nitrite - N											
		Location:			Total Phosphorus											
ALS Lab Work Order # (lab use only)		ALS Contact:			Sulphate											
		Sampler: AN/CH			pH, Conductivity, Total Susp Solids											
					Number of Containers											

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	Low Level Diss. Met (incl. Hg) and Hardness	Low Level Tot. Met (incl. Hg) and Hardness	Chromium Speciation (III/VI) - Total	Chromium Speciation (III/VI) - Dissolved	Ammonia - N	Dissolved Organic Carbon (DOC)	Nitrate-N	Nitrite - N	Total Phosphorus	Sulphate	pH, Conductivity, Total Susp Solids	Number of Containers
E1		24-Jul-15	14:15	Water	R	R			R	R						8
E1		25-Jul-15	9:05	Water						R	R	R	R	R		1
E2		24-Jul-15	10:30	Water	R	R			R	R						8
E2		25-Jul-15	9:15	Water						R	R	R	R	R		1
E3		23-Jul-15	18:05	Water	R	R			R	R						8
E3		25-Jul-15	8:45	Water						R	R	R	R	R		1
E4		24-Jul-15	15:00	Water	R	R			R	R						8
E4		25-Jul-15	8:30	Water						R	R	R	R	R		1
E7		24-Jul-15	17:30	Water	R	R			R	R	R	R	R	R	R	9
E8		25-Jul-15	19:10	Water	R	R			R	R	R	R	R	R	R	9
R1		25-Jul-15	14:00	Water	R	R			R	R	R	R	R	R	R	9
R2		25-Jul-15	10:40	Water	R	R			R	R	R	R	R	R	R	9

Drinking Water (DW) Samples¹ (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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Please hold samples for total and dissolved Chromium III/VI pending regular metals analysis results.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>												
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>												
					Cooling Initiated <input type="checkbox"/>												
					INITIAL COOLER TEMPERATURES °C												
					FINAL COOLER TEMPERATURES °C												
					5.6 5.1 4.5												
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by: Chris Jastyn		Date: 2/27/15		Time: 11:05		Received by: [Signature]		Date: 2/27-15		Time: 11:05		Received by:		Date:		Time:	



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1648323-COFC

COC Number: 1 -

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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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)																	
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT																	
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT																	
Phone: 867-456-4865			Select Distribution: <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge																	
Email 1 or Fax nsandys@hemmera.com, rmartinka@hemmera.com			Email 1 or Fax nsandys@hemmera.com			Specify Date Required for E2,E or P:																	
Email 2 chris@elr.ca			Email 2 chris@elr.ca			Analysis Request																	
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																	
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> 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 #: Q51108			Approver ID: _____ Cost Center: _____																				
Job #: 1343-005.10			GL Account: _____ Routing Code: _____																				
PO / AFE:			Activity Code:																				
LSD:			Location:																				
ALS Lab Work Order # (lab use only)			ALS Contact:			Sampler:			AN/CH														
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	Low Level Diss. Met (incl. Hg) and Hardness	Low Level Tot. Met (incl. Hg) and Hardness	Chromium Speciation (III/VI) - Total	Chromium Speciation (III/VI) - Dissolved	Ammonia - N	Dissolved Organic Carbon (DOC)	Nitrate-N	Nitrite - N	Total Phosphorus	Sulphate	pH, Conductivity, Total Susp Solids	Number of Containers					
R4				24-Jul-15	14:20	Water	R	R			R	R						8					
R4				25-Jul-15	8:30	Water							R	R	R	R	R	1					
R6				24-Jul-15	18:36	Water	R	R			R	R	R	R	R	R	R	9					
R8				25-Jul-15	12:33	Water	R	R			R	R	R	R	R	R	R	9					
R9				25-Jul-15	16:30	Water	R	R			R	R	R	R	R	R	R	9					
GWCC-5				24-Jul-15	11:45	Water	R	R			R	R						8					
GWCC-5				25-Jul-15	9:10	Water							R	R	R	R	R	1					
SL				26-Jul-15	9:00	Water	R	R			R	R	R	R	R	R	R	9					
Dup-1				24-Jul-15	10:30	Water	R	R			R	R						8					
Dup-1				25-Jul-15	9:15	Water							R	R	R	R	R	1					
FB-1				24-Jul-15	11:30	Water	R	R			R	R	R	R	R	R	R	9					
Drinking Water (DW) Samples¹ (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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Please hold samples for total and dissolved Chromium III/VI pending regular metals analysis results.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>																	
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>																	
						Cooling Initiated <input type="checkbox"/>						INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C					
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																	
Released by: <i>Chris Jastrebh</i>	Date: <i>Jul 15</i>	Time: <i>11:05</i>	Received by:	Date:	Time:	Received by:	Date:	Time:															