



HEMMERA ENVIROCHEM INC.
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Date Received: 11-OCT-14
Report Date: 24-OCT-14 10:41 (MT)
Version: FINAL

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1531711
Project P.O. #: NOT SUBMITTED
Job Reference: 1343-005.05
C of C Numbers: 1, 2
Legal Site Desc:

Brent Mack, B.Sc.
Account Manager

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ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1531711-6 Water 10-OCT-14 12:59 GSI-DC-10B	L1531711-7 Water 10-OCT-14 11:59 GSI-DC-09B	L1531711-8 Water 10-OCT-14 09:02 MW09-07	L1531711-9 Water 10-OCT-14 11:50 GSI-DC-07B	L1531711-10 Water 10-OCT-14 15:13 CH-P-13-01/10
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	1050	411	1780	525	1030
	Hardness (as CaCO3) (mg/L)	548	194	971	261	624
	pH (pH)	6.83	7.40	7.40	7.75	8.17
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	138	81.0	212	149	167
	Ammonia, Total (as N) (mg/L)	1.61	1.74 ^{RRV}	2.00	1.39	0.0209
	Chloride (Cl) (mg/L)	<5.0 ^{DLA}	<0.50	<5.0 ^{DLA}	0.56	2.5 ^{DLA}
	Fluoride (F) (mg/L)	<0.20 ^{DLA}	0.054	<0.20 ^{DLA}	0.081	<0.10 ^{DLA}
	Nitrate (as N) (mg/L)	<0.050 ^{DLA}	<0.0050	<0.050 ^{DLA}	<0.0050	0.259 ^{DLA}
	Nitrite (as N) (mg/L)	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0050 ^{DLA}
	Total Kjeldahl Nitrogen (mg/L)	2.80	2.61	3.65	1.87	0.472
	Sulfate (SO4) (mg/L)	496	128	893	135	437
	Sulphide as S (mg/L)	0.024	<0.020	0.54	0.024	
	Anion Sum (meq/L)	13.1	4.28	22.8	5.80	12.5
	Cation Sum (meq/L)	16.3	5.28	22.6	6.76	13.0
	Cation - Anion Balance (%)	11.0	10.4	-0.6	7.7	1.7
	Cyanides	Cyanide, Weak Acid Diss (mg/L)	<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	
Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)	25.4	16.1	42.2	30.2	
	Total Organic Carbon (mg/L)	35.2	21.2	29.8	18.1	12.4
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 Description Sampled Date Sampled Time Client ID	L1531711-17 Water 10-OCT-14 12:59 GSI-DC-10B DISSOLVED METALS TEST	L1531711-18 Water 10-OCT-14 13:15 MP09-09 DISSOLVED METALS TEST	L1531711-19 Water 10-OCT-14 10:20 GSI-DC-06B DISSOLVED METALS TEST		
Grouping					
Analyte					
WATER					
Physical Tests					
Conductivity (uS/cm)					
Hardness (as CaCO3) (mg/L)	555	213	749		
pH (pH)					
Anions and Nutrients					
Alkalinity, Total (as CaCO3) (mg/L)					
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 Description Sampled Date Sampled Time Client ID	L1531711-1 Water 10-OCT-14 10:20 GSI-DC-06B	L1531711-2 Water 10-OCT-14 10:20 FB4	L1531711-3 Water 10-OCT-14 11:10 GSI-DC-08B	L1531711-4 Water 09-OCT-14 17:45 CH-P-13-03/50	L1531711-5 Water 10-OCT-14 14:30 CH-P-13-04/10
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)					
Dissolved Metals	Dissolved Mercury Filtration Location	NA	NA	NA	NA	NA
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0169	<0.0010	0.394	0.0065	0.0033
	Antimony (Sb)-Dissolved (mg/L)	0.00029	<0.00010	0.00185	0.00103	0.00107
	Arsenic (As)-Dissolved (mg/L)	0.326	<0.00010	0.0945	0.00195	0.00128
	Barium (Ba)-Dissolved (mg/L)	0.240	<0.000050	0.180	0.0623	0.0317
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.0010 ^{DLA}	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	0.110	<0.020 ^{DLA}	0.019
	Cadmium (Cd)-Dissolved (mg/L)	<0.000010	<0.000010	0.000038	0.000192	0.000674
	Calcium (Ca)-Dissolved (mg/L)	177	<0.050	154	455	107
	Chromium (Cr)-Dissolved (mg/L)	0.00181	<0.00010	0.0737	<0.00020 ^{DLA}	0.00027
	Cobalt (Co)-Dissolved (mg/L)	0.00220	<0.00010	0.0190	0.0213	0.0122
	Copper (Cu)-Dissolved (mg/L)	0.00052	<0.00020	0.00179	0.00068	0.00210
	Iron (Fe)-Dissolved (mg/L)	23.2	<0.010	125	1.05	0.146
	Lead (Pb)-Dissolved (mg/L)	0.000059	<0.000050	0.00180	<0.00010 ^{DLA}	0.000098
	Lithium (Li)-Dissolved (mg/L)	<0.00050	<0.00050	0.00129	0.0037	0.0113
	Magnesium (Mg)-Dissolved (mg/L)	71.0	<0.10	42.6	166	66.2

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1531711-6 Water 10-OCT-14 12:59 GSI-DC-10B	L1531711-7 Water 10-OCT-14 11:59 GSI-DC-09B	L1531711-8 Water 10-OCT-14 09:02 MW09-07	L1531711-9 Water 10-OCT-14 11:50 GSI-DC-07B	L1531711-10 Water 10-OCT-14 15:13 CH-P-13-01/10
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)					
Dissolved Metals	Dissolved Mercury Filtration Location	NA	NA	NA	NA	NA
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.142	0.0477	0.0491	0.0103	0.0087
	Antimony (Sb)-Dissolved (mg/L)	0.00035	0.00021	0.00568	0.00017	0.00220
	Arsenic (As)-Dissolved (mg/L)	0.130	0.0453	0.556	0.144	0.00206
	Barium (Ba)-Dissolved (mg/L)	0.424	0.0341	0.0220	0.0715	0.0635
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050	<0.0010 ^{DLA}	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	0.012	0.058	0.011	0.017
	Cadmium (Cd)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000010	0.000223	<0.000010	0.000168
	Calcium (Ca)-Dissolved (mg/L)	152	49.7	297	73.7	150
	Chromium (Cr)-Dissolved (mg/L)	0.00231	0.00086	0.00096	0.00045	0.00018
	Cobalt (Co)-Dissolved (mg/L)	0.0215	0.00096	0.0264	0.00155	0.00048
	Copper (Cu)-Dissolved (mg/L)	0.00097	<0.00020	0.00606	<0.00020	0.0101
	Iron (Fe)-Dissolved (mg/L)	68.7	14.2	9.16	14.3	0.057
	Lead (Pb)-Dissolved (mg/L)	0.00014	<0.000050	<0.00010 ^{DLA}	<0.000050	0.000217
	Lithium (Li)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050	0.0029	0.00110	0.00325
	Magnesium (Mg)-Dissolved (mg/L)	40.7	16.9	55.7	18.8	60.9

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1531711-11 Water 10-OCT-14 13:15 MP09-09	L1531711-12 Water 10-OCT-14 14:00 MP09-10	L1531711-13 Water 10-OCT-14 11:50 DUP6	L1531711-15 Water 11-OCT-14 TRIP BLANK 1	L1531711-16 Water 11-OCT-14 TRIP BLANK 2
Grouping	Analyte					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)				<0.10	<0.10
	Manganese (Mn)-Total (mg/L)				<0.000050	<0.000050
	Mercury (Hg)-Total (mg/L)				<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)				<0.000050	<0.000050
	Nickel (Ni)-Total (mg/L)				<0.00050	<0.00050
	Phosphorus (P)-Total (mg/L)				<0.050	<0.050
	Potassium (K)-Total (mg/L)				<0.10	<0.10
	Selenium (Se)-Total (mg/L)				<0.00010	<0.00010
	Silicon (Si)-Total (mg/L)				<0.050	<0.050
	Silver (Ag)-Total (mg/L)				<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)				<0.050	<0.050
	Strontium (Sr)-Total (mg/L)				<0.00020	<0.00020
	Sulfur (S)-Total (mg/L)				<0.50	<0.50
	Thallium (Tl)-Total (mg/L)				<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)				<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)				<0.010	<0.010
	Uranium (U)-Total (mg/L)				<0.000010	<0.000010
	Vanadium (V)-Total (mg/L)				<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)				<0.0030	<0.0030
Dissolved Metals	Dissolved Mercury Filtration Location	NA	NA	NA		
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD		
	Aluminum (Al)-Dissolved (mg/L)	0.0041	0.0037	0.0102		
	Antimony (Sb)-Dissolved (mg/L)	0.101	0.0951	0.00015		
	Arsenic (As)-Dissolved (mg/L)	20.6	9.93	0.150		
	Barium (Ba)-Dissolved (mg/L)	0.00174	0.000633	0.0698		
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	<0.00010		
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050	<0.00050		
	Boron (B)-Dissolved (mg/L)	0.306	0.307	0.013		
	Cadmium (Cd)-Dissolved (mg/L)	0.000322	0.000287	<0.000010		
	Calcium (Ca)-Dissolved (mg/L)	85.8	103	73.5		
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	0.00036		
	Cobalt (Co)-Dissolved (mg/L)	0.0458	0.0447	0.00153		
	Copper (Cu)-Dissolved (mg/L)	0.714	0.215	0.00060		
	Iron (Fe)-Dissolved (mg/L)	0.214	0.279	14.1		
	Lead (Pb)-Dissolved (mg/L)	0.00099	0.000806	<0.000050		
	Lithium (Li)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050	0.00092		
	Magnesium (Mg)-Dissolved (mg/L)	0.41	0.76	18.6		

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1531711-17 Water 10-OCT-14 12:59 GSI-DC-10B DISSOLVED METALS TEST	L1531711-18 Water 10-OCT-14 13:15 MP09-09 DISSOLVED METALS TEST	L1531711-19 Water 10-OCT-14 10:20 GSI-DC-06B DISSOLVED METALS TEST	
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)				
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.134	0.0051	0.0155	
	Antimony (Sb)-Dissolved (mg/L)	0.00033	0.0987	0.00026	
	Arsenic (As)-Dissolved (mg/L)	0.107	20.7	0.342	
	Barium (Ba)-Dissolved (mg/L)	0.408	0.00146	0.232	
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0025 ^{DLA}	<0.00050	
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	0.313	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000020 ^{DLA}	0.000318	<0.000010	
	Calcium (Ca)-Dissolved (mg/L)	154	84.7	181	
	Chromium (Cr)-Dissolved (mg/L)	0.00221	<0.00050 ^{DLA}	0.00158	
	Cobalt (Co)-Dissolved (mg/L)	0.0218	0.0469	0.00219	
	Copper (Cu)-Dissolved (mg/L)	<0.00040 ^{DLA}	0.657	0.00020	
	Iron (Fe)-Dissolved (mg/L)	66.7	0.322	22.4	
	Lead (Pb)-Dissolved (mg/L)	0.00014	0.00080	<0.000050	
	Lithium (Li)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0025 ^{DLA}	<0.00050	
	Magnesium (Mg)-Dissolved (mg/L)	41.1	0.40	71.7	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1531711-1 Water 10-OCT-14 10:20 GSI-DC-06B	L1531711-2 Water 10-OCT-14 10:20 FB4	L1531711-3 Water 10-OCT-14 11:10 GSI-DC-08B	L1531711-4 Water 09-OCT-14 17:45 CH-P-13-03/50	L1531711-5 Water 10-OCT-14 14:30 CH-P-13-04/10
Grouping	Analyte					
WATER						
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	5.07	<0.000050	4.58	12.5	1.35
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	0.00380	<0.000050	0.0110	0.00285	0.00273
	Nickel (Ni)-Dissolved (mg/L)	0.00368	<0.00050	0.190	0.0392	0.0457
	Phosphorus (P)-Dissolved (mg/L)	0.251	<0.050	0.218	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	3.95	<0.10	6.82	9.18	3.86
	Selenium (Se)-Dissolved (mg/L)	0.00054	<0.00010	0.00105	0.00445	0.00012
	Silicon (Si)-Dissolved (mg/L)	8.00	<0.050	10.6	6.69	4.92
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	0.000020	<0.000020 ^{DLA}	<0.000010
	Sodium (Na)-Dissolved (mg/L)	20.3	<0.050	25.1	58.6	8.85
	Strontium (Sr)-Dissolved (mg/L)	0.897	<0.00020	0.585	1.05	0.623
	Sulfur (S)-Dissolved (mg/L)	3.23	<0.50	73.1	501	106
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000020 ^{DLA}	0.000045
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	0.00050	0.00092	0.00143
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	0.028	<0.020 ^{DLA}	<0.010
	Uranium (U)-Dissolved (mg/L)	0.000155	<0.000010	0.00205	0.0101	0.000980
	Vanadium (V)-Dissolved (mg/L)	0.0085	<0.0010	0.0816	<0.0020 ^{DLA}	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0018	<0.0010	0.0170	0.0239	0.156

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1531711-6 Water 10-OCT-14 12:59 GSI-DC-10B	L1531711-7 Water 10-OCT-14 11:59 GSI-DC-09B	L1531711-8 Water 10-OCT-14 09:02 MW09-07	L1531711-9 Water 10-OCT-14 11:50 GSI-DC-07B	L1531711-10 Water 10-OCT-14 15:13 CH-P-13-01/10
Grouping	Analyte					
WATER						
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	13.0	0.510	20.5	1.06	0.401
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	0.00060	0.000210	0.00156	0.000378	0.00145
	Nickel (Ni)-Dissolved (mg/L)	0.0045	0.00059	0.0207	0.00054	0.00365
	Phosphorus (P)-Dissolved (mg/L)	<0.050	0.164	<0.050	0.083	<0.050
	Potassium (K)-Dissolved (mg/L)	2.22	2.22	12.0	2.37	2.85
	Selenium (Se)-Dissolved (mg/L)	0.00036	0.00013	0.00020	0.00016	0.00016
	Silicon (Si)-Dissolved (mg/L)	7.77	8.13	9.98	7.10	7.37
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000010	0.000168	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	23.7	10.2	33.5	13.2	9.30
	Strontium (Sr)-Dissolved (mg/L)	0.579	0.159	0.706	0.239	0.452
	Sulfur (S)-Dissolved (mg/L)	155	44.7	274	46.2	146
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000010	<0.000020 ^{DLA}	<0.000010	0.000028
	Tin (Sn)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000010	<0.000020 ^{DLA}	<0.000010	0.00328
	Titanium (Ti)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.010	<0.020 ^{DLA}	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.000300	0.000109	0.00117	0.000034	0.00211
	Vanadium (V)-Dissolved (mg/L)	0.0113	0.0046	0.0026	0.0020	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0101	0.0015	0.360	0.0017	0.0203

* 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
	L1531711-11	Water	10-OCT-14	13:15	MP09-09
	L1531711-12	Water	10-OCT-14	14:00	MP09-10
	L1531711-13	Water	10-OCT-14	11:50	DUP6
	L1531711-15	Water	11-OCT-14		TRIP BLANK 1
	L1531711-16	Water	11-OCT-14		TRIP BLANK 2
Grouping	Analyte				
WATER					
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)				
	0.0409	0.0300	1.05		
	Mercury (Hg)-Dissolved (mg/L)				
	0.000021	0.000028	<0.000010		
	Molybdenum (Mo)-Dissolved (mg/L)				
	0.0146	0.0148	0.000379		
	Nickel (Ni)-Dissolved (mg/L)				
	0.0184	0.0124	<0.00050		
	Phosphorus (P)-Dissolved (mg/L)				
	0.168	0.220	0.081		
	Potassium (K)-Dissolved (mg/L)				
	8.78	9.44	2.36		
	Selenium (Se)-Dissolved (mg/L)				
	0.00233	0.00161	0.00019		
	Silicon (Si)-Dissolved (mg/L)				
	9.60	6.09	7.08		
	Silver (Ag)-Dissolved (mg/L)				
	0.0299	0.0533	<0.000010		
	Sodium (Na)-Dissolved (mg/L)				
	24.5	27.6	13.1		
	Strontium (Sr)-Dissolved (mg/L)				
	0.158	0.162	0.230		
	Sulfur (S)-Dissolved (mg/L)				
	90.0	86.2	46.0		
	Thallium (Tl)-Dissolved (mg/L)				
	0.000040	0.000051	<0.000010		
	Tin (Sn)-Dissolved (mg/L)				
	<0.00020 ^{DLA}	<0.00010	<0.00010		
	Titanium (Ti)-Dissolved (mg/L)				
	<0.020 ^{DLA}	<0.010	<0.010		
	Uranium (U)-Dissolved (mg/L)				
	0.000514	0.00138	0.000032		
	Vanadium (V)-Dissolved (mg/L)				
	<0.0020 ^{DLA}	<0.0010	0.0019		
	Zinc (Zn)-Dissolved (mg/L)				
	0.0045	0.0021	<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	L1531711-17 Water 10-OCT-14 12:59 GSI-DC-10B DISSOLVED METALS TEST	L1531711-18 Water 10-OCT-14 13:15 MP09-09 DISSOLVED METALS TEST	L1531711-19 Water 10-OCT-14 10:20 GSI-DC-06B DISSOLVED METALS TEST		
Grouping	Analyte				
WATER					
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	13.4	0.0385	5.19	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	0.000021	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	0.00057	0.0146	0.00368	
	Nickel (Ni)-Dissolved (mg/L)	0.0046	0.0197	0.00362	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	0.154	0.244	
	Potassium (K)-Dissolved (mg/L)	2.23	8.58	3.94	
	Selenium (Se)-Dissolved (mg/L)	0.00031	0.00238	0.00057	
	Silicon (Si)-Dissolved (mg/L)	7.81	9.47	8.00	
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	0.0280	<0.000010	
	Sodium (Na)-Dissolved (mg/L)	23.1	24.6	19.4	
	Strontium (Sr)-Dissolved (mg/L)	0.560	0.160	0.869	
	Sulfur (S)-Dissolved (mg/L)	157	66.6	3.16	
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 ^{DLA}	0.000066 ^{DLA}	<0.000010	
	Tin (Sn)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00010	
	Titanium (Ti)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.050 ^{DLA}	<0.010	
	Uranium (U)-Dissolved (mg/L)	0.000306	0.000540 ^{DLA}	0.000160	
	Vanadium (V)-Dissolved (mg/L)	0.0102	<0.0050 ^{DLA}	0.0079	
	Zinc (Zn)-Dissolved (mg/L)	0.0099	<0.0050 ^{DLA}	0.0020	

* 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
L1531711-17	GSI-DC-10B DISSOLVED ME	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1531711-18	MP09-09 DISSOLVED META	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1531711-19	GSI-DC-06B DISSOLVED ME	WSMD	Water sample(s) for dissolved 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)
Duplicate	Beryllium (Be)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Chromium (Cr)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Silver (Ag)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Thallium (Tl)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Vanadium (V)-Dissolved	DLA	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Fluoride (F)	MS-B	L1531711-1, -10, -11, -12, -13, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1531711-1, -10, -11, -12, -13, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Total Inorganic Carbon	MS-B	L1531711-13
Matrix Spike	Total Kjeldahl Nitrogen	MS-B	L1531711-1, -10, -11, -12, -13, -2, -4, -5, -6, -9
Matrix Spike	Total Kjeldahl Nitrogen	MS-B	L1531711-1, -10, -11, -12, -13, -2, -4, -5, -6, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Nickel (Ni)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1531711-1, -10, -11, -12, -13, -17, -18, -19, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1531711-15, -16
Matrix Spike	Strontium (Sr)-Total	MS-B	L1531711-15, -16
Matrix Spike	Total Kjeldahl Nitrogen	MSTN	L1531711-16, -7

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
MSTN	TKN Matrix Spike recovery was low due to interference from high nitrate, which causes negative bias on TKN. Reported Result Verified By Repeat Analysis

Reference Information

RRV

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	EPA 310.2
This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.			
ALK-PCT-VA	Water	Alkalinity by Auto. 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.			
ALK-PCT-VA	Water	Alkalinity by Auto. 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.			
ANIONS-CL-IC-WR	Water	Chloride by Ion Chromatography	EPA 300.1
This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.			
ANIONS-F-IC-WR	Water	Fluoride by Ion Chromatography	EPA 300.1
This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.			
ANIONS-NO2-IC-WR	Water	Nitrite Nitrogen by Ion Chromatography	EPA 300.1
This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. Nitrate is detected by UV absorbance.			
ANIONS-NO3-IC-WR	Water	Nitrate Nitrogen by Ion Chromatography	EPA 300.1
This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. Nitrate is detected by UV absorbance.			
ANIONS-SO4-IC-WR	Water	Sulphate by Ion Chromatography	EPA 300.1
This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.			
CARBONS-TIC-VA	Water	Total inorganic carbon by CO2 purge	APHA 5310 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 5310 TOTAL ORGANIC CARBON (TOC)
This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".			
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.			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B

Reference Information

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-DIS-LOW-CVAFS-VA Water Dissolved Mercury in Water by CVAFS(Low) EPA SW-846 3005A & EPA 245.7

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 filtration (EPA Method 3005A) and involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).

HG-TOT-LOW-CVAFS-VA Water Total Mercury in Water by CVAFS(Low) EPA 245.7

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 a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).

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 3030 B&E / EPA SW-846 6020A

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 hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

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 APHA 3030 B&E / EPA SW-846 6020A

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 hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

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 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. Weston et al.

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

Reference Information

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 methylene blue colourimetric method.

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.

** 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
WR	ALS ENVIRONMENTAL - WHITEHORSE, YUKON, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

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 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.

