



EDI ENVIRONMENTAL DYNAMICS INC.
ATTN: Lyndsay Doetzel
2195 - 2nd Ave
Whitehorse YT Y1A 3T8

Date Received: 20-APR-16
Report Date: 10-MAY-16 09:31 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1758226
Project P.O. #: NOT SUBMITTED
Job Reference: MOUNT NANSEN 16-Y-0089
C of C Numbers: 1, 2, 3
Legal Site Desc:

Can Dang
Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

10-MAY-16 09:31 (MT)

Version: FINAL

Sample ID Description Sampled Date Sampled Time Client ID		L1758226-1 WATER 20-APR-16 09:30 WQ-DESS-03	L1758226-2 WATER 20-APR-16 09:50 WQ-DESS-01	L1758226-3 WATER 20-APR-16 09:10 WQ-DC-D1B	L1758226-4 WATER 20-APR-16 10:00 WQ-CH-P-13-01	L1758226-5 WATER 19-APR-16 13:35 WQ-VC-UMN
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	45.0	314	798	635	228
	Hardness (as CaCO3) (mg/L)	29.5	163	466	360	123
	pH (pH)	6.11	5.60	7.93	5.02	7.72
	Total Suspended Solids (mg/L)	5.3	<3.0	<3.0	<3.0	<3.0
	Total Dissolved Solids (mg/L)	22.0	194	535	430	131
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	7.7	3.8	150	<1.0	71.3
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	7.7	3.8	150	<1.0	71.3
	Ammonia, Total (as N) (mg/L)	0.0070	0.0061	0.0566	0.0066	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.031	0.033	0.127	0.040	0.049
	Nitrate (as N) (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	0.0426
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	3.36	131	275	303	41.5
	Anion Sum (meq/L)	0.23	2.81	8.73	6.31	2.30
	Cation Sum (meq/L)	0.72	3.42	9.60	7.43	2.62
	Cation - Anion Balance (%)	52.2	9.9	4.7	8.2	6.7
	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
Cyanate (mg/L)		<2.0 ^{DLIS}	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)		2.36	1.43	0.61	1.05	0.69
Total Metals	Aluminum (Al)-Total (mg/L)	0.582	0.260	0.0243	0.478	0.120
	Antimony (Sb)-Total (mg/L)	0.00014	<0.00010	0.00634	0.00011	0.00031
	Arsenic (As)-Total (mg/L)	0.00251	0.00192	0.0182	0.00250	0.00298
	Barium (Ba)-Total (mg/L)	0.0421	0.0132	0.0281	0.0167	0.0627
	Beryllium (Be)-Total (mg/L)	0.000033	0.000031	<0.000020	0.000039	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000889	0.00200	0.000359	0.00599	0.0000406
	Calcium (Ca)-Total (mg/L)	8.69	39.5	114	78.2	31.6
	Chromium (Cr)-Total (mg/L)	<0.00060 ^{DLB}	<0.00030 ^{DLB}	<0.00020 ^{DLB}	<0.00040 ^{DLB}	<0.00030 ^{DLB}
	Cobalt (Co)-Total (mg/L)	0.00032	<0.00010	0.00024	0.00020	0.00016
	Copper (Cu)-Total (mg/L)	0.00468	0.00260	0.00307	0.00257	0.00246
	Iron (Fe)-Total (mg/L)	0.544	0.145	0.196	0.420	0.252
	Lead (Pb)-Total (mg/L)	0.000208	0.000070	0.000633	0.000298	0.000390
	Lithium (Li)-Total (mg/L)	<0.0010	<0.0010	0.0045	<0.0010	<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		L1758226-6 WATER 19-APR-16 14:50 WQ-SEEP	L1758226-7 WATER 19-APR-16 09:45 WQ-VC-DBC	L1758226-8 WATER 19-APR-16 11:00 WQ-BC	L1758226-9 WATER 19-APR-16 17:55 WQ-DC-DX+105	L1758226-10 WATER 19-APR-16 18:00 WQ-DC-DX+105-R
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	1,532.00	169	218	173	172
	Hardness (as CaCO3) (mg/L)	865	89.7	120	84.1	83.5
	pH (pH)	7.01	7.66	7.79	7.24	7.23
	Total Suspended Solids (mg/L)	44.7	4.7	44.0	<3.0	<3.0
	Total Dissolved Solids (mg/L)	1160	91.6	128	103	103
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	251	67.6	63.6	31.3	32.3
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	251	67.6	63.6	31.3	32.3
	Ammonia, Total (as N) (mg/L)	3.89	0.0063	0.0092	0.0143	0.0079
	Chloride (Cl) (mg/L)	1.4 ^{DLA}	<0.50	<0.50	0.63	0.66
	Fluoride (F) (mg/L)	0.084 ^{DLA}	0.047	0.069	0.046	0.047
	Nitrate (as N) (mg/L)	0.381 ^{DLA}	0.0640	0.0486	<0.0050	<0.0050
	Nitrite (as N) (mg/L)	0.0219 ^{DLA}	<0.0010	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	634 ^{DLA}	16.3	42.5	43.8	43.7
	Anion Sum (meq/L)	18.3	1.70	2.16	1.56	1.58
	Cation Sum (meq/L)	20.2	1.93	2.58	1.96	1.95
	Cation - Anion Balance (%)	5.0	6.4	8.9	11.5	10.5
	Cyanides	Cyanide, Weak Acid Diss (mg/L)	0.0159	<0.0050	<0.0050	<0.0050
Cyanide, Total (mg/L)		0.0652	<0.0050	<0.0050	<0.0050	<0.0050
Cyanate (mg/L)		<0.20	0.22	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)		4.90	0.63	0.80	0.94	0.97
Total Metals	Aluminum (Al)-Total (mg/L)	0.0436	0.234	1.04	0.269	0.232
	Antimony (Sb)-Total (mg/L)	0.00059	0.00010	0.00044	0.00322	0.00326
	Arsenic (As)-Total (mg/L)	0.110	0.00101	0.00764	0.0210	0.0200
	Barium (Ba)-Total (mg/L)	0.0673	0.0686	0.0689	0.0265	0.0262
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	0.000055	0.000050	0.000045
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	0.000093	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	0.050	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000252	0.0000530	0.000311	0.00280	0.00275
	Calcium (Ca)-Total (mg/L)	258	22.9	32.1	23.6	23.2
	Chromium (Cr)-Total (mg/L)	<0.00090 ^{DLB}	<0.00030 ^{DLB}	0.00139	<0.00030 ^{DLB}	0.00041
	Cobalt (Co)-Total (mg/L)	0.00727	0.00016	0.00070	0.00014	0.00014
	Copper (Cu)-Total (mg/L)	0.00261	0.00266	0.00533	0.0175	0.0174
	Iron (Fe)-Total (mg/L)	19.6	0.353	1.58	0.334	0.311
	Lead (Pb)-Total (mg/L)	0.000451	0.000415	0.00462	0.00579	0.00532
	Lithium (Li)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<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	L1758226-11 WATER 19-APR-16 17:15 WQ-TP	L1758226-12 WATER 20-APR-16 10:45 FIELD BLANK	L1758226-13 WATER TRAVEL BLANK	L1758226-14 WATER 20-APR-16 12:00 WQ-VC-U	L1758226-15 WATER 20-APR-16 12:05 WQ-VC-U-R
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	537	<2.0	<2.0	162	165
	Hardness (as CaCO3) (mg/L)	286	<0.50	<0.50	85.7	86.2
	pH (pH)	7.67	5.38	5.38	7.69	7.71
	Total Suspended Solids (mg/L)	<3.0	<3.0	<3.0	24.0	27.3
	Total Dissolved Solids (mg/L)	360	<1.0	<1.0	88.1	89.1
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	31.0	<1.0	<1.0	69.5	70.9
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	31.0	<1.0	<1.0	69.5	70.9
	Ammonia, Total (as N) (mg/L)	0.116	<0.0050	0.0368 ^{RRV}	<0.0050	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.068	<0.020	<0.020	0.046	0.043
	Nitrate (as N) (mg/L)	0.0765	<0.0050	<0.0050	0.0666	0.0648
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	229	<0.30	<0.30	13.4	13.3
	Anion Sum (meq/L)	5.40	<0.10	<0.10	1.67	1.70
	Cation Sum (meq/L)	5.98	<0.10	<0.10	1.84	1.85
	Cation - Anion Balance (%)	5.1	0.0	0.0	4.8	4.2
	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
Cyanate (mg/L)		<0.20	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)		<0.50	<0.50	<0.50	0.53	0.53
Total Metals	Aluminum (Al)-Total (mg/L)	0.0057	<0.0030	<0.0030	0.332	0.436
	Antimony (Sb)-Total (mg/L)	0.0102	<0.00010	<0.00010	<0.00010	0.00012
	Arsenic (As)-Total (mg/L)	0.0245	<0.00010	<0.00010	0.00063	0.00074
	Barium (Ba)-Total (mg/L)	0.00588	<0.000050	<0.000050	0.0703	0.0729
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	<0.000020	0.000022	0.000026
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	0.016	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000534	<0.000050	<0.000050	0.0000284	0.0000264
	Calcium (Ca)-Total (mg/L)	82.9	<0.050	<0.050	20.7	21.0
	Chromium (Cr)-Total (mg/L)	<0.00010	0.00041 ^{RRV}	<0.00010	0.00043	0.00075
	Cobalt (Co)-Total (mg/L)	0.00026	<0.00010	<0.00010	0.00020	0.00024
	Copper (Cu)-Total (mg/L)	0.0102	<0.00050	<0.00050	0.00254	0.00288
	Iron (Fe)-Total (mg/L)	0.038	<0.010	<0.010	0.543	0.642
	Lead (Pb)-Total (mg/L)	0.000424	<0.000050	<0.000050	0.000341	0.000419
	Lithium (Li)-Total (mg/L)	0.0011	<0.0010	<0.0010	<0.0010	<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	L1758226-16	L1758226-17	L1758226-18	L1758226-19	L1758226-20
					WATER	WATER	WATER	WATER	WATER
		19-APR-16	16:40	WQ-PC-U	19-APR-16	19-APR-16	19-APR-16	18-APR-16	19-APR-16
					16:40	18:15	15:45	14:00	17:00
					WQ-PC-U	WQ-DC-DX	WQ-DC-B	WQ-VC-R+150	WQ-PC-D
Grouping	Analyte								
WATER									
Physical Tests	Conductivity (uS/cm)	362	181	917	177	338			
	Hardness (as CaCO3) (mg/L)	191	82.6	553	91.2	177			
	pH (pH)	7.63	7.66	7.87	7.64	7.63			
	Total Suspended Solids (mg/L)	53.3	<3.0	4.0	4.0	16.7			
	Total Dissolved Solids (mg/L)	226	105	638	99.0	211			
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	60.8	51.8	142	56.2	52.9			
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0			
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0			
	Alkalinity, Total (as CaCO3) (mg/L)	60.8	51.8	142	56.2	52.9			
	Ammonia, Total (as N) (mg/L)	0.122	0.0097	0.0454	0.0072	0.0611			
	Chloride (Cl) (mg/L)	<0.50	0.81	<0.50	<0.50	<0.50			
	Fluoride (F) (mg/L)	0.050	0.036	0.069	0.044	0.055			
	Nitrate (as N) (mg/L)	0.0929	0.0181	<0.0050	0.0155	0.105			
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Sulfate (SO4) (mg/L)	114	31.0	357	29.8	108			
	Anion Sum (meq/L)	3.60	1.71	10.3	1.75	3.32			
	Cation Sum (meq/L)	4.07	2.00	11.5	1.97	3.79			
	Cation - Anion Balance (%)	6.1	7.9	5.5	6.1	6.6			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Cyanate (mg/L)	<0.20	<0.20	<0.20	<0.20	<0.20			
	Thiocyanate (SCN) (mg/L)	0.87	0.88	0.85	0.79	0.82			
Total Metals	Aluminum (Al)-Total (mg/L)	1.68	0.0310	0.193	0.182	1.42			
	Antimony (Sb)-Total (mg/L)	0.00179	0.00097	0.00137	0.00024	0.00182			
	Arsenic (As)-Total (mg/L)	0.0176	0.0101	0.00609	0.00223	0.0176			
	Barium (Ba)-Total (mg/L)	0.0811	0.0149	0.0367	0.0541	0.0687			
	Beryllium (Be)-Total (mg/L)	0.000088	<0.000020	<0.000020	<0.000020	0.000082			
	Bismuth (Bi)-Total (mg/L)	0.000179	<0.000050	<0.000050	<0.000050	0.000139			
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.000361	0.0000359	0.0000752	0.0000463	0.00425			
	Calcium (Ca)-Total (mg/L)	54.2	22.1	122	23.0	49.6			
	Chromium (Cr)-Total (mg/L)	0.00162	0.00015	0.00019	0.00026	0.00121			
	Cobalt (Co)-Total (mg/L)	0.00120	<0.00010	0.00044	0.00016	0.00106			
	Copper (Cu)-Total (mg/L)	0.00708	0.00224	0.00216	0.00267	0.0134			
	Iron (Fe)-Total (mg/L)	2.83	0.081	1.22	0.339	1.96			
	Lead (Pb)-Total (mg/L)	0.0140	0.000116	0.000167	0.000321	0.00943			
	Lithium (Li)-Total (mg/L)	0.0011	<0.0010	0.0029	<0.0010	0.0014			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1758226-21	L1758226-22			
		Description	WATER	WATER			
		Sampled Date	18-APR-16	18-APR-16			
		Sampled Time	17:30	16:00			
		Client ID	WQ-DC-U	WQ-DC-R			
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		915	773			
	Hardness (as CaCO3) (mg/L)		541	438			
	pH (pH)		8.00	7.93			
	Total Suspended Solids (mg/L)		50.0	5.3			
	Total Dissolved Solids (mg/L)		644	525			
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		148	123			
	Alkalinity, Carbonate (as CaCO3) (mg/L)		<1.0	<1.0			
	Alkalinity, Hydroxide (as CaCO3) (mg/L)		<1.0	<1.0			
	Alkalinity, Total (as CaCO3) (mg/L)		148	123			
	Ammonia, Total (as N) (mg/L)		0.437	0.524			
	Chloride (Cl) (mg/L)		0.53	0.57			
	Fluoride (F) (mg/L)		0.071	0.067			
	Nitrate (as N) (mg/L)		0.0235	0.0347			
	Nitrite (as N) (mg/L)		<0.0010	0.0032			
	Sulfate (SO4) (mg/L)		357	287			
	Anion Sum (meq/L)		10.4	8.45			
	Cation Sum (meq/L)		11.4	9.33			
	Cation - Anion Balance (%)		4.4	5.0			
	Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050		
Cyanide, Total (mg/L)			<0.0050	<0.0050			
Cyanate (mg/L)			<2.0 ^{DLIS}	<0.20			
Thiocyanate (SCN) (mg/L)			0.89	0.86			
Total Metals	Aluminum (Al)-Total (mg/L)		0.635	0.0873			
	Antimony (Sb)-Total (mg/L)		0.00136	0.00190			
	Arsenic (As)-Total (mg/L)		0.0144	0.0152			
	Barium (Ba)-Total (mg/L)		0.0444	0.0393			
	Beryllium (Be)-Total (mg/L)		0.000031	<0.000020			
	Bismuth (Bi)-Total (mg/L)		<0.000050	<0.000050			
	Boron (B)-Total (mg/L)		0.011	0.012			
	Cadmium (Cd)-Total (mg/L)		0.000155	0.000111			
	Calcium (Ca)-Total (mg/L)		121	105			
	Chromium (Cr)-Total (mg/L)		0.00096	0.00020			
	Cobalt (Co)-Total (mg/L)		0.00124	0.00118			
	Copper (Cu)-Total (mg/L)		0.00313	0.00252			
	Iron (Fe)-Total (mg/L)		3.03	1.66			
	Lead (Pb)-Total (mg/L)		0.00109	0.00168			
	Lithium (Li)-Total (mg/L)		0.0031	0.0018			

* 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		L1758226-1 WATER 20-APR-16 09:30 WQ-DESS-03	L1758226-2 WATER 20-APR-16 09:50 WQ-DESS-01	L1758226-3 WATER 20-APR-16 09:10 WQ-DC-D1B	L1758226-4 WATER 20-APR-16 10:00 WQ-CH-P-13-01	L1758226-5 WATER 19-APR-16 13:35 WQ-VC-UMN
Grouping	Analyte					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	1.72	13.7	37.4	34.1	10.1
	Manganese (Mn)-Total (mg/L)	0.0379	0.0565	0.685	0.406	0.0476
	Mercury (Hg)-Total (mg/L)	0.0000268	0.0000200	0.0000076	0.0000183	0.0000094
	Molybdenum (Mo)-Total (mg/L)	<0.000050	<0.000050	<0.00025 ^{DLB}	<0.000050	<0.00035 ^{DLB}
	Nickel (Ni)-Total (mg/L)	0.00169	0.00260	0.00093	0.00407	0.00079
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)	2.02	2.27	3.88	2.64	1.33
	Selenium (Se)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Total (mg/L)	2.64	2.78	5.64	3.06	4.97
	Silver (Ag)-Total (mg/L)	0.000019	<0.000010	0.000024	0.000019	0.000011
	Sodium (Na)-Total (mg/L)	0.645	0.895	3.24	1.40	2.62
	Strontium (Sr)-Total (mg/L)	0.0402	0.103	0.278	0.202	0.236
	Sulfur (S)-Total (mg/L)	1.49	43.9	91.1	102	14.3
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	0.000014	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.00956	0.00165	0.00050	0.00492	0.00230
	Uranium (U)-Total (mg/L)	0.000031	<0.000010	0.00151	0.000019	0.000535
	Vanadium (V)-Total (mg/L)	0.00115	<0.00050	<0.00050	0.00075	<0.00050
	Zinc (Zn)-Total (mg/L)	0.0127	0.814	0.171	1.94	0.0053
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.319	0.245	0.0202	0.284	0.0563
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	0.00645	<0.00010	0.00028
	Arsenic (As)-Dissolved (mg/L)	0.00156	0.00179	0.0178	0.00156	0.00247
	Barium (Ba)-Dissolved (mg/L)	0.0381	0.0136	0.0273	0.0131	0.0609
	Beryllium (Be)-Dissolved (mg/L)	0.000026	0.000030	<0.000020	0.000033	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.0000723	0.00212	0.000272	0.00559	0.0000472
	Calcium (Ca)-Dissolved (mg/L)	8.94	41.7	122	84.7	32.2
	Chromium (Cr)-Dissolved (mg/L)	0.00024	0.00018	<0.00010	0.00013	0.00011
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	0.00022	<0.00010	0.00012
	Copper (Cu)-Dissolved (mg/L)	0.00386	0.00249	0.00269	0.00213	0.00225
	Iron (Fe)-Dissolved (mg/L)	0.136	0.111	0.185	0.062	0.159
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000073	0.000326	<0.000050	0.000112
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	0.0044	<0.0010	<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		L1758226-6 WATER 19-APR-16 14:50 WQ-SEEP	L1758226-7 WATER 19-APR-16 09:45 WQ-VC-DBC	L1758226-8 WATER 19-APR-16 11:00 WQ-BC	L1758226-9 WATER 19-APR-16 17:55 WQ-DC-DX+105	L1758226-10 WATER 19-APR-16 18:00 WQ-DC-DX+105-R
Grouping	Analyte					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	57.3	7.49	7.85	5.31	5.23
	Manganese (Mn)-Total (mg/L)	6.18	0.0690	0.362	0.0483	0.0479
	Mercury (Hg)-Total (mg/L)	0.000092	0.0000116 ^{DLB}	0.0000165	0.0000198 ^{DLB}	0.0000185
	Molybdenum (Mo)-Total (mg/L)	0.00106	<0.00040	0.000769	<0.00010	0.000093
	Nickel (Ni)-Total (mg/L)	0.00290	0.00082	0.00166	0.00161	0.00166
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	0.053	0.056	0.064
	Potassium (K)-Total (mg/L)	6.12	1.19	1.54	7.70	7.53
	Selenium (Se)-Total (mg/L)	0.000259	<0.000050	0.000056	0.000093	0.000058
	Silicon (Si)-Total (mg/L)	8.18	5.14	6.26	5.17	5.01
	Silver (Ag)-Total (mg/L)	0.000040	<0.000010	0.000082	0.000131	0.000117
	Sodium (Na)-Total (mg/L)	34.7	2.07	2.31	0.764	0.769
	Strontium (Sr)-Total (mg/L)	0.753	0.231	0.209	0.0572	0.0558
	Sulfur (S)-Total (mg/L)	228	5.71	13.7	14.9	14.7
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	0.000020	0.000015	0.000013
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.00230	0.00558	0.0309	0.00323	0.00262
	Uranium (U)-Total (mg/L)	0.00164	0.000542	0.00109	0.000082	0.000080
	Vanadium (V)-Total (mg/L)	0.00317	0.00072	0.00274	0.00058	0.00057
	Zinc (Zn)-Total (mg/L)	0.0291	0.0036	0.0153	0.357	0.341
	Zirconium (Zr)-Total (mg/L)	0.00072	<0.00030	0.00046	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0152	0.0734	0.118	0.186	0.192
	Antimony (Sb)-Dissolved (mg/L)	0.00046	<0.00010	0.00020	0.00238	0.00239
	Arsenic (As)-Dissolved (mg/L)	0.0809	0.00055	0.00216	0.0134	0.0135
	Barium (Ba)-Dissolved (mg/L)	0.0626	0.0641	0.0563	0.0246	0.0261
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	0.000023	0.000045	0.000046
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	0.045	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000183	0.0000414	0.000199	0.00262	0.00276
	Calcium (Ca)-Dissolved (mg/L)	254	23.3	34.5	24.6	24.5
	Chromium (Cr)-Dissolved (mg/L)	0.00043	0.00013	0.00017	0.00019	0.00022
	Cobalt (Co)-Dissolved (mg/L)	0.00654	<0.00010	0.00028	0.00011	0.00012
	Copper (Cu)-Dissolved (mg/L)	0.00137	0.00237	0.00384	0.0166	0.0180
	Iron (Fe)-Dissolved (mg/L)	17.3	0.159	0.232	0.182	0.179
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000063	0.000346	0.00188	0.00204
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<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		L1758226-11 WATER 19-APR-16 17:15 WQ-TP	L1758226-12 WATER 20-APR-16 10:45 FIELD BLANK	L1758226-13 WATER TRAVEL BLANK	L1758226-14 WATER 20-APR-16 12:00 WQ-VC-U	L1758226-15 WATER 20-APR-16 12:05 WQ-VC-U-R
Grouping	Analyte					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	14.6	<0.10	<0.10	7.16	7.21
	Manganese (Mn)-Total (mg/L)	0.237	<0.00010	<0.00010	0.0381	0.0414
	Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	<0.0000050	0.0000102	0.0000103
	Molybdenum (Mo)-Total (mg/L)	0.000385	0.000072 ^{RRV}	<0.000050	0.000305	0.000376
	Nickel (Ni)-Total (mg/L)	0.00066	<0.00050	<0.00050	0.00087	0.00094
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)	3.49	<0.10	<0.10	1.01	1.04
	Selenium (Se)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Total (mg/L)	1.02	<0.050	<0.050	5.10	5.19
	Silver (Ag)-Total (mg/L)	0.000035	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)	3.18	<0.050	<0.050	1.99	2.03
	Strontium (Sr)-Total (mg/L)	0.206	<0.00020	<0.00020	0.227	0.233
	Sulfur (S)-Total (mg/L)	74.2	<0.50	<0.50	4.23	4.22
	Thallium (Tl)-Total (mg/L)	0.000034	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.00030	<0.00030	<0.00030	0.0107	0.0134
	Uranium (U)-Total (mg/L)	0.000421	<0.000010	<0.000010	0.000504	0.000551
	Vanadium (V)-Total (mg/L)	<0.00050	<0.00050	<0.00050	0.00118	0.00149
	Zinc (Zn)-Total (mg/L)	0.0525	<0.0030	<0.0030	0.0041	0.0044
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0016	<0.0010		0.0602	0.0613
	Antimony (Sb)-Dissolved (mg/L)	0.0108	<0.00010		<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.0233	<0.00010		0.00030	0.00028
	Barium (Ba)-Dissolved (mg/L)	0.00624	<0.000050		0.0672	0.0665
	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)	0.016	<0.010		<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000562	<0.0000050		0.0000141	0.0000172
	Calcium (Ca)-Dissolved (mg/L)	89.1	<0.050		22.0	22.1
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010		0.00010	0.00019
	Cobalt (Co)-Dissolved (mg/L)	0.00030	<0.00010		<0.00010	<0.00010
	Copper (Cu)-Dissolved (mg/L)	0.0106	<0.00020		0.00210	0.00202
	Iron (Fe)-Dissolved (mg/L)	0.014	<0.010		0.141	0.141
	Lead (Pb)-Dissolved (mg/L)	0.000129	<0.000050		<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0018	<0.0010		<0.0010	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1758226-16	L1758226-17	L1758226-18	L1758226-19	L1758226-20
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	19-APR-16	19-APR-16	19-APR-16	18-APR-16	19-APR-16
		Sampled Time	16:40	18:15	15:45	14:00	17:00
		Client ID	WQ-PC-U	WQ-DC-DX	WQ-DC-B	WQ-VC-R+150	WQ-PC-D
Grouping	Analyte						
WATER							
Total Metals	Magnesium (Mg)-Total (mg/L)		11.4	6.05	53.8	7.63	10.6
	Manganese (Mn)-Total (mg/L)		0.439	0.0175	0.710	0.0292	0.566
	Mercury (Hg)-Total (mg/L)		0.0000218	0.0000168	0.0000127	0.0000149	0.0000189
	Molybdenum (Mo)-Total (mg/L)		0.000213	<0.000050	0.000167	0.000255	0.000200
	Nickel (Ni)-Total (mg/L)		0.00208	<0.00050	0.00107	0.00104	0.00216
	Phosphorus (P)-Total (mg/L)		0.078	0.052	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		2.48	11.5	3.12	1.44	2.40
	Selenium (Se)-Total (mg/L)		<0.000050	0.000061	<0.000050	<0.000050	0.000071
	Silicon (Si)-Total (mg/L)		6.55	5.88	4.82	4.30	6.00
	Silver (Ag)-Total (mg/L)		0.000147	0.000027	<0.000010	0.000011	0.000150
	Sodium (Na)-Total (mg/L)		2.83	0.791	5.24	2.09	2.62
	Strontium (Sr)-Total (mg/L)		0.332	0.0616	0.426	0.179	0.292
	Sulfur (S)-Total (mg/L)		34.9	10.6	116	9.88	34.7
	Thallium (Tl)-Total (mg/L)		0.000037	<0.000010	<0.000010	<0.000010	0.000037
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.0419	0.00078	0.00239	0.00339	0.0326
	Uranium (U)-Total (mg/L)		0.00133	0.000023	0.00194	0.000331	0.000809
	Vanadium (V)-Total (mg/L)		0.00437	<0.00050	0.00059	0.00056	0.00327
	Zinc (Zn)-Total (mg/L)		0.0338	0.0055	0.0333	0.0068	0.375
	Zirconium (Zr)-Total (mg/L)		0.00039	<0.00030	<0.00030	<0.00030	0.00038
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.178	0.0222	0.161	0.0961	0.172
	Antimony (Sb)-Dissolved (mg/L)		0.00071	0.00094	0.00137	0.00022	0.00077
	Arsenic (As)-Dissolved (mg/L)		0.00481	0.0101	0.00565	0.00175	0.00472
	Barium (Ba)-Dissolved (mg/L)		0.0581	0.0142	0.0365	0.0541	0.0528
	Beryllium (Be)-Dissolved (mg/L)		0.000029	<0.000020	<0.000020	<0.000020	0.000035
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000119	0.0000363	0.0000550	0.0000358	0.00401
	Calcium (Ca)-Dissolved (mg/L)		57.1	22.8	129	23.7	52.6
	Chromium (Cr)-Dissolved (mg/L)		0.00019	0.00014	0.00012	0.00015	0.00021
	Cobalt (Co)-Dissolved (mg/L)		0.00059	<0.00010	0.00043	0.00011	0.00070
	Copper (Cu)-Dissolved (mg/L)		0.00325	0.00218	0.00196	0.00254	0.00981
	Iron (Fe)-Dissolved (mg/L)		0.460	0.066	1.13	0.216	0.402
	Lead (Pb)-Dissolved (mg/L)		0.000673	<0.000050	0.000090	0.000096	0.000897
	Lithium (Li)-Dissolved (mg/L)		<0.0010	<0.0010	0.0029	<0.0010	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1758226-21	L1758226-22			
		Description	WATER	WATER			
		Sampled Date	18-APR-16	18-APR-16			
		Sampled Time	17:30	16:00			
		Client ID	WQ-DC-U	WQ-DC-R			
Grouping	Analyte						
WATER							
Total Metals	Magnesium (Mg)-Total (mg/L)		48.5	38.4			
	Manganese (Mn)-Total (mg/L)		1.24	1.21			
	Mercury (Hg)-Total (mg/L)		0.0000151	0.0000125			
	Molybdenum (Mo)-Total (mg/L)		0.000262	0.000260			
	Nickel (Ni)-Total (mg/L)		0.00178	0.00117			
	Phosphorus (P)-Total (mg/L)		0.068	<0.050			
	Potassium (K)-Total (mg/L)		3.26	3.26			
	Selenium (Se)-Total (mg/L)		0.000080	0.000063			
	Silicon (Si)-Total (mg/L)		5.42	4.29			
	Silver (Ag)-Total (mg/L)		0.000028	0.000049			
	Sodium (Na)-Total (mg/L)		7.09	7.79			
	Strontium (Sr)-Total (mg/L)		0.415	0.338			
	Sulfur (S)-Total (mg/L)		113	96.1			
	Thallium (Tl)-Total (mg/L)		0.000011	<0.000010			
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010			
	Titanium (Ti)-Total (mg/L)		0.0308	0.00122			
	Uranium (U)-Total (mg/L)		0.00177	0.00125			
	Vanadium (V)-Total (mg/L)		0.00239	0.00061			
	Zinc (Zn)-Total (mg/L)		0.0392	0.0535			
	Zirconium (Zr)-Total (mg/L)		<0.00030	<0.00030			
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD			
	Dissolved Metals Filtration Location		FIELD	FIELD			
	Aluminum (Al)-Dissolved (mg/L)		0.113	0.0712			
	Antimony (Sb)-Dissolved (mg/L)		0.00121	0.00169			
	Arsenic (As)-Dissolved (mg/L)		0.00724	0.0124			
	Barium (Ba)-Dissolved (mg/L)		0.0372	0.0396			
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020			
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050			
	Boron (B)-Dissolved (mg/L)		0.011	0.011			
	Cadmium (Cd)-Dissolved (mg/L)		0.0000752	0.0000807			
	Calcium (Ca)-Dissolved (mg/L)		131	109			
	Chromium (Cr)-Dissolved (mg/L)		0.00013	0.00012			
	Cobalt (Co)-Dissolved (mg/L)		0.00103	0.00118			
	Copper (Cu)-Dissolved (mg/L)		0.00214	0.00238			
	Iron (Fe)-Dissolved (mg/L)		1.21	1.41			
	Lead (Pb)-Dissolved (mg/L)		0.000113	0.000652			
	Lithium (Li)-Dissolved (mg/L)		0.0028	0.0017			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1758226-1	L1758226-2	L1758226-3	L1758226-4	L1758226-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	20-APR-16	20-APR-16	20-APR-16	20-APR-16	19-APR-16
		Sampled Time	09:30	09:50	09:10	10:00	13:35
		Client ID	WQ-DESS-03	WQ-DESS-01	WQ-DC-D1B	WQ-CH-P-13-01	WQ-VC-UMN
Grouping	Analyte						
WATER							
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)		1.75	14.3	39.4	36.0	10.3
	Manganese (Mn)-Dissolved (mg/L)		0.00321	0.0547	0.655	0.190	0.0400
	Mercury (Hg)-Dissolved (mg/L)		0.0000199	0.0000127	<0.0000050	0.0000105	0.0000064
	Molybdenum (Mo)-Dissolved (mg/L)		<0.000050	<0.000050	0.000158	<0.000050	0.000299
	Nickel (Ni)-Dissolved (mg/L)		0.00158	0.00252	0.00081	0.00374	0.00069
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		2.13	2.40	4.18	2.83	1.37
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	0.000058	0.000052
	Silicon (Si)-Dissolved (mg/L)		2.35	2.83	5.90	3.02	4.89
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	0.000014	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		0.673	0.921	3.28	1.38	2.58
	Strontium (Sr)-Dissolved (mg/L)		0.0392	0.105	0.278	0.202	0.235
	Sulfur (S)-Dissolved (mg/L)		1.51	44.8	92.6	105	14.2
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000010	0.000013	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		0.00088	0.00078	0.00040	0.00053	0.00074
	Uranium (U)-Dissolved (mg/L)		<0.000010	<0.000010	0.00144	<0.000010	0.000516
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0121	0.859	0.170	1.95	0.0046
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1758226-6	L1758226-7	L1758226-8	L1758226-9	L1758226-10
					WATER	WATER	WATER	WATER	WATER
		19-APR-16	14:50	WQ-SEEP	19-APR-16	19-APR-16	19-APR-16	19-APR-16	19-APR-16
						09:45	11:00	17:55	18:00
						WQ-VC-DBC	WQ-BC	WQ-DC-DX+105	WQ-DC-DX+105-R
Grouping	Analyte								
WATER									
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	55.9	7.63	8.27	5.50	5.43			
	Manganese (Mn)-Dissolved (mg/L)	5.63	0.0605	0.330	0.0409	0.0441			
	Mercury (Hg)-Dissolved (mg/L)	0.0000065	0.0000065	0.0000077	0.0000122	0.0000116			
	Molybdenum (Mo)-Dissolved (mg/L)	0.000913	0.000305	0.000709	<0.000050	0.000058			
	Nickel (Ni)-Dissolved (mg/L)	0.00249	0.00068	0.00115	0.00152	0.00171			
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Potassium (K)-Dissolved (mg/L)	6.01	1.16	1.48	8.01	7.83			
	Selenium (Se)-Dissolved (mg/L)	0.000266	0.000050	0.000051	0.000097	0.000091			
	Silicon (Si)-Dissolved (mg/L)	7.88	4.86	4.94	4.97	4.95			
	Silver (Ag)-Dissolved (mg/L)	0.000012	<0.000010	0.000014	0.000047	0.000054			
	Sodium (Na)-Dissolved (mg/L)	31.0	1.99	2.41	0.750	0.781			
	Strontium (Sr)-Dissolved (mg/L)	0.718	0.227	0.212	0.0544	0.0553			
	Sulfur (S)-Dissolved (mg/L)	212	5.52	14.2	13.6	13.5			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	0.000011	0.000012			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	0.00096	0.00072	0.00215	0.00136	0.00152			
	Uranium (U)-Dissolved (mg/L)	0.00160	0.000514	0.00103	0.000067	0.000074			
	Vanadium (V)-Dissolved (mg/L)	0.00226	<0.00050	<0.00050	<0.00050	<0.00050			
	Zinc (Zn)-Dissolved (mg/L)	0.0255	0.0030	0.0050	0.355	0.371			
	Zirconium (Zr)-Dissolved (mg/L)	0.00070	<0.00030	0.00032	<0.00030	<0.00030			

* 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	L1758226-11 WATER 19-APR-16 17:15 WQ-TP	L1758226-12 WATER 20-APR-16 10:45 FIELD BLANK	L1758226-13 WATER TRAVEL BLANK	L1758226-14 WATER 20-APR-16 12:00 WQ-VC-U	L1758226-15 WATER 20-APR-16 12:05 WQ-VC-U-R
Grouping	Analyte					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	15.5	<0.10		7.51	7.53
	Manganese (Mn)-Dissolved (mg/L)	0.271	<0.00010		0.0266	0.0267
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050		<0.0000050	0.0000057
	Molybdenum (Mo)-Dissolved (mg/L)	0.000426	<0.000050		0.000275	0.000273
	Nickel (Ni)-Dissolved (mg/L)	0.00062	<0.00050		0.00071	0.00065
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050		<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	3.62	<0.10		1.04	1.06
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050		0.000056	<0.000050
	Silicon (Si)-Dissolved (mg/L)	1.07	<0.050		4.84	4.85
	Silver (Ag)-Dissolved (mg/L)	0.000018	<0.000010		<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	3.25	<0.050		1.98	1.99
	Strontium (Sr)-Dissolved (mg/L)	0.218	<0.00020		0.231	0.229
	Sulfur (S)-Dissolved (mg/L)	76.5	<0.50		4.29	4.32
	Thallium (Tl)-Dissolved (mg/L)	0.000036	<0.000010		<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010		<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030		0.00048	0.00050
	Uranium (U)-Dissolved (mg/L)	0.000442	<0.000010		0.000463	0.000460
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050		<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.0566	<0.0010		0.0029	0.0019
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030		<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1758226-16	L1758226-17	L1758226-18	L1758226-19	L1758226-20
					WATER	WATER	WATER	WATER	WATER
					19-APR-16	19-APR-16	19-APR-16	18-APR-16	19-APR-16
					16:40	18:15	15:45	14:00	17:00
					WQ-PC-U	WQ-DC-DX	WQ-DC-B	WQ-VC-R+150	WQ-PC-D
Grouping	Analyte								
WATER									
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	11.7	6.21	55.8	7.78	11.1			
	Manganese (Mn)-Dissolved (mg/L)	0.393	0.0163	0.708	0.0233	0.539			
	Mercury (Hg)-Dissolved (mg/L)	0.0000077	0.0000093	0.0000075	0.0000083	0.0000082			
	Molybdenum (Mo)-Dissolved (mg/L)	0.000130	<0.000050	0.000165	0.000252	0.000119			
	Nickel (Ni)-Dissolved (mg/L)	0.00107	<0.00050	0.00106	0.00103	0.00153			
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Potassium (K)-Dissolved (mg/L)	2.41	11.9	3.26	1.43	2.32			
	Selenium (Se)-Dissolved (mg/L)	0.000065	0.000070	0.000055	0.000051	0.000060			
	Silicon (Si)-Dissolved (mg/L)	4.05	5.93	4.91	4.20	3.92			
	Silver (Ag)-Dissolved (mg/L)	0.000016	0.000019	<0.000010	<0.000010	0.000016			
	Sodium (Na)-Dissolved (mg/L)	2.87	0.786	5.28	2.10	2.62			
	Strontium (Sr)-Dissolved (mg/L)	0.326	0.0610	0.433	0.179	0.293			
	Sulfur (S)-Dissolved (mg/L)	36.1	10.7	118	9.94	35.5			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	0.00330	0.00033	0.00119	0.00096	0.00289			
	Uranium (U)-Dissolved (mg/L)	0.00112	0.000020	0.00196	0.000309	0.000758			
	Vanadium (V)-Dissolved (mg/L)	0.00061	<0.00050	<0.00050	<0.00050	0.00052			
	Zinc (Zn)-Dissolved (mg/L)	0.0087	0.0075	0.0331	0.0060	0.363			
	Zirconium (Zr)-Dissolved (mg/L)	0.00036	<0.00030	<0.00030	<0.00030	0.00032			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1758226-21	L1758226-22		
	Description	WATER	WATER		
	Sampled Date	18-APR-16	18-APR-16		
	Sampled Time	17:30	16:00		
	Client ID	WQ-DC-U	WQ-DC-R		
Grouping	Analyte				
WATER					
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	52.1	40.0		
	Manganese (Mn)-Dissolved (mg/L)	1.26	1.18		
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	0.0000062		
	Molybdenum (Mo)-Dissolved (mg/L)	0.000232	0.000235		
	Nickel (Ni)-Dissolved (mg/L)	0.00118	0.00120		
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050		
	Potassium (K)-Dissolved (mg/L)	3.50	3.39		
	Selenium (Se)-Dissolved (mg/L)	0.000061	0.000075		
	Silicon (Si)-Dissolved (mg/L)	4.86	4.32		
	Silver (Ag)-Dissolved (mg/L)	<0.000010	0.000021		
	Sodium (Na)-Dissolved (mg/L)	7.44	7.70		
	Strontium (Sr)-Dissolved (mg/L)	0.425	0.339		
	Sulfur (S)-Dissolved (mg/L)	119	97.3		
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010		
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010		
	Titanium (Ti)-Dissolved (mg/L)	0.00106	0.00096		
	Uranium (U)-Dissolved (mg/L)	0.00180	0.00125		
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050		
	Zinc (Zn)-Dissolved (mg/L)	0.0300	0.0233		
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030		

* 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	Aluminum (Al)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Antimony (Sb)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Boron (B)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Cobalt (Co)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Nickel (Ni)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Silver (Ag)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Thallium (Tl)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Tin (Sn)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Zinc (Zn)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Duplicate	Aluminum (Al)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Selenium (Se)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Silver (Ag)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Tin (Sn)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Vanadium (V)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Zirconium (Zr)-Total	DLA	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Method Blank	Chromium (Cr)-Total	MB-LOR	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Method Blank	Molybdenum (Mo)-Total	MB-LOR	L1758226-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Phosphorus (P)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1758226-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Ammonia, Total (as N)	MS-B	L1758226-13
Matrix Spike	Ammonia, Total (as N)	MS-B	L1758226-13
Matrix Spike	Manganese (Mn)-Total	MS-B	L1758226-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22
Matrix Spike	Molybdenum (Mo)-Total	MS-B	L1758226-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22
Matrix Spike	Sodium (Na)-Total	MS-B	L1758226-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22
Matrix Spike	Strontium (Sr)-Total	MS-B	L1758226-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22
Matrix Spike	Zinc (Zn)-Total	MS-B	L1758226-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLIS	Detection Limit Adjusted: Insufficient Sample
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

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

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

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

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

Reference Information

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

BE-T-L-CCMS-VA Water Total Be (Low) in Water by CRC ICPMS EPA 200.2/6020A (mod)
 Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

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

CL-IC-N-WR Water Chloride in Water by IC EPA 300.1 (mod)
 Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-CNO-WT Water Cyanate APHA 4500-CN-L
 This analysis is carried out using procedures adapted from APHA method 4500-CN "Cyanide". Cyanate is determined by the Cyanate hydrolysis method using an ammonia selective electrode

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

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

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

EC-PCT-VA Water Conductivity (Automated) APHA 2510 Auto. Conduc.
 This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

F-IC-N-WR Water Fluoride in Water by IC EPA 300.1 (mod)
 Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B
 Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)
 Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA Water Total Mercury in Water by CVAAS or CVAFS EPA 1631E (mod)
 Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

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

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

$$\text{Ion Balance (\%)} = \frac{[\text{Cation Sum} - \text{Anion Sum}]}{[\text{Cation Sum} + \text{Anion Sum}]}$$

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)
 Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

TDS-CALC-VA Water TDS (Calculated) APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".

TSS-MAN-WR Water Total Suspended Solids by Gravimetric APHA 2540 D

Reference Information

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.

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

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

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

Chain of Custody Numbers:

1	2	3

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com



L1758226-COFC

COC Number: 14 -

Page ___ of ___

Report To	Report Format	Analysis Request
Company: EDI	Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)	P Rush Turnaround Time (TAT) is not available for all tests received by 3 pm - business days
Contact: Lyndsay Doetzel	Quality Control (QC) Report with Report <input 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: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	<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: 867-393-4882	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: <u>ldoetzel@edynamics.com</u>	Specify Date Required for E2, E or P:
	Email 2: <u>Emilie.Hamm@gov.yk.ca</u>	
	Email 3: <u>enk.pit@gov.yk.ca</u>	

Invoice To	Invoice Distribution	Analysis Request																				
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																				
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Email 1 or Fax: <u>sjenner@edynamics.com</u>																					
Company: EDI	Email 2: <u>ldoetzel@edynamics.com</u>																					
Contact: S Jenner																						
Project Information		Oil and Gas Required Fields (client use)																				
ALS Quote #: Q55559	Approver ID:																					
Job #: MOUNT NANSEN 16-Y-0089	GL Account:																					
PO / AFE:	Activity Code:																					
LSD:	Location:																					
ALS Lab Work Order # (lab use only)	ALS Contact: Sean Slugget	Sampler:																				

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	ALK-PCT-VA	ANIONS-ALL-IC-WR	CN-WAD-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA	TDS-CALC-VA	Number of Containers
	WQ-DC-DX+10S	19-Apr-16	1755	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-DX+10S-r	19-Apr-16	1800	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-TP	19-Apr-16	1515	Water	R	R	R	R	R	R	R	R	R	R	9
	FIELD BLANK	20-Apr-16	1045	Water	R	R	R	R	R	R	R	R	R	R	9
	TRAVEL BLANK	19-Apr-16		Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-VC-U	20-Apr-16	12:00	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-VC-U-r	20-Apr-16	12:05	water	R	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		Frozen <input type="checkbox"/>	SIF Observations <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Ice packs <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Custody seal intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
		Cooling Initiated <input type="checkbox"/>	
		INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
		20.8 20.8 20.8	15 16

SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)		FINAL SHIPMENT RECEPTION (lab use only)	
Released by: <u>Scott Dilling</u>	Date: <u>20-Apr-2016</u>	Time: <u>1545</u>	Received by: <u>[Signature]</u>	Date: <u>21-Apr-2016</u>	Time: <u>12:35</u>



L1758226-COFC

Report To		Report Form			slow (Rush Turnaround Time (TAT) is not available for all tests)																																																																																																																																																																																	
Company: EDI		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)																																																																																																																																																																																	
Contact: Lyndsay Doetzel		Quality Control (QC) Report with Report <input 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: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8		<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: 867-393-4882		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: ldoetzel@edynamics.com		Email 1 or Fax: ldoetzel@edynamics.com			Specify Date Required for E2, E or P:																																																																																																																																																																																	
Email 2: Emilie.Hamm@gov.yk.ca		Email 2: Emilie.Hamm@gov.yk.ca			<table border="1"> <thead> <tr> <th colspan="12">Analysis Request</th> <th rowspan="2">Number of Containers</th> </tr> <tr> <th colspan="13">Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below</th> </tr> <tr> <th></th><th></th><th>P</th><th>P</th><th>P</th><th>P</th><th>P</th><th>F/P</th><th></th><th></th><th></th><th></th><th></th><th></th> </tr> </thead> <tbody> <tr> <td>ALK-PCT-VA</td><td>EC-PCT-VA</td><td>PH-PCT-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>ANIONS-ALL-IC-WR</td><td>TSS-MAN-WR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>CN-WAD-CFA-VA</td><td>CN-T-CFA-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>CN-CNO-WT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>CN-SCN-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>NH3-F-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>MET-T-BCMDG-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>MET-D-BCMDG-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>IONBALANC-VA</td><td>TDS-CALC-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>												Analysis Request												Number of Containers	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below															P	P	P	P	P	F/P							ALK-PCT-VA	EC-PCT-VA	PH-PCT-VA												ANIONS-ALL-IC-WR	TSS-MAN-WR													CN-WAD-CFA-VA	CN-T-CFA-VA													CN-CNO-WT														CN-SCN-VA														NH3-F-VA														MET-T-BCMDG-VA														MET-D-BCMDG-VA														IONBALANC-VA	TDS-CALC-VA												
Analysis Request																	Number of Containers																																																																																																																																																																					
Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																																																																																																																						
		P	P	P	P	P	F/P																																																																																																																																																																															
ALK-PCT-VA	EC-PCT-VA	PH-PCT-VA																																																																																																																																																																																				
ANIONS-ALL-IC-WR	TSS-MAN-WR																																																																																																																																																																																					
CN-WAD-CFA-VA	CN-T-CFA-VA																																																																																																																																																																																					
CN-CNO-WT																																																																																																																																																																																						
CN-SCN-VA																																																																																																																																																																																						
NH3-F-VA																																																																																																																																																																																						
MET-T-BCMDG-VA																																																																																																																																																																																						
MET-D-BCMDG-VA																																																																																																																																																																																						
IONBALANC-VA	TDS-CALC-VA																																																																																																																																																																																					
Invoice To: Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Invoice Distribution																																																																																																																																																																																				
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																																																																																																																																																																																				
Company: EDI		Email 1 or Fax: sienner@edynamics.com																																																																																																																																																																																				
Contact: S Jenner		Email 2: ldoetzel@edynamics.com																																																																																																																																																																																				
Project Information		Oil and Gas Required Fields (client use)																																																																																																																																																																																				
ALS Quote #: Q55559		Approver ID:			Cost Center:																																																																																																																																																																																	
Job #: MOUNT NANSEN 16-Y-0089		GL Account:			Routing Code:																																																																																																																																																																																	
PO / AFE:		Activity Code:																																																																																																																																																																																				
LSD:		Location:																																																																																																																																																																																				
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Slugget		Sampler:																																																																																																																																																																																		
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	ALK-PCT-VA	ANIONS-ALL-IC-WR	CN-WAD-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA	TDS-CALC-VA				Number of Containers																																																																																																																																																																				
	WQ-PC-U	19-Apr-16	1640	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
	WQ-DC-DX	19-Apr-16	1815	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
	WQ-DC-B	19-Apr-16	1545	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
	WQ-VC-R+150	18-Apr-16	1400	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
	WQ-PC-D	19-Apr-16	1700	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
	WQ-DC-U	18-Apr-16	1730	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
	WQ-DC-R	18-APR-16	1600	Water	R	R	R	R	R	R	R	R	R	R				9																																																																																																																																																																				
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Criteria to add on report (client Use)																																																																																																																																																																																				
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<table border="1"> <thead> <tr> <th colspan="12">SAMPLE CONDITION AS RECEIVED (lab use only)</th> </tr> </thead> <tbody> <tr> <td>Frozen</td><td><input type="checkbox"/></td> <td>SIF Observations</td><td><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> <td colspan="9"></td> </tr> <tr> <td>Ice packs</td><td><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>Custody seal intact</td><td><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> <td colspan="9"></td> </tr> <tr> <td>Cooling initiated</td><td><input checked="" type="checkbox"/></td> <td colspan="10"></td> </tr> <tr> <td colspan="6">INITIAL COOLER TEMPERATURES °C</td> <td colspan="6">FINAL COOLER TEMPERATURES °C</td> </tr> <tr> <td colspan="6">25.80 17.80 24.6</td> <td colspan="6">5 6</td> </tr> </tbody> </table>														SAMPLE CONDITION AS RECEIVED (lab use only)												Frozen	<input type="checkbox"/>	SIF Observations	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										Ice packs	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Custody seal intact	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										Cooling initiated	<input checked="" type="checkbox"/>											INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C						25.80 17.80 24.6						5 6																																																																																																		
SAMPLE CONDITION AS RECEIVED (lab use only)																																																																																																																																																																																						
Frozen	<input type="checkbox"/>	SIF Observations	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																																																																																																																																																			
Ice packs	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Custody seal intact	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																																																																																																																																																			
Cooling initiated	<input checked="" type="checkbox"/>																																																																																																																																																																																					
INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C																																																																																																																																																																																
25.80 17.80 24.6						5 6																																																																																																																																																																																
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																																																																																																																																																						
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)																																																																																																																																																																																				
Released by: SCOTT DILLING	Date: 20-APR-2016	Time: 1545	Received by: [Signature]	Date: [Signature]	Time: 1545	Received by: Jean	Date: 21 Apr	Time: 12:35																																																																																																																																																																														