

APPENDIX G



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Date Received: 13-JUL-15
Report Date: 20-JUL-15 16:19 (MT)
Version: FINAL

Client Phone: 604-688-2001

Certificate of Analysis

Lab Work Order #: L1641150
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc:

Ariel Tang, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

20-JUL-15 16:19 (MT)

Version: FINAL

Sample ID Description Sampled Date Sampled Time Client ID		L1641150-1 WATER 07-JUL-15 20:00 CASKET	L1641150-2 WATER 07-JUL-15 20:00 FUNERAL@FAST	L1641150-3 WATER 07-JUL-15 20:00 FUNERAL@13.4	L1641150-4 WATER 07-JUL-15 20:00 FUNERAL@15.8	L1641150-5 WATER 07-JUL-15 20:00 SUNDOG@20.4
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	579	443	403	334	260
	Hardness (as CaCO3) (mg/L)	323	241	221	185	142
	pH (pH)	8.41	8.39	8.35	8.27	8.31
	Total Suspended Solids (mg/L)	<3.0	<3.0	<3.0	4.5	<3.0
	Total Dissolved Solids (mg/L)	398	282	255	216	151
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	202	165	153	114	122
	Ammonia, Total (as N) (mg/L)	<0.0050	0.101	<0.0050	<0.0050	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Nitrate (as N) (mg/L)	0.136	0.145	0.177	0.217	0.207
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	122	76.4	68.2	65.7	21.8
Total Metals	Aluminum (Al)-Total (mg/L)	<0.010	<0.010	<0.010	0.018	0.011
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	0.0013	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.060	0.062	0.093	0.078	0.081
	Beryllium (Be)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Total (mg/L)	<0.000050	<0.000050	<0.000050	0.00127	0.000057
	Calcium (Ca)-Total (mg/L)	70.8	54.4	51.2	40.1	31.8
	Chromium (Cr)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	<0.030	<0.030	<0.030	0.132	<0.030
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	0.0022	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	37.2	25.8	23.9	24.1	16.6
	Manganese (Mn)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Mercury (Hg)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Total (mg/L)	0.0058	0.0030	0.0013	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	0.0054	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Total (mg/L)	0.0013	0.0011	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
	Thallium (Tl)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Total (mg/L)	0.0105	0.00411	0.00174	<0.00020	0.00121
	Vanadium (V)-Total (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

20-JUL-15 16:19 (MT)

Version: FINAL

Sample ID Description Sampled Date Sampled Time Client ID		L1641150-6 WATER 07-JUL-15 20:00 SUNDOG@23.4	L1641150-7 WATER 08-JUL-15 SUNDOG@28.2	L1641150-8 WATER 08-JUL-15 SUNDOG@39.4 TRIB	L1641150-9 WATER 08-JUL-15 SUNDOG@39.4	L1641150-10 WATER 08-JUL-15 SUNDOG@43.2
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	287	289	344	249	325
	Hardness (as CaCO3) (mg/L)	157	161	200	137	187
	pH (pH)	8.30	8.34	8.41	8.28	8.24
	Total Suspended Solids (mg/L)	<3.0	<3.0	<3.0	10.1	<3.0
	Total Dissolved Solids (mg/L)	176	171	208	141	198
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	115	116	195	112	177
	Ammonia, Total (as N) (mg/L)	<0.0050	<0.0050	0.0299	<0.0050	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Nitrate (as N) (mg/L)	0.204	0.210	<0.0050	0.219	0.0173
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	41.4	35.2	2.65	18.0	3.76
Total Metals	Aluminum (Al)-Total (mg/L)	<0.010	<0.010	0.012	0.022	0.034
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.076	0.060	0.108	0.035	0.171
	Beryllium (Be)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Total (mg/L)	35.1	34.8	67.9	38.4	67.3
	Chromium (Cr)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	<0.030	<0.030	0.164	<0.030	0.180
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	17.9	17.8	9.54	15.8	6.17
	Manganese (Mn)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Mercury (Hg)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	0.0010	<0.0010	0.0012
	Nickel (Ni)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
	Thallium (Tl)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Total (mg/L)	0.00089	0.00156	0.00030	0.00185	0.00045
	Vanadium (V)-Total (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1641150-11 WATER 08-JUL-15 POLJE@46.2	L1641150-12 WATER 08-JUL-15 POLJE@49.6	L1641150-13 WATER 08-JUL-15 POLJE@53.3	L1641150-14 WATER 08-JUL-15 TETCELA@87.2	L1641150-15 WATER 08-JUL-15 TETCELA@89.8
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	291	431	484	390	647
	Hardness (as CaCO3) (mg/L)	164	250	279	219	354
	pH (pH)	8.26	8.32	7.97	8.39	8.38
	Total Suspended Solids (mg/L)	<3.0	<3.0	<3.0	5.6	9.7
	Total Dissolved Solids (mg/L)	176	260	274	258	437
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	156	231	279	170	235
	Ammonia, Total (as N) (mg/L)	<0.0050	0.0132	<0.0050	0.0077	0.0055
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	4.41
	Nitrate (as N) (mg/L)	0.0122	0.0157	0.158	0.0604	0.0286
	Nitrite (as N) (mg/L)	<0.0010	0.0025	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	6.67	18.4	9.07	43.8	118
Total Metals	Aluminum (Al)-Total (mg/L)	0.016	0.024	0.016	0.262	0.231
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.236	0.274	0.268	0.073	0.077
	Beryllium (Be)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Total (mg/L)	51.7	75.5	89.7	75.1	104
	Chromium (Cr)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	0.0019	0.0013
	Iron (Fe)-Total (mg/L)	0.082	1.21	<0.030	0.308	0.420
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	9.76	15.8	13.3	11.4	22.6
	Manganese (Mn)-Total (mg/L)	0.018	0.185	<0.010	0.010	0.023
	Mercury (Hg)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Total (mg/L)	0.0033	0.0015	0.0013	0.0068	0.0040
	Nickel (Ni)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Total (mg/L)	<2.0	<2.0	<2.0	<2.0	6.9
	Thallium (Tl)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Total (mg/L)	0.00066	0.00063	0.00168	0.00186	0.00398
	Vanadium (V)-Total (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1641150-16 WATER 08-JUL-15 FISHTRAP	L1641150-17 WATER 08-JUL-15 GRAINGER@122.1	L1641150-18 WATER 08-JUL-15 GRAINGER@123.1	L1641150-19 WATER 08-JUL-15 GRAINGER@124.6	L1641150-20 WATER 08-JUL-15 GRAINGER@130.7
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	632	395	378	344	366
	Hardness (as CaCO3) (mg/L)	286	219	211	196	210
	pH (pH)	8.08	8.32	8.20	8.35	8.44
	Total Suspended Solids (mg/L)	4.3	3.3	<3.0	<3.0	<3.0
	Total Dissolved Solids (mg/L)	421	237	227	206	203
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	185	225	222	172	208
	Ammonia, Total (as N) (mg/L)	0.0103	0.0140	0.0164	0.0070	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Nitrate (as N) (mg/L)	<0.0050	0.0166	0.0675	0.230	0.173
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	153	2.50	8.49	19.9	9.18
Total Metals	Aluminum (Al)-Total (mg/L)	0.014	0.054	0.015	<0.010	0.024
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.059	0.124	0.135	0.096	0.072
	Beryllium (Be)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Total (mg/L)	73.4	67.9	64.1	56.0	52.4
	Chromium (Cr)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	0.088	0.099	0.404	<0.030	0.030
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	28.2	13.2	14.8	15.3	20.4
	Manganese (Mn)-Total (mg/L)	<0.010	0.014	0.043	<0.010	<0.010
	Mercury (Hg)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	0.0010	0.0013	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Total (mg/L)	29.1	5.2	2.9	<2.0	<2.0
	Thallium (Tl)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Total (mg/L)	0.00032	0.00034	0.00087	0.00248	0.00062
	Vanadium (V)-Total (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030

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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID Description Sampled Date Sampled Time Client ID	L1641150-21 WATER 08-JUL-15 GRAINGER@132.6	L1641150-22 WATER 08-JUL-15 LIARD@154.5	L1641150-23 WATER 07-JUL-15 20:00 DRUM CREEK		
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		356	483	284		
	Hardness (as CaCO3) (mg/L)		209	275	157		
	pH (pH)		8.44	8.41	8.21		
	Total Suspended Solids (mg/L)		<3.0	3.6	<3.0		
	Total Dissolved Solids (mg/L)		205	286	170		
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		201	275	116		
	Ammonia, Total (as N) (mg/L)		<0.0050	0.0095	<0.0050		
	Chloride (Cl) (mg/L)		<0.50	<0.50	<0.50		
	Nitrate (as N) (mg/L)		0.184	0.0288	0.203		
	Nitrite (as N) (mg/L)		<0.0010	<0.0010	<0.0010		
	Sulfate (SO4) (mg/L)		4.42	7.75	41.1		
Total Metals	Aluminum (Al)-Total (mg/L)		0.022	0.012	0.010		
	Antimony (Sb)-Total (mg/L)		<0.00050	<0.00050	<0.00050		
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010		
	Barium (Ba)-Total (mg/L)		0.043	0.132	0.074		
	Beryllium (Be)-Total (mg/L)		<0.0050	<0.0050	<0.0050		
	Boron (B)-Total (mg/L)		<0.10	<0.10	<0.10		
	Cadmium (Cd)-Total (mg/L)		<0.000050	<0.000050	<0.000050		
	Calcium (Ca)-Total (mg/L)		56.4	75.1	34.8		
	Chromium (Cr)-Total (mg/L)		<0.00050	<0.00050	<0.00050		
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050		
	Copper (Cu)-Total (mg/L)		<0.0010	<0.0010	<0.0010		
	Iron (Fe)-Total (mg/L)		0.059	<0.030	<0.030		
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010		
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050		
	Magnesium (Mg)-Total (mg/L)		18.3	26.1	17.4		
	Manganese (Mn)-Total (mg/L)		<0.010	<0.010	<0.010		
	Mercury (Hg)-Total (mg/L)		<0.00020	<0.00020	<0.00020		
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010		
	Nickel (Ni)-Total (mg/L)		<0.0050	<0.0050	<0.0050		
	Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010		
	Silver (Ag)-Total (mg/L)		<0.000050	<0.000050	<0.000050		
	Sodium (Na)-Total (mg/L)		<2.0	4.8	<2.0		
	Thallium (Tl)-Total (mg/L)		<0.00020	<0.00020	<0.00020		
	Titanium (Ti)-Total (mg/L)		<0.050	<0.050	<0.050		
	Uranium (U)-Total (mg/L)		0.00053	0.00094	0.00090		
	Vanadium (V)-Total (mg/L)		<0.030	<0.030	<0.030		

* 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		L1641150-1 WATER 07-JUL-15 20:00 CASKET	L1641150-2 WATER 07-JUL-15 20:00 FUNERAL@FAST	L1641150-3 WATER 07-JUL-15 20:00 FUNERAL@13.4	L1641150-4 WATER 07-JUL-15 20:00 FUNERAL@15.8	L1641150-5 WATER 07-JUL-15 20:00 SUNDOG@20.4
Grouping	Analyte					
WATER						
Total Metals	Zinc (Zn)-Total (mg/L)	0.0190	0.0304	<0.0050	0.341	0.0084
Dissolved Metals	Dissolved Mercury Filtration Location	LAB	LAB	LAB	LAB	LAB
	Dissolved Metals Filtration Location	LAB	LAB	LAB	LAB	LAB
	Aluminum (Al)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)	0.0012	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.059	0.061	0.090	0.076	0.078
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	0.00104	0.000054
	Calcium (Ca)-Dissolved (mg/L)	69.5	54.4	50.2	37.2	30.6
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	36.2	25.6	23.3	22.3	16.0
	Manganese (Mn)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Dissolved (mg/L)	0.0056	0.0029	0.0013	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	0.0055	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Dissolved (mg/L)	0.0012	0.0011	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Dissolved (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Dissolved (mg/L)	0.0100	0.00381	0.00176	<0.00020	0.00115
	Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Zinc (Zn)-Dissolved (mg/L)	0.0196	0.0309	<0.0050	0.317	0.0075

* 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		L1641150-6 WATER 07-JUL-15 20:00 SUNDOG@23.4	L1641150-7 WATER 08-JUL-15 SUNDOG@28.2	L1641150-8 WATER 08-JUL-15 SUNDOG@39.4 TRIB	L1641150-9 WATER 08-JUL-15 SUNDOG@39.4	L1641150-10 WATER 08-JUL-15 SUNDOG@43.2
Grouping	Analyte					
WATER						
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Dissolved Mercury Filtration Location	LAB	LAB	LAB	LAB	LAB
	Dissolved Metals Filtration Location	LAB	LAB	LAB	LAB	LAB
	Aluminum (Al)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.073	0.060	0.101	0.034	0.164
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Dissolved (mg/L)	34.5	34.9	65.3	33.3	65.1
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	0.039
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	17.3	17.9	9.04	13.1	6.00
	Manganese (Mn)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	0.0011	<0.0010	0.0012
	Nickel (Ni)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Dissolved (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Dissolved (mg/L)	0.00088	0.00156	0.00029	0.00179	0.00044
	Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

* 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		L1641150-11 WATER 08-JUL-15 POLJE@46.2	L1641150-12 WATER 08-JUL-15 POLJE@49.6	L1641150-13 WATER 08-JUL-15 POLJE@53.3	L1641150-14 WATER 08-JUL-15 TETCELA@87.2	L1641150-15 WATER 08-JUL-15 TETCELA@89.8
Grouping	Analyte					
WATER						
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Dissolved Mercury Filtration Location	LAB	LAB	LAB	LAB	LAB
	Dissolved Metals Filtration Location	LAB	LAB	LAB	LAB	LAB
	Aluminum (Al)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.227	0.260	0.265	0.064	0.073
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Dissolved (mg/L)	50.2	74.6	89.9	70.3	105
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0014	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	9.49	15.6	13.3	10.6	22.6
	Manganese (Mn)-Dissolved (mg/L)	<0.010	0.163	<0.010	<0.010	0.013
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Dissolved (mg/L)	0.0033	0.0015	0.0015	0.0065	0.0037
	Nickel (Ni)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Dissolved (mg/L)	<2.0	<2.0	<2.0	<2.0	6.9
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Dissolved (mg/L)	0.00064	0.00061	0.00164	0.00176	0.00377
	Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

* 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		L1641150-16 WATER 08-JUL-15 FISHTRAP	L1641150-17 WATER 08-JUL-15 GRAINGER@122.1	L1641150-18 WATER 08-JUL-15 GRAINGER@123.1	L1641150-19 WATER 08-JUL-15 GRAINGER@124.6	L1641150-20 WATER 08-JUL-15 GRAINGER@130.7
Grouping	Analyte					
WATER						
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Dissolved Mercury Filtration Location	LAB	LAB	LAB	LAB	LAB
	Dissolved Metals Filtration Location	LAB	LAB	LAB	LAB	LAB
	Aluminum (Al)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.056	0.120	0.123	0.092	0.069
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Dissolved (mg/L)	71.5	66.5	61.1	54.2	51.2
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.033	<0.030	0.037	<0.030	<0.030
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	26.1	12.9	14.3	14.8	20.0
	Manganese (Mn)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	0.0010	0.0013	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Dissolved (mg/L)	27.7	5.1	2.6	<2.0	<2.0
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Dissolved (mg/L)	0.00029	0.00033	0.00099	0.00235	0.00060
	Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

* 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		L1641150-21 WATER 08-JUL-15 GRAINGER@132.6	L1641150-22 WATER 08-JUL-15 LIARD@154.5	L1641150-23 WATER 07-JUL-15 20:00 DRUM CREEK		
Grouping	Analyte					
WATER						
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0050	<0.0050	<0.0050		
Dissolved Metals	Dissolved Mercury Filtration Location	LAB	LAB	LAB		
	Dissolved Metals Filtration Location	LAB	LAB	LAB		
	Aluminum (Al)-Dissolved (mg/L)	<0.010	<0.010	<0.010		
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050		
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Barium (Ba)-Dissolved (mg/L)	0.042	0.122	0.074		
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050		
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10	<0.10		
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050		
	Calcium (Ca)-Dissolved (mg/L)	54.5	70.1	34.3		
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050		
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050		
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Iron (Fe)-Dissolved (mg/L)	<0.030	<0.030	<0.030		
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050		
	Magnesium (Mg)-Dissolved (mg/L)	17.7	24.4	17.4		
	Manganese (Mn)-Dissolved (mg/L)	<0.010	<0.010	<0.010		
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020		
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Nickel (Ni)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050		
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050		
	Sodium (Na)-Dissolved (mg/L)	<2.0	4.4	<2.0		
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020		
	Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050	<0.050		
	Uranium (U)-Dissolved (mg/L)	0.00050	0.00090	0.00078		
	Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030	<0.030		
	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050		

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

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
WSMT	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1641150-11	POLJE@46.2	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-12	POLJE@49.6	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-13	POLJE@53.3	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-14	TETCELA@87.2	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-15	TETCELA@89.8	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-16	FISHTRAP	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-17	GRAINGER@122.1	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-18	GRAINGER@123.1	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-19	GRAINGER@124.6	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-20	GRAINGER@130.7	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-21	GRAINGER@132.6	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-22	LIARD@154.5	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-7	SUNDOG@28.2	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-8	SUNDOG@39.4 TRIB	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1641150-9	SUNDOG@39.4	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)
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1641150-19, -20, -21, -22
Matrix Spike	Antimony (Sb)-Dissolved	MS-B	L1641150-19, -20, -21, -22
Matrix Spike	Aluminum (Al)-Total	MS-B	L1641150-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -7, -8, -9
Matrix Spike	Copper (Cu)-Total	MS-B	L1641150-23
Matrix Spike	Calcium (Ca)-Total	MS-B	L1641150-1, -2, -3, -4, -5, -6
Matrix Spike	Iron (Fe)-Total	MS-B	L1641150-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1641150-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -7, -8, -9
Matrix Spike	Iron (Fe)-Total	MS-B	L1641150-23
Matrix Spike	Zinc (Zn)-Total	MS-B	L1641150-23

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-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.

Reference Information

CL-IC-N-VA	Water	Chloride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
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
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
HG-DIS-CVAFS-VA	Water	Dissolved Hg in Water by CVAFS LOR=50ppt	APHA 3030B/EPA 1631E (mod)
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-CVAFS-VA	Water	Total Hg in Water by CVAFS LOR=50ppt	EPA 1631E (mod)
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).			
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-ICP-VA	Water	Dissolved Metals 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 procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
MET-TOT-ICP-VA	Water	Total Metals 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 (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-VA	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-VA	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			

Reference Information

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.

SO4-IC-N-VA Water Sulfate in Water by IC EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-VA Water Total Dissolved Solids by Gravimetric APHA 2540 C - GRAVIMETRIC
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.

TSS-VA Water Total Suspended Solids by Gravimetric APHA 2540 D - GRAVIMETRIC
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by 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:

GLOSSARY OF REPORT TERMS

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

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

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

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

mg/L - milligrams per litre.

< - Less than.

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

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

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

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

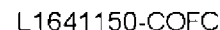
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Report To Company: Canadian Zinc Contact: David Harpley Address: 1710-650 West Georgia St Vancouver, BC, V6B 4N9 Phone: 604 594 3855		Report Format / Distribution Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Criteria on Report - provide details below if box checked Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: david@canadianzinc.com Email 2:		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days) P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge Specify Date Required for E2, E or P:																																																																																																																																																																																																															
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Project Information ALS Quote #: Job #: PO / AFE: LSD:		Oil and Gas Required Fields (client use) Approver ID: GL Account: Activity Code: Location:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>pH, Cond.</th> <th>TSS</th> <th>Total Metals P</th> <th>Dissolved Metals</th> <th>Dissolved Zinc</th> <th>Ammonia</th> <th>EPH</th> <th>Sulphate, Chloride</th> <th>Alkalinity</th> <th>Nitrogen Species</th> <th>TDS</th> <th></th> <th>Number of Containers</th> </tr> </thead> <tbody> <tr><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Casket</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Funeral@Fast</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Funeral@13.4</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Funeral@15.8</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Sundog@20.4</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Sundog@23.4</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Sundog@28.2</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Sundog@39.4 Trib</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Sundog@39.4</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Sundog@43.2</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Polje@46.2</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> <tr><td>Polje@49.6</td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td></td><td></td><td>R</td><td>R</td><td>R</td><td>R</td><td></td><td>2</td></tr> </tbody> </table>													pH, Cond.	TSS	Total Metals P	Dissolved Metals	Dissolved Zinc	Ammonia	EPH	Sulphate, Chloride	Alkalinity	Nitrogen Species	TDS		Number of Containers		R	R	R	R				R	R	R	R		2	Casket	R	R	R	R				R	R	R	R		2	Funeral@Fast	R	R	R	R				R	R	R	R		2	Funeral@13.4	R	R	R	R				R	R	R	R		2	Funeral@15.8	R	R	R	R				R	R	R	R		2	Sundog@20.4	R	R	R	R				R	R	R	R		2	Sundog@23.4	R	R	R	R				R	R	R	R		2	Sundog@28.2	R	R	R	R				R	R	R	R		2	Sundog@39.4 Trib	R	R	R	R				R	R	R	R		2	Sundog@39.4	R	R	R	R				R	R	R	R		2	Sundog@43.2	R	R	R	R				R	R	R	R		2	Polje@46.2	R	R	R	R				R	R	R	R		2	Polje@49.6	R	R	R	R				R	R	R	R		2
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Drinking Water (DW) Samples¹ (client use) Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Special Instructions / Specify Criteria to add on report (client Use) Use 1L bottle for water to be filtered and analysed for dissolved metals		SAMPLE CONDITION AS RECEIVED (lab use only) Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/> Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> Cooling Initiated <input type="checkbox"/> INITIAL COOLER TEMPERATURES °C: 19 FINAL COOLER TEMPERATURES °C:																																																																																																																																																																																																															
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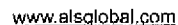
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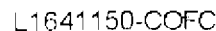
64-54-0325a v09 FRUITFUL - January 2011

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



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NA-df M-0338n v08 From 03 October 2011

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