



ENVIRONMENTAL DYNAMICS INC.
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Date Received: 15-MAY-15
Report Date: 25-JUN-15 13:42 (MT)
Version: FINAL REV. 2

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1612473
Project P.O. #: NOT SUBMITTED
Job Reference: MOUNT NANSEN 15-Y-0146
C of C Numbers: 1, 2, 3, 4
Legal Site Desc:

Comments: 25-JUN-2015 Revision 2: This revision includes modified Total Suspended Solids data for the sample ALS identify as L1612473-8. Also included is the additional Fluoride data for the samples ALS identify as L1612473-16 and L1612473-18.

Can Dang
Senior Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

25-JUN-15 13:42 (MT)

Version: FINAL REV. 2

Sample ID Description Sampled Date Sampled Time Client ID	L1612473-1 Water 12-MAY-15 14:35 0146-150512- FIELD BLANK	L1612473-2 Water 12-MAY-15 16:30 0146-150512-022	L1612473-3 Water 13-MAY-15 11:40 0146-150513-026	L1612473-4 Water 12-MAY-15 18:30 0146-150512-021	L1612473-5 Water 12-MAY-15 12:25 0146-150512-035	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	<2.0	138	107	573	2090
	Hardness (as CaCO3) (mg/L)	<0.50	64.3	53.3	298	1410
	pH (pH)	5.69	7.60	7.72	8.09	7.74
	Total Suspended Solids (mg/L)	<3.0	<3.0	339	12.7	324
	Total Dissolved Solids (mg/L)	<1.0	75.3	60.6	370	1860
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	<1.0	27.3	42.8	90.4	37.3
	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)	<1.0	27.3	42.8	90.4	37.3
	Ammonia, Total (as N) (mg/L)	<0.0050	0.0080	0.0193	0.258	<0.0050 ^{DLA}
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<2.5 ^{DLA}
	Fluoride (F) (mg/L)	<0.020	0.046	0.052	0.064	0.24
	Nitrate (as N) (mg/L)	<0.0050	<0.0050	0.0271	0.0190	0.052 ^{DLA}
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	0.0016	<0.0050 ^{DLA}
	Sulfate (SO4) (mg/L)	<0.30	32.4	13.2	202	1290
	Anion Sum (meq/L)	<0.10	1.22	1.13	6.01	27.5
	Cation Sum (meq/L)	<0.10	1.41	1.18	6.28	28.4
	Cation - Anion Balance (%)	0.0	7.2	1.9	2.1	1.6
	Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.020 ^{DLA}	<0.0050
Cyanide, Total (mg/L)		<0.0050	<0.0050	<0.020 ^{DLA}	<0.0050	<0.0050
Cyanate (mg/L)		<0.20	<2.0 ^{DLIS}	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)		<0.50	0.75	0.51	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0030	0.171	11.1	0.127	0.694
	Antimony (Sb)-Total (mg/L)	<0.00010	0.00084	0.00203	0.00194	0.0139
	Arsenic (As)-Total (mg/L)	<0.00010	0.00459	0.0686	0.0232	0.150
	Barium (Ba)-Total (mg/L)	<0.000050	0.0283	0.240	0.0399	0.0294
	Beryllium (Be)-Total (mg/L)	<0.000020	0.000021	0.000439	<0.000020	0.000056
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	0.000976	<0.000050	0.00096
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	0.010	<0.020 ^{DLA}
	Cadmium (Cd)-Total (mg/L)	<0.0000050	0.000503	0.00128	0.000169	0.0314
	Calcium (Ca)-Total (mg/L)	<0.050	18.8	17.3	81.9	490
	Chromium (Cr)-Total (mg/L)	0.00028	0.00027	0.0138	0.00033	0.00047
	Cobalt (Co)-Total (mg/L)	<0.00010	0.00013	0.00626	0.00091	0.00069
	Copper (Cu)-Total (mg/L)	<0.00050	0.0108	0.0252	0.00186	0.0235
	Iron (Fe)-Total (mg/L)	<0.010	0.264	16.7	1.25	2.94
	Lead (Pb)-Total (mg/L)	<0.000050	0.00109	0.0583	0.00419	0.0757

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-6	L1612473-7	L1612473-8	L1612473-9	L1612473-10	
		Description	Water	Water	Water	Water	Water	
		Sampled Date	13-MAY-15	12-MAY-15		13-MAY-15	13-MAY-15	
		Sampled Time	18:15	16:25		15:40	14:45	
		Client ID	0146-150513-006	0146-150512-024	TRAVEL BLANK	0146-150513-005	0146-150513-031	
Grouping	Analyte							
WATER								
Physical Tests	Conductivity (uS/cm)		226	136	<2.0	89.9	475	
	Hardness (as CaCO3) (mg/L)		98.9	65.2		42.5	251	
	pH (pH)		7.40	7.60	5.46	7.58	8.12	
	Total Suspended Solids (mg/L)		29.3	3.3	<3.0	8.0	49.3	
	Total Dissolved Solids (mg/L)		133	76.1	<1.0	49.2	305	
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		14.6	27.9	<1.0	29.1	101	
	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)		14.6	27.9	<1.0	29.1	101	
	Ammonia, Total (as N) (mg/L)		0.146	0.0081	0.0121 ^{RRV}	0.0071	0.0870	
	Chloride (Cl) (mg/L)		<0.50	<0.50	<0.50	<0.50	<0.50	
	Fluoride (F) (mg/L)		0.068	0.048	<0.020	0.055	0.078	
	Nitrate (as N) (mg/L)		0.0221	<0.0050	<0.0050	<0.0050	<0.0050	
	Nitrite (as N) (mg/L)		0.0012	<0.0010	<0.0010	<0.0010	<0.0010	
	Sulfate (SO4) (mg/L)		83.7	32.7	<0.30	13.0	150	
	Anion Sum (meq/L)		2.04	1.24	<0.10	0.86	5.15	
	Cation Sum (meq/L)		2.11	1.42	<0.10	0.96	5.19	
	Cation - Anion Balance (%)		1.7	6.7	0.0	6.0	0.4	
	Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.010 ^{DLA}	<0.0050	<0.0050	<0.010 ^{DLA}	<0.0050
		Cyanide, Total (mg/L)		<0.010 ^{DLA}	<0.0050	<0.0050	<0.010 ^{DLA}	<0.0050
Cyanate (mg/L)			<0.20	<0.20	<0.20	<0.20	<0.20	
Thiocyanate (SCN) (mg/L)			<0.50	0.75	<0.50	0.77	<0.50	
Total Metals	Aluminum (Al)-Total (mg/L)		0.0941	0.189	<0.0030	0.227	0.697	
	Antimony (Sb)-Total (mg/L)		0.0119	0.00097	<0.00010	0.00177	0.0148	
	Arsenic (As)-Total (mg/L)		0.0540	0.00560	<0.00010	0.0116	0.115	
	Barium (Ba)-Total (mg/L)		0.00469	0.0287	<0.000050	0.0262	0.0334	
	Beryllium (Be)-Total (mg/L)		<0.000020	0.000023	<0.000020	<0.000020	0.000038	
	Bismuth (Bi)-Total (mg/L)		0.000288	<0.000050	<0.000050	<0.000050	0.000327	
	Boron (B)-Total (mg/L)		0.010	<0.010	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Total (mg/L)		0.00265	0.000499	<0.0000050	0.000237	0.00163	
	Calcium (Ca)-Total (mg/L)		39.9	18.3	<0.050	11.6	68.2	
	Chromium (Cr)-Total (mg/L)		0.00026	0.00030	<0.00010	0.00042	0.00097	
	Cobalt (Co)-Total (mg/L)		0.00042	0.00013	<0.00010	0.00013	0.00065	
	Copper (Cu)-Total (mg/L)		0.0297	0.0101	<0.00050	0.00428	0.0110	
	Iron (Fe)-Total (mg/L)		0.470	0.315	<0.010	0.318	3.88	
	Lead (Pb)-Total (mg/L)		0.0284	0.00160	<0.000050	0.00233	0.0765	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-11	L1612473-12	L1612473-13	L1612473-14	L1612473-15	
		Description	Water	Water	Water	Water	Water	
		Sampled Date	13-MAY-15	13-MAY-15	13-MAY-15	13-MAY-15	14-MAY-15	
		Sampled Time	11:00	11:25	13:25	14:00	09:25	
		Client ID	0146-150513-028	0146-150513-025	0146-150513-002	0146-150513-032	0146-150514-004	
Grouping	Analyte							
WATER								
Physical Tests	Conductivity (uS/cm)		109	98.2	466	986	222	
	Hardness (as CaCO3) (mg/L)		48.8	48.7	268	568	107	
	pH (pH)		7.82	7.75	5.96	8.00	7.58	
	Total Suspended Solids (mg/L)		145	130	4.0	<3.0	31.3	
	Total Dissolved Solids (mg/L)		53.5	50.9	337	714	134	
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		41.9	37.4	3.7	81.4	30.3	
	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)		41.9	37.4	3.7	81.4	30.3	
	Ammonia, Total (as N) (mg/L)		0.0094	0.0090	0.0145	0.0098	0.0091	
	Chloride (Cl) (mg/L)		<0.50	<0.50	<0.50	<1.0 ^{DLA}	<0.50	
	Fluoride (F) (mg/L)		0.044	0.045	0.058	0.045	0.056	
	Nitrate (as N) (mg/L)		0.0283	0.0284	0.0056	0.143	0.0291	
	Nitrite (as N) (mg/L)		<0.0010	<0.0010	<0.0010	0.0063	<0.0010	
	Sulfate (SO4) (mg/L)		8.69	8.84	236	446	72.4	
	Anion Sum (meq/L)		1.02	0.94	5.00	10.9	2.12	
	Cation Sum (meq/L)		1.07	1.07	5.58	11.7	2.30	
	Cation - Anion Balance (%)		2.3	6.7	5.5	3.4	4.0	
	Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
		Cyanide, Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanate (mg/L)			<0.20	<0.20	<0.20	<0.20	<0.20	
Thiocyanate (SCN) (mg/L)			0.51	0.55	0.80	0.54	0.51	
Total Metals	Aluminum (Al)-Total (mg/L)		3.47	2.71	0.242	0.0232	0.582	
	Antimony (Sb)-Total (mg/L)		0.00075	0.00068	<0.00010	0.00017	0.00149	
	Arsenic (As)-Total (mg/L)		0.0190	0.0143	0.00142	0.00394	0.0131	
	Barium (Ba)-Total (mg/L)		0.110	0.0911	0.0175	0.0251	0.0347	
	Beryllium (Be)-Total (mg/L)		0.000141	0.000127	0.000041	<0.000020	0.000066	
	Bismuth (Bi)-Total (mg/L)		0.000237	0.000240	<0.000050	<0.000050	0.000067	
	Boron (B)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Total (mg/L)		0.000387	0.000310	0.00452	0.0000213	0.00572	
	Calcium (Ca)-Total (mg/L)		13.8	13.4	66.4	176	32.0	
	Chromium (Cr)-Total (mg/L)		0.00427	0.00344	0.00026	0.00017	0.00063	
	Cobalt (Co)-Total (mg/L)		0.00202	0.00158	0.00045	0.00011	0.00073	
	Copper (Cu)-Total (mg/L)		0.00958	0.00808	0.00265	0.00055	0.108	
	Iron (Fe)-Total (mg/L)		5.01	3.93	0.221	0.036	1.00	
	Lead (Pb)-Total (mg/L)		0.0151	0.0125	0.000107	0.000091	0.00471	

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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-16	L1612473-17	L1612473-18	L1612473-19	L1612473-20
		Description	Water	Water	Water	Water	Water
		Sampled Date	14-MAY-15	14-MAY-15	14-MAY-15	13-MAY-15	14-MAY-15
		Sampled Time	10:10	10:40	10:00	17:40	08:15
		Client ID	0146-150514-033	0146-150514-020	0146-150514-018	0146-150513-009	0146-150514-017
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		2330	87.1	1370	1350	527
	Hardness (as CaCO3) (mg/L)		1640	42.7	867	748	284
	pH (pH)		8.41	7.54	8.19	7.92	8.03
	Total Suspended Solids (mg/L)		31.3	121	32.0	38.0	7.3
	Total Dissolved Solids (mg/L)		1940	48.4	1040	1000	335
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		405	28.2	119	174	80.1
	Alkalinity, Carbonate (as CaCO3) (mg/L)		24.6	<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)		430	28.2	119	174	80.1
	Ammonia, Total (as N) (mg/L)		0.0850	0.0154	0.0095	3.59	0.0349
	Chloride (Cl) (mg/L)		<5.0 ^{DLA}	<0.50	<2.5 ^{DLA}	1.3	<0.50
	Fluoride (F) (mg/L)		0.092 ^{DLA}	0.031	0.131 ^{DLA}	0.055	0.070
			<0.20 ^{DLA}		<0.10 ^{DLA}		
	Nitrate (as N) (mg/L)		0.157	<0.0050	<0.025 ^{DLA}	0.262	0.0066
	Nitrite (as N) (mg/L)		0.016	<0.0010	<0.0050 ^{DLA}	0.0145	<0.0010
	Sulfate (SO4) (mg/L)		1130	13.0	666	574	183
	Anion Sum (meq/L)		32.0	0.83	16.2	15.5	5.42
	Cation Sum (meq/L)		33.6	0.96	17.8	17.2	5.92
	Cation - Anion Balance (%)		2.3	7.1	4.5	5.3	4.4
	Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050	<0.0050	0.0141
Cyanide, Total (mg/L)			<0.0050	<0.0050	<0.0050	0.137	<0.0050
Cyanate (mg/L)			<0.20	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)			<0.50	0.78	<0.50	3.22	0.67
Total Metals	Aluminum (Al)-Total (mg/L)		0.509	2.68	0.416	0.0670	0.261
	Antimony (Sb)-Total (mg/L)		0.0796	0.00148	0.0363	0.00068	0.00144
	Arsenic (As)-Total (mg/L)		0.135	0.0318	0.117	0.0558	0.00683
	Barium (Ba)-Total (mg/L)		0.0419	0.0673	0.0321	0.0608	0.0288
	Beryllium (Be)-Total (mg/L)		<0.000040 ^{DLA}	0.000085	0.000025	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)		0.00037	<0.000050	0.000257	<0.000050	<0.000050
	Boron (B)-Total (mg/L)		0.051	<0.010	0.051	0.057	<0.010
	Cadmium (Cd)-Total (mg/L)		0.0198	0.000250	0.0146	0.000584	0.000205
	Calcium (Ca)-Total (mg/L)		319	12.6	203	225	69.3
	Chromium (Cr)-Total (mg/L)		0.00103	0.00336	0.00056	0.00061	0.00040
	Cobalt (Co)-Total (mg/L)		0.00144	0.00162	0.00151	0.00644	0.00055
	Copper (Cu)-Total (mg/L)		0.0323	0.00672	0.0195	0.00625	0.00249
	Iron (Fe)-Total (mg/L)		1.41	4.34	1.15	12.7	1.09
	Lead (Pb)-Total (mg/L)		0.0890	0.00380	0.0653	0.000633	0.000841

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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-21	L1612473-22	L1612473-23	L1612473-24	L1612473-25	
		Description	Water	Water	Water	Water	Water	
		Sampled Date	12-MAY-15	12-MAY-15	13-MAY-15	12-MAY-15	13-MAY-15	
		Sampled Time	17:15	14:35	17:10	15:30	13:45	
		Client ID	0146-150512-023	0146-150512-036	0146-150513-010	0146-150512-034	0146-150513-030	
Grouping	Analyte							
WATER								
Physical Tests	Conductivity (uS/cm)		130	118	514	122	829	
	Hardness (as CaCO3) (mg/L)		62.4	57.6	282	59.2	466	
	pH (pH)		7.59	7.71	8.08	7.75	5.55	
	Total Suspended Solids (mg/L)		29.3	38.7	157	52.7	5.3	
	Total Dissolved Solids (mg/L)		74.9	62.9	329	69.1	580	
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		33.4	35.4	63.4	42.9	2.1	
	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)		33.4	35.4	63.4	42.9	2.1	
	Ammonia, Total (as N) (mg/L)		0.0138	0.0112	0.199	0.0135	0.0316	
	Chloride (Cl) (mg/L)		<0.50	<0.50	<0.50	<0.50	<0.50	
	Fluoride (F) (mg/L)		0.049	0.045	0.057	0.044	0.058	
	Nitrate (as N) (mg/L)		<0.0050	0.0184	0.0141	0.0214	<0.0050	
	Nitrite (as N) (mg/L)		<0.0010	<0.0010	0.0012	<0.0010	<0.0010	
	Sulfate (SO4) (mg/L)		28.9	18.5	186	19.8	413	
	Anion Sum (meq/L)		1.27	1.10	5.15	1.27	8.64	
	Cation Sum (meq/L)		1.38	1.26	5.89	1.29	9.61	
	Cation - Anion Balance (%)		4.0	7.0	6.7	0.7	5.3	
	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)			0.74	0.60	<0.50	0.56	0.80	
Total Metals	Aluminum (Al)-Total (mg/L)		0.169	0.891	2.85	1.59	0.261	
	Antimony (Sb)-Total (mg/L)		0.00033	0.00036	0.00290	0.00048	<0.00010	
	Arsenic (As)-Total (mg/L)		0.00325	0.00611	0.0360	0.00911	0.00120	
	Barium (Ba)-Total (mg/L)		0.0292	0.0560	0.0731	0.0652	0.0147	
	Beryllium (Be)-Total (mg/L)		<0.000020	0.000052	0.000097	0.000069	0.000038	
	Bismuth (Bi)-Total (mg/L)		<0.000050	0.000102	0.000084	0.000101	<0.000050	
	Boron (B)-Total (mg/L)		<0.010	<0.010	0.011	<0.010	<0.010	
	Cadmium (Cd)-Total (mg/L)		0.0000581	0.000108	0.000432	0.000198	0.00770	
	Calcium (Ca)-Total (mg/L)		18.7	15.2	78.1	16.2	113	
	Chromium (Cr)-Total (mg/L)		0.00025	0.00130	0.00448	0.00198	0.00026	
	Cobalt (Co)-Total (mg/L)		0.00028	0.00060	0.00217	0.00084	0.00014	
	Copper (Cu)-Total (mg/L)		0.00188	0.00425	0.00815	0.00547	0.00214	
	Iron (Fe)-Total (mg/L)		0.297	1.42	6.92	2.30	0.077	
	Lead (Pb)-Total (mg/L)		0.000353	0.00405	0.0113	0.00658	<0.000050	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-26	L1612473-27	L1612473-28	L1612473-29	L1612473-30	
		Description	Water	Water	Water	Water	Water	
		Sampled Date	13-MAY-15	13-MAY-15	14-MAY-15	13-MAY-15	13-MAY-15	
		Sampled Time	15:25	11:05	07:40	13:05	14:49	
		Client ID	0146-150513-003	0146-150513-027	0146-150514-019	0146-150513-001	0146-150513-029	
Grouping	Analyte							
WATER								
Physical Tests	Conductivity (uS/cm)		1070	93.3	1400	52.1	473	
	Hardness (as CaCO3) (mg/L)		653	49.5	815	27.6	257	
	pH (pH)		8.16	7.81	7.69	6.31	8.09	
	Total Suspended Solids (mg/L)		155	159	10.0	<3.0	48.0	
	Total Dissolved Solids (mg/L)		749	49.5	1090	25.5	296	
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		228	33.9	27.5	6.3	84.8	
	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)		228	33.9	27.5	6.3	84.8	
	Ammonia, Total (as N) (mg/L)		0.0368	0.0098	0.0332	0.0121	0.0898	
	Chloride (Cl) (mg/L)		<1.0 ^{DLA}	<0.50	<2.5 ^{DLA}	<0.50	<0.50	
	Fluoride (F) (mg/L)		0.206	0.045	0.24	0.046	0.079	
	Nitrate (as N) (mg/L)		<0.010 ^{DLA}	0.0291	0.115	<0.0050	<0.0050	
	Nitrite (as N) (mg/L)		<0.0020 ^{DLA}	<0.0010	<0.0050 ^{DLA}	<0.0010	<0.0010	
	Sulfate (SO4) (mg/L)		374	9.24	772	8.64	150	
	Anion Sum (meq/L)		12.4	0.87	16.6	0.31	4.81	
	Cation Sum (meq/L)		13.5	1.09	16.4	0.68	5.31	
	Cation - Anion Balance (%)		4.3	10.8	-0.7	37.7	4.9	
	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	0.23	<0.20	
Thiocyanate (SCN) (mg/L)			<0.50	0.51	<0.50	1.44	<0.50	
Total Metals	Aluminum (Al)-Total (mg/L)		1.65	3.26	0.0803	0.294	0.611	
	Antimony (Sb)-Total (mg/L)		0.0236	0.00073	0.00195	<0.00010	0.0151	
	Arsenic (As)-Total (mg/L)		0.231	0.0180	0.00642	0.00131	0.113	
	Barium (Ba)-Total (mg/L)		0.0516	0.106	0.00968	0.0366	0.0332	
	Beryllium (Be)-Total (mg/L)		0.000080	0.000140	<0.000020	0.000025	0.000038	
	Bismuth (Bi)-Total (mg/L)		0.000293	0.000252	<0.000050	<0.000050	0.000414	
	Boron (B)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Total (mg/L)		0.00675	0.000380	0.00765	0.0000468	0.00170	
	Calcium (Ca)-Total (mg/L)		165	14.0	260	8.19	69.2	
	Chromium (Cr)-Total (mg/L)		0.00167	0.00422	0.00015	0.00031	0.00102	
	Cobalt (Co)-Total (mg/L)		0.00224	0.00198	0.00030	<0.00010	0.00065	
	Copper (Cu)-Total (mg/L)		0.0629	0.00928	0.0496	0.00349	0.0105	
	Iron (Fe)-Total (mg/L)		7.56	4.71	0.196	0.107	3.59	
	Lead (Pb)-Total (mg/L)		0.0551	0.0158	0.00230	<0.000050	0.0784	

* 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	L1612473-31 Water 14-MAY-15 12:45 0146-150514-013	L1612473-32 Water 14-MAY-15 13:45 0146-150514-014	L1612473-33 Water 14-MAY-15 11:30 0146-150514-015		
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	2130	2590	40.0		
	Hardness (as CaCO3) (mg/L)	1450	1680	2.93		
	pH (pH)	8.10	7.88	7.19		
	Total Suspended Solids (mg/L)	9.3				
	Total Dissolved Solids (mg/L)	1790	2290	13.8		
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	112	54.7	7.0		
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0		
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0		
	Alkalinity, Total (as CaCO3) (mg/L)	112	54.7	7.0		
	Ammonia, Total (as N) (mg/L)	0.0083				
	Chloride (Cl) (mg/L)	<2.5 ^{DLA}	<5.0 ^{DLA}	<0.50		
	Fluoride (F) (mg/L)	0.12	0.39	0.054		
	Nitrate (as N) (mg/L)	12.5	0.093	0.0148		
	Nitrite (as N) (mg/L)	0.0272	<0.010 ^{DLA}	<0.0010		
	Sulfate (SO4) (mg/L)	1170	1680	8.35		
	Anion Sum (meq/L)	27.5	36.1	0.32		
	Cation Sum (meq/L)	29.3	33.7	<0.10		
	Cation - Anion Balance (%)	3.3	-3.4	-68.4		
	Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050			
		Cyanide, Total (mg/L)	<0.0050			
Cyanate (mg/L)		<0.20				
Thiocyanate (SCN) (mg/L)		<0.50				
Total Metals	Aluminum (Al)-Total (mg/L)	0.0562	0.0732	0.288		
	Antimony (Sb)-Total (mg/L)	0.00318	0.00210	0.00143		
	Arsenic (As)-Total (mg/L)	0.00985	0.0114	0.0124		
	Barium (Ba)-Total (mg/L)	0.00913	0.00538	0.00493		
	Beryllium (Be)-Total (mg/L)	<0.000040 ^{DLA}	<0.000040 ^{DLA}	<0.000020		
	Bismuth (Bi)-Total (mg/L)	<0.00010 ^{DLA}	0.00011	0.000108		
	Boron (B)-Total (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.010		
	Cadmium (Cd)-Total (mg/L)	0.0124	0.00357	0.000292		
	Calcium (Ca)-Total (mg/L)	342	310	6.59		
	Chromium (Cr)-Total (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	0.00020		
	Cobalt (Co)-Total (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	0.00010		
	Copper (Cu)-Total (mg/L)	0.0100	0.0033	0.00289		
	Iron (Fe)-Total (mg/L)	0.326	0.256	0.474		
	Lead (Pb)-Total (mg/L)	0.00771	0.00552	0.0101		

* 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	L1612473-1	L1612473-2	L1612473-3	L1612473-4	L1612473-5
					L1612473-1 Water 12-MAY-15 14:35 0146-150512- FIELD BLANK	L1612473-2 Water 12-MAY-15 16:30 0146-150512-022	L1612473-3 Water 13-MAY-15 11:40 0146-150513-026	L1612473-4 Water 12-MAY-15 18:30 0146-150512-021	L1612473-5 Water 12-MAY-15 12:25 0146-150512-035
Grouping	Analyte								
WATER									
Total Metals	Lithium (Li)-Total (mg/L)	<0.0010	<0.0010	0.0063	0.0013	0.0064			
	Magnesium (Mg)-Total (mg/L)	<0.10	3.90	6.48	21.4	31.2			
	Manganese (Mn)-Total (mg/L)	0.00016	0.0263	0.717	1.09	0.952			
	Mercury (Hg)-Total (mg/L)	<0.0000050	0.0000087	0.000033	<0.0000050	0.0000132			
	Molybdenum (Mo)-Total (mg/L)	<0.000050	0.000098	0.00115	0.000246	0.00011			
	Nickel (Ni)-Total (mg/L)	<0.00050	0.00078	0.00978	0.00089	0.0012			
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	0.362	<0.050	0.052			
	Potassium (K)-Total (mg/L)	<0.10	1.45	2.72	2.16	2.63			
	Rubidium (Rb)-Total (mg/L)	<0.00020	0.00145	0.0172	0.00158	0.00575			
	Selenium (Se)-Total (mg/L)	<0.000050	<0.000050	0.000139	0.000066	0.00019			
	Silicon (Si)-Total (mg/L)	<0.050	2.90	21.2	2.86	5.57			
	Silver (Ag)-Total (mg/L)	<0.000010	0.000039	0.000644	0.000080	0.00103			
	Sodium (Na)-Total (mg/L)	<0.050	1.50	1.90	4.14	1.49			
	Strontium (Sr)-Total (mg/L)	<0.00020	0.134	0.153	0.224	0.302			
	Sulfur (S)-Total (mg/L)	<0.50	11.7	4.85	70.8	430			
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	0.000214	<0.000010	0.000127			DLA
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	0.00026	<0.00010	<0.00020			DLA
	Titanium (Ti)-Total (mg/L)	<0.00030	0.00289	0.306	0.00398	0.00384			
	Uranium (U)-Total (mg/L)	<0.000010	0.000092	0.00164	0.000721	0.000638			
	Vanadium (V)-Total (mg/L)	<0.00050	<0.00050	0.0294	0.00077	0.0018			
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0417	0.127	0.0167	1.74			DLA
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	0.00149	<0.00030	<0.00060			DLA
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)	<0.0010	0.106	0.104	0.0281	0.0475			
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00077	0.00016	0.00124	0.00346			
	Arsenic (As)-Dissolved (mg/L)	<0.00010	0.00347	0.00153	0.0111	0.0149			
	Barium (Ba)-Dissolved (mg/L)	<0.000050	0.0265	0.0368	0.0354	0.0131			DLA
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040			DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.00010			DLA
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	0.010	<0.020			DLA
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.000487	0.0000919	0.0000620	0.0254			
	Calcium (Ca)-Dissolved (mg/L)	<0.050	19.2	14.8	83.4	513			DLA
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00013	0.00019	<0.00010	<0.00020			
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	0.00018	0.00083	0.00023			
	Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00974	0.00349	0.00121	0.00431			
	Iron (Fe)-Dissolved (mg/L)	<0.010	0.159	0.209	0.524	<0.010			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-6	L1612473-7	L1612473-8	L1612473-9	L1612473-10
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-MAY-15	12-MAY-15		13-MAY-15	13-MAY-15
		Sampled Time	18:15	16:25		15:40	14:45
		Client ID	0146-150513-006	0146-150512-024	TRAVEL BLANK	0146-150513-005	0146-150513-031
Grouping	Analyte						
WATER							
Total Metals	Lithium (Li)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	0.0023
	Magnesium (Mg)-Total (mg/L)		5.20	3.85	<0.10	2.81	17.3
	Manganese (Mn)-Total (mg/L)		0.672	0.0283	<0.00010	0.0271	0.604
	Mercury (Hg)-Total (mg/L)		0.0000087	0.0000138	<0.0000050	0.0000137	0.0000111
	Molybdenum (Mo)-Total (mg/L)		0.000584	0.000088	<0.000050	0.000084	0.000182
	Nickel (Ni)-Total (mg/L)		0.00090	0.00088	<0.00050	0.00068	0.00119
	Phosphorus (P)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	0.056
	Potassium (K)-Total (mg/L)		1.96	1.39	<0.10	2.48	2.38
	Rubidium (Rb)-Total (mg/L)		0.00337	0.00134	<0.00020	0.00168	0.00362
	Selenium (Se)-Total (mg/L)		<0.000050	<0.000050	<0.000050	0.000061	0.000059
	Silicon (Si)-Total (mg/L)		0.634	2.87	<0.050	2.40	4.38
	Silver (Ag)-Total (mg/L)		0.000547	0.000046	<0.000010	0.000087	0.00129
	Sodium (Na)-Total (mg/L)		1.73	1.44	<0.050	0.727	1.63
	Strontium (Sr)-Total (mg/L)		0.0876	0.131	<0.00020	0.0393	0.167
	Sulfur (S)-Total (mg/L)		35.4	10.8	<0.50	4.58	51.2
	Thallium (Tl)-Total (mg/L)		0.000066	<0.000010	<0.000010	0.000018	0.000058
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00057	0.00400	<0.00030	0.00596	0.0318
	Uranium (U)-Total (mg/L)		0.000123	0.000096	<0.000010	0.000045	0.000666
	Vanadium (V)-Total (mg/L)		<0.00050	<0.00050	<0.00050	0.00076	0.00297
	Zinc (Zn)-Total (mg/L)		0.187	0.0427	<0.0030	0.0248	0.219
	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
	Dissolved Metals Filtration Location		FIELD	FIELD		FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0200	0.0882		0.0784	0.0090
	Antimony (Sb)-Dissolved (mg/L)		0.00707	0.00077		0.00140	0.00415
	Arsenic (As)-Dissolved (mg/L)		0.0164	0.00298		0.00709	0.0122
	Barium (Ba)-Dissolved (mg/L)		0.00295	0.0228		0.0209	0.0186
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	0.000023		<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050		<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010		<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.00230	0.000432		0.000134	0.000421
	Calcium (Ca)-Dissolved (mg/L)		33.1	19.4		12.2	71.1
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	0.00013		0.00016	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		0.00034	<0.00010		<0.00010	0.00019
	Copper (Cu)-Dissolved (mg/L)		0.0177	0.00834		0.00381	0.00197
	Iron (Fe)-Dissolved (mg/L)		0.061	0.161		0.103	0.217

* 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		L1612473-11 Water 13-MAY-15 11:00 0146-150513-028	L1612473-12 Water 13-MAY-15 11:25 0146-150513-025	L1612473-13 Water 13-MAY-15 13:25 0146-150513-002	L1612473-14 Water 13-MAY-15 14:00 0146-150513-032	L1612473-15 Water 14-MAY-15 09:25 0146-150514-004
Grouping	Analyte					
WATER						
Total Metals	Lithium (Li)-Total (mg/L)	0.0022	0.0022	0.0014	<0.0010	<0.0010
	Magnesium (Mg)-Total (mg/L)	4.64	4.40	23.5	30.6	5.91
	Manganese (Mn)-Total (mg/L)	0.247	0.198	0.440	0.0180	0.274
	Mercury (Hg)-Total (mg/L)	0.0000204	0.0000154	0.0000059	<0.0000050	0.0000088
	Molybdenum (Mo)-Total (mg/L)	0.000506	0.000531	<0.000050	0.000091	0.000094
	Nickel (Ni)-Total (mg/L)	0.00344	0.00287	0.00392	<0.00050	0.00151
	Phosphorus (P)-Total (mg/L)	0.145	0.123	<0.050	0.054	<0.050
	Potassium (K)-Total (mg/L)	1.50	1.35	1.91	5.35	1.27
	Rubidium (Rb)-Total (mg/L)	0.00610	0.00495	0.00261	0.00329	0.00167
	Selenium (Se)-Total (mg/L)	0.000054	0.000069	0.000054	<0.000050	<0.000050
	Silicon (Si)-Total (mg/L)	8.85	7.54	3.18	6.54	3.96
	Silver (Ag)-Total (mg/L)	0.000157	0.000142	0.000012	<0.000010	0.000110
	Sodium (Na)-Total (mg/L)	1.44	1.37	1.66	4.68	1.73
	Strontium (Sr)-Total (mg/L)	0.131	0.140	0.169	0.364	0.162
	Sulfur (S)-Total (mg/L)	3.37	3.22	81.7	159	24.2
	Thallium (Tl)-Total (mg/L)	0.000067	0.000065	<0.000010	<0.000010	0.000011
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.119	0.0979	0.00088	<0.00090 ^{DLM}	0.0138
	Uranium (U)-Total (mg/L)	0.000639	0.000597	0.000014	0.000241	0.000192
	Vanadium (V)-Total (mg/L)	0.00939	0.00733	<0.00050	<0.00050	0.00110
	Zinc (Zn)-Total (mg/L)	0.0378	0.0288	1.46	<0.0030	0.446
	Zirconium (Zr)-Total (mg/L)	0.00066	0.00062	<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)	0.0826	0.0776	0.231	0.0115	0.152
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00010	<0.00010	0.00014	0.00072
	Arsenic (As)-Dissolved (mg/L)	0.00074	0.00072	0.00123	0.00366	0.00260
	Barium (Ba)-Dissolved (mg/L)	0.0394	0.0389	0.0171	0.0243	0.0279
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	0.000021	0.000038	<0.000020	0.000051
	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)	0.0000526	0.0000489	0.00444	0.0000133	0.00542
	Calcium (Ca)-Dissolved (mg/L)	13.2	13.1	68.1	177	33.0
	Chromium (Cr)-Dissolved (mg/L)	0.00013	0.00014	0.00014	<0.00010	0.00014
	Cobalt (Co)-Dissolved (mg/L)	0.00011	0.00011	0.00043	0.00010	0.00037
	Copper (Cu)-Dissolved (mg/L)	0.00309	0.00303	0.00241	0.00051	0.0921
	Iron (Fe)-Dissolved (mg/L)	0.155	0.157	0.195	0.011	0.232

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-16	L1612473-17	L1612473-18	L1612473-19	L1612473-20
		Description	Water	Water	Water	Water	Water
		Sampled Date	14-MAY-15	14-MAY-15	14-MAY-15	13-MAY-15	14-MAY-15
		Sampled Time	10:10	10:40	10:00	17:40	08:15
		Client ID	0146-150514-033	0146-150514-020	0146-150514-018	0146-150513-009	0146-150514-017
Grouping	Analyte						
WATER							
Total Metals	Lithium (Li)-Total (mg/L)		0.0172	0.0019	0.0070	0.0017	0.0021
	Magnesium (Mg)-Total (mg/L)		188	3.87	78.8	43.2	23.7
	Manganese (Mn)-Total (mg/L)		0.573	0.164	1.01	6.61	0.475
	Mercury (Hg)-Total (mg/L)		0.0000176	0.0000205	0.0000081	<0.0000050	0.0000098
	Molybdenum (Mo)-Total (mg/L)		0.00093	0.000092	0.000471	0.000916	0.000181
	Nickel (Ni)-Total (mg/L)		0.0056	0.00269	0.00342	0.00283	0.00113
	Phosphorus (P)-Total (mg/L)		0.050	0.211	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		7.54	2.79	4.58	4.92	2.02
	Rubidium (Rb)-Total (mg/L)		0.0153	0.00562	0.00653	0.00167	0.00154
	Selenium (Se)-Total (mg/L)		0.00319	0.000086	0.000227	0.000172	0.000063
	Silicon (Si)-Total (mg/L)		4.88	5.87	4.28	6.29	3.04
	Silver (Ag)-Total (mg/L)		0.00281	0.000095	0.00140	0.000100	0.000028
	Sodium (Na)-Total (mg/L)		10.6	0.755	5.51	27.2	2.58
	Strontium (Sr)-Total (mg/L)		0.943	0.0404	0.445	0.645	0.219
	Sulfur (S)-Total (mg/L)		391	4.72	219	201	62.5
	Thallium (Tl)-Total (mg/L)		0.000503	0.000063	0.000128	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.0218	0.124	<0.021 ^{DLM}	<0.0027 ^{DLM}	0.00710
	Uranium (U)-Total (mg/L)		0.00767	0.000156	0.00302	0.00126	0.000882
	Vanadium (V)-Total (mg/L)		0.0021	0.0105	0.00147	0.00184	0.00108
	Zinc (Zn)-Total (mg/L)		2.14	0.0257	1.21	0.0189	0.0206
	Zirconium (Zr)-Total (mg/L)		<0.00060 ^{DLA}	<0.00030	<0.00030	0.00046	<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)		0.0037	0.0664	0.0049	0.0292	0.149
	Antimony (Sb)-Dissolved (mg/L)		0.0675	0.00058	0.0273	0.00053	0.00144
	Arsenic (As)-Dissolved (mg/L)		0.0681	0.00443	0.0444	0.0331	0.00523
	Barium (Ba)-Dissolved (mg/L)		0.0343	0.0144	0.0251	0.0574	0.0300
	Beryllium (Be)-Dissolved (mg/L)		<0.000040 ^{DLA}	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.00010 ^{DLA}	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		0.048	<0.010	0.049	0.050	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.0190	0.0000223	0.0138	0.000390	0.000104
	Calcium (Ca)-Dissolved (mg/L)		336	11.9	213	228	72.7
	Chromium (Cr)-Dissolved (mg/L)		<0.00020 ^{DLA}	0.00018	<0.00010	0.00031	0.00013
	Cobalt (Co)-Dissolved (mg/L)		0.00108	0.00011	0.00129	0.00626	0.00050
	Copper (Cu)-Dissolved (mg/L)		0.0218	0.00187	0.00735	0.00314	0.00189
	Iron (Fe)-Dissolved (mg/L)		<0.010	0.091	0.019	10.8	0.856

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-21	L1612473-22	L1612473-23	L1612473-24	L1612473-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	12-MAY-15	12-MAY-15	13-MAY-15	12-MAY-15	13-MAY-15
		Sampled Time	17:15	14:35	17:10	15:30	13:45
		Client ID	0146-150512-023	0146-150512-036	0146-150513-010	0146-150512-034	0146-150513-030
Grouping	Analyte						
WATER							
Total Metals	Lithium (Li)-Total (mg/L)		<0.0010	<0.0010	0.0031	0.0012	0.0017
	Magnesium (Mg)-Total (mg/L)		3.74	4.52	22.3	4.88	45.4
	Manganese (Mn)-Total (mg/L)		0.178	0.126	0.798	0.150	0.566
	Mercury (Hg)-Total (mg/L)		0.0000059	0.0000346	0.0000298	0.0000336	0.0000318
	Molybdenum (Mo)-Total (mg/L)		0.000086	0.000349	0.000302	0.000381	<0.000050
	Nickel (Ni)-Total (mg/L)		0.00079	0.00144	0.00400	0.00189	0.00523
	Phosphorus (P)-Total (mg/L)		<0.050	<0.050	0.238	0.093	<0.050
	Potassium (K)-Total (mg/L)		1.42	1.18	2.26	1.28	2.52
	Rubidium (Rb)-Total (mg/L)		0.00160	0.00200	0.00433	0.00317	0.00378
	Selenium (Se)-Total (mg/L)		<0.000050	0.000062	0.000152	0.000055	<0.000050
	Silicon (Si)-Total (mg/L)		2.80	4.31	6.92	5.63	3.46
	Silver (Ag)-Total (mg/L)		0.000018	0.000063	0.000199	0.000089	<0.000010
	Sodium (Na)-Total (mg/L)		1.42	1.39	3.23	1.47	2.38
	Strontium (Sr)-Total (mg/L)		0.133	0.123	0.224	0.127	0.274
	Sulfur (S)-Total (mg/L)		10.2	6.61	64.9	6.97	146
	Thallium (Tl)-Total (mg/L)		<0.000010	0.000026	0.000049	0.000033	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		<0.0045 ^{DLM}	0.0294	0.131	0.0520	0.00035
	Uranium (U)-Total (mg/L)		0.000111	0.000345	0.000972	0.000392	<0.000010
	Vanadium (V)-Total (mg/L)		<0.00050	0.00268	0.0109	0.00405	<0.00050
	Zinc (Zn)-Total (mg/L)		0.0048	0.0125	0.0570	0.0185	2.60
	Zirconium (Zr)-Total (mg/L)		<0.00030	0.00033	<0.00030	0.00042	<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)		0.105	0.0731	0.0344	0.0748	0.258
	Antimony (Sb)-Dissolved (mg/L)		0.00030	0.00015	0.00141	0.00016	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00251	0.00137	0.00609	0.00146	0.00117
	Barium (Ba)-Dissolved (mg/L)		0.0274	0.0395	0.0243	0.0381	0.0143
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	0.000037
	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)		0.0000770 ^{DTC}	0.0000475	0.0000621	0.0000488	0.00771
	Calcium (Ca)-Dissolved (mg/L)		18.8	15.6	76.8	16.1	113
	Chromium (Cr)-Dissolved (mg/L)		0.00013	0.00015	<0.00010	0.00014	0.00011
	Cobalt (Co)-Dissolved (mg/L)		0.00025	0.00015	0.00057	0.00014	0.00012
	Copper (Cu)-Dissolved (mg/L)		0.00185	0.00264	0.00115	0.00260	0.00179
	Iron (Fe)-Dissolved (mg/L)		0.222	0.212	0.480	0.158	0.067

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-26	L1612473-27	L1612473-28	L1612473-29	L1612473-30
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-MAY-15	13-MAY-15	14-MAY-15	13-MAY-15	13-MAY-15
		Sampled Time	15:25	11:05	07:40	13:05	14:49
		Client ID	0146-150513-003	0146-150513-027	0146-150514-019	0146-150513-001	0146-150513-029
Grouping	Analyte						
WATER							
Total Metals	Lithium (Li)-Total (mg/L)		0.0097	0.0021	0.0034	<0.0010	0.0022
	Magnesium (Mg)-Total (mg/L)		53.9	4.68	49.2	1.71	17.7
	Manganese (Mn)-Total (mg/L)		1.46	0.233	0.286	0.00256	0.585
	Mercury (Hg)-Total (mg/L)		0.0000283	0.0000410	0.0000069	0.0000311	0.0000266
	Molybdenum (Mo)-Total (mg/L)		0.000388	0.000505	0.000055	<0.000050	0.000226
	Nickel (Ni)-Total (mg/L)		0.00336	0.00340	0.00066	0.00155	0.00120
	Phosphorus (P)-Total (mg/L)		0.152	0.133	<0.050	<0.050	0.055
	Potassium (K)-Total (mg/L)		3.69	1.51	2.20	1.50	2.36
	Rubidium (Rb)-Total (mg/L)		0.00755	0.00613	0.00328	0.00088	0.00353
	Selenium (Se)-Total (mg/L)		0.000080	0.000065	0.000340	<0.000050	0.000075
	Silicon (Si)-Total (mg/L)		9.26	8.83	2.88	2.95	4.26
	Silver (Ag)-Total (mg/L)		0.00112	0.000182	0.000087	<0.000010	0.00127
	Sodium (Na)-Total (mg/L)		4.29	1.41	1.22	1.01	1.63
	Strontium (Sr)-Total (mg/L)		0.387	0.138	0.522	0.0403	0.172
	Sulfur (S)-Total (mg/L)		127	3.33	260	3.27	51.6
	Thallium (Tl)-Total (mg/L)		0.000177	0.000070	0.000039	<0.000010	0.000061
	Tin (Sn)-Total (mg/L)		0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.0915	0.102	0.00057	0.00070	0.0287
	Uranium (U)-Total (mg/L)		0.00372	0.000649	0.000365	0.000011	0.000673
	Vanadium (V)-Total (mg/L)		0.00720	0.00904	<0.00050	<0.00050	0.00290
	Zinc (Zn)-Total (mg/L)		1.24	0.0353	0.426	0.0090	0.221
	Zirconium (Zr)-Total (mg/L)		<0.00030	0.00072	<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)		0.0086	0.0815	0.0143	0.302	0.0089
	Antimony (Sb)-Dissolved (mg/L)		0.0162	<0.00010	0.00168	0.00011	0.00420
	Arsenic (As)-Dissolved (mg/L)		0.0722	0.00070	0.00247	0.00135	0.0119
	Barium (Ba)-Dissolved (mg/L)		0.0165	0.0395	0.00912	0.0370	0.0185
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	0.000024	<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)		0.00115	0.0000487	0.00759	0.0000530	0.000433
	Calcium (Ca)-Dissolved (mg/L)		171	13.4	250	8.24	72.6
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	0.00012	<0.00010	0.00021	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		0.00091	0.00011	0.00028	<0.00010	0.00020
	Copper (Cu)-Dissolved (mg/L)		0.00164	0.00309	0.0355	0.00364	0.00199
	Iron (Fe)-Dissolved (mg/L)		1.39	0.151	0.012	0.119	0.225

* 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	L1612473-31 Water 14-MAY-15 12:45 0146-150514-013	L1612473-32 Water 14-MAY-15 13:45 0146-150514-014	L1612473-33 Water 14-MAY-15 11:30 0146-150514-015	
Grouping	Analyte				
WATER					
Total Metals	Lithium (Li)-Total (mg/L)	0.0048	0.0037	<0.0010	
	Magnesium (Mg)-Total (mg/L)	137	118	1.57	
	Manganese (Mn)-Total (mg/L)	0.115	0.0533	0.0323	
	Mercury (Hg)-Total (mg/L)	0.0000108	<0.0000050	<0.0000050	
	Molybdenum (Mo)-Total (mg/L)	0.00028	<0.00010 ^{DLA}	<0.000050	
	Nickel (Ni)-Total (mg/L)	0.0018	<0.0010 ^{DLA}	<0.00050	
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	
	Potassium (K)-Total (mg/L)	2.10	2.24	0.53	
	Rubidium (Rb)-Total (mg/L)	0.00295		0.00165	
	Selenium (Se)-Total (mg/L)	0.00118	0.00021	<0.000050	
	Silicon (Si)-Total (mg/L)	5.09	1.37	0.658	
	Silver (Ag)-Total (mg/L)	0.000138	0.000121	0.000160	
	Sodium (Na)-Total (mg/L)	6.06	0.33	0.052	
	Strontium (Sr)-Total (mg/L)	0.813	0.463	0.0186	
	Sulfur (S)-Total (mg/L)	395	412	4.29	
	Thallium (Tl)-Total (mg/L)	0.000067	0.000044	0.000020	
	Tin (Sn)-Total (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	
	Titanium (Ti)-Total (mg/L)	<0.00060 ^{DLA}	<0.00060 ^{DLA}	0.00322	
	Uranium (U)-Total (mg/L)	0.00259	0.00119	0.000031	
	Vanadium (V)-Total (mg/L)	<0.0010 ^{DLA}	<0.0010 ^{DLA}	0.00063	
	Zinc (Zn)-Total (mg/L)	1.15	0.203	0.0263	
	Zirconium (Zr)-Total (mg/L)	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.0051	<0.0020 ^{DLA}	0.0054	
	Antimony (Sb)-Dissolved (mg/L)	0.00217	0.00168	<0.00010	
	Arsenic (As)-Dissolved (mg/L)	0.00274	0.00453	0.00088	
	Barium (Ba)-Dissolved (mg/L)	0.00835	0.00764 ^{DTC}	0.00110	
	Beryllium (Be)-Dissolved (mg/L)	<0.000040 ^{DLA}	<0.000040 ^{DLA}	<0.000020	
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.0120	0.00676 ^{DTC}	0.0000522	
	Calcium (Ca)-Dissolved (mg/L)	351	414	0.996	
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	
	Copper (Cu)-Dissolved (mg/L)	0.00597	0.00217	0.00072	
	Iron (Fe)-Dissolved (mg/L)	0.039	<0.010	<0.010	

* 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	L1612473-1 Water 12-MAY-15 14:35 0146-150512- FIELD BLANK	L1612473-2 Water 12-MAY-15 16:30 0146-150512-022	L1612473-3 Water 13-MAY-15 11:40 0146-150513-026	L1612473-4 Water 12-MAY-15 18:30 0146-150512-021	L1612473-5 Water 12-MAY-15 12:25 0146-150512-035	
Grouping	Analyte					
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000512	0.000443	0.000262	0.00012
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0013	0.0057
	Magnesium (Mg)-Dissolved (mg/L)	<0.10	3.99	3.95	21.9	32.2
	Manganese (Mn)-Dissolved (mg/L)	<0.00010	0.0204	0.106	1.01	0.640
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	0.0000067	0.0000098	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	0.000076	0.000354	0.000215	<0.00010 ^{DLA}
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	0.00078	0.00088	0.00077	<0.0010 ^{DLA}
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	<0.10	1.48	0.96	2.21	2.44
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	0.000052	0.00015
	Silicon (Si)-Dissolved (mg/L)	<0.050	2.83	3.18	2.61	4.29 ^{DLA}
	Silver (Ag)-Dissolved (mg/L)	<0.000010	0.000016	0.000016	0.000011	<0.000020
	Sodium (Na)-Dissolved (mg/L)	<0.050	1.49	1.35	4.07	1.54
	Strontium (Sr)-Dissolved (mg/L)	<0.00020	0.130	0.116	0.228	0.306
	Sulfur (S)-Dissolved (mg/L)	<0.50	11.4	4.84	71.1	430
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	0.000041 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	0.00099	0.00195	0.00049	<0.00060 ^{DLA}
	Uranium (U)-Dissolved (mg/L)	<0.000010	0.000081	0.000386	0.000694	0.000642 ^{DLA}
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0381	0.0041	0.0107	1.39 ^{DLA}
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00060 ^{DLA}

* 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	L1612473-6 Water 13-MAY-15 18:15 0146-150513-006	L1612473-7 Water 12-MAY-15 16:25 0146-150512-024	L1612473-8 Water TRAVEL BLANK	L1612473-9 Water 13-MAY-15 15:40 0146-150513-005	L1612473-10 Water 13-MAY-15 14:45 0146-150513-031
Grouping	Analyte					
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	0.00130	0.000538		0.000345	0.000630
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010		<0.0010	0.0019
	Magnesium (Mg)-Dissolved (mg/L)	3.96	4.06		2.94	17.9
	Manganese (Mn)-Dissolved (mg/L)	0.521	0.0187		0.0102	0.487
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	0.0000070		0.0000114	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.000397	0.000069		0.000062	0.000117
	Nickel (Ni)-Dissolved (mg/L)	0.00070	0.00069		0.00057	0.00056
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050		<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	1.54	1.52		2.62	2.26
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050		0.000065	<0.000050
	Silicon (Si)-Dissolved (mg/L)	0.441	2.88		2.25	3.04
	Silver (Ag)-Dissolved (mg/L)	0.000061	0.000015		0.000035	0.000014
	Sodium (Na)-Dissolved (mg/L)	1.29	1.26		0.751	1.63
	Strontium (Sr)-Dissolved (mg/L)	0.0655	0.131		0.0384	0.165
	Sulfur (S)-Dissolved (mg/L)	27.9	11.4		4.74	52.4
	Thallium (Tl)-Dissolved (mg/L)	0.000048	<0.000010		0.000012	0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010		<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	0.00094		0.00105	<0.00030
	Uranium (U)-Dissolved (mg/L)	0.000075	0.000080		0.000037	0.000625
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050		<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.167	0.0385		0.0214	0.111
	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	L1612473-11	L1612473-12	L1612473-13	L1612473-14	L1612473-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-MAY-15	13-MAY-15	13-MAY-15	13-MAY-15	14-MAY-15
		Sampled Time	11:00	11:25	13:25	14:00	09:25
		Client ID	0146-150513-028	0146-150513-025	0146-150513-002	0146-150513-032	0146-150514-004
Grouping	Analyte						
WATER							
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)		0.000153	0.000130	<0.000050	<0.000050	0.000225
	Lithium (Li)-Dissolved (mg/L)		<0.0010	<0.0010	0.0013	<0.0010	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)		3.86	3.86	23.9	30.4	6.00
	Manganese (Mn)-Dissolved (mg/L)		0.0471	0.0479	0.430	0.0144	0.210
	Mercury (Hg)-Dissolved (mg/L)		0.0000084	0.0000078	0.0000059	<0.0000050	0.0000059
	Molybdenum (Mo)-Dissolved (mg/L)		0.000284	0.000285	<0.000050	0.000068	0.000067
	Nickel (Ni)-Dissolved (mg/L)		0.00073	0.00069	0.00359	<0.00050	0.00115
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		0.90	0.92	2.00	5.51	1.28
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)		3.18	3.19	3.18	6.47	3.46
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	0.000023
	Sodium (Na)-Dissolved (mg/L)		1.24	1.23	1.61	4.56	1.65
	Strontium (Sr)-Dissolved (mg/L)		0.127	0.129	0.172	0.340	0.173
	Sulfur (S)-Dissolved (mg/L)		3.36	3.42	80.5	154	24.9
	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)		0.00103	0.00091	0.00054	<0.00030	0.00077
	Uranium (U)-Dissolved (mg/L)		0.000284	0.000285	0.000010	0.000217	0.000135
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0046	0.0033	1.40	0.0041	0.421
	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		L1612473-16 Water 14-MAY-15 10:10 0146-150514-033	L1612473-17 Water 14-MAY-15 10:40 0146-150514-020	L1612473-18 Water 14-MAY-15 10:00 0146-150514-018	L1612473-19 Water 13-MAY-15 17:40 0146-150513-009	L1612473-20 Water 14-MAY-15 08:15 0146-150514-017
Grouping	Analyte					
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	0.00620	0.000066	0.000949	<0.000050	0.000257
	Lithium (Li)-Dissolved (mg/L)	0.0163	<0.0010	0.0067	<0.0010	0.0015
	Magnesium (Mg)-Dissolved (mg/L)	195	3.14	81.5	43.6	24.8
	Manganese (Mn)-Dissolved (mg/L)	0.533	0.0289	0.977	5.48	0.411
	Mercury (Hg)-Dissolved (mg/L)	0.0000056	0.0000096	<0.0000050	<0.0000050	0.0000071
	Molybdenum (Mo)-Dissolved (mg/L)	0.00085	<0.000050	0.000401	0.000793	0.000165
	Nickel (Ni)-Dissolved (mg/L)	0.0049	<0.00050	0.00300	0.00253	0.00099
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	7.96	2.63	4.70	5.03	2.19
	Selenium (Se)-Dissolved (mg/L)	0.00341	<0.000050	0.000264	0.000162	0.000056
	Silicon (Si)-Dissolved (mg/L)	4.02	2.23	3.68	6.11	2.99
	Silver (Ag)-Dissolved (mg/L)	0.000300	0.000015	0.000077	0.000011	<0.000010
	Sodium (Na)-Dissolved (mg/L)	10.9	0.617	5.69	26.1	2.60
	Strontium (Sr)-Dissolved (mg/L)	0.926	0.0346	0.443	0.631	0.225
	Sulfur (S)-Dissolved (mg/L)	391	4.74	222	198	64.1
	Thallium (Tl)-Dissolved (mg/L)	0.000455	<0.000010	0.000093	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.00060 ^{DLA}	0.00096	<0.00030	0.00069	0.00107
	Uranium (U)-Dissolved (mg/L)	0.00757 ^{DLA}	0.000023	0.00286	0.00130	0.000938
	Vanadium (V)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050	<0.00050	0.00111	0.00051
	Zinc (Zn)-Dissolved (mg/L)	2.07 ^{DLA}	0.0024	1.10	0.0161	0.0181
	Zirconium (Zr)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.00030	<0.00030	0.00047	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1612473-21	L1612473-22	L1612473-23	L1612473-24	L1612473-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	12-MAY-15	12-MAY-15	13-MAY-15	12-MAY-15	13-MAY-15
		Sampled Time	17:15	14:35	17:10	15:30	13:45
		Client ID	0146-150512-023	0146-150512-036	0146-150513-010	0146-150512-034	0146-150513-030
Grouping	Analyte						
WATER							
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)		0.000099	0.000115	0.000257	0.000129	<0.000050
	Lithium (Li)-Dissolved (mg/L)		<0.0010	<0.0010	0.0011	<0.0010	0.0015
	Magnesium (Mg)-Dissolved (mg/L)		3.79	4.53	22.0	4.62	44.9
	Manganese (Mn)-Dissolved (mg/L)		0.169	0.0659	0.626	0.0598	0.545
	Mercury (Hg)-Dissolved (mg/L)		0.0000058	0.0000077	<0.0000050	0.0000074	0.0000054
	Molybdenum (Mo)-Dissolved (mg/L)		0.000082	0.000245	0.000176	0.000243	<0.000050
	Nickel (Ni)-Dissolved (mg/L)		0.00071	0.00077	0.00068	0.00071	0.00515
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		1.52	1.10	1.98	1.05	2.48
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)		2.67	3.05	2.52	2.94	3.38
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		1.39	1.37	3.08	1.40	2.35
	Strontium (Sr)-Dissolved (mg/L)		0.134	0.120	0.206	0.125	0.269
	Sulfur (S)-Dissolved (mg/L)		10.1	6.59	64.9	6.86	141
	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)		<0.0012 ^{DLM}	0.00071	0.00043	0.00072	0.00036
	Uranium (U)-Dissolved (mg/L)		0.000105	0.000228	0.000724	0.000255	<0.000010
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0038	0.0043	0.0103	0.0038	2.61
	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	L1612473-26	L1612473-27	L1612473-28	L1612473-29	L1612473-30
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-MAY-15	13-MAY-15	14-MAY-15	13-MAY-15	13-MAY-15
		Sampled Time	15:25	11:05	07:40	13:05	14:49
		Client ID	0146-150513-003	0146-150513-027	0146-150514-019	0146-150513-001	0146-150513-029
Grouping	Analyte						
WATER							
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)		0.000206	0.000119	0.000081	<0.000050	0.000666
	Lithium (Li)-Dissolved (mg/L)		0.0086	<0.0010	0.0033	<0.0010	0.0019
	Magnesium (Mg)-Dissolved (mg/L)		55.0	3.92	46.1	1.71	18.4
	Manganese (Mn)-Dissolved (mg/L)		1.24	0.0460	0.277	0.00502 ^{DTC}	0.484
	Mercury (Hg)-Dissolved (mg/L)		<0.0000050	0.0000074	<0.0000050	0.0000134	0.0000087
	Molybdenum (Mo)-Dissolved (mg/L)		0.000296	0.000264	<0.000050	<0.000050	0.000123
	Nickel (Ni)-Dissolved (mg/L)		0.00208	0.00074	0.00064	0.00156	0.00056
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		3.33	0.92	2.18	1.59	2.32
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	0.000289	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)		6.33	3.26	2.66	2.98	3.09
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	0.000028	<0.000010	0.000015
	Sodium (Na)-Dissolved (mg/L)		4.27	1.24	1.19	1.08	1.65
	Strontium (Sr)-Dissolved (mg/L)		0.382	0.122	0.502	0.0403	0.168
	Sulfur (S)-Dissolved (mg/L)		128	3.37	259	3.23	52.3
	Thallium (Tl)-Dissolved (mg/L)		0.000080	<0.000010	0.000036	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	0.00092	<0.00030	0.00068	<0.00030
	Uranium (U)-Dissolved (mg/L)		0.00348	0.000265	0.000340	0.000012	0.000623
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		1.08	0.0026	0.417	0.0103	0.113
	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	L1612473-31 Water 14-MAY-15 12:45 0146-150514-013	L1612473-32 Water 14-MAY-15 13:45 0146-150514-014	L1612473-33 Water 14-MAY-15 11:30 0146-150514-015	
Grouping	Analyte				
WATER					
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	0.00027	<0.00010 ^{DLA}	0.000085	
	Lithium (Li)-Dissolved (mg/L)	0.0046	0.0055	<0.0010	
	Magnesium (Mg)-Dissolved (mg/L)	140	157	0.11	
	Manganese (Mn)-Dissolved (mg/L)	0.0893	0.0685 ^{DTC}	0.00183	
	Mercury (Hg)-Dissolved (mg/L)	0.0000065	0.0000069	<0.0000050	
	Molybdenum (Mo)-Dissolved (mg/L)	0.00028	<0.00010 ^{DLA}	<0.000050	
	Nickel (Ni)-Dissolved (mg/L)	0.0017	<0.0010 ^{DLA}	<0.00050	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Potassium (K)-Dissolved (mg/L)	2.10	3.50	<0.10	
	Selenium (Se)-Dissolved (mg/L)	0.00117	0.00033	<0.000050	
	Silicon (Si)-Dissolved (mg/L)	5.16	1.62	0.059	
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000010	
	Sodium (Na)-Dissolved (mg/L)	5.78	0.42	<0.050	
	Strontium (Sr)-Dissolved (mg/L)	0.797	0.650 ^{DTC}	0.00165	
	Sulfur (S)-Dissolved (mg/L)	395	554	<0.50	
	Thallium (Tl)-Dissolved (mg/L)	0.000056	0.000057	<0.000010	
	Tin (Sn)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	
	Titanium (Ti)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	
	Uranium (U)-Dissolved (mg/L)	0.00253	0.00154 ^{DTC}	<0.000010	
	Vanadium (V)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00050	
	Zinc (Zn)-Dissolved (mg/L)	1.12	0.281 ^{DTC}	0.0101	
	Zirconium (Zr)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	

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

Reference Information

Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1612473-32	0146-150514-014	WSMT	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
L1612473-33	0146-150514-015	WSMT	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Cyanate	DLIS	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Cobalt (Co)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Copper (Cu)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Nickel (Ni)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1612473-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLIS	Detection Limit Adjusted: Insufficient Sample
DLM	Detection Limit Adjusted due to sample matrix effects.
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
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-PCT-VA	Water	Alkalinity by Auto. Titration	APHA 2320 Alkalinity
This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.			
BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
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.			
F-SIE-VA	Water	Fluoride by SIE	APHA 4500-F "Fluoride"
This analysis is carried out using procedures adapted from APHA Method 4500-F "Fluoride". Fluoride is determined using a selective ion electrode. This method has a significant negative interference (i.e. results could be biased low) when Al ³⁺ is present in the sample at a concentration greater			

Reference Information

than 2.5 mg/L.

F-SIE-VA	Water	Fluoride by SIE	APHA 4500-F Fluoride
This analysis is carried out using procedures adapted from APHA Method 4500-F "Fluoride". Fluoride is determined using a selective ion electrode. This method has a significant negative interference (i.e. results could be biased low) when Al ³⁺ is present in the sample at a concentration greater than 2.5 mg/L.			
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-D-CVAA-VA	Water	Diss. Mercury in Water by CVAAS or CVAFS	APHA 3030B/EPA 1631E (mod)
Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)
Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
IONBALANCE-VA	Water	Ion Balance Calculation	APHA 1030E
Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.			
Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:			
Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]			
MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
MET-DIS-LOW-ICP-VA	Water	Dissolved Metals in Water by ICPOES	EPA 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
MET-TOT-LOW-ICP-VA	Water	Total Metals in Water by ICPOES	EPA 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
NH3-F-VA	Water	Ammonia in Water by Fluorescence	APHA 4500 NH3-NITROGEN (AMMONIA)
This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.			
NH3-F-VA	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC
This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.			
NO2-L-IC-N-WR	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-L-IC-N-WR	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H "pH Value"

Reference Information

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

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
WR	ALS ENVIRONMENTAL - WHITEHORSE, YUKON, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

1	2	3	4
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Reference Information

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



L1612473-COFC

COC Number: 14 -

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Report To	Report Format / Distribution	Analysis Request
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: Meghan Marjanovic	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 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>mmarianovic@edynamics.com</u>	Specify Date Required for E2,E or P:
	Email 2:	

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>mmarjanovic@edynamics.com</u>	
Contact: S Jenner		
Project Information		
ALS Quote #: Q49310	Oil and Gas Required Fields (client use)	
Job #: MOUNT NANSEN 15-Y-0148	Approver ID:	Cost Center:
PO / AFE:	GL Account:	Routing Code:
LSD:	Activity Code:	
	Location:	

ALS Lab Work Order # (lab use only)	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, 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	Number of Containers
	0146-150512-	Field Blank	12 - May -15	14:35	Water	R	R	R	R	R	R	R	R	R	9
	0146-150512-	022	12 - May -15	16:30	Water	R	R	R	R	R	R	R	R	R	9
	0146-150513-	026	13 - May -15	11:40	Water	R	R	R	R	R	R	R	R	R	9
	0146-150512-	021	12 - May -15	18:30	Water	R	R	R	R	R	R	R	R	R	9
	0146-150512-	035	12 - May -15	12:25	Water	R	R	R	R	R	R	R	R	R	9
	0146-150513-	006	13 - May -15	18:15	Water	R	R	R	R	R	R	R	R	R	9
	0146-150512-	024	12 - May -15	16:25	Water	R	R	R	R	R	R	R	R	R	9
		Travel Blank	-	-	Water	R	R	R	R	R	R	R	R	R	8

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"/> Yes <input checked="" type="checkbox"/> No SIF Observations: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Ice packs: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Custody seal intact: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
		Cooling Initiated: <input checked="" type="checkbox"/>			
		INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C	
		21.30		3.6	
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			
Released by: <u>[Signature]</u>	Date: 14 May 2015	Time: 15:25	Received by: <u>[Signature]</u>	Date: 15 May 15	Time: 9:00
FINAL SHIPMENT RECEPTION (lab use only)					
Received by:		Date:		Time:	

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



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COC Number: 14 -

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L1612473-COFC

Report To

Company: EDI
 Contact: Meghan Marjanovic
 Address: 2195 - 2nd Avenue
 Whitehorse, YT Y1A 3T8
 Phone: 867-393-4882

Report Format / DI:
 Select Report Format: PDF EXCEL EDD (DIGITAL)
 Quality Control (QC) Report with Report Yes No
 Criteria on Report - provide details below if box checked
 Select Distribution: EMAIL MAIL FAX
 Email 1 or Fax mmarjanovic@edynamics.com
 Email 2

Invoice To

Same as Report To Yes No
 Copy of invoice with Report Yes No

Company: EDI
 Contact: S. Jenner

Project Information

ALS Quote #: Q49310
 Job #: MOUNT NANSEN 15-Y-0146
 PO / AFE:
 LSD:

Oil and Gas Required Fields (client use)

Approver ID:
 GL Account:
 Activity Code:
 Location:

ALS Lab Work Order # (lab use only)	ALS Sample (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sampler:	Sample Type	ALS Contact:	Sean Sluggert	DH, DS
0146-150513-005			13 - May -15	15:40		Water			
0146-150513-031			13 - May -15	14:45		Water			
0146-150513-028			13 - May -15	11:00		Water			
0146-150513-025			13 - May -15	11:25		Water			
0146-150513-002			13 - May -15	13:25		Water			
0146-150513-032			13 - May -15	14:00		Water			
0146-150514-013			14 - May -15	12:45		Water			

Drinking Water (DW) Samples (client use)

Are samples taken from a Regulated DW System? Yes No
 Are samples for human drinking water use? Yes No

SHIPMENT RELEASE (client use)

Released by: *Daniel Hesse* Date: 14 May 2015 Time: 15:35

Special Instructions / Specify Criteria to add on report (client use)

SHIPPING AND SAMPLING INFORMATION

Initial Shipment Reception (lab use only):
 Received by: _____ Date: _____ Time: _____

FINAL SHIPMENT RECEPTION (lab use only)

Received by: _____ Date: _____ Time: _____

Sample Condition as Received (lab use only)

Frozen: Yes No
 Ice packs: Yes No
 Custody seal intact: Yes No
 Cooling initiated: Yes No

INITIAL COOLER TEMPERATURES: _____ FINAL COOLER TEMPERATURES: _____



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1612473-COFC

COC Number: 14 -

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Report To
 Company: EDI
 Contact: Meghan Marjanovic
 Address: 2195 - 2nd Avenue
 Whitehorse, YT Y1A 3T8
 Phone: 867-393-4882

Report Format: PDF EXCEL FDD (DIGITAL)
 Quality Control (QC) Report with Report Yes No
 Criteria on Report - provide details below if box checked
 Select Distribution: EMAIL MAIL FAX
 Email 1 or Fax: mmarijanovic@edynamics.com
 Email 2

Invoice Distribution
 Select Invoice Distribution: EMAIL MAIL FAX
 Email 1 or Fax: mmarijanovic@edynamics.com
 Email 2: mmarijanovic@edynamics.com

Project Information
 ALS Quote #: Q49310
 Job #: MOUNT NANSEN 15-Y-0146
 PO / AFE:
 LSD:

ALS Lab Work Order # (lab use only)
 ALS Sample # (lab use only)
 Sample Identification and/or Coordinates (This description will appear on the report)
 D146-150514-004
 D146-150514-033
 D146-150514-020
 D146-150514-018
 D146-150513-009
 D146-150514-017
 D146-150512-023
 D146-150512-036

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 14 - May -15
Time: 09:25
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 14 - May -15
Time: 10:10
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 14 - May -15
Time: 10:40
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 14 - May -15
Time: 10:00
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 13 - May -15
Time: 17:40
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 14 - May -15
Time: 08:15
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 12 - May -15
Time: 17:15
Sample Type: Water

ALS Contact: Sean Sluggert
Sampler: DH, DS
Date: 12 - May -15
Time: 14:35
Sample Type: Water

ALS Lab Work Order # (lab use only)	ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	ALS Contact	Sean Sluggert	Sampler	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	ALS Lab Work Order # (lab use only)	ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	ALS Contact	Sean Sluggert	Sampler	Date (dd-mm-yy)	Time (hh:mm)	Sample Type
			ALP-PT-VA-EC-PCT-VA-PH-PCT-VA	R	R	14	09:25	Water									
			ANIONS-ALL-IC-WR-TSS-MAN-WR	R	R	14	10:10	Water									
			CN-WAD-CFA-VA-CN-T-CFA-VA	R	R	14	10:40	Water									
			CN-CNO-WT	R	R	14	10:00	Water									
			CN-SCN-VA	R	R	13	17:40	Water									
			NH3-F-VA	R	R	14	08:15	Water									
			MET-T-BCMDG-VA	R	R	12	17:15	Water									
			MET-D-BCMDG-VA	R	R	12	14:35	Water									
			IONBALANC-VA-TDS-CALC-VA	R	R												

Drinking Water (DW) Samples (client use)
 Are samples taken from a Regulated DW System? Yes No
 Are samples for human drinking water use? Yes No

SHIPPING RELEASE (client use)
 Released by: [Signature]
 Date: 14 May 2015
 Time: 15:20

INITIAL SHIPMENT RECEPTION (lab use only)
 Received by: [Signature]
 Date: []
 Time: []

FINAL SHIPMENT RECEPTION (lab use only)
 Received by: []
 Date: []
 Time: []

SAMPLE CONDITION AS RECEIVED (lab use only)
 Frozen: Yes No
 Ice packs: Yes No
 Custody seal intact: Yes No
 Cooling/initiated: Yes No

TEMPERATURES (lab use only)
 INITIAL COOLER TEMPERATURES °C: []
 FINAL COOLER TEMPERATURES °C: []

