



ENVIRONMENTAL DYNAMICS INC.  
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Date Received: 28-NOV-13  
Report Date: 13-DEC-13 12:31 (MT)  
Version: FINAL REV. 4

Client Phone: 867-393-4882

## Certificate of Analysis

**Lab Work Order #:** L1397452  
**Project P.O. #:** NOT SUBMITTED  
**Job Reference:** 13-Y-0452  
**C of C Numbers:** 1, 2, 3, 4, 5  
**Legal Site Desc:**

**Comments:** 5-DEC-2013 This report replaces and supersedes previously sent report. This report includes modified sample id for ALS identified sample L1397452-35.

12-DEC-2013 Revision 3: This revision replaces and supersedes all previous revisions of this report. This revision includes Client Sample ID edit for the samples ALS identify as L1397452-25 and L1397452-27.

13-DEC-2013 Revision 4: This revision replaces and supersedes all previous revision of this report. The sample ALS identify as L1397452-20 has its Client ID changed from "NF1-X-12" to "NF1-X-22" as requested.

Can Dang  
Senior Account Manager

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# ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1397452-1 Surface Water 27-NOV-13 09:10 NF1-X-4	L1397452-2 Surface Water 27-NOV-13 09:30 NF1-X-5	L1397452-3 Surface Water 27-NOV-13 09:45 NF1-X-6	L1397452-4 Surface Water 27-NOV-13 08:30 NF1-X-1	L1397452-5 Surface Water 27-NOV-13 09:00 NF1-X-3	
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	200	212	207	221	212
	Hardness (as CaCO3) (mg/L)	114	113	114	116	115
	pH (pH)	7.59	7.31	7.45	7.42	7.58
	Total Suspended Solids (mg/L)	67.8	8.2	61.0	24.2	24.4
	Total Dissolved Solids (mg/L)	129	128	129	133	133
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	106	105	106	109	111
	Ammonia, Total (as N) (mg/L)	0.0098	0.0096	0.0123	0.0181	0.0126
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.141	0.141	0.140	0.143	0.143
	Nitrate (as N) (mg/L)	0.191	0.192	0.191	0.199	0.193
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0678	0.0072	0.0334	0.0162	0.0245
	Sulfate (SO4) (mg/L)	17.7	17.9	17.6	19.1	18.2
	Anion Sum (meq/L)	2.51	2.50	2.52	2.59	2.62
	Cation Sum (meq/L)	2.42	2.39	2.41	2.47	2.44
	Cation - Anion Balance (%)	-1.9	-2.1	-2.2	-2.3	-3.6
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.71	1.70	1.63	1.76	1.65
	Total Organic Carbon (mg/L)	1.74	1.68	1.83	1.77	1.99
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.851	0.153	0.443	0.242	0.461
	Antimony (Sb)-Total (mg/L)	0.00018	<0.00010	0.00012	0.00012	0.00016
	Arsenic (As)-Total (mg/L)	0.00165	0.00084	0.00117	0.00092	0.00116
	Barium (Ba)-Total (mg/L)	0.0790	0.0681	0.0704	0.0678	0.0734
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000073	0.000033	0.000051	0.000040	0.000052
	Calcium (Ca)-Total (mg/L)	31.7	34.1	33.0	33.0	32.5
	Chromium (Cr)-Total (mg/L)	0.00215	0.00054	0.00116	0.00070	0.00128
	Cobalt (Co)-Total (mg/L)	0.00077	0.00018	0.00043	0.00043	0.00046
	Copper (Cu)-Total (mg/L)	0.00279	0.00122	0.00224	0.00160	0.00213
	Iron (Fe)-Total (mg/L)	1.70	0.446	0.957	0.727	0.986
	Lead (Pb)-Total (mg/L)	0.0120	0.00150	0.00525	0.00564	0.00958
	Lithium (Li)-Total (mg/L)	0.00638	0.00509	0.00541	0.00516	0.00545
	Magnesium (Mg)-Total (mg/L)	7.42	7.37	7.11	7.18	7.10
	Manganese (Mn)-Total (mg/L)	0.0776	0.0493	0.0588	0.0974	0.0653
	Molybdenum (Mo)-Total (mg/L)	0.000655	0.000703	0.000692	0.000675	0.000705

\* 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	L1397452-6 Surface Water 27-NOV-13 08:45 NF1-X-2	L1397452-7 Surface Water 27-NOV-13 10:15 NF1-X-8	L1397452-8 Surface Water 27-NOV-13 10:00 NF1-X-7	L1397452-9 Surface Water 27-NOV-13 11:15 NF1-X-11	L1397452-10 Surface Water 27-NOV-13 10:30 NF1-X-9	
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	211	211	213	214	216
	Hardness (as CaCO3) (mg/L)	115	116	115	116	115
	pH (pH)	7.52	7.54	7.62	7.56	7.59
	Total Suspended Solids (mg/L)	13.0	59.6	8.8	2.6	5.4
	Total Dissolved Solids (mg/L)	131	134	131	133	129
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	108	112	110	111	106
	Ammonia, Total (as N) (mg/L)	0.0122	0.0195	0.0097	0.0169	0.0098
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.146	0.141	0.142	0.143	0.143
	Nitrate (as N) (mg/L)	0.196	0.210	0.205	0.193	0.194
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0105	0.0554	0.0102	0.0055	0.0072
	Sulfate (SO4) (mg/L)	18.2	17.8	18.1	18.1	18.0
	Anion Sum (meq/L)	2.56	2.64	2.59	2.61	2.52
	Cation Sum (meq/L)	2.44	2.47	2.44	2.46	2.44
	Cation - Anion Balance (%)	-2.4	-3.3	-3.1	-3.0	-1.5
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.63	1.76	1.72	1.61	1.57
	Total Organic Carbon (mg/L)	1.81	1.97	1.62	1.67	1.76
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.182	0.402	0.123	0.0500	0.108
	Antimony (Sb)-Total (mg/L)	0.00012	0.00017	<0.00010	<0.00010	0.00010
	Arsenic (As)-Total (mg/L)	0.00087	0.00107	0.00075	0.00067	0.00075
	Barium (Ba)-Total (mg/L)	0.0674	0.0695	0.0659	0.0651	0.0655
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000032	0.000046	0.000026	0.000025	0.000027
	Calcium (Ca)-Total (mg/L)	34.6	33.3	33.6	33.6	34.5
	Chromium (Cr)-Total (mg/L)	0.00053	0.00109	0.00041	0.00021	0.00034
	Cobalt (Co)-Total (mg/L)	0.00024	0.00038	0.00016	0.00017	0.00015
	Copper (Cu)-Total (mg/L)	0.00125	0.00160	0.00093	0.00064	0.00078
	Iron (Fe)-Total (mg/L)	0.469	0.894	0.376	0.289	0.336
	Lead (Pb)-Total (mg/L)	0.00241	0.00483	0.000933	0.000623	0.000769
	Lithium (Li)-Total (mg/L)	0.00538	0.00540	0.00508	0.00498	0.00523
	Magnesium (Mg)-Total (mg/L)	7.40	7.28	7.31	7.21	7.36
	Manganese (Mn)-Total (mg/L)	0.0574	0.0669	0.0428	0.0666	0.0455
	Molybdenum (Mo)-Total (mg/L)	0.000702	0.000724	0.000688	0.000678	0.000691

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## ALS ENVIRONMENTAL ANALYTICAL REPORT

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	Sample ID	L1397452-11	L1397452-12	L1397452-13	L1397452-14	L1397452-15
	Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
	Sampled Date	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13
	Sampled Time	10:45	11:30	00:15		12:45
	Client ID	NF1-X-10	NF1-X-12	NF1-X-14	NF1-X-13	NF1-X-16
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	215	216	228	216	209
	Hardness (as CaCO3) (mg/L)	116	116	129	116	116
	pH (pH)	7.55	7.41	7.24	7.48	7.75
	Total Suspended Solids (mg/L)	4.6	30.4	1.8	1.2	5.4
	Total Dissolved Solids (mg/L)	131	132	147	132	131
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	108	108	111	109	109
	Ammonia, Total (as N) (mg/L)	0.0106	0.0144	0.0216	0.0223	0.0111
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.143	0.144	0.145	0.143	0.143
	Nitrate (as N) (mg/L)	0.193	0.191	0.184	0.192	0.195
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0058	0.0301	0.0029	0.0047	0.0065
	Sulfate (SO4) (mg/L)	18.1	19.0	26.8	18.3	18.1
	Anion Sum (meq/L)	2.55	2.58	2.80	2.59	2.58
	Cation Sum (meq/L)	2.46	2.47	2.78	2.47	2.45
	Cation - Anion Balance (%)	-1.6	-2.1	-0.4	-2.4	-2.7
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.60	1.70	1.76	1.63	1.66
	Total Organic Carbon (mg/L)	1.56	1.93	1.63	1.68	1.65
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.0755	0.435	0.0221	0.0356	0.114
	Antimony (Sb)-Total (mg/L)	<0.00010	0.00011	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00069	0.00114	0.00057	0.00069	0.00074
	Barium (Ba)-Total (mg/L)	0.0648	0.0720	0.0684	0.0658	0.0651
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000023	0.000060	0.000084	0.000023	0.000026
	Calcium (Ca)-Total (mg/L)	34.3	30.7	36.7	34.2	34.3
	Chromium (Cr)-Total (mg/L)	0.00025	0.00112	0.00017	0.00017	0.00038
	Cobalt (Co)-Total (mg/L)	0.00015	0.00057	0.00182	0.00019	0.00018
	Copper (Cu)-Total (mg/L)	0.00073	0.00229	0.00082	0.00052	0.00176
	Iron (Fe)-Total (mg/L)	0.286	1.05	0.834	0.380	0.349
	Lead (Pb)-Total (mg/L)	0.000699	0.0102	0.000840	0.000383	0.00153
	Lithium (Li)-Total (mg/L)	0.00509	0.00515	0.00540	0.00491	0.00508
	Magnesium (Mg)-Total (mg/L)	7.25	7.35	8.58	7.35	7.17
	Manganese (Mn)-Total (mg/L)	0.0480	0.110	0.300	0.0890	0.0502
	Molybdenum (Mo)-Total (mg/L)	0.000705	0.000632	0.000641	0.000686	0.000705

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## ALS ENVIRONMENTAL ANALYTICAL REPORT

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	Sample ID	L1397452-16	L1397452-17	L1397452-18	L1397452-19	L1397452-20
	Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
	Sampled Date	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13
	Sampled Time	13:20	12:30	13:30	14:21	15:00
	Client ID	NF1-X-17	NF1-X-15	NF1-X-18	NF1-X-21	NF1-X-22
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	213	211	210	218	262
	Hardness (as CaCO3) (mg/L)	115	115	114	118	135
	pH (pH)	7.65	7.59	7.59	7.63	7.14
	Total Suspended Solids (mg/L)	15.6	2.4	5.8	2.4	<1.0
	Total Dissolved Solids (mg/L)	130	130	129	135	166
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	107	107	107	111	121
	Ammonia, Total (as N) (mg/L)	0.0115	0.0113	0.0099	0.0146	0.0408
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.143	0.143	0.143	0.145	0.148
	Nitrate (as N) (mg/L)	0.196	0.194	0.194	0.194	0.168
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0133	0.0051	0.0085	0.0071	<0.0020
	Sulfate (SO4) (mg/L)	18.1	18.1	18.0	19.6	35.1
	Anion Sum (meq/L)	2.54	2.53	2.54	2.65	3.16
	Cation Sum (meq/L)	2.43	2.44	2.41	2.52	3.02
	Cation - Anion Balance (%)	-2.3	-1.9	-2.6	-2.5	-2.2
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.66	1.55	1.62	1.71	1.76
	Total Organic Carbon (mg/L)	1.87	1.61	1.68	1.72	1.87
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.285	0.0622	0.0868	0.0485	0.0189
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	0.00011
	Arsenic (As)-Total (mg/L)	0.00095	0.00071	0.00076	0.00066	0.00059
	Barium (Ba)-Total (mg/L)	0.0714	0.0654	0.0639	0.0690	0.0689
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000040	0.000027	0.000024	0.000037	0.000166
	Calcium (Ca)-Total (mg/L)	33.7	34.4	33.0	36.4	40.0
	Chromium (Cr)-Total (mg/L)	0.00079	0.00028	0.00035	0.00023	0.00016
	Cobalt (Co)-Total (mg/L)	0.00030	0.00014	0.00015	0.00046	0.00659
	Copper (Cu)-Total (mg/L)	0.00114	0.00084	0.00070	0.00058	0.00079
	Iron (Fe)-Total (mg/L)	0.648	0.261	0.297	0.440	2.62
	Lead (Pb)-Total (mg/L)	0.00367	0.00104	0.00115	0.000545	0.00253
	Lithium (Li)-Total (mg/L)	0.00531	0.00505	0.00494	0.00538	0.00649
	Magnesium (Mg)-Total (mg/L)	7.52	7.32	7.15	7.81	9.36
	Manganese (Mn)-Total (mg/L)	0.0584	0.0463	0.0430	0.120	0.793
	Molybdenum (Mo)-Total (mg/L)	0.000670	0.000689	0.000653	0.000683	0.000526

\* 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	L1397452-21 Surface Water 27-NOV-13 14:10 NF1-X-20	L1397452-22 Surface Water 27-NOV-13 13:45 NF1-X-19	L1397452-23 Surface Water 28-NOV-13 08:20 X3A-R	L1397452-24 Surface Water 28-NOV-13 09:15 NF2	L1397452-25 Surface Water 28-NOV-13 08:55 NF2-A
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	230	217	235	225	241
	Hardness (as CaCO3) (mg/L)	119	116	133	125	131
	pH (pH)	7.72	7.63	7.56	7.31	7.20
	Total Suspended Solids (mg/L)	11.4	3.4	2.8	3.4	3.4
	Total Dissolved Solids (mg/L)	135	133	154	146	154
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	112	112	121	111	106
	Ammonia, Total (as N) (mg/L)	0.0139	0.0151	0.0139	0.0086	0.0109
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.145	0.144	0.152	0.162	0.173
	Nitrate (as N) (mg/L)	0.200	0.222	0.193	0.205	0.209
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	0.0012	0.0017
	Phosphorus (P)-Total (mg/L)	0.0108	0.0058	0.0043	0.0055	0.0034
	Sulfate (SO4) (mg/L)	18.8	18.2	27.4	28.5	36.6
	Anion Sum (meq/L)	2.65	2.64	3.02	2.83	2.90
	Cation Sum (meq/L)	2.51	2.46	2.81	2.67	2.82
	Cation - Anion Balance (%)	-2.6	-3.4	-3.6	-2.9	-1.5
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.79	1.84	1.73	1.69	1.68
	Total Organic Carbon (mg/L)	1.92	1.77	1.76	1.79	1.59
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.167	0.0639	0.0566	0.0747	0.0764
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00090	0.00067	0.00049	0.00061	0.00055
	Barium (Ba)-Total (mg/L)	0.0692	0.0652	0.0664	0.0651	0.0652
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000036	0.000024	0.000157	0.000486	0.000862
	Calcium (Ca)-Total (mg/L)	34.3	34.4	39.1	34.7	34.8
	Chromium (Cr)-Total (mg/L)	0.00054	0.00030	0.00027	0.00025	0.00024
	Cobalt (Co)-Total (mg/L)	0.00029	0.00017	0.00110	0.00375	0.00662
	Copper (Cu)-Total (mg/L)	0.00092	0.00061	0.00053	0.00067	0.00060
	Iron (Fe)-Total (mg/L)	0.621	0.291	0.356	0.404	0.487
	Lead (Pb)-Total (mg/L)	0.00561	0.000908	0.00103	0.00130	0.00120
	Lithium (Li)-Total (mg/L)	0.00518	0.00501	0.00428	0.00540	0.00560
	Magnesium (Mg)-Total (mg/L)	7.52	7.33	9.12	9.20	10.9
	Manganese (Mn)-Total (mg/L)	0.0858	0.0602	0.115	0.209	0.336
	Molybdenum (Mo)-Total (mg/L)	0.000688	0.000697	0.000557	0.000688	0.000644

\* 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	L1397452-26 Surface Water 28-NOV-13 08:40 X2	L1397452-27 Surface Water 28-NOV-13 09:00 NF2-B	L1397452-28 Surface Water 28-NOV-13 08:20 X3A	L1397452-29 Surface Water 28-NOV-13 08:00 X10	L1397452-30 Surface Water 28-NOV-13 07:45 X14	
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	226	213	247	250	406
	Hardness (as CaCO3) (mg/L)	124	116	133	136	228
	pH (pH)	7.53	7.60	7.63	7.74	7.69
	Total Suspended Solids (mg/L)	8.2	3.8	2.4	<1.0	9.6
	Total Dissolved Solids (mg/L)	146	133	152	155	286
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	114	111	118	119	138
	Ammonia, Total (as N) (mg/L)	0.0099	0.0068	0.0142	0.0119	0.0476
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.155	0.143	0.150	0.148	0.146
	Nitrate (as N) (mg/L)	0.201	0.198	0.178	0.179	0.173
	Nitrite (as N) (mg/L)	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0094	0.0063	0.0043	0.0029	<0.0020
	Sulfate (SO4) (mg/L)	26.9	18.5	27.4	29.4	111
	Anion Sum (meq/L)	2.86	2.63	2.95	3.01	5.09
	Cation Sum (meq/L)	2.63	2.45	2.80	2.86	4.86
	Cation - Anion Balance (%)	-4.2	-3.6	-2.6	-2.5	-2.3
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.74	1.77	1.90	1.81	1.68
	Total Organic Carbon (mg/L)	1.71	1.85	1.59	1.70	1.83
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.148	0.0871	0.0530	0.0317	0.183
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00078	0.00062	0.00048	0.00032	0.00066
	Barium (Ba)-Total (mg/L)	0.0684	0.0665	0.0680	0.0669	0.0686
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000281	0.000030	0.000163	0.000123	0.000138
	Calcium (Ca)-Total (mg/L)	35.6	35.5	38.9	38.9	69.5
	Chromium (Cr)-Total (mg/L)	0.00043	0.00029	0.00021	0.00016	0.00055
	Cobalt (Co)-Total (mg/L)	0.00221	0.00023	0.00114	0.00088	0.00197
	Copper (Cu)-Total (mg/L)	0.00082	0.00057	0.00054	0.00059	0.00087
	Iron (Fe)-Total (mg/L)	0.649	0.317	0.366	0.374	0.876
	Lead (Pb)-Total (mg/L)	0.00290	0.00122	0.000991	0.000404	0.00119
	Lithium (Li)-Total (mg/L)	0.00557	0.00510	0.00423	0.00400	0.00535
	Magnesium (Mg)-Total (mg/L)	8.84	7.40	9.18	9.50	15.9
	Manganese (Mn)-Total (mg/L)	0.166	0.0527	0.119	0.124	1.86
	Molybdenum (Mo)-Total (mg/L)	0.000674	0.000701	0.000557	0.000547	0.000602

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1397452-31	L1397452-32	L1397452-33	L1397452-34	L1397452-35
	Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
	Sampled Date	26-NOV-13	26-NOV-13	28-NOV-13	28-NOV-13	28-NOV-13
	Sampled Time	13:30	13:00	10:45	10:10	09:30
	Client ID	NF1-F	NF1-E	FIELD BLANK	R8	NF1-E
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Conductivity (uS/cm)	219	220	<2.0	190	209
	Hardness (as CaCO3) (mg/L)	116	116	<0.50	100	115
	pH (pH)	7.74	7.69	5.96	7.90	7.70
	Total Suspended Solids (mg/L)	7.0	9.8	<1.0	3.0	2.4
	Total Dissolved Solids (mg/L)	132	132	<1.0	113	132
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	109	109	<2.0	104	111
	Ammonia, Total (as N) (mg/L)	0.0100	0.0123	<0.0050	0.0095	0.0102
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.144	0.144	<0.020	0.140	0.143
	Nitrate (as N) (mg/L)	0.198	0.198	<0.0050	0.119	0.205
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0089	0.0108	<0.0020	0.0070	0.0069
	Sulfate (SO4) (mg/L)	18.2	18.3	<0.50	9.00	18.0
	Anion Sum (meq/L)	2.57	2.58	<0.10	2.27	2.61
	Cation Sum (meq/L)	2.46	2.45	<0.10	2.13	2.44
	Cation - Anion Balance (%)	-2.3	-2.4	0.0	-3.2	-3.4
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.81	1.68	<0.50	2.40	1.90
	Total Organic Carbon (mg/L)	2.02	1.81	<0.50	2.01	2.09
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.163	0.0521	<0.0030	0.0564	0.0455
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00075	0.00072	<0.00010	0.00073	0.00068
	Barium (Ba)-Total (mg/L)	0.0663	0.0669	<0.000050	0.0608	0.0639
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000026	0.000020	<0.000010	<0.000010	0.000023
	Calcium (Ca)-Total (mg/L)	34.4	35.5	<0.020	30.0	33.6
	Chromium (Cr)-Total (mg/L)	0.00063	0.00021	<0.00010	0.00021	0.00019
	Cobalt (Co)-Total (mg/L)	0.00019	0.00013	<0.00010	<0.00010	0.00013
	Copper (Cu)-Total (mg/L)	0.00070	<0.00050	<0.00050	<0.00050	<0.00050
	Iron (Fe)-Total (mg/L)	0.428	0.248	<0.010	0.280	0.243
	Lead (Pb)-Total (mg/L)	0.00119	0.000863	<0.000050	0.000117	0.000565
	Lithium (Li)-Total (mg/L)	0.00504	0.00498	<0.00050	0.00434	0.00480
	Magnesium (Mg)-Total (mg/L)	7.34	7.50	<0.0050	5.95	7.19
	Manganese (Mn)-Total (mg/L)	0.0447	0.0506	<0.000050	0.0338	0.0432
	Molybdenum (Mo)-Total (mg/L)	0.000701	0.000715	<0.000050	0.000666	0.000665

\* 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	L1397452-36 Surface Water 28-NOV-13 10:00 R9	L1397452-37 Surface Water 28-NOV-13 09:45 R10		
Grouping	Analyte				
<b>WATER</b>					
<b>Physical Tests</b>	Conductivity (uS/cm)	209	214		
	Hardness (as CaCO3) (mg/L)	113	114		
	pH (pH)	7.89	7.74		
	Total Suspended Solids (mg/L)	5.2	4.8		
	Total Dissolved Solids (mg/L)	127	127		
<b>Anions and Nutrients</b>	Alkalinity, Total (as CaCO3) (mg/L)	105	104		
	Ammonia, Total (as N) (mg/L)	0.0086	0.0078		
	Chloride (Cl) (mg/L)	<0.50	<0.50		
	Fluoride (F) (mg/L)	0.143	0.143		
	Nitrate (as N) (mg/L)	0.193	0.193		
	Nitrite (as N) (mg/L)	<0.0010	<0.0010		
	Phosphorus (P)-Total (mg/L)	0.0081	0.0082		
	Sulfate (SO4) (mg/L)	17.2	17.6		
	Anion Sum (meq/L)	2.49	2.46		
	Cation Sum (meq/L)	2.39	2.41		
	Cation - Anion Balance (%)	-1.9	-1.0		
<b>Organic / Inorganic Carbon</b>	Dissolved Organic Carbon (mg/L)	1.80	1.77		
	Total Organic Carbon (mg/L)	1.80	1.77		
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.0786	0.0862		
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010		
	Arsenic (As)-Total (mg/L)	0.00071	0.00070		
	Barium (Ba)-Total (mg/L)	0.0632	0.0641		
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010		
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050		
	Boron (B)-Total (mg/L)	<0.010	<0.010		
	Cadmium (Cd)-Total (mg/L)	<0.000010	0.000020		
	Calcium (Ca)-Total (mg/L)	32.7	34.0		
	Chromium (Cr)-Total (mg/L)	0.00031	0.00027		
	Cobalt (Co)-Total (mg/L)	<0.00010	<0.00010		
	Copper (Cu)-Total (mg/L)	<0.00050	<0.00050		
	Iron (Fe)-Total (mg/L)	0.294	0.313		
	Lead (Pb)-Total (mg/L)	0.000280	0.000317		
	Lithium (Li)-Total (mg/L)	0.00457	0.00492		
	Magnesium (Mg)-Total (mg/L)	7.15	7.26		
	Manganese (Mn)-Total (mg/L)	0.0355	0.0368		
	Molybdenum (Mo)-Total (mg/L)	0.000665	0.000674		

\* 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		L1397452-1 Surface Water 27-NOV-13 09:10 NF1-X-4	L1397452-2 Surface Water 27-NOV-13 09:30 NF1-X-5	L1397452-3 Surface Water 27-NOV-13 09:45 NF1-X-6	L1397452-4 Surface Water 27-NOV-13 08:30 NF1-X-1	L1397452-5 Surface Water 27-NOV-13 09:00 NF1-X-3
Grouping	Analyte					
<b>WATER</b>						
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)	0.00259	0.00091	0.00148	0.00132	0.00174
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)	0.935	0.828	0.841	0.852	0.849
	Selenium (Se)-Total (mg/L)	0.00042	0.00039	0.00040	0.00035	0.00038
	Silicon (Si)-Total (mg/L)	6.72	5.94	6.13	5.84	6.07
	Silver (Ag)-Total (mg/L)	0.000033	0.000010	0.000018	0.000016	0.000043
	Sodium (Na)-Total (mg/L)	2.52	2.58	2.44	2.48	2.43
	Strontium (Sr)-Total (mg/L)	0.137	0.148	0.145	0.144	0.140
	Thallium (Tl)-Total (mg/L)	0.000022	<0.000010	0.000012	<0.000010	0.000020
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.037	<0.010	0.017	<0.010	0.019
	Uranium (U)-Total (mg/L)	0.00187	0.00191	0.00184	0.00179	0.00183
	Vanadium (V)-Total (mg/L)	0.0027	<0.0010	0.0015	<0.0010	0.0015
	Zinc (Zn)-Total (mg/L)	0.0256	0.0158	0.0203	0.0257	0.0221
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0030	0.0036	0.0031	0.0031	0.0025
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00046	0.00048	0.00045	0.00048	0.00047
	Barium (Ba)-Dissolved (mg/L)	0.0640	0.0641	0.0631	0.0652	0.0641
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000017	0.000020	0.000016	0.000021	0.000019
	Calcium (Ca)-Dissolved (mg/L)	33.8	33.2	33.6	34.3	34.0
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00010	<0.00010	<0.00010	0.00025	0.00013
	Copper (Cu)-Dissolved (mg/L)	0.00027	0.00031	0.00025	0.00029	0.00025
	Iron (Fe)-Dissolved (mg/L)	0.078	0.064	0.058	0.226	0.088
	Lead (Pb)-Dissolved (mg/L)	0.000085	0.000065	0.000057	0.000117	0.000077
	Lithium (Li)-Dissolved (mg/L)	0.00501	0.00494	0.00496	0.00513	0.00511
	Magnesium (Mg)-Dissolved (mg/L)	7.24	7.28	7.23	7.42	7.31
	Manganese (Mn)-Dissolved (mg/L)	0.0458	0.0402	0.0358	0.0902	0.0501
	Molybdenum (Mo)-Dissolved (mg/L)	0.000642	0.000636	0.000640	0.000654	0.000644
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	0.00066	0.00052
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	0.782	0.798	0.774	0.821	0.790

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

13-DEC-13 12:31 (MT)

Version: FINAL REV. 4

Sample ID Description Sampled Date Sampled Time Client ID		L1397452-6 Surface Water 27-NOV-13 08:45 NF1-X-2	L1397452-7 Surface Water 27-NOV-13 10:15 NF1-X-8	L1397452-8 Surface Water 27-NOV-13 10:00 NF1-X-7	L1397452-9 Surface Water 27-NOV-13 11:15 NF1-X-11	L1397452-10 Surface Water 27-NOV-13 10:30 NF1-X-9
Grouping	Analyte					
<b>WATER</b>						
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)	0.00092	0.00142	0.00065	0.00063	0.00065
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)	0.823	0.835	0.806	0.790	0.807
	Selenium (Se)-Total (mg/L)	0.00036	0.00036	0.00041	0.00034	0.00037
	Silicon (Si)-Total (mg/L)	6.01	6.22	5.82	5.74	5.88
	Silver (Ag)-Total (mg/L)	0.000012	0.000017	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)	2.54	2.51	2.54	2.51	2.54
	Strontium (Sr)-Total (mg/L)	0.153	0.149	0.147	0.150	0.150
	Thallium (Tl)-Total (mg/L)	<0.000010	0.000011	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	0.00011	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.010	0.015	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	0.00190	0.00188	0.00189	0.00182	0.00193
	Vanadium (V)-Total (mg/L)	<0.0010	0.0013	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	0.0177	0.0196	0.0160	0.0145	0.0153
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0026	0.0030	0.0026	0.0029	0.0028
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00046	0.00052	0.00041	0.00051	0.00044
	Barium (Ba)-Dissolved (mg/L)	0.0640	0.0653	0.0632	0.0647	0.0633
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000018	0.000018	0.000020	0.000019	0.000017
	Calcium (Ca)-Dissolved (mg/L)	33.9	34.4	34.1	34.4	34.1
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00012	<0.00010	<0.00010	0.00014	<0.00010
	Copper (Cu)-Dissolved (mg/L)	0.00027	0.00024	0.00027	0.00022	0.00021
	Iron (Fe)-Dissolved (mg/L)	0.084	0.075	0.058	0.126	0.065
	Lead (Pb)-Dissolved (mg/L)	0.000062	0.000068	<0.000050	0.000070	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.00514	0.00523	0.00513	0.00524	0.00522
	Magnesium (Mg)-Dissolved (mg/L)	7.38	7.45	7.28	7.33	7.34
	Manganese (Mn)-Dissolved (mg/L)	0.0499	0.0535	0.0331	0.0648	0.0383
	Molybdenum (Mo)-Dissolved (mg/L)	0.000654	0.000675	0.000630	0.000659	0.000647
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	0.00054	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	0.806	0.818	0.802	0.800	0.794

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

13-DEC-13 12:31 (MT)

Version: FINAL REV. 4

		Sample ID	L1397452-11	L1397452-12	L1397452-13	L1397452-14	L1397452-15
		Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
		Sampled Date	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13
		Sampled Time	10:45	11:30	00:15		12:45
		Client ID	NF1-X-10	NF1-X-12	NF1-X-14	NF1-X-13	NF1-X-16
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)		0.00061	0.00181	0.00275	0.00064	0.00071
	Phosphorus (P)-Total (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)		0.788	0.874	0.932	0.806	0.793
	Selenium (Se)-Total (mg/L)		0.00038	0.00035	0.00036	0.00039	0.00038
	Silicon (Si)-Total (mg/L)		5.77	6.07	5.93	5.83	5.82
	Silver (Ag)-Total (mg/L)		<0.000010	0.000024	<0.000010	<0.000010	0.000013
	Sodium (Na)-Total (mg/L)		2.51	2.53	2.83	2.55	2.48
	Strontium (Sr)-Total (mg/L)		0.152	0.138	0.166	0.149	0.152
	Thallium (Tl)-Total (mg/L)		<0.000010	0.000015	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		<0.010	0.017	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		0.00192	0.00167	0.00178	0.00180	0.00186
	Vanadium (V)-Total (mg/L)		<0.0010	0.0014	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)		0.0148	0.0288	0.0923	0.0154	0.0164
	Zirconium (Zr)-Total (mg/L)		<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0032	0.0029	0.0035	0.0027	0.0035
	Antimony (Sb)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00046	0.00043	0.00044	0.00052	0.00046
	Barium (Ba)-Dissolved (mg/L)		0.0627	0.0651	0.0675	0.0650	0.0634
	Beryllium (Be)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000021	0.000027	0.000082	0.000019	0.000018
	Calcium (Ca)-Dissolved (mg/L)		34.5	34.3	37.9	34.5	34.3
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		0.00010	0.00028	0.00178	0.00016	<0.00010
	Copper (Cu)-Dissolved (mg/L)		0.00022	0.00024	0.00030	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)		0.072	0.215	0.709	0.232	0.066
	Lead (Pb)-Dissolved (mg/L)		<0.000050	0.000127	0.000259	0.000074	0.000069
	Lithium (Li)-Dissolved (mg/L)		0.00519	0.00520	0.00574	0.00520	0.00513
	Magnesium (Mg)-Dissolved (mg/L)		7.37	7.38	8.35	7.33	7.30
	Manganese (Mn)-Dissolved (mg/L)		0.0440	0.0964	0.294	0.0845	0.0436
	Molybdenum (Mo)-Dissolved (mg/L)		0.000653	0.000633	0.000610	0.000653	0.000633
	Nickel (Ni)-Dissolved (mg/L)		<0.00050	0.00079	0.00257	0.00056	<0.00050
	Phosphorus (P)-Dissolved (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)		0.794	0.804	0.914	0.796	0.782

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

13-DEC-13 12:31 (MT)

Version: FINAL REV. 4

		Sample ID	L1397452-16	L1397452-17	L1397452-18	L1397452-19	L1397452-20
		Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
		Sampled Date	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13	27-NOV-13
		Sampled Time	13:20	12:30	13:30	14:21	15:00
		Client ID	NF1-X-17	NF1-X-15	NF1-X-18	NF1-X-21	NF1-X-22
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)		0.00111	0.00059	0.00061	0.00106	0.00513
	Phosphorus (P)-Total (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)		0.858	0.798	0.777	0.850	1.12
	Selenium (Se)-Total (mg/L)		0.00037	0.00036	0.00036	0.00037	0.00027
	Silicon (Si)-Total (mg/L)		6.09	5.71	5.60	5.99	6.20
	Silver (Ag)-Total (mg/L)		0.000012	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)		2.60	2.53	2.47	2.70	3.15
	Strontium (Sr)-Total (mg/L)		0.149	0.150	0.145	0.161	0.188
	Thallium (Tl)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	0.000028
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		0.00191	0.00183	0.00181	0.00187	0.00140
	Vanadium (V)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)		0.0175	0.0150	0.0144	0.0302	0.143
	Zirconium (Zr)-Total (mg/L)		<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0027	0.0031	0.0031	0.0028	0.0057
	Antimony (Sb)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00046	0.00047	0.00046	0.00043	0.00049
	Barium (Ba)-Dissolved (mg/L)		0.0628	0.0638	0.0635	0.0660	0.0671
	Beryllium (Be)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000017	0.000019	0.000017	0.000030	0.000140
	Calcium (Ca)-Dissolved (mg/L)		34.0	34.2	33.8	34.9	39.1
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	0.00042	0.00608
	Copper (Cu)-Dissolved (mg/L)		<0.00020	0.00020	<0.00020	0.00022	0.00034
	Iron (Fe)-Dissolved (mg/L)		0.063	0.064	0.062	0.248	2.49
	Lead (Pb)-Dissolved (mg/L)		0.000051	0.000071	<0.000050	0.000102	0.00104
	Lithium (Li)-Dissolved (mg/L)		0.00517	0.00515	0.00501	0.00531	0.00652
	Magnesium (Mg)-Dissolved (mg/L)		7.23	7.28	7.21	7.57	9.01
	Manganese (Mn)-Dissolved (mg/L)		0.0414	0.0425	0.0390	0.112	0.758
	Molybdenum (Mo)-Dissolved (mg/L)		0.000643	0.000639	0.000632	0.000654	0.000473
	Nickel (Ni)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	0.00093	0.00464
	Phosphorus (P)-Dissolved (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)		0.777	0.783	0.780	0.816	1.09

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1397452-21	L1397452-22	L1397452-23	L1397452-24	L1397452-25
		Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
		Sampled Date	27-NOV-13	27-NOV-13	28-NOV-13	28-NOV-13	28-NOV-13
		Sampled Time	14:10	13:45	08:20	09:15	08:55
		Client ID	NF1-X-20	NF1-X-19	X3A-R	NF2	NF2-A
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)		0.00100	0.00061	0.00223	0.00576	0.0100
	Phosphorus (P)-Total (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)		0.838	0.787	0.953	0.836	0.857
	Selenium (Se)-Total (mg/L)		0.00039	0.00036	0.00035	0.00036	0.00039
	Silicon (Si)-Total (mg/L)		5.90	5.72	5.40	5.77	5.78
	Silver (Ag)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)		2.57	2.50	2.55	2.62	2.72
	Strontium (Sr)-Total (mg/L)		0.152	0.151	0.186	0.153	0.155
	Thallium (Tl)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		0.00192	0.00188	0.00213	0.00189	0.00186
	Vanadium (V)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)		0.0190	0.0155	0.249	0.757	1.36
	Zirconium (Zr)-Total (mg/L)		<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0036	0.0029	0.0029	0.0077	0.0090
	Antimony (Sb)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00044	0.00046	0.00027	0.00032	0.00027
	Barium (Ba)-Dissolved (mg/L)		0.0658	0.0645	0.0651	0.0637	0.0648
	Beryllium (Be)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000022	0.000021	0.000154	0.000489	0.000815
	Calcium (Ca)-Dissolved (mg/L)		35.2	34.3	38.4	34.7	35.1
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		0.00016	0.00012	0.00103	0.00369	0.00627
	Copper (Cu)-Dissolved (mg/L)		0.00025	<0.00020	<0.00020	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)		0.159	0.104	0.123	0.138	0.188
	Lead (Pb)-Dissolved (mg/L)		0.000114	0.000080	0.000066	0.000093	0.000109
	Lithium (Li)-Dissolved (mg/L)		0.00531	0.00519	0.00437	0.00546	0.00570
	Magnesium (Mg)-Dissolved (mg/L)		7.45	7.43	8.98	9.32	10.5
	Manganese (Mn)-Dissolved (mg/L)		0.0759	0.0567	0.112	0.206	0.318
	Molybdenum (Mo)-Dissolved (mg/L)		0.000681	0.000655	0.000504	0.000618	0.000613
	Nickel (Ni)-Dissolved (mg/L)		0.00063	0.00050	0.00209	0.00559	0.00926
	Phosphorus (P)-Dissolved (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)		0.816	0.802	0.959	0.794	0.831

\* 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	L1397452-26 Surface Water 28-NOV-13 08:40 X2	L1397452-27 Surface Water 28-NOV-13 09:00 NF2-B	L1397452-28 Surface Water 28-NOV-13 08:20 X3A	L1397452-29 Surface Water 28-NOV-13 08:00 X10	L1397452-30 Surface Water 28-NOV-13 07:45 X14	
Grouping	Analyte					
<b>WATER</b>						
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)	0.00375	0.00077	0.00231	0.00220	0.00472
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)	0.878	0.796	0.967	0.953	1.37
	Selenium (Se)-Total (mg/L)	0.00038	0.00037	0.00034	0.00033	0.00037
	Silicon (Si)-Total (mg/L)	5.98	5.88	5.59	5.22	5.92
	Silver (Ag)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)	2.71	2.55	2.58	2.52	4.39
	Strontium (Sr)-Total (mg/L)	0.158	0.158	0.178	0.179	0.257
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	0.00193	0.00193	0.00210	0.00202	0.00251
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	0.426	0.0196	0.258	0.239	0.219
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0040	0.0028	0.0029	0.0019	0.0014
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00027	0.00037	0.00026	0.00015	0.00020
	Barium (Ba)-Dissolved (mg/L)	0.0636	0.0638	0.0648	0.0654	0.0649
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000252	0.000023	0.000149	0.000107	0.000126
	Calcium (Ca)-Dissolved (mg/L)	35.4	34.0	38.2	38.8	66.1
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00190	0.00016	0.00103	0.00080	0.00177
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)	0.094	0.060	0.093	0.072	0.243
	Lead (Pb)-Dissolved (mg/L)	0.000078	0.000077	0.000080	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.00540	0.00505	0.00429	0.00421	0.00503
	Magnesium (Mg)-Dissolved (mg/L)	8.65	7.48	9.05	9.43	15.2
	Manganese (Mn)-Dissolved (mg/L)	0.144	0.0450	0.109	0.115	1.79
	Molybdenum (Mo)-Dissolved (mg/L)	0.000622	0.000627	0.000497	0.000505	0.000552
	Nickel (Ni)-Dissolved (mg/L)	0.00319	0.00059	0.00207	0.00197	0.00410
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	0.815	0.813	0.955	0.936	1.30

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

13-DEC-13 12:31 (MT)

Version: FINAL REV. 4

		Sample ID	L1397452-31	L1397452-32	L1397452-33	L1397452-34	L1397452-35
		Description	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
		Sampled Date	26-NOV-13	26-NOV-13	28-NOV-13	28-NOV-13	28-NOV-13
		Sampled Time	13:30	13:00	10:45	10:10	09:30
		Client ID	NF1-F	NF1-E	FIELD BLANK	R8	NF1-E
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)		0.00078	0.00061	<0.00050	<0.00050	0.00055
	Phosphorus (P)-Total (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)		0.801	0.810	<0.050	0.699	0.818
	Selenium (Se)-Total (mg/L)		0.00035	0.00040	<0.00010	0.00037	0.00037
	Silicon (Si)-Total (mg/L)		5.58	5.92	<0.050	5.73	5.61
	Silver (Ag)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)		2.52	2.59	<0.050	2.39	2.52
	Strontium (Sr)-Total (mg/L)		0.152	0.158	<0.00020	0.132	0.151
	Thallium (Tl)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		0.00186	0.00190	<0.000010	0.00161	0.00180
	Vanadium (V)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)		0.0165	0.0149	<0.0030	<0.0030	0.0163
	Zirconium (Zr)-Total (mg/L)		<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0033	0.0026	<0.0010	0.0029	0.0032
	Antimony (Sb)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00041	0.00049	<0.00010	0.00050	0.00043
	Barium (Ba)-Dissolved (mg/L)		0.0632	0.0650	<0.000050	0.0599	0.0627
	Beryllium (Be)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000019	0.000020	<0.000010	<0.000010	0.000020
	Calcium (Ca)-Dissolved (mg/L)		34.5	34.3	<0.020	30.4	33.9
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		<0.00010	0.00010	<0.00010	<0.00010	0.00011
	Copper (Cu)-Dissolved (mg/L)		<0.00020	0.00030	<0.00020	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)		0.051	0.087	<0.010	0.072	0.066
	Lead (Pb)-Dissolved (mg/L)		<0.000050	0.000081	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)		0.00512	0.00504	<0.00050	0.00458	0.00502
	Magnesium (Mg)-Dissolved (mg/L)		7.34	7.34	<0.0050	5.93	7.39
	Manganese (Mn)-Dissolved (mg/L)		0.0345	0.0466	<0.000050	0.0284	0.0409
	Molybdenum (Mo)-Dissolved (mg/L)		0.000664	0.000650	<0.000050	0.000650	0.000659
	Nickel (Ni)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Phosphorus (P)-Dissolved (mg/L)		<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)		0.784	0.796	<0.050	0.677	0.799

\* 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	L1397452-36 Surface Water 28-NOV-13 10:00 R9	L1397452-37 Surface Water 28-NOV-13 09:45 R10			
Grouping	Analyte				
<b>WATER</b>					
<b>Total Metals</b>	Nickel (Ni)-Total (mg/L)	<0.00050	<0.00050		
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30		
	Potassium (K)-Total (mg/L)	0.761	0.776		
	Selenium (Se)-Total (mg/L)	0.00037	0.00035		
	Silicon (Si)-Total (mg/L)	5.65	5.72		
	Silver (Ag)-Total (mg/L)	<0.000010	<0.000010		
	Sodium (Na)-Total (mg/L)	2.46	2.49		
	Strontium (Sr)-Total (mg/L)	0.145	0.151		
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010		
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010		
	Titanium (Ti)-Total (mg/L)	<0.010	<0.010		
	Uranium (U)-Total (mg/L)	0.00185	0.00188		
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010		
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0124		
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.00080		
<b>Dissolved Metals</b>	Dissolved Metals Filtration Location	FIELD	FIELD		
	Aluminum (Al)-Dissolved (mg/L)	0.0031	0.0029		
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010		
	Arsenic (As)-Dissolved (mg/L)	0.00045	0.00044		
	Barium (Ba)-Dissolved (mg/L)	0.0625	0.0626		
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010		
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050		
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010		
	Cadmium (Cd)-Dissolved (mg/L)	<0.000010	0.000015		
	Calcium (Ca)-Dissolved (mg/L)	33.5	33.8		
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010		
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010		
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020		
	Iron (Fe)-Dissolved (mg/L)	0.054	0.054		
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050		
	Lithium (Li)-Dissolved (mg/L)	0.00491	0.00501		
	Magnesium (Mg)-Dissolved (mg/L)	7.17	7.22		
	Manganese (Mn)-Dissolved (mg/L)	0.0282	0.0290		
	Molybdenum (Mo)-Dissolved (mg/L)	0.000634	0.000644		
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050		
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30		
	Potassium (K)-Dissolved (mg/L)	0.761	0.768		

\* 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	L1397452-1 Surface Water 27-NOV-13 09:10 NF1-X-4	L1397452-2 Surface Water 27-NOV-13 09:30 NF1-X-5	L1397452-3 Surface Water 27-NOV-13 09:45 NF1-X-6	L1397452-4 Surface Water 27-NOV-13 08:30 NF1-X-1	L1397452-5 Surface Water 27-NOV-13 09:00 NF1-X-3
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00042	0.00040	0.00039	0.00038	0.00037
	Silicon (Si)-Dissolved (mg/L)	5.75	5.72	5.76	5.70	5.77
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.52	2.54	2.51	2.57	2.53
	Strontium (Sr)-Dissolved (mg/L)	0.144	0.146	0.144	0.147	0.149
	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)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00181	0.00184	0.00181	0.00182	0.00183
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0139	0.0149	0.0138	0.0208	0.0147
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

\* 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	L1397452-6 Surface Water 27-NOV-13 08:45 NF1-X-2	L1397452-7 Surface Water 27-NOV-13 10:15 NF1-X-8	L1397452-8 Surface Water 27-NOV-13 10:00 NF1-X-7	L1397452-9 Surface Water 27-NOV-13 11:15 NF1-X-11	L1397452-10 Surface Water 27-NOV-13 10:30 NF1-X-9
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00038	0.00039	0.00038	0.00037	0.00037
	Silicon (Si)-Dissolved (mg/L)	5.72	5.82	5.72	5.74	5.69
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.57	2.60	2.56	2.55	2.56
	Strontium (Sr)-Dissolved (mg/L)	0.148	0.149	0.149	0.145	0.146
	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)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00180	0.00187	0.00182	0.00182	0.00183
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0147	0.0143	0.0139	0.0146	0.0138
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

\* 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	L1397452-11 Surface Water 27-NOV-13 10:45 NF1-X-10	L1397452-12 Surface Water 27-NOV-13 11:30 NF1-X-12	L1397452-13 Surface Water 27-NOV-13 00:15 NF1-X-14	L1397452-14 Surface Water 27-NOV-13 NF1-X-13	L1397452-15 Surface Water 27-NOV-13 12:45 NF1-X-16	
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00036	0.00037	0.00038	0.00040	0.00038
	Silicon (Si)-Dissolved (mg/L)	5.69	5.73	5.91	5.72	5.66
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.55	2.55	2.77	2.53	2.52
	Strontium (Sr)-Dissolved (mg/L)	0.150	0.148	0.166	0.150	0.148
	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)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00181	0.00177	0.00176	0.00185	0.00185
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0144	0.0213	0.0917	0.0147	0.0139
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

\* 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	L1397452-16 Surface Water 27-NOV-13 13:20 NF1-X-17	L1397452-17 Surface Water 27-NOV-13 12:30 NF1-X-15	L1397452-18 Surface Water 27-NOV-13 13:30 NF1-X-18	L1397452-19 Surface Water 27-NOV-13 14:21 NF1-X-21	L1397452-20 Surface Water 27-NOV-13 15:00 NF1-X-22	
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00038	0.00038	0.00038	0.00038	0.00030
	Silicon (Si)-Dissolved (mg/L)	5.69	5.67	5.68	5.84	6.02
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.50	2.51	2.49	2.60	3.04
	Strontium (Sr)-Dissolved (mg/L)	0.148	0.146	0.144	0.153	0.180
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	0.000027
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00183	0.00177	0.00180	0.00182	0.00135
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0133	0.0136	0.0130	0.0288	0.138
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

\* 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	L1397452-21 Surface Water 27-NOV-13 14:10 NF1-X-20	L1397452-22 Surface Water 27-NOV-13 13:45 NF1-X-19	L1397452-23 Surface Water 28-NOV-13 08:20 X3A-R	L1397452-24 Surface Water 28-NOV-13 09:15 NF2	L1397452-25 Surface Water 28-NOV-13 08:55 NF2-A	
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00039	0.00039	0.00034	0.00038	0.00036
	Silicon (Si)-Dissolved (mg/L)	5.85	5.79	5.44	5.73	5.80
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.58	2.55	2.54	2.57	2.67
	Strontium (Sr)-Dissolved (mg/L)	0.152	0.147	0.176	0.149	0.154
	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)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00182	0.00178	0.00205	0.00181	0.00181
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0163	0.0138	0.253	0.792	1.35
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

\* 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	L1397452-26 Surface Water 28-NOV-13 08:40 X2	L1397452-27 Surface Water 28-NOV-13 09:00 NF2-B	L1397452-28 Surface Water 28-NOV-13 08:20 X3A	L1397452-29 Surface Water 28-NOV-13 08:00 X10	L1397452-30 Surface Water 28-NOV-13 07:45 X14	
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00036	0.00038	0.00033	0.00036	0.00036
	Silicon (Si)-Dissolved (mg/L)	5.79	5.73	5.38	5.34	5.45
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.62	2.57	2.54	2.49	4.35
	Strontium (Sr)-Dissolved (mg/L)	0.154	0.148	0.175	0.177	0.239
	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)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00178	0.00180	0.00201	0.00207	0.00242
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.406	0.0191	0.250	0.231	0.208
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

\* 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	L1397452-31 Surface Water 26-NOV-13 13:30 NF1-F	L1397452-32 Surface Water 26-NOV-13 13:00 NF1-E	L1397452-33 Surface Water 28-NOV-13 10:45 FIELD BLANK	L1397452-34 Surface Water 28-NOV-13 10:10 R8	L1397452-35 Surface Water 28-NOV-13 09:30 NF1-E	
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00040	0.00037	<0.00010	0.00037	0.00037
	Silicon (Si)-Dissolved (mg/L)	5.79	5.81	<0.050	5.82	5.69
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.53	2.54	<0.050	2.37	2.54
	Strontium (Sr)-Dissolved (mg/L)	0.152	0.152	<0.00020	0.131	0.145
	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)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00185	0.00183	<0.000010	0.00156	0.00183
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0139	0.0136	<0.0010	<0.0010	0.0148
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

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



# ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1397452-36	L1397452-37		
	Description	Surface Water	Surface Water		
	Sampled Date	28-NOV-13	28-NOV-13		
	Sampled Time	10:00	09:45		
	Client ID	R9	R10		
Grouping	Analyte				
<b>WATER</b>					
<b>Dissolved Metals</b>	Selenium (Se)-Dissolved (mg/L)	0.00038	0.00037		
	Silicon (Si)-Dissolved (mg/L)	5.66	5.65		
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010		
	Sodium (Na)-Dissolved (mg/L)	2.47	2.50		
	Strontium (Sr)-Dissolved (mg/L)	0.144	0.149		
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010		
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010		
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010		
	Uranium (U)-Dissolved (mg/L)	0.00179	0.00177		
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010		
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0111		
	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080		

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



## Reference Information

Parameter	Qualifier	Applies to Sample Number(s)
		31, -32, -33, -34, -35, -36, -37, -4, -5, -6, -7, -8, -9

**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**
<b>ALK-COL-VA</b>	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.	
<b>ANIONS-CL-IC-WR</b>	Water	Chloride by Ion Chromatography	EPA 300.1
		This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.	
<b>ANIONS-F-IC-WR</b>	Water	Fluoride by Ion Chromatography	EPA 300.1
		This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.	
<b>ANIONS-NO2-IC-WR</b>	Water	Nitrite Nitrogen by Ion Chromatography	EPA 300.1
		This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. Nitrate is detected by UV absorbance.	
<b>ANIONS-NO3-IC-WR</b>	Water	Nitrate Nitrogen by Ion Chromatography	EPA 300.1
		This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. Nitrate is detected by UV absorbance.	
<b>ANIONS-SO4-IC-WR</b>	Water	Sulphate by Ion Chromatography	EPA 300.1
		This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.	
<b>CARBONS-DOC-VA</b>	Water	Dissolved organic carbon by combustion	APHA 5310 TOTAL ORGANIC CARBON (TOC)
		This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". Dissolved carbon (DOC) fractions are determined by filtering the sample through a 0.45 micron membrane filter prior to analysis.	
<b>CARBONS-TOC-VA</b>	Water	Total organic carbon by combustion	APHA 5310 TOTAL ORGANIC CARBON (TOC)
		This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".	
<b>EC-MAN-WR</b>	Water	Conductivity by Meter	APHA 2510 (B)
		This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using an electrode.	
<b>HARDNESS-CALC-VA</b>	Water	Hardness	APHA 2340B
		Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.	
<b>IONBALANCE-VA</b>	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]	
<b>MET-D-CCMS-VA</b>	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
		This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).	
<b>MET-T-CCMS-VA</b>	Water	Total Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

## Reference Information

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

**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.

**P-T-COL-VA**                      Water              Total P in Water by Colour                      APHA 4500-P Phosphorous

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorous is determined colourimetrically after persulphate digestion of the sample.

**PH-MAN-WR**                      Water              pH by Meter                      APHA 4500-H (B)

"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."

**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-LOW-WR**                      Water              Total Suspended Solids by Grav. (1 mg/L)                      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.

**ZR-D-MS-VA**                      Water              Dissolved Zr in Water by ICPMS                      EPA SW-846 3005A/6020A

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

**ZR-T-MS-VA**                      Water              Total Zr in Water by ICPMS                      EPA SW-846 3005A/6020A

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

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

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

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

### Chain of Custody Numbers:

1                                      2                                      3                                      4                                      5

### 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.*

**Report To** \_\_\_\_\_ **Report Format / Distribution**  Standard  Other  PDF  Excel  Digital  Fax

**Company:** EDI **Service Requested (Rush for routine analysis subject to availability)**  
 Regular (Standard Turnaround Times - Business Days)  
 Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT  
 Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT  
 Same Day or Weekend Emergency - Contact ALS to Confirm TAT

**Contact:** Meighan Kearns **Email 1:** mkearns@edynamics.com

**Address:** 2195 - 2nd Avenue **Whitehorse, YT Y1A 3T8** **Email 2:** \_\_\_\_\_ **Email 3:** \_\_\_\_\_

**Phone:** 867-393-4882 **Fax:** \_\_\_\_\_ **Client / Project Information**
**Invoice To:** Same as Report?  Yes  No **Job #:** 13-Y-0452

**Hardcopy of Invoice with Report?**  Yes  No **PO / AFE:** \_\_\_\_\_ **LSD:** \_\_\_\_\_

**Company:** \_\_\_\_\_ **Quote #:** Q38556

**Contact:** \_\_\_\_\_ **ALS Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Sampler:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**Lab Work Order #** \_\_\_\_\_ **Sample Identification**
**(lab use only)** \_\_\_\_\_ **(This description will appear on the report)**

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	ALK-COL-VA, P-T-COL-VA	ANIONS-ALL-IC-WR	CARBONS-DOC-VA	CARBONS-TOC-VA, NH3-F-V	EC-MAN-WR, PH-MAN-WR	MET-D-CCMS-VA, ZR-D-MS	MET-T-CCMS-VA, ZR-T-MS	IONBALANCE-VA	TDS-CALC-VA	TSS-LOW-WR	HARDNESS-CALC-VA	Number of Containers
	NE1-X-4	27-Nov-13	9:10	Surface Water	X	X	X	X	X	X	X	X	X	X	X	5
	NE1-X-5	27-Nov-13	9:30	Surface Water	X	X	X	X	X	X	X	X	X	X	X	5
	NE1-X-6	27-Nov-13	9:45	SW	X	X	X	X	X	X	X	X	X	X	X	5
	NE1-X-1	27-Nov-13	8:30	SW	X	X	X	X	X	X	X	X	X	X	X	5
	NE1-X-3	27-Nov-13	9:00	SW	X	X	X	X	X	X	X	X	X	X	X	5
	NE1-X-2	27-Nov-13	8:45	SW	X	X	X	X	X	X	X	X	X	X	X	5
<b>Special Instructions:</b> E-Freshwater Aquatic Life/B/C CSR - Commercial/LAB Tier 1 - Natural, etc) / Hazardous Details																



L1397452-COFC

Use Faro Equis Format to report. Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

**SHIPMENT RELEASE (client use)** \_\_\_\_\_ **SHIPMENT RECEPTION (lab use only)** \_\_\_\_\_

**Released by:** \_\_\_\_\_ **Date (dd-mm-yy):** 28-Nov-13 **Time (hh-mm):** 4:00 **Temperature:** 15 °C **Verified by:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**SHIPMENT VERIFICATION (lab use only)** \_\_\_\_\_ **Observations:** Yes / No?  Yes  No  If Yes add SIF



Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)	
Company: EDI		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Contact: Meighan Kearns		<input checked="" type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax		Please indicate below Filtered, Preserved or both (F, P, F/P) Analysis Request	
Address: 2195 - 2nd Avenue		Email 1: mkearns@edynamics.com			
Whitehorse, YT Y1A 3T8		Email 2:			
Phone: 867-393-4882		Email 3:			
Fax: 867-393-4882		Client / Project Information			
Invoice To: Same as Report?		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Hardcopy of Invoice with Report?		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Company:		Job #: 13-Y-0452			
Contact:		PO / AFE:			
Address:		LSD:			
Phone:		Quote #: Q38556			
Fax:		ALS Contact:			
Lab Work Order # (lab use only)		Sampler:			

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/B/C CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	ALK	P-T-COL	ANIONS-ALL-IC	CARBONS-DOC	CARBONS-TOC/ND <sub>2</sub>	EC-MAN, PH-MAN	MBT-D-COMS	MBT-T-COMS	ION BALANCE	TDS-CALC	TSS-LOW	HARDNESS-CALC	Number of Containers
ME1-X-8		29 Nov-13	10:00	SW	X	X	X	X	X	X	X	X	X	X	X	X	5
ME1-X-11			11:15	SW	X	X	X	X	X	X	X	X	X	X	X	X	5
ME1-X-9			10:30	SW	X	X	X	X	X	X	X	X	X	X	X	X	5
ME1-X-10			10:45	SW	X	X	X	X	X	X	X	X	X	X	X	X	5
ME1-X-12			11:30	SW	X	X	X	X	X	X	X	X	X	X	X	X	5
ME1-X-14			12:15	SW	X	X	X	X	X	X	X	X	X	X	X	X	5
ME1-X-13			12:00	SW	X	X	X	X	X	X	X	X	X	X	X	X	5



L1397452-COFC

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SHIPMENT RELEASE (Client use)	SHIPMENT RECEPTION (Lab use only)	SHIPMENT VERIFICATION (Lab use only)
Released by: _____	Received by: <i>[Signature]</i>	Verified by: _____
Date (dd-mm-yy): _____	Date: 28-Nov-13	Date: _____
Time (hh-mm): _____	Time: 4:00	Time: _____
Temperature: _____	Temperature: -1.9 °C	Temperature: _____
Observations: Yes / No ? If Yes add SIF		

GENF 18.01 Front



<b>Report To</b>		<b>Report Format / Distribution</b>		<b>Service Requested</b> (Rush for routine analysis subject to availability)	
Company: EDI	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Other	<input type="checkbox"/> PDF	<input checked="" type="checkbox"/> Regular (Standard Turnaround Times - Business Days)	<input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Contact: Meighan Kearns	<input checked="" type="checkbox"/> Excel	<input type="checkbox"/> Digital	<input type="checkbox"/> Fax	<input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT	<input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8		Email 1: mkearns@edynamics.com	Email 2:	<b>Analysis Request</b>	
Phone: 867-393-4882	Fax:	Client / Project Information	Job #: 13-Y-0452	Please indicate below Filtered, Preserved or both (F, P, F/P)	
Invoice To: Same as Report?	<input type="checkbox"/> Yes <input type="checkbox"/> No	PO / A/E:	LSD:	<input type="checkbox"/> Filtered	<input type="checkbox"/> Preserved
Hardcopy of Invoice with Report?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Quote #: Q39556	ALS Contact:	<input type="checkbox"/> Both	<input type="checkbox"/> None
Company:				<input type="checkbox"/> F	<input type="checkbox"/> P
Contact:				<input type="checkbox"/> F	<input type="checkbox"/> P
Address:				<input type="checkbox"/> F	<input type="checkbox"/> P
Phone:				<input type="checkbox"/> F	<input type="checkbox"/> P
Fax:				<input type="checkbox"/> F	<input type="checkbox"/> P
Lab Work Order # (lab use only)				<input type="checkbox"/> F	<input type="checkbox"/> P
<b>Sample Identification</b>		<b>Sampler:</b>	<b>Date</b> (dd-mm-yy)	<b>Time</b> (hh:mm)	<b>Sample Type</b>
(This description will appear on the report)					
Sample #	ME1-X-16		27-Nov-13	12:45	Surface Water
	ME1-X-17		27-Nov-13	13:30	SW
	ME1-X-15		27-Nov-13	13:30	SW
	ME1-X-18		27-Nov-13	14:31	SW
	ME1-X-21		27-Nov-13	15:00	SW
	ME1-X-12		27-Nov-13	14:10	SW
	ME1-X-20		27-Nov-13	13:45	SW
	ME1-X-19		27-Nov-13	13:45	SW

Special Instructions / Regulations with water or rain use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details



L1397452-COFC

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<b>SHIPMENT RELEASE (client use)</b>		<b>SHIPMENT RECEPTION (lab use only)</b>		<b>SHIPMENT VERIFICATION (lab use only)</b>	
Released by:	Date (dd-mm-yy)	Date:	Time:	Temperature:	Verified by:
		25-Nov-13	4:00	0.2 °C	
					Date:
					Time:
					Observations: Yes / No ? If Yes add SIF



Chain of Custody / Analytical Request Form  
 Canada Toll Free: 1 800 668 9878  
 www.alsglobal.com

COC # \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)	
Company: EDI		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Contact: Meighan Kearns		<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax		Please indicate below Filtered, Preserved or both (F, P, F/P)	
Address: 2195 - 2nd Avenue		Email 1: mkearns@edynamics.com			
Whitehorse, YT Y1A 3T8		Email 2:			
Phone: 867-393-4882		Email 3:			
Fax: 867-393-4882		Client / Project Information			
<input type="checkbox"/> Yes <input type="checkbox"/> No Invoice To Same as Report?		Job #: 13-Y-0452			
<input type="checkbox"/> Yes <input type="checkbox"/> No Hardcopy of Invoice with Report?		PO / AFE:			
Company:		LSD:			
Contact:		Quote #: Q38556			
Address:		ALS Contact:			
Phone:		Sampler:			
Fax:		Date (dd-mm-yy)		Time (hh:mm)	
Lab Work Order #		Date		Time	
(lab use only)		Date		Time	

Special Instructions / Hazardous Details: use (CCME-Freshwater Aquatic Life/BG CSR - Commercial/IAB Tier 1 - Natural, etc) / Hazardous Details

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Temperature	Analysis Request	Number of Containers
NE2-R2		28-Nov-13	9:15	SW	-22°C	X ALKALINITY X ANIONS-ALL X DOC X TOC X EC, PH X D-METALS-CCMS X T-METALS-CCMS X IONBALANCE X TDS X TDS-LOW X HARDNESS	5
NE2-B		28-Nov-13	9:55	SW	-22°C		5
X2		28-Nov-13	8:40	SW	-22°C		5
NE2-A		28-Nov-13	9:00	SW	-22°C		5
X3A		28-Nov-13	8:20	SW	-22°C		5
X1D		28-Nov-13	8:00	SW	-22°C		5
X14		28-Nov-13	7:45	SW	-22°C		5
NE1-F		28-Nov-13	1:30	SW	-22°C		5
NE1-E		28-Nov-13	1:30	SW	-22°C		5



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Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

Released by:	Date (dd-mm-yy)	Time (hh:mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	28 Nov-13	16:05		28-Nov-13	9:00	-22°C				

SHIPMENT RELEASE (client use)

SHIPMENT RECEPTION (lab use only)

SHIPMENT VERIFICATION (lab use only)



Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)	
Company: EDI		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Contact: Meighan Kearns		<input checked="" type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8		Email 1: mkearns@edynamics.com		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Phone: 867-393-4882		Email 2:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Fax: 867-393-4882		Email 3:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Invoice To Same as Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Client / Project Information		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Job #: 13-Y-0452		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Company:		PO / A/E:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Contact:		LSD:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Address:		Quote #: Q38556		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Phone:		ALS Contact:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Fax:		Sampler:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Lab Work Order # (lab use only)		ALS Contact:		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Sample #		Sample Identification (This description will appear on the report)		<input type="checkbox"/> Regular (Standard Turnaround Times - Business Days) <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input checked="" type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
		Date (dd-mm-yy)		Time (hh:mm)	
		Time (hh:mm)		Sample Type	
		Surface Water		ALK	
		ANIONS-ALL		DOC	
		TOC		EC, PH	
		D-METALS-COM		T-METALS-COM	
		IONBALANCE		TDS	
		TSS-LOW		HARDNESS	
		Number of Containers			

Special Instructions / Regulations w/water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural etc) / Hazardous Details



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SHIPPING RELEASE (Client use)		SHIPPING RECEPTION (Lab use only)		SHIPPING VERIFICATION (Lab use only)	
Released by:	Date (dd-mm-yy)	Received by:	Date:	Verified by:	Date:
	28 Nov 13		28 Nov 13		
Time (hh:mm)	Time (hh:mm)	Time:	Temperature:	Time:	Observations:
4:05 pm		4:00	-2.6 °C		Yes / No ? If Yes add SIF