

May 24, 2014

EDI Job Number: 14-Y-0270

Assessment and Abandoned Mines
Yukon Government
Box 2703, K-419
Whitehorse, YT Y1A 2C6

Attention: Adrienne Turcotte, Project Officer

Re: Rose Creek Monitoring Program – April 22, 2014

Assessment and Abandoned Mines (AAM) retained EDI Environmental Dynamics Inc. (EDI) to conduct water quality sampling at the Faro Mine Site. The Rose Creek Monitoring Program has been ongoing since November 2013 in response to changing water quality conditions. Table 1, attached, summarizes the field trips completed for the 2014 fiscal year. The intent of this memo is to summarize field data obtained during the April 22, 2014 field trip.

The objective of this trip was to conduct surface water sampling at 10 monitoring sites, including QA/QC samples. Figure 1 provides the locations of all sampling sites. Table 2 summarizes field data collected at each sampling site.

Weather conditions on April 22, 2014 were mild, with temperatures near 6°C, overcast, light wind and occasional snow flurries and rain showers. Seven sites were sampled. Sites NF1, R3 and R10 were not sampled due to inaccessibility; deep, wet snow prevented access by snowmobile or ATV. Similar to the previous trip, the following sample location was modified:

- NF2-B samples were collected approximately 7 m from the original site, towards NF2-A.

Representative photos of each site are attached. ALS laboratory analytical reports for all water chemistry samples submitted during this field trip are attached.

If you have any questions, please do not hesitate to contact me at (867) 393-4882 or through email at mkearns@edynamics.com.



Yours truly,

EDI Environmental Dynamics Inc.

Submitted via email

Meighan Kearns, B.Sc., R.P.Bio.
Aquatic Biologist

Attachments:

- Table 1. Summary of field trips conducted in the 2014 fiscal year, Rose Creek Monitoring Program.
- Table 2. Surface water sampling field data, Rose Creek Monitoring Program, April 22, 2014.
- Figure 1. Location of surface water sampling, Rose Creek Monitoring Program, April 22, 2014.
- Photos 1 – 7. Representative site photos.
- ALS Laboratory Analytical Reports



Table 1. Summary of field trips conducted in the 2014 fiscal year, Rose Creek Monitoring Program.

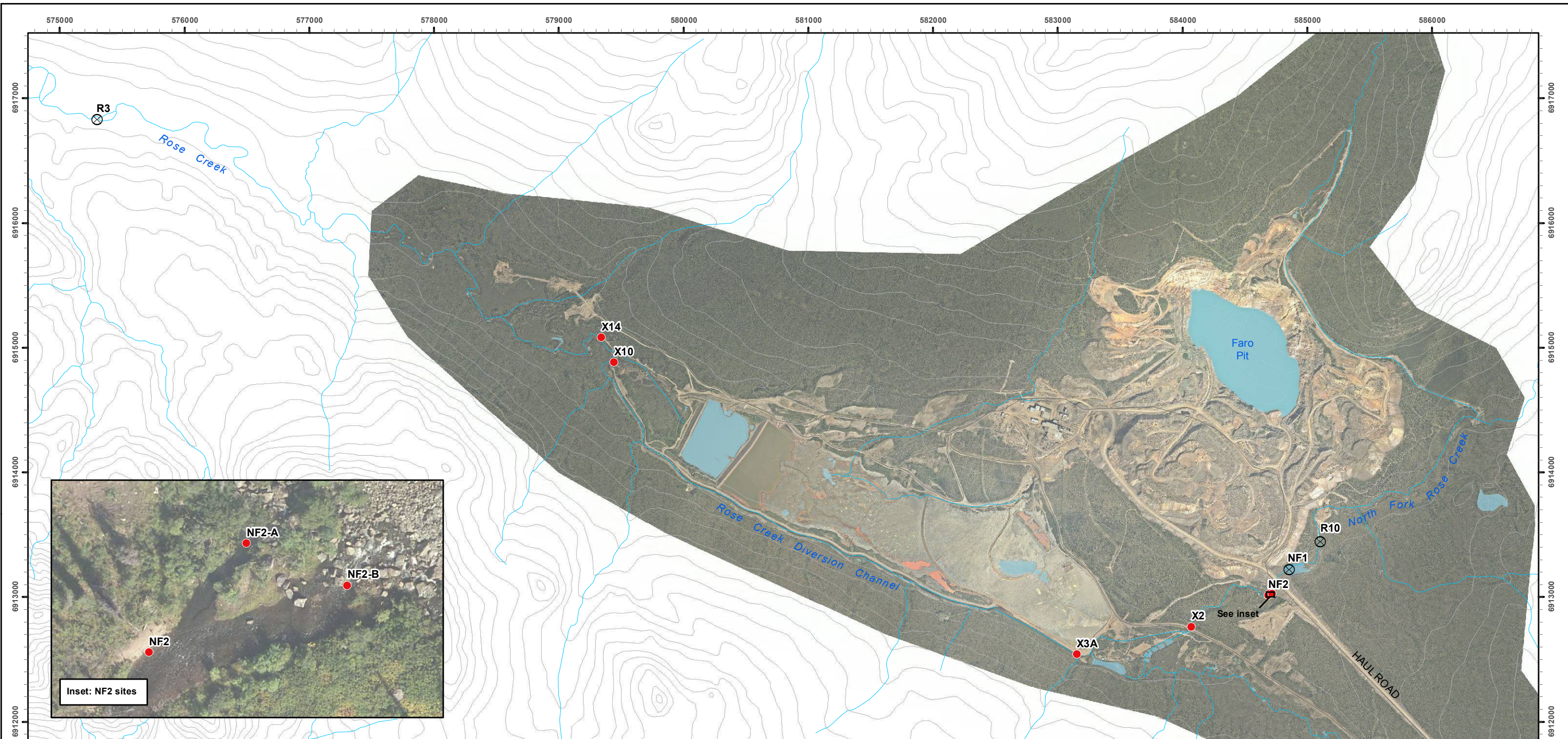
| Field Date | General Tasks |
|----------------|--|
| April 01, 2014 | <ul style="list-style-type: none">• Surface water sampling |
| April 08, 2014 | <ul style="list-style-type: none">• Surface water sampling |
| April 15, 2014 | <ul style="list-style-type: none">• Surface water sampling |
| April 22, 2014 | <ul style="list-style-type: none">• Surface water sampling |



Table 2. Surface water sampling field data, Rose Creek Monitoring Program, April 22, 2014.

| Site Name | UTM Location | | Sample | | QA/ QC Rep. ID | In-situ Parameters | | | |
|-----------|--------------|----------|-------------|-------|-------------------|--------------------|-------------|------|-----------------|
| | Easting | Northing | Date | Time | | Temp (°C) | SPC (µS/cm) | pH | Turbidity (NTU) |
| R3 | - | - | - | - | - | - | - | - | - |
| X14 | 0579343 | 6915082 | 22-Apr-2014 | 12:45 | X14-r | 1.0 | 848.5 | 6.99 | 2.00 |
| X10 | 0579348 | 6914880 | 22-Apr-2014 | 14:45 | - | 0.0 | 329.6 | 7.52 | 1.35 |
| X3A | 0583150 | 6912532 | 22-Apr-2014 | 15:10 | - | 0.3 | 325.2 | 7.50 | 3.60 |
| X2 | 0584071 | 6912765 | 22-Apr-2014 | 15:35 | - | 0.0 | 322.7 | 7.16 | 2.36 |
| NF2-A | 0584706 | 6913036 | 22-Apr-2014 | 15:50 | - | 0.4 | 354.4 | 8.74 | 9.58 |
| NF2-B | 0584732 | 6913027 | 22-Apr-2014 | 16:00 | - | 0.0 | 294.4 | 7.28 | 2.24 |
| NF2 | 0584685 | 6913006 | 22-Apr-2014 | 16:10 | - | 0.0 | 309.8 | 7.17 | 1.47 |
| NF1 | - | - | - | - | - | - | - | - | - |
| R10 | - | - | - | - | - | - | - | - | - |

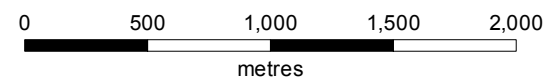
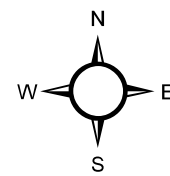
Where, UTM = Universal Transverse Mercator (NAD 83/ Zone 8);
 QA/QC Rep = Quality Assurance/ Quality Control Replicate;
 Temp = water temperature; and,
 SPC = specific conductance.



Location of surface water sampling, Rose Creek Monitoring Program, April 22, 2014

Legend

- Surface Water Sample Collected
- X Site Inaccessible
- Topographic Contour (30 m Interval)
- Road (Mine Access/Haul)



Map Scale = 1:30,000 (printed on 11 x 17)
 Map Projection: North American Datum 1983 UTM Zone 8N

Data sources

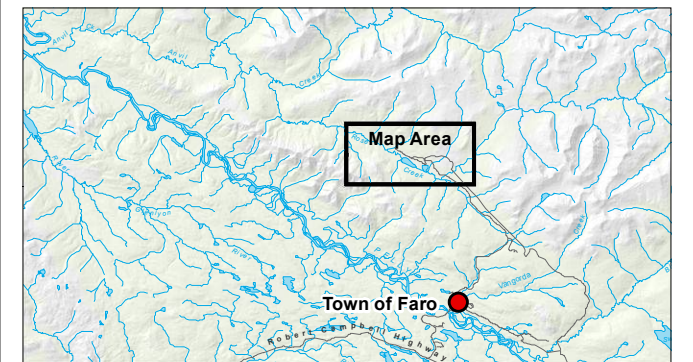
1:50,000 topographic spatial data provided by Geomatics - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

National Road Network courtesy of Her Majesty the Queen in Right of Canada, Department of Natural Resources. All Rights Reserved.

Detailed topographic features of the Faro, Grum and Vangorda mine sites were provided by Yukon Government - Energy, Mines and Resources - Assessment and Abandoned Mines Branch (March 2012).

Project data displayed is site specific. Data collected by EDI Environmental Dynamics Inc. was obtained using Garmin GPS technology.

This document is not an official land survey and the spatial data presented is subject to change.



Map Prepared by
 EDI Environmental Dynamics Inc.

| | | | |
|--------------|----------------|----------|------------------|
| Drawn: LG | Checked: MK | FIGURE 1 | Date: 29/04/2014 |
|--------------|----------------|----------|------------------|



Site Photos



Photo 1. Downstream view at surface water sampling site X14, April 22, 2014.



Photo 2. Downstream view at surface water sampling site X10, April 22, 2014.



Photo 3. Upstream view at surface water sampling site X3A, April 22, 2014.



Photo 4. Downstream view at surface water sampling site X2, April 22, 2014.



Photo 5. Downstream view at surface water sampling site NF2-A, April 22, 2014.



Photo 6. Upstream view from surface water sampling site NF2-B, April 22, 2014.



Photo 7. Downstream view at surface water sampling site NF2, April 22, 2014.



ENVIRONMENTAL DYNAMICS INC.
ATTN: Meighan Kearns
2195 - 2nd Avenue
Whitehorse YT Y1A 3T8

Date Received: 23-APR-14
Report Date: 05-MAY-14 16:39 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1446230
Project P.O. #: NOT SUBMITTED
Job Reference: 14-Y-270
C of C Numbers: 1
Legal Site Desc:

Can Dang
Senior Account Manager

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

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

| | Sample ID Description Sampled Date Sampled Time Client ID | L1446230-1 Grab 22-APR-14 12:45 X14 | L1446230-2 Grab 22-APR-14 12:50 X14-R | L1446230-3 Grab 22-APR-14 14:45 X10 | L1446230-4 Grab 22-APR-14 15:10 X3A | L1446230-5 Grab 22-APR-14 15:35 X2 |
|-----------------------------------|---|---|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | 841 | 845 | 329 | 326 | 296 |
| | Hardness (as CaCO3) (mg/L) | 446 | 436 | 163 | 163 | 155 |
| | pH (pH) | 7.94 | 7.95 | 8.13 | 8.02 | 7.91 |
| | Total Suspended Solids (mg/L) | 1.6 | 1.6 | 6.4 | 1.2 | 1.2 |
| | Total Dissolved Solids (mg/L) | 579 | 573 | 187 | 187 | 181 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 193 | 192 | 145 | 143 | 136 |
| | Ammonia, Total (as N) (mg/L) | 0.103 | 0.0989 | <0.0050 | <0.0050 | <0.0050 |
| | Chloride (Cl) (mg/L) | 0.52 | 0.52 | <0.50 | <0.50 | <0.50 |
| | Fluoride (F) (mg/L) | 0.151 | 0.151 | 0.164 | 0.179 | 0.183 |
| | Nitrate (as N) (mg/L) | 0.200 | 0.199 | 0.246 | 0.252 | 0.248 |
| | Nitrite (as N) (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Phosphorus (P)-Total (mg/L) | <0.0020 | <0.0020 | 0.0048 | 0.0044 | 0.0041 |
| | Sulfate (SO4) (mg/L) | 283 | 282 | 35.0 | 35.5 | 36.0 |
| | Anion Sum (meq/L) | 9.79 | 9.74 | 3.66 | 3.63 | 3.49 |
| | Cation Sum (meq/L) | 9.55 | 9.37 | 3.44 | 3.47 | 3.33 |
| | Cation - Anion Balance (%) | -1.2 | -1.9 | -3.0 | -2.2 | -2.4 |
| Organic / Inorganic Carbon | Dissolved Organic Carbon (mg/L) | 1.58 | 1.42 | 1.30 | 1.45 | 1.33 |
| | Total Organic Carbon (mg/L) | 1.53 | 1.47 | 1.39 | 1.50 | 1.38 |
| Total Metals | Aluminum (Al)-Total (mg/L) | 0.0161 | 0.0140 | 0.0273 | 0.0436 | 0.0295 |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | 0.00036 | 0.00039 | 0.00043 | 0.00056 | 0.00048 |
| | Barium (Ba)-Total (mg/L) | 0.0672 | 0.0667 | 0.0917 | 0.0770 | 0.0719 |
| | 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) | 0.000233 | 0.000246 | 0.000237 | 0.000336 | 0.000501 |
| | Calcium (Ca)-Total (mg/L) | 132 | 129 | 46.4 | 44.2 | 42.7 |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | 0.00011 | 0.00021 | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | 0.00432 | 0.00435 | 0.00069 | 0.00176 | 0.00300 |
| | Copper (Cu)-Total (mg/L) | 0.00067 | 0.00073 | 0.00097 | 0.00130 | 0.00108 |
| | Iron (Fe)-Total (mg/L) | 0.760 | 0.757 | 0.174 | 0.245 | 0.284 |
| | Lead (Pb)-Total (mg/L) | 0.000228 | 0.000199 | 0.00177 | 0.00770 | 0.000381 |
| | Lithium (Li)-Total (mg/L) | 0.00920 | 0.00901 | 0.00706 | 0.00705 | 0.00847 |
| | Magnesium (Mg)-Total (mg/L) | 30.4 | 29.4 | 13.5 | 11.6 | 11.7 |
| | Manganese (Mn)-Total (mg/L) | 5.35 | 5.29 | 0.0797 | 0.158 | 0.218 |
| | Molybdenum (Mo)-Total (mg/L) | 0.000754 | 0.000777 | 0.000722 | 0.000723 | 0.000826 |

* 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 | L1446230-6 Grab 22-APR-14 15:50 NF2-A | L1446230-7 Grab 22-APR-14 16:00 NF2-B | L1446230-8 Grab 22-APR-14 16:10 NF2 | L1446230-9 Grab 22-APR-14 17:20 FIELD BLANK | L1446230-10 Grab 23-APR-14 11:55 TRIP BLANK |
|-----------------------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | 363 | 299 | 308 | <2.0 | <2.0 |
| | Hardness (as CaCO3) (mg/L) | 171 | 144 | 154 | <0.50 | <0.50 |
| | pH (pH) | 8.76 | 7.90 | 7.96 | 5.75 | 5.71 |
| | Total Suspended Solids (mg/L) | 8.2 | <1.0 | <1.0 | <1.0 | <1.0 |
| | Total Dissolved Solids (mg/L) | 216 | 164 | 174 | <1.0 | <1.0 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 127 | 136 | 135 | <2.0 | <2.0 |
| | Ammonia, Total (as N) (mg/L) | 0.0451 | <0.0050 | <0.0050 | <0.0050 | <0.010 ^{RRV} |
| | Chloride (Cl) (mg/L) | 0.62 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Fluoride (F) (mg/L) | 0.183 | 0.173 | 0.183 | <0.020 | <0.020 |
| | Nitrate (as N) (mg/L) | 0.930 | 0.255 | 0.253 | <0.0050 | <0.0050 |
| | Nitrite (as N) (mg/L) | 0.0082 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Phosphorus (P)-Total (mg/L) | 0.0132 | 0.0050 | 0.0047 | <0.0020 | <0.0020 |
| | Sulfate (SO4) (mg/L) | 63.6 | 23.1 | 30.5 | <0.50 | <0.50 |
| | Anion Sum (meq/L) | 3.95 | 3.23 | 3.35 | <0.10 | <0.10 |
| | Cation Sum (meq/L) | 3.77 | 3.07 | 3.30 | <0.10 | <0.10 |
| Cation - Anion Balance (%) | -2.3 | -2.6 | -0.8 | 0.0 | 0.0 | |
| Organic / Inorganic Carbon | Dissolved Organic Carbon (mg/L) | 4.88 | 1.26 | 1.28 | <0.50 | |
| | Total Organic Carbon (mg/L) | 5.01 | 1.41 | 1.34 | <0.50 | <0.50 |
| Total Metals | Aluminum (Al)-Total (mg/L) | 0.0788 | 0.0319 | 0.0341 | <0.0030 | <0.0030 |
| | Antimony (Sb)-Total (mg/L) | 0.00023 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | 0.00097 | 0.00051 | 0.00053 | <0.00010 | <0.00010 |
| | Barium (Ba)-Total (mg/L) | 0.0900 | 0.0735 | 0.0766 | <0.000050 | <0.000050 |
| | 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) | 0.000097 | 0.000141 | 0.000553 | <0.000010 | <0.000010 |
| | Calcium (Ca)-Total (mg/L) | 43.4 | 40.4 | 43.7 | <0.020 | <0.020 |
| | Chromium (Cr)-Total (mg/L) | 0.00058 | 0.00011 | <0.00010 | <0.00010 | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | 0.00182 | 0.00074 | 0.00350 | <0.00010 | <0.00010 |
| | Copper (Cu)-Total (mg/L) | 0.00215 | 0.00118 | 0.00116 | <0.00050 | <0.00050 |
| | Iron (Fe)-Total (mg/L) | 0.234 | 0.155 | 0.222 | <0.010 | <0.010 |
| | Lead (Pb)-Total (mg/L) | 0.00655 | 0.000389 | 0.000410 | <0.000050 | <0.000050 |
| | Lithium (Li)-Total (mg/L) | 0.0122 | 0.00776 | 0.00847 | <0.00050 | <0.00050 |
| | Magnesium (Mg)-Total (mg/L) | 18.0 | 9.82 | 11.2 | <0.0050 | <0.0050 |
| | Manganese (Mn)-Total (mg/L) | 0.0905 | 0.0499 | 0.206 | <0.000050 | <0.000050 |
| | Molybdenum (Mo)-Total (mg/L) | 0.00130 | 0.000839 | 0.000896 | <0.000050 | <0.000050 |

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

| | | Sample ID | L1446230-1 | L1446230-2 | L1446230-3 | L1446230-4 | L1446230-5 |
|-------------------------|--------------------------------------|--------------|------------|------------|------------|------------|------------|
| | | Description | Grab | Grab | Grab | Grab | Grab |
| | | Sampled Date | 22-APR-14 | 22-APR-14 | 22-APR-14 | 22-APR-14 | 22-APR-14 |
| | | Sampled Time | 12:45 | 12:50 | 14:45 | 15:10 | 15:35 |
| | | Client ID | X14 | X14-R | X10 | X3A | X2 |
| Grouping | Analyte | | | | | | |
| WATER | | | | | | | |
| Total Metals | Nickel (Ni)-Total (mg/L) | | 0.0104 | 0.0105 | 0.00375 | 0.00358 | 0.00483 |
| | Phosphorus (P)-Total (mg/L) | | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| | Potassium (K)-Total (mg/L) | | 2.23 | 2.21 | 1.46 | 1.30 | 1.24 |
| | Selenium (Se)-Total (mg/L) | | 0.00036 | 0.00040 | 0.00041 | 0.00038 | 0.00041 |
| | Silicon (Si)-Total (mg/L) | | 6.44 | 6.26 | 5.65 | 5.58 | 6.13 |
| | Silver (Ag)-Total (mg/L) | | <0.000010 | <0.000010 | <0.000010 | 0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | | 8.36 | 8.26 | 3.65 | 3.32 | 3.62 |
| | Strontium (Sr)-Total (mg/L) | | 0.413 | 0.409 | 0.212 | 0.201 | 0.196 |
| | 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) | | 0.00356 | 0.00342 | 0.00270 | 0.00271 | 0.00268 |
| | Vanadium (V)-Total (mg/L) | | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Zinc (Zn)-Total (mg/L) | | 0.307 | 0.310 | 0.467 | 0.516 | 0.723 |
| | Zirconium (Zr)-Total (mg/L) | | <0.00080 | <0.00080 | <0.00080 | <0.00080 | <0.00080 |
| Dissolved Metals | Dissolved Metals Filtration Location | | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Aluminum (Al)-Dissolved (mg/L) | | 0.0025 | 0.0025 | 0.0030 | 0.0074 | 0.0106 |
| | Antimony (Sb)-Dissolved (mg/L) | | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Dissolved (mg/L) | | 0.00025 | 0.00025 | 0.00016 | 0.00023 | 0.00026 |
| | Barium (Ba)-Dissolved (mg/L) | | 0.0673 | 0.0655 | 0.0717 | 0.0726 | 0.0725 |
| | 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) | | 0.000229 | 0.000240 | 0.000219 | 0.000320 | 0.000482 |
| | Calcium (Ca)-Dissolved (mg/L) | | 131 | 128 | 45.0 | 45.9 | 43.2 |
| | Chromium (Cr)-Dissolved (mg/L) | | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Cobalt (Co)-Dissolved (mg/L) | | 0.00417 | 0.00432 | 0.00059 | 0.00170 | 0.00293 |
| | Copper (Cu)-Dissolved (mg/L) | | 0.00041 | 0.00043 | 0.00044 | 0.00059 | 0.00074 |
| | Iron (Fe)-Dissolved (mg/L) | | 0.515 | 0.546 | 0.024 | 0.053 | 0.085 |
| | Lead (Pb)-Dissolved (mg/L) | | <0.000050 | <0.000050 | <0.000050 | 0.000247 | 0.000075 |
| | Lithium (Li)-Dissolved (mg/L) | | 0.00908 | 0.00902 | 0.00681 | 0.00768 | 0.00906 |
| | Magnesium (Mg)-Dissolved (mg/L) | | 28.8 | 28.6 | 12.2 | 11.8 | 11.5 |
| | Manganese (Mn)-Dissolved (mg/L) | | 5.27 | 5.35 | 0.0686 | 0.157 | 0.217 |
| | Molybdenum (Mo)-Dissolved (mg/L) | | 0.000719 | 0.000737 | 0.000682 | 0.000736 | 0.000837 |
| | Nickel (Ni)-Dissolved (mg/L) | | 0.0103 | 0.0104 | 0.00316 | 0.00341 | 0.00463 |
| | Phosphorus (P)-Dissolved (mg/L) | | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| | Potassium (K)-Dissolved (mg/L) | | 2.20 | 2.21 | 1.26 | 1.31 | 1.23 |

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

| | | Sample ID | L1446230-6 | L1446230-7 | L1446230-8 | L1446230-9 | L1446230-10 |
|-------------------------|--------------------------------------|--------------|------------|------------|------------|-------------|-------------|
| | | Description | Grab | Grab | Grab | Grab | Grab |
| | | Sampled Date | 22-APR-14 | 22-APR-14 | 22-APR-14 | 22-APR-14 | 23-APR-14 |
| | | Sampled Time | 15:50 | 16:00 | 16:10 | 17:20 | 11:55 |
| | | Client ID | NF2-A | NF2-B | NF2 | FIELD BLANK | TRIP BLANK |
| Grouping | Analyte | | | | | | |
| WATER | | | | | | | |
| Total Metals | Nickel (Ni)-Total (mg/L) | | 0.00489 | 0.00139 | 0.00510 | <0.00050 | <0.00050 |
| | Phosphorus (P)-Total (mg/L) | | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| | Potassium (K)-Total (mg/L) | | 2.29 | 1.18 | 1.21 | <0.050 | <0.050 |
| | Selenium (Se)-Total (mg/L) | | 0.00081 | 0.00041 | 0.00043 | <0.00010 | <0.00010 |
| | Silicon (Si)-Total (mg/L) | | 8.81 | 6.17 | 6.06 | <0.050 | <0.050 |
| | Silver (Ag)-Total (mg/L) | | 0.000019 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | | 6.81 | 3.48 | 3.59 | <0.050 | <0.050 |
| | Strontium (Sr)-Total (mg/L) | | 0.221 | 0.183 | 0.194 | <0.00020 | <0.00020 |
| | Thallium (Tl)-Total (mg/L) | | 0.000013 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | | 0.00011 | <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) | | 0.00397 | 0.00273 | 0.00279 | <0.000010 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Zinc (Zn)-Total (mg/L) | | 0.187 | 0.176 | 0.819 | <0.0030 | <0.0030 |
| | Zirconium (Zr)-Total (mg/L) | | <0.00080 | <0.00080 | <0.00080 | <0.00080 | <0.00080 |
| Dissolved Metals | Dissolved Metals Filtration Location | | FIELD | FIELD | FIELD | FIELD | |
| | Aluminum (Al)-Dissolved (mg/L) | | <0.0010 | 0.0148 | 0.0136 | <0.0010 | |
| | Antimony (Sb)-Dissolved (mg/L) | | 0.00014 | <0.00010 | <0.00010 | <0.00010 | |
| | Arsenic (As)-Dissolved (mg/L) | | 0.00069 | 0.00037 | 0.00037 | <0.00010 | |
| | Barium (Ba)-Dissolved (mg/L) | | 0.0763 | 0.0736 | 0.0751 | <0.000050 | |
| | Beryllium (Be)-Dissolved (mg/L) | | <0.00010 | <0.00010 | <0.00010 | <0.00010 | |
| | Bismuth (Bi)-Dissolved (mg/L) | | <0.00050 | <0.00050 | <0.00050 | <0.00050 | |
| | Boron (B)-Dissolved (mg/L) | | <0.010 | <0.010 | <0.010 | <0.010 | |
| | Cadmium (Cd)-Dissolved (mg/L) | | 0.000040 | 0.000156 | 0.000565 | <0.000010 | |
| | Calcium (Ca)-Dissolved (mg/L) | | 39.2 | 41.7 | 43.6 | <0.020 | |
| | Chromium (Cr)-Dissolved (mg/L) | | 0.00011 | <0.00010 | <0.00010 | <0.00010 | |
| | Cobalt (Co)-Dissolved (mg/L) | | 0.00157 | 0.00069 | 0.00339 | <0.00010 | |
| | Copper (Cu)-Dissolved (mg/L) | | 0.00108 | 0.00089 | 0.00086 | <0.00020 | |
| | Iron (Fe)-Dissolved (mg/L) | | <0.010 | 0.046 | 0.098 | <0.010 | |
| | Lead (Pb)-Dissolved (mg/L) | | 0.000166 | 0.000079 | 0.000087 | <0.000050 | |
| | Lithium (Li)-Dissolved (mg/L) | | 0.0120 | 0.00819 | 0.00864 | <0.00050 | |
| | Magnesium (Mg)-Dissolved (mg/L) | | 17.8 | 9.76 | 11.0 | <0.0050 | |
| | Manganese (Mn)-Dissolved (mg/L) | | 0.0791 | 0.0480 | 0.201 | <0.000050 | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | 0.00124 | 0.000840 | 0.000873 | <0.000050 | |
| | Nickel (Ni)-Dissolved (mg/L) | | 0.00441 | 0.00135 | 0.00503 | <0.00050 | |
| | Phosphorus (P)-Dissolved (mg/L) | | <0.30 | <0.30 | <0.30 | <0.30 | |
| | Potassium (K)-Dissolved (mg/L) | | 2.28 | 1.16 | 1.19 | <0.050 | |

* 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 | L1446230-1 Grab 22-APR-14 12:45 X14 | L1446230-2 Grab 22-APR-14 12:50 X14-R | L1446230-3 Grab 22-APR-14 14:45 X10 | L1446230-4 Grab 22-APR-14 15:10 X3A | L1446230-5 Grab 22-APR-14 15:35 X2 |
|-------------------------|---|---|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Selenium (Se)-Dissolved (mg/L) | 0.00039 | 0.00041 | 0.00043 | 0.00042 | 0.00042 |
| | Silicon (Si)-Dissolved (mg/L) | 6.15 | 6.20 | 5.56 | 5.70 | 5.97 |
| | Silver (Ag)-Dissolved (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Dissolved (mg/L) | 8.10 | 8.24 | 3.32 | 3.39 | 3.52 |
| | Strontium (Sr)-Dissolved (mg/L) | 0.416 | 0.405 | 0.202 | 0.213 | 0.205 |
| | 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) | 0.00344 | 0.00346 | 0.00259 | 0.00272 | 0.00258 |
| | Vanadium (V)-Dissolved (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Zinc (Zn)-Dissolved (mg/L) | 0.305 | 0.310 | 0.417 | 0.508 | 0.735 |
| | 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 | L1446230-6 | L1446230-7 | L1446230-8 | L1446230-9 | L1446230-10 |
|-------------------------|---------------------------------|--------------|------------|------------|------------|-------------|-------------|
| | | Description | Grab | Grab | Grab | Grab | Grab |
| | | Sampled Date | 22-APR-14 | 22-APR-14 | 22-APR-14 | 22-APR-14 | 23-APR-14 |
| | | Sampled Time | 15:50 | 16:00 | 16:10 | 17:20 | 11:55 |
| | | Client ID | NF2-A | NF2-B | NF2 | FIELD BLANK | TRIP BLANK |
| Grouping | Analyte | | | | | | |
| WATER | | | | | | | |
| Dissolved Metals | Selenium (Se)-Dissolved (mg/L) | 0.00092 | 0.00046 | 0.00045 | <0.00010 | | |
| | Silicon (Si)-Dissolved (mg/L) | 7.99 | 5.87 | 6.06 | <0.050 | | |
| | Silver (Ag)-Dissolved (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | | |
| | Sodium (Na)-Dissolved (mg/L) | 6.62 | 3.32 | 3.40 | <0.050 | | |
| | Strontium (Sr)-Dissolved (mg/L) | 0.201 | 0.188 | 0.194 | <0.00020 | | |
| | Thallium (Tl)-Dissolved (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | | |
| | Tin (Sn)-Dissolved (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | | |
| | Titanium (Ti)-Dissolved (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | | |
| | Uranium (U)-Dissolved (mg/L) | 0.00392 | 0.00267 | 0.00266 | <0.000010 | | |
| | Vanadium (V)-Dissolved (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | | |
| | Zinc (Zn)-Dissolved (mg/L) | 0.0618 | 0.178 | 0.826 | <0.0010 | | |
| | Zirconium (Zr)-Dissolved (mg/L) | <0.00080 | <0.00080 | <0.00080 | <0.00080 | | |

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

Reference Information

Additional Comments for Sample Listed:

| Samplenum | Matrix | Report Remarks | Sample Comment: |
|-------------|--------|--|-----------------|
| L1446230-10 | Water | Note: ALS blank is past the expiry date Apr29/2014 | |

QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter | Qualifier | Applies to Sample Number(s) |
|---------------------|--------------------------|-----------|--|
| Duplicate | Beryllium (Be)-Dissolved | DLA | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Duplicate | Bismuth (Bi)-Dissolved | DLA | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Duplicate | Boron (B)-Dissolved | DLA | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Duplicate | Tin (Sn)-Dissolved | DLA | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Duplicate | Titanium (Ti)-Dissolved | DLA | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Calcium (Ca)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Magnesium (Mg)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Manganese (Mn)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Sodium (Na)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Total Organic Carbon | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Calcium (Ca)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Magnesium (Mg)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Calcium (Ca)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Magnesium (Mg)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Total Organic Carbon | MS-B | L1446230-10 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Boron (B)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Calcium (Ca)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Lithium (Li)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Magnesium (Mg)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Manganese (Mn)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Sodium (Na)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Calcium (Ca)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Magnesium (Mg)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |
| Matrix Spike | Barium (Ba)-Total | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8 |
| Matrix Spike | Calcium (Ca)-Total | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8 |
| Matrix Spike | Magnesium (Mg)-Total | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8 |
| Matrix Spike | Strontium (Sr)-Total | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8 |
| Matrix Spike | Ammonia, Total (as N) | MS-B | L1446230-1, -2, -3, -4, -5, -6, -7, -8, -9 |

Qualifiers for Individual Parameters Listed:

| Qualifier | Description |
|-----------|--|
| DLA | Detection Limit adjusted for required dilution |
| 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-COL-VA | Water | Alkalinity by Colourimetric (Automated) | EPA 310.2 |

This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.

Reference Information

| | | | |
|---|-------|--|---|
| ANIONS-CL-IC-WR | Water | Chloride by Ion Chromatography | EPA 300.1 |
| This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. | | | |
| ANIONS-F-IC-WR | Water | Fluoride by Ion Chromatography | EPA 300.1 |
| This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. | | | |
| ANIONS-NO2-IC-WR | Water | Nitrite Nitrogen by Ion Chromatography | EPA 300.1 |
| This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. Nitrate is detected by UV absorbance. | | | |
| ANIONS-NO3-IC-WR | Water | Nitrate Nitrogen by Ion Chromatography | EPA 300.1 |
| This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. Nitrate is detected by UV absorbance. | | | |
| ANIONS-SO4-IC-WR | Water | Sulphate by Ion Chromatography | EPA 300.1 |
| This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003. | | | |
| CARBONS-DOC-VA | 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. | | | |
| CARBONS-TOC-VA | Water | Total organic carbon by combustion | APHA 5310 TOTAL ORGANIC CARBON (TOC) |
| This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". | | | |
| EC-PCT-VA | Water | Conductivity (Automated) | APHA 2510 Auto. Conduc. |
| This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode. | | | |
| HARDNESS-CALC-VA | Water | Hardness | APHA 2340B |
| Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation. | | | |
| IONBALANCE-VA | Water | Ion Balance Calculation | APHA 1030E |
| Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero. | | | |
| Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as: | | | |
| Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum] | | | |
| MET-D-CCMS-VA | Water | Dissolved Metals in Water by CRC ICPMS | APHA 3030 B&E / EPA SW-846 6020A |
| This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A). | | | |
| MET-T-CCMS-VA | Water | Total Metals in Water by CRC ICPMS | APHA 3030 B&E / EPA SW-846 6020A |
| This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A). | | | |
| 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. | | | |

Reference Information

| | | | |
|---|-------|--|---------------------------|
| PH-PCT-VA | Water | pH by Meter (Automated) | APHA 4500-H "pH Value" |
| This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode | | | |
| It is recommended that this analysis be conducted in the field. | | | |
| PH-PCT-VA | Water | pH by Meter (Automated) | APHA 4500-H pH Value |
| This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode | | | |
| It is recommended that this analysis be conducted in the field. | | | |
| 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

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.



ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1446230-COFC

COC Number: 14 -

Page 1 of 1

| | | | | | | | | | | | | | | | | | |
|---|---|---|--|------------------|---|--------------------|--------------------------------------|-------------------------------|------------------------------|--------------------|--------------------------|--------------------|---------------------------|---------------------------|------------------|----------------------|--|
| Report To | | Report Format, Distribution | | | Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) | | | | | | | | | | | | |
| Company: EDI | | Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL) | | | R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days) | | | | | | | | | | | | |
| Contact: Meighan Kearns | | 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 mkearns@edynamics.com | | | Specify Date Required for E2,E or P: | | | | | | | | | | | | |
| | | Email 2 adrienne.turcotte@gov.yk.ca | | | Analysis Request | | | | | | | | | | | | |
| Invoice To Same as Report To <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Invoice Distribution | | | 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 | | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX | | | | | | | | | | | | | | | |
| Company: EDI | | Email 1 or Fax sjenner@edynamics.com | | | | | | | | | | | | | | | |
| Contact: S Jenner | | Email 2 | | | | | | | | | | | | | | | |
| Project Information | | Oil and Gas Required Fields (client use) | | | | | | | | | | | | | | | |
| ALS Quote #: Q38556 | | Approver ID: _____ Cost Center: _____ | | | | | | | | | | | | | | | |
| Job #: 14-Y-270 | | GL Account: _____ Routing Code: _____ | | | | | | | | | | | | | | | |
| PO / AFE: _____ | | Activity Code: _____ | | | | | | | | | | | | | | | |
| LSD: _____ | | Location: _____ | | | | | | | | | | | | | | | |
| ALS Lab Work Order # (lab use only) | | ALS Contact: _____ | | | Sampler: <i>BSm / CB</i> | | | | | | | | | | | | |
| 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-COL-VA, P-T-COL-VA, IONBALANCE-V | ANIONS-ALL-IC-WR, TDS-CALC-VA | EC-MAN-WR, PH-MAN-WR | TSS-LOW-WR | CARBONS-TOC-VA, NH3-F-VA | CARBONS-DOC-VA | MET-T-COMS-VA, ZR-T-MS-VA | MET-D-COMS-VA, ZR-D-MS-VA | HARDNESS-CALC-VA | Number of Containers | |
| X14 | | | | 22 APR 14 | 12:45 | GRAB | R | R | R | R | R | R | R | R | 5 | | |
| X14-F | | | | 22 APR 14 | 12:50 | GRAB | R | | | | | | | | | | |
| X10 | | | | 22 APR 14 | 14:45 | GRAB | R | | | | | | | | | | |
| X3A | | | | 22 APR 14 | 15:10 | GRAB | R | | | | | | | | | | |
| X2 | | | | 22 APR 14 | 15:35 | GRAB | R | | | | | | | | | | |
| NF2-A | | | | 22 APR 14 | 15:50 | GRAB | R | | | | | | | | | | |
| NF2-B | | | | 22 APR 14 | 16:00 | GRAB | R | | | | | | | | | | |
| NF2 | | | | 22 APR 14 | 16:10 | GRAB | R | | | | | | | | | | |
| Field Blank | | | | 22 APR 14 | 17:20 | | R | | | | | | | | | | |
| Trip Blank | | | | | | | R | | | | | | | | | | |
| Drinking Water (DW) Samples¹ (client use) | | Special Instructions / Specify Criteria to add on report (client Use) | | | | | | | | | | | | | | | |
| Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No | | Use CH2M_EQUIS for EDD. | | | | | | | | | | | | | | | |
| Are samples for human drinking water use? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | |
| SHIPMENT RELEASE (client use) | | INITIAL SHIPMENT RECEPTION (lab use only) | | | | | | | | | | | | | | | |
| Released by: _____ | | Date: _____ | | Time: _____ | | Received by: _____ | | Date: <i>23 Apr 14</i> | | Time: <i>11:55</i> | | Received by: _____ | | Date: _____ | | Time: _____ | |
| | | SAMPLE CONDITION AS RECEIVED (lab use only) | | | | | | | | | | | | | | | |
| | | Frozen: <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | | | | | | | | | | | | |
| | | Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | | | | | | | | | | | | |
| | | Cooling Initiated <input type="checkbox"/> | | | | | | | | | | | | | | | |
| | | INITIAL COOLER TEMPERATURES °C | | | | | | | FINAL COOLER TEMPERATURES °C | | | | | | | | |
| | | S. 1 | | | | | | | | | | | | | | | |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-020e-009 Form 04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.