

DECEMBER 18, 2012

WSCF Laboratory

PO Box 650 S3-30
Richland, WA 99352



December 18, 2012

Scot Fitzgerald
CH2M-HILL PRC
PO Box 1600
Richland, WA 99352

Dear Scot Fitzgerald,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121496

Reference: (1) SOW, Mod 2, #36587, Release 3
(2) MSC-SD-CD-QAPP-017, current version, Waste Sampling & Characterization Facility Quality Assurance Program Plan

This letter contains the following information for sample delivery group WSCF121496

- * Cover Sheet (Attachment 1)
- * Narrative (Attachment 2)
- * Analytical Results (Attachment 3)
- * Sample Receipt Information (Attachment 4)

Very truly yours,

A handwritten signature in black ink, appearing to read "Joseph Hale", is positioned above the typed name.

Electronically signed by Joseph Hale

For Lab Manager, Dan T. Smith

WSCF Analytical Lab

(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF121496

Data Deliverable Date 12/27/12

| SAF # | Sample ID | Sample # | Matrix | Sampled | Received |
|---------|-----------|-----------|--------|----------|----------|
| X13-005 | B2MKF1 | 121496001 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKH4 | 121496002 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLC0 | 121496003 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLJ6 | 121496004 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLJ5 | 121496005 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLK3 | 121496006 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKW2 | 121496007 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKD1 | 121496008 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKD0 | 121496009 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKC9 | 121496010 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKD5 | 121496011 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKC8 | 121496012 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MKD4 | 121496013 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLJ9 | 121496014 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLJ3 | 121496015 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLJ4 | 121496016 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLK0 | 121496017 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLK2 | 121496018 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLK5 | 121496019 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLC2 | 121496020 | WATER | 11/26/12 | 11/26/12 |
| X13-005 | B2MLB9 | 121496021 | WATER | 11/26/12 | 11/26/12 |

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Samples were received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Master Contract 39818, Revision 3, "Laboratory Analytical Services to CHPRC Soil and Groundwater Remediation Project."*

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4.

It should be noted that the attached chain of custody was not stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving. However, based on procedure LO-090-403 form "NOTICE OF IMPROPER SAMPLE SUBMITTAL" was not submitted and was not stamped "NOT ICED". No anomaly was noted during sample receipt.

The following generic data qualifiers (i.e., B, C, D, J and U) may be applicable to this report, as appropriate.

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wet chemical analyses), as appropriate.
- **C** – Analyte was detected in the blank and was evaluated. Affected sample results in the batch were C flagged (applies to inorganic and wet chemical analyses).
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.
- **B (organic analyses)** – Analyte was detected in the blank and was evaluated. Affected sample results in the batch were B flagged.
- **U** – Analyzed for but not detected above limiting criteria. Relative Percent Difference (RPD) values associated with an analyte qualified with a "U" are not applicable.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report* for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 210749
 - Fluoride – Duplicate Relative Percent Difference(s) (RPD) did not meet the established laboratory limits. Duplicate Relative Percent Difference (RPD) does not apply to results near or below the minimum detectable level. No flags issued.
 - All other applicable QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Zinc was detected in the Blank and evaluated.
- All other applicable QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike (Matrix Spikes apply only to Tritium), Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

Tritium:

- All applicable QC controls are within the established limits.

We certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by electronic signatures shown on the WSCF ANALYTICAL RESULTS REPORT.

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 53 pages
Including cover page

DECEMBER 18, 2012

WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation

PO Box 1600
Richland, WA 99352

Attention: Scot Fitzgerald

Contract # MOA-FH-CHPRC-2008
Group # WSCF121496
Report Date December 18, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Heather Medley

Solid samples results that have a 'Percent Solid' test are reported on a "dry weight basis", except results of TCLP, Percent Solid, and Total Activity. If no 'Percent Solid' test is reported then the results are reported on an "as received" basis.

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7005. Information designation of this report is the responsibility of the customer.

Batch QC List

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

| QC Batch | Analytical Batch | S# | Type | Sample # | Client Sample# | Original | Test |
|----------|------------------|----|--------|-----------|----------------------|-----------|--------------------------------------|
| 210749 | 210749 | 2 | BLANK | 85458 | BLANK | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 3 | LCS | 85459 | LCS | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 4 | DUP | 85460 | B2MKF1(121496001DUP) | 121496001 | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 5 | MS | 85461 | B2MKF1(121496001MS) | 121496001 | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 6 | MSD | 85462 | B2MKF1(121496001MSD) | 121496001 | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 8 | SAMPLE | 121496001 | B2MKF1 | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 9 | SAMPLE | 121496004 | B2MLJ6 | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 10 | SAMPLE | 121496005 | B2MLJ5 | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 11 | SAMPLE | 121496006 | B2MLK3 | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 12 | SAMPLE | 121496007 | B2MKW2 | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 13 | SAMPLE | 121496008 | B2MKD1 | | Anions by Ion Chromatography (Water) |
| 210749 | 210749 | 14 | SAMPLE | 121496009 | B2MKD0 | | Anions by Ion Chromatography (Water) |
| 210750 | 210750 | 2 | BLANK | 85465 | BLANK | | Anions by Ion Chromatography (Water) |
| 210750 | 210750 | 3 | LCS | 85466 | LCS | | Anions by Ion Chromatography (Water) |
| 210750 | 210750 | 4 | DUP | 85467 | B2MKH4(121496002DUP) | 121496002 | Anions by Ion Chromatography (Water) |
| 210750 | 210750 | 5 | MS | 85468 | B2MKH4(121496002MS) | 121496002 | Anions by Ion Chromatography (Water) |
| 210750 | 210750 | 6 | MSD | 85469 | B2MKH4(121496002MSD) | 121496002 | Anions by Ion Chromatography (Water) |
| 210750 | 210750 | 8 | SAMPLE | 121496002 | B2MKH4 | | Anions by Ion Chromatography (Water) |
| 210751 | 210751 | 2 | BLANK | 85472 | BLANK | | Anions by Ion Chromatography (Water) |
| 210751 | 210751 | 3 | LCS | 85473 | LCS | | Anions by Ion Chromatography (Water) |
| 210751 | 210751 | 4 | DUP | 85474 | B2MLC0(121496003DUP) | 121496003 | Anions by Ion Chromatography (Water) |
| 210751 | 210751 | 5 | MS | 85475 | B2MLC0(121496003MS) | 121496003 | Anions by Ion Chromatography (Water) |
| 210751 | 210751 | 6 | MSD | 85476 | B2MLC0(121496003MSD) | 121496003 | Anions by Ion Chromatography (Water) |

Batch QC List

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

| QC Batch | Analytical Batch | S# | Type | Sample # | Client Sample# | Original | Test |
|----------|------------------|----|--------|-----------|----------------------|-----------|--------------------------------------|
| 210751 | 210751 | 8 | SAMPLE | 121496003 | B2MLC0 | | Anions by Ion Chromatography (Water) |
| 211284 | 211319 | 5 | BLANK | 86107 | BLANK | | ICP-6010 - All possible metals |
| 211284 | 211319 | 7 | LCS | 86109 | LCS | | ICP-6010 - All possible metals |
| 211284 | 211319 | 8 | SAMPLE | 121496010 | B2MKC9 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 9 | MS | 86110 | B2MKC9(121496010MS) | 121496010 | ICP-6010 - All possible metals |
| 211284 | 211319 | 10 | MSD | 86111 | B2MKC9(121496010MSD) | 121496010 | ICP-6010 - All possible metals |
| 211284 | 211319 | 11 | SAMPLE | 121496011 | B2MKD5 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 12 | SAMPLE | 121496012 | B2MKC8 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 13 | SAMPLE | 121496013 | B2MKD4 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 14 | SAMPLE | 121496014 | B2MLJ9 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 15 | SAMPLE | 121496015 | B2MLJ3 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 16 | SAMPLE | 121496016 | B2MLJ4 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 17 | SAMPLE | 121496017 | B2MLK0 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 18 | SAMPLE | 121496018 | B2MLK2 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 19 | SAMPLE | 121496019 | B2MLK5 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 22 | SAMPLE | 121496020 | B2MLC2 | | ICP-6010 - All possible metals |
| 211284 | 211319 | 23 | SAMPLE | 121496021 | B2MLB9 | | ICP-6010 - All possible metals |

Batch QC List

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121496

| QC Batch | Analytical Batch | S# | Type | Sample # | Client Sample# | Original | Test |
|----------|------------------|----|--------|-----------|----------------------|-----------|----------------|
| 210741 | 211118 | 1 | BLANK | 85431 | BLANK | | Tritium by LSC |
| 210741 | 211118 | 2 | LCS | 85432 | LCS | | Tritium by LSC |
| 210741 | 211118 | 3 | SAMPLE | 121496021 | B2MLB9 | | Tritium by LSC |
| 210741 | 211118 | 4 | DUP | 85433 | B2MLB9(121496021DUP) | 121496021 | Tritium by LSC |
| 210741 | 211118 | 5 | MS | 85434 | B2MLB9(121496021MS) | 121496021 | Tritium by LSC |

Method Reference

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory, industry methods or HEIS methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

| | | | |
|-------------------|--|-----------------|--|
| LA-505-411 | Elemental Analysis by ICP Atomic Emission Spectroscopy (ICP AES) | | |
| | EPA SW-846 | 6010C | Inductively Coupled Plasma-Atomic Emmission Spectrometry |
| | HEIS | 6010_METALS_ICP | Inductively Coupled Plasma-Atomic Emmission Spectrometry |
| LA-533-410 | Anion Analysis by Ion Chromatography | | |
| | EPA-600/R-94-111 | 300.0 | Determination of Inorganic Anions by Ion Chromatography |
| | HEIS | 300.0_ANIONS_IC | Determination of Inorganic Anions by Ion Chromatography |

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at <http://www7.rl.gov/rapidweb/AS-DOL/index.cfm>

Method Reference

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121496

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory, industry methods or HEIS methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

| | | | |
|-------------------|--|-----------------|--|
| LA-508-421 | Operation of the Tri-Carb Model 2500TR Liquid Scintillation Analyzer | | |
| | HEIS | ALPHA_LSC | A/B Liquid Scintillation |
| | HEIS | BETA_LSC | A/B Liquid Scintillation |
| | HEIS | TC99_3MDSK_LSC | TC99 by Liquid Scintillation |
| | HEIS | TRITIUM_EIE_LSC | Tritium, by Eichrome ion exchange, LSC |

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at <http://www7.rl.gov/rapidweb/AS-DOL/index.cfm>

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496001
 SAF# X13-005
 Sample ID B2MKF1

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | UD | <0.046 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | D | 2.65 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | BD | 0.0428 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | BD | 0.0700 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 19.3 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496002
 SAF# X13-005
 Sample ID B2MKH4

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | UD | <0.046 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | D | 1.01 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | BD | 0.0670 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 10.5 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496003
 SAF# X13-005
 Sample ID B2MLC0

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/27/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | UD | <0.046 | | ug/mL | 2 | 0.046 | 0.14 | 11/27/12 |
| Chloride | 16887-00-6 | LA-533-410 | BD | 0.728 | | ug/mL | 2 | 0.12 | 0.81 | 11/27/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/27/12 |
| Nitrate-N | NO3-N | LA-533-410 | BD | 0.164 | | ug/mL | 2 | 0.038 | 0.20 | 11/27/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 8.56 | | ug/mL | 2 | 0.22 | 2.1 | 11/27/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496004
 SAF# X13-005
 Sample ID B2MLJ6

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | BD | 0.0479 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | BD | 0.761 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | D | 0.445 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 9.35 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496005
 SAF# X13-005
 Sample ID B2MLJ5

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | UD | <0.046 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | BD | 0.757 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | D | 0.453 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 9.19 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496006
 SAF# X13-005
 Sample ID B2MLK3

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | BD | 0.105 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | D | 1.18 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | D | 0.205 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 11.4 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496007
 SAF# X13-005
 Sample ID B2MKW2

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|-----------------|
| | | | | | | | | | | 11/26/12 |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | UD | <0.046 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | D | 0.813 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | D | 0.200 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 9.08 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496008
 SAF# X13-005
 Sample ID B2MKD1

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | BD | 0.0558 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | D | 5.36 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | D | 2.22 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 55.5 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496009
 SAF# X13-005
 Sample ID B2MKD0

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---|------------|------------|----|--------|--------|-------|----|-------|------|----------|
| 11/26/12 | | | | | | | | | | |
| Anions by Ion Chromatography (Water) | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | BD | 0.0563 | | ug/mL | 2 | 0.046 | 0.14 | 11/26/12 |
| Chloride | 16887-00-6 | LA-533-410 | D | 5.47 | | ug/mL | 2 | 0.12 | 0.81 | 11/26/12 |
| Nitrite-N | NO2-N | LA-533-410 | UD | <0.038 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Nitrate-N | NO3-N | LA-533-410 | D | 2.32 | | ug/mL | 2 | 0.038 | 0.20 | 11/26/12 |
| Sulfate | 14808-79-8 | LA-533-410 | D | 57.9 | | ug/mL | 2 | 0.22 | 2.1 | 11/26/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496010
 SAF# X13-005
 Sample ID B2MKC9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 1800 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 9830 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | | 330 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | B | 5.10 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 2420 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 4300 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 97.9 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 8.60 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | B | 7.00 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | BC | 10.6 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 53300 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 205 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496010
 SAF# X13-005
 Sample ID B2MKC9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496011
 SAF# X13-005
 Sample ID B2MKD5

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | U | <19 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 9340 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 2320 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 4250 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 42.1 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 46700 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 196 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496011
 SAF# X13-005
 Sample ID B2MKD5

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496012
 SAF# X13-005
 Sample ID B2MKC8

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 1530 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 9710 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | | 278 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | B | 4.50 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 2400 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 4270 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 87.6 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 6.00 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | B | 6.00 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | BC | 8.70 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 52200 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 208 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496012
 SAF# X13-005
 Sample ID B2MKC8

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496013
 SAF# X13-005
 Sample ID B2MKD4

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | U | <19 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 9240 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 2320 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 4220 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 41.8 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 46100 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 193 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496013
 SAF# X13-005
 Sample ID B2MKD4

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496014
 SAF# X13-005
 Sample ID B2MLJ9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | U | <19 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 4190 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1610 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 3300 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 24.5 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | B | 14.4 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | C | 28.8 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 19200 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 102 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496014
 SAF# X13-005
 Sample ID B2MLJ9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496015
 SAF# X13-005
 Sample ID B2MLJ3

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 275 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 4240 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | | 37.1 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1550 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 3270 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 29.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 6.40 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | | 55.3 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | C | 63.1 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 19300 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 101 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496015
 SAF# X13-005
 Sample ID B2MLJ3

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496016
 SAF# X13-005
 Sample ID B2MLJ4

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 287 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 4230 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | | 39.5 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1600 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 3280 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 29.2 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 6.60 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | | 60.9 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | C | 67.8 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 19200 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 101 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496016
 SAF# X13-005
 Sample ID B2MLJ4

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496017
 SAF# X13-005
 Sample ID B2MLK0

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | U | <19 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 4190 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1630 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 3300 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 24.7 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | B | 12.3 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | C | 28.4 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 19200 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 98.7 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496017
 SAF# X13-005
 Sample ID B2MLK0

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496018
 SAF# X13-005
 Sample ID B2MLK2

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 458 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 5910 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | | 89.3 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 2030 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 4530 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 47.9 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 11.7 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | | 30.1 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | C | 33.2 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 26800 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 150 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496018
 SAF# X13-005
 Sample ID B2MLK2

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 18, 2012

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496019
 SAF# X13-005
 Sample ID B2MLK5

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | U | <19 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 5880 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1970 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 4610 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 41.7 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 10.2 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | BC | 11.3 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 26300 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 143 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496019
 SAF# X13-005
 Sample ID B2MLK5

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496020
 SAF# X13-005
 Sample ID B2MLC2

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | U | <19 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 3420 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1400 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 2590 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | B | 14.8 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 19000 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 95.8 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496020
 SAF# X13-005
 Sample ID B2MLC2

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496021
 SAF# X13-005
 Sample ID B2MLB9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|---------------------------------------|-----------|------------|----|--------|--------|-------|----|-----|-----|-----------------|
| ICPAES Prep (W) | | | | | | | | | | 12/10/12 |
| ICP-6010 - All possible metals | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 1420 | | ug/L | 1 | 19 | 95 | 12/12/12 |
| Magnesium | 7439-95-4 | LA-505-411 | | 3720 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Manganese | 7439-96-5 | LA-505-411 | | 189 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Nickel | 7440-02-0 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Potassium | 7440-09-7 | LA-505-411 | | 1520 | | ug/L | 1 | 76 | 380 | 12/12/12 |
| Silver | 7440-22-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Sodium | 7440-23-5 | LA-505-411 | | 2640 | | ug/L | 1 | 10 | 50 | 12/12/12 |
| Antimony | 7440-36-0 | LA-505-411 | U | <36 | | ug/L | 1 | 36 | 180 | 12/12/12 |
| Barium | 7440-39-3 | LA-505-411 | | 44.7 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Cadmium | 7440-43-9 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Chromium | 7440-47-3 | LA-505-411 | B | 9.60 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Cobalt | 7440-48-4 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Copper | 7440-50-8 | LA-505-411 | B | 5.90 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |
| Vanadium | 7440-62-2 | LA-505-411 | U | <5.0 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Zinc | 7440-66-6 | LA-505-411 | BC | 5.20 | | ug/L | 1 | 5.0 | 25 | 12/12/12 |
| Calcium | 7440-70-2 | LA-505-411 | | 20100 | | ug/L | 1 | 49 | 240 | 12/12/12 |
| Strontium | 7440-24-6 | LA-505-411 | | 108 | | ug/L | 1 | 9.0 | 45 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Sample # 121496021
 SAF# X13-005
 Sample ID B2MLB9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|----------------|-----------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Beryllium | 7440-41-7 | LA-505-411 | U | <4.0 | | ug/L | 1 | 4.0 | 20 | 12/12/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)
 o - LCS recovery outside established laboratory acceptance limits.
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121496

Sample # 121496021
 SAF# X13-005
 Sample ID B2MLB9

Matrix WATER
 Sampled 11/26/12
 Received 11/26/12

| Test Performed | CAS # | Method | RQ | Result | TP Err | Units | DF | MDL | PQL | Analyzed |
|------------------------------------|------------|------------|----|--------|--------|-------|----|-----|-----|----------|
| Tritium by LSC EICHROM WA/LIQ PREP | | | | | | | | | | 11/27/12 |
| Tritium by LSC | | | | | | | | | | |
| Tritium | 10028-17-8 | LA-508-421 | U | -20 | 140 | pCi/L | 1 | 310 | | 12/02/12 |

MDL = Minimum Detection Limit
 RQ = Result Qualifier
 TP Err = Total Propagated Error
 DF = Dilution Factor
 + - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE
 U - Analyzed for but not detected above limiting criteria.
 N - Spike Recovery is Outside Control Limits.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121496

Analytical Batch 210749 (QC Batch: 210749) **Test** Anions by Ion Chromatography (Water)
Associated Samples 121496001, 121496004, 121496005, 121496006, 121496007, 121496008, 121496009

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|--------------|------------|---------------------------|----------|-------|---------|----------|-------|-----------|-------|----------|
| BLANK | | QC Sample #85458 | | | | | | | | |
| Fluoride | 16984-48-8 | <0.023 | | ug/mL | | | | | U | 11/26/12 |
| Chloride | 16887-00-6 | <0.058 | | ug/mL | | | | | U | 11/26/12 |
| Nitrite-N | NO2-N | <0.019 | | ug/mL | | | | | U | 11/26/12 |
| Nitrate-N | NO3-N | <0.019 | | ug/mL | | | | | U | 11/26/12 |
| Sulfate | 14808-79-8 | <0.11 | | ug/mL | | | | | U | 11/26/12 |
| LCS | | QC Sample #85459 | | | | | | | | |
| Fluoride | 16984-48-8 | 0.939 | | ug/mL | 94.8 | 90 - 110 | | | | 11/26/12 |
| Chloride | 16887-00-6 | 1.82 | | ug/mL | 92.1 | 90 - 110 | | | | 11/26/12 |
| Nitrite-N | NO2-N | 0.984 | | ug/mL | 100.5 | 90 - 110 | | | | 11/26/12 |
| Nitrate-N | NO3-N | 0.865 | | ug/mL | 97.7 | 90 - 110 | | | | 11/26/12 |
| Sulfate | 14808-79-8 | 3.85 | | ug/mL | 98.1 | 90 - 110 | | | | 11/26/12 |
| DUP | | QC Sample #85460 | | | | | | | | |
| | | Original 121496001 | | | | | | | | |
| Fluoride | 16984-48-8 | <0.046 | 0.0526 | ug/mL | | | 30.20 | 20 | * BXD | 11/26/12 |
| Chloride | 16887-00-6 | 2.65 | 2.73 | ug/mL | | | 3.30 | 20 | D | 11/26/12 |
| Nitrite-N | NO2-N | 0.0428 | 0.0417 | ug/mL | | | 2.60 | 20 | BD | 11/26/12 |
| Nitrate-N | NO3-N | 0.0700 | 0.0708 | ug/mL | | | 1.10 | 20 | BD | 11/26/12 |

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121496

Analytical Batch 210750 (QC Batch: 210750) **Test** Anions by Ion Chromatography (Water)
Associated Samples 121496002

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|--------------|------------|---------------------------|----------|-------|---------|----------|-------|-----------|----|----------|
| BLANK | | QC Sample #85465 | | | | | | | | |
| Fluoride | 16984-48-8 | <0.023 | | ug/mL | | | | | U | 11/26/12 |
| Chloride | 16887-00-6 | <0.058 | | ug/mL | | | | | U | 11/26/12 |
| Nitrite-N | NO2-N | <0.019 | | ug/mL | | | | | U | 11/26/12 |
| Nitrate-N | NO3-N | <0.019 | | ug/mL | | | | | U | 11/26/12 |
| Sulfate | 14808-79-8 | <0.11 | | ug/mL | | | | | U | 11/26/12 |
| LCS | | QC Sample #85466 | | | | | | | | |
| Fluoride | 16984-48-8 | 0.933 | | ug/mL | 94.3 | 90 - 110 | | | | 11/26/12 |
| Chloride | 16887-00-6 | 1.85 | | ug/mL | 93.2 | 90 - 110 | | | | 11/26/12 |
| Nitrite-N | NO2-N | 1.01 | | ug/mL | 103.6 | 90 - 110 | | | | 11/26/12 |
| Nitrate-N | NO3-N | 0.890 | | ug/mL | 100.5 | 90 - 110 | | | | 11/26/12 |
| Sulfate | 14808-79-8 | 3.89 | | ug/mL | 99.1 | 90 - 110 | | | | 11/26/12 |
| DUP | | QC Sample #85467 | | | | | | | | |
| | | Original 121496002 | | | | | | | | |
| Fluoride | 16984-48-8 | <0.046 | <0.046 | ug/mL | | | 3.80 | 20 | UD | 11/26/12 |
| Chloride | 16887-00-6 | 1.01 | 0.974 | ug/mL | | | 3.30 | 20 | D | 11/26/12 |
| Nitrite-N | NO2-N | <0.038 | <0.038 | ug/mL | | | 0.00 | 20 | UD | 11/26/12 |
| Nitrate-N | NO3-N | 0.0670 | 0.0568 | ug/mL | | | 16.50 | 20 | BD | 11/26/12 |

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

Analytical Batch 210751 (QC Batch: 210751) Test Anions by Ion Chromatography (Water)
 Associated Samples 121496003

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|--------------|------------|---------------------------|----------|-------|---------|----------|-------|-----------|----|----------|
| BLANK | | QC Sample #85472 | | | | | | | | |
| Fluoride | 16984-48-8 | <0.023 | | ug/mL | | | | | U | 11/27/12 |
| Chloride | 16887-00-6 | <0.058 | | ug/mL | | | | | U | 11/27/12 |
| Nitrite-N | NO2-N | <0.019 | | ug/mL | | | | | U | 11/27/12 |
| Nitrate-N | NO3-N | <0.019 | | ug/mL | | | | | U | 11/27/12 |
| Sulfate | 14808-79-8 | <0.11 | | ug/mL | | | | | U | 11/27/12 |
| LCS | | QC Sample #85473 | | | | | | | | |
| Fluoride | 16984-48-8 | 0.929 | | ug/mL | 93.9 | 90 - 110 | | | | 11/27/12 |
| Chloride | 16887-00-6 | 1.84 | | ug/mL | 92.9 | 90 - 110 | | | | 11/27/12 |
| Nitrite-N | NO2-N | 0.996 | | ug/mL | 101.8 | 90 - 110 | | | | 11/27/12 |
| Nitrate-N | NO3-N | 0.899 | | ug/mL | 101.6 | 90 - 110 | | | | 11/27/12 |
| Sulfate | 14808-79-8 | 3.87 | | ug/mL | 98.6 | 90 - 110 | | | | 11/27/12 |
| DUP | | QC Sample #85474 | | | | | | | | |
| | | Original 121496003 | | | | | | | | |
| Fluoride | 16984-48-8 | <0.046 | <0.046 | ug/mL | | | 15.00 | 20 | UD | 11/27/12 |
| Chloride | 16887-00-6 | 0.728 | 0.723 | ug/mL | | | 0.70 | 20 | BD | 11/27/12 |
| Nitrite-N | NO2-N | <0.038 | <0.038 | ug/mL | | | 0.00 | 20 | UD | 11/27/12 |
| Nitrate-N | NO3-N | 0.164 | 0.163 | ug/mL | | | 0.70 | 20 | BD | 11/27/12 |

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121496

Analytical Batch 211118 (QC Batch: 210741) Test Tritium by LSC
 Associated Samples 121496021

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|--------------|------------|----------------|----------|---------------------------|---------|----------|--------|-----------|----|----------|
| BLANK | | | | | | | | | | |
| | | | | QC Sample #85431 | | | | | | |
| Tritium | 10028-17-8 | | -31 | pCi/L | | | | | U | 12/02/12 |
| LCS | | | | QC Sample #85432 | | | | | | |
| Tritium | 10028-17-8 | | 3300 | pCi/L | 104.9 | 80 - 120 | | | | 12/02/12 |
| DUP | | | | QC Sample #85433 | | | | | | |
| | | | | Original 121496021 | | | | | | |
| Tritium | 10028-17-8 | -20 | -17 | pCi/L | | | -17.30 | 20 | U | 12/02/12 |
| MS | | | | QC Sample #85434 | | | | | | |
| | | | | Original 121496021 | | | | | | |
| Tritium | 10028-17-8 | -20 | 21000 | pCi/L | 102.5 | 75 - 125 | | | | 12/02/12 |

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121496

Analytical Batch 211319 (QC Batch: 211284) **Test** ICP-6010 - All possible metals
Associated Samples 121496010, 121496011, 121496012, 121496013, 121496014, 121496015, 121496016, 121496017, 121496018, 121496019, 121496020, 121496021

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|--------------|-----------|-------------------------|----------|-------|---------|--------|-----|-----------|----|----------|
| BLANK | | QC Sample #86107 | | | | | | | | |
| Iron | 7439-89-6 | | <19 | ug/L | | | | | U | 12/12/12 |
| Magnesium | 7439-95-4 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Manganese | 7439-96-5 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Nickel | 7440-02-0 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Potassium | 7440-09-7 | | <76 | ug/L | | | | | U | 12/12/12 |
| Silver | 7440-22-4 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Sodium | 7440-23-5 | | <10 | ug/L | | | | | U | 12/12/12 |
| Antimony | 7440-36-0 | | <36 | ug/L | | | | | U | 12/12/12 |
| Barium | 7440-39-3 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Cadmium | 7440-43-9 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Chromium | 7440-47-3 | | <5.0 | ug/L | | | | | U | 12/12/12 |
| Cobalt | 7440-48-4 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Copper | 7440-50-8 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| Vanadium | 7440-62-2 | | <5.0 | ug/L | | | | | U | 12/12/12 |
| Zinc | 7440-66-6 | | 6.00 | ug/L | | | | | B | 12/12/12 |
| Calcium | 7440-70-2 | | <49 | ug/L | | | | | U | 12/12/12 |
| Strontium | 7440-24-6 | | <9.0 | ug/L | | | | | U | 12/12/12 |

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|---------------------------|-----------|----------------|----------|-------|---------|----------|-----|-----------|----|----------|
| Beryllium LCS | 7440-41-7 | | <4.0 | ug/L | | | | | U | 12/12/12 |
| QC Sample #86109 | | | | | | | | | | |
| Iron | 7439-89-6 | | 1010 | ug/L | 100.7 | 80 - 120 | | | | 12/12/12 |
| Magnesium | 7439-95-4 | | 10300 | ug/L | 102.7 | 80 - 120 | | | | 12/12/12 |
| Manganese | 7439-96-5 | | 1030 | ug/L | 102.9 | 80 - 120 | | | | 12/12/12 |
| Nickel | 7440-02-0 | | 1010 | ug/L | 101.4 | 80 - 120 | | | | 12/12/12 |
| Potassium | 7440-09-7 | | 10600 | ug/L | 105.8 | 80 - 120 | | | | 12/12/12 |
| Silver | 7440-22-4 | | 1010 | ug/L | 100.6 | 80 - 120 | | | | 12/12/12 |
| Sodium | 7440-23-5 | | 10100 | ug/L | 101.2 | 80 - 120 | | | | 12/12/12 |
| Antimony | 7440-36-0 | | 1030 | ug/L | 102.8 | 80 - 120 | | | | 12/12/12 |
| Barium | 7440-39-3 | | 1020 | ug/L | 102.1 | 80 - 120 | | | | 12/12/12 |
| Cadmium | 7440-43-9 | | 1010 | ug/L | 101.4 | 80 - 120 | | | | 12/12/12 |
| Chromium | 7440-47-3 | | 1020 | ug/L | 102.1 | 80 - 120 | | | | 12/12/12 |
| Cobalt | 7440-48-4 | | 1000 | ug/L | 100 | 80 - 120 | | | | 12/12/12 |
| Copper | 7440-50-8 | | 1020 | ug/L | 101.8 | 80 - 120 | | | | 12/12/12 |
| Vanadium | 7440-62-2 | | 1010 | ug/L | 101.2 | 80 - 120 | | | | 12/12/12 |
| Zinc | 7440-66-6 | | 1030 | ug/L | 103.3 | 80 - 120 | | | | 12/12/12 |
| Calcium | 7440-70-2 | | 20900 | ug/L | 104.4 | 80 - 120 | | | | 12/12/12 |
| Strontium | 7440-24-6 | | 1010 | ug/L | 101 | 80 - 120 | | | | 12/12/12 |
| Beryllium MS | 7440-41-7 | | 1020 | ug/L | 101.5 | 80 - 120 | | | | 12/12/12 |
| QC Sample #86110 | | | | | | | | | | |
| Original 121496010 | | | | | | | | | | |
| Iron | 7439-89-6 | 1800 | 1030 | ug/L | 102.6 | 75 - 125 | | | | 12/12/12 |

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121496

| Analyte | CAS # | Original Found | QC Found | Units | % Recov | Limits | RPD | RPD Limit | RQ | Analyzed |
|-----------|-----------|----------------|----------|-------|---------|----------|------|-----------|----|----------|
| Potassium | 7440-09-7 | 2420 | 10700 | ug/L | 106.8 | 75 - 125 | 0.00 | 20 | | 12/12/12 |
| Silver | 7440-22-4 | <4.0 | 1010 | ug/L | 101 | 75 - 125 | 0.20 | 20 | | 12/12/12 |
| Sodium | 7440-23-5 | 4300 | 10100 | ug/L | 101.1 | 75 - 125 | 0.10 | 20 | | 12/12/12 |
| Antimony | 7440-36-0 | <36 | 1040 | ug/L | 103.5 | 75 - 125 | 0.70 | 20 | | 12/12/12 |
| Barium | 7440-39-3 | 97.9 | 1030 | ug/L | 102.5 | 75 - 125 | 0.20 | 20 | | 12/12/12 |
| Cadmium | 7440-43-9 | <4.0 | 1030 | ug/L | 102.9 | 75 - 125 | 0.00 | 20 | | 12/12/12 |
| Chromium | 7440-47-3 | 8.60 | 1020 | ug/L | 102.4 | 75 - 125 | 0.50 | 20 | | 12/12/12 |
| Cobalt | 7440-48-4 | <4.0 | 995 | ug/L | 99.5 | 75 - 125 | 0.10 | 20 | | 12/12/12 |
| Copper | 7440-50-8 | 7.00 | 1020 | ug/L | 102.3 | 75 - 125 | 0.20 | 20 | | 12/12/12 |
| Vanadium | 7440-62-2 | <5.0 | 1020 | ug/L | 102 | 75 - 125 | 0.10 | 20 | | 12/12/12 |
| Zinc | 7440-66-6 | 10.6 | 1040 | ug/L | 104.1 | 75 - 125 | 0.10 | 20 | | 12/12/12 |
| Calcium | 7440-70-2 | 53300 | 21400 | ug/L | 107.2 | 75 - 125 | 0.00 | 20 | | 12/12/12 |
| Strontium | 7440-24-6 | 205 | 1020 | ug/L | 101.8 | 75 - 125 | 0.20 | 20 | | 12/12/12 |
| Beryllium | 7440-41-7 | <4.0 | 1030 | ug/L | 102.8 | 75 - 125 | 0.20 | 20 | | 12/12/12 |

* - QC result out of range

n/a - Not Applicable

Attention: Scot Fitzgerald

Group #

WSCF121496

Quality Control Comments

Department Inorganic

85460

B2MKF1(121496001DUP)

Analyte Fluoride - Anions by Ion Chromatography (Water)

- [1] Duplicate is flagged for RPD out-of-limits. RPD does not apply to samples concentrations below the calibration range. RPD is calculated on measured values and not applicable for a result below the RDL.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 18 pages
Including cover page

Waste Sampling and Characterization Facility
P.O. Box 1970 S3-30, Richland WA 99352
Phone: (509) 373-7004/FAX: (509) 373-7134

ACKNOWLEDGEMENT OF SAMPLES RECEIVED**WSCF Laboratory**

PO Box 650 S3-30
 Richland, WA 99352

ATTN: Scot Fitzgerald

Customer Code: CHPRC

PO #: 403899

Work Order #: 121496

Profile #: X13-005-189

Proj. Mgr.:

Phone:

The following samples were received from you on 11/26/2012 1:10:00 PM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

| Sample # | Sample ID | Matrix | Collected | Received |
|-----------|-----------|------------------------|------------------|------------------|
| | | Tests scheduled | | |
| 121496001 | B2MKF1 | WATER | 11/26/2012 12:22 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496002 | B2MKH4 | WATER | 11/26/2012 12:03 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496003 | B2MLC0 | WATER | 11/26/2012 09:55 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496004 | B2MLJ6 | WATER | 11/26/2012 10:39 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496005 | B2MLJ5 | WATER | 11/26/2012 10:39 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496006 | B2MLK3 | WATER | 11/26/2012 10:16 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496007 | B2MKW2 | WATER | 11/26/2012 11:39 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496008 | B2MKD1 | WATER | 11/26/2012 11:14 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496009 | B2MKD0 | WATER | 11/26/2012 11:14 | 11/26/2012 13:10 |
| | | IC-W | | |
| 121496010 | B2MKC9 | WATER | 11/26/2012 11:14 | 11/26/2012 13:10 |
| | | 6010-W | | |
| 121496011 | B2MKD5 | WATER | 11/26/2012 11:14 | 11/26/2012 13:10 |

Waste Sampling and Characterization Facility
P.O. Box 1970 S3-30, Richland WA 99352
Phone: (509) 373-7004/FAX: (509) 373-7134

| | | | | |
|------------------|--------|-------|------------------|------------------|
| 6010-W | | | | |
| 121496012 | B2MKC8 | WATER | 11/26/2012 11:14 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496013 | B2MKD4 | WATER | 11/26/2012 11:14 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496014 | B2MLJ9 | WATER | 11/26/2012 10:39 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496015 | B2MLJ3 | WATER | 11/26/2012 10:39 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496016 | B2MLJ4 | WATER | 11/26/2012 10:39 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496017 | B2MLK0 | WATER | 11/26/2012 10:39 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496018 | B2MLK2 | WATER | 11/26/2012 10:16 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496019 | B2MLK5 | WATER | 11/26/2012 10:16 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496020 | B2MLC2 | WATER | 11/26/2012 09:55 | 11/26/2012 13:10 |
| 6010-W | | | | |
| 121496021 | B2MLB9 | WATER | 11/26/2012 09:55 | 11/26/2012 13:10 |
| 6010-W; H3-COL-W | | | | |

Test Acronym Description

| Test Acronym | Description |
|--------------|-------------------------------|
| 6010-W | ICP-AES (W) |
| H3-COL-W | Tritium by EICHROM Column (W) |
| IC-W | Anions by IC (W) |

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
X13-005-189
Page 1 of 1

| | | | | | | | | |
|--|-----------------------------------|----------|--------------------|---------------------|-----------------------------|-----------------------------|--------------|--|
| Collector | S. Aguilar | | Contract/Requester | Karen Waters-Husted | | Telephone No. | 376-4650 | |
| SAF No. | X13-005 | | Sampling Origin | Hamford Site | | Purchase Order/Charge Code | 303064ES20 | |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | | Logbook No. | HNF-N-506 52 / 5, 6 | | Ice Chest No. | N/A | |
| Shipped To (Lab) | Waste Sampling & Characterization | | Method of Shipment | GOVERNMENT VEHICLE | | Bill of Lading/Air Bill No. | N/A | |
| Protocol | SLRV | | Priority: | 31 Days | | Offsite Property No. | N/A | |
| POSSIBLE SAMPLE HAZARDS/REMARKS | | | | | | | | |
| *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5100.5 (1990/1993) | | | | | | | | |
| SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | | | | | | | |
| Site Wide Element Knowledge Information Form applies. The CACN for all analytical work at WSCF is 403899. FY12 and FY13 samples cannot be in the same SDG. | | | | | | | | |
| Sample No. | Filter | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative | |
| B2MKF1 | N | 11-26-12 | 1222 | 1x500-mL P | 300 D_ANIONS_IC- List-1 (5) | 48 Hours | Cool-4C | |

| | | | | | | | | |
|---------------------------------|-----------|-------------|---------------|--|-----------|-------------|---------------|---|
| Requisitioned By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time | Matrix * |
| S. Aguilar | | | 11-26-12 1310 | Cynthia R Johnson | | | 11-26-12 1310 | S = Soil DS = Dams Solids SE = Sediment DL = Drain Liquids SO = Solid T = Tissue SL = Sludge Wt = Waste W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other |
| Requisitioned By | Date/Time | Received By | Date/Time | Requisitioned By | Date/Time | Received By | Date/Time | |
| | | | | | | | | |
| Requisitioned By | Date/Time | Received By | Date/Time | Requisitioned By | Date/Time | Received By | Date/Time | |
| | | | | | | | | |
| FINAL SAMPLE DISPOSITION | | | | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | | | | Disposed By |
| | | | | | | | | |

Chain of Custody

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-373**
 Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|---------------------|-----------------------------|------------|
| Collector | <i>J. Aquilar</i> | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | HNF-N-506 52 / 514 | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority: | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1995)

SPECIAL INSTRUCTIONS
 Site Wide Generator Knowledge Information from applies. The CACN for all analytical work at WSCF is 40389. FY12 and FY13 samples cannot be in the same SDC.

Total Activity Exemption: Yes No

| | | | | | | | |
|------------|----------|----------|------|--------------------|-----------------------------|--------------|--------------|
| Sample No. | Filter * | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
| D2MLJG 4 | N | 11-26-12 | 1039 | 1x500-mL P | 300 D_ ANIONS_IC: Lab-1 (5) | 48 Hours | Cool-AC |

| | | | | | | | | | | | | | |
|-----------------|-------------------|-------|------|-----------|-------|-------------|---------------------------|-------|------|-----------|----------|-------|--------------------|
| Relinquished By | <i>J. Aquilar</i> | Print | Sign | Date/Time | 12/10 | Received By | <i>Cynthia R. Johnson</i> | Print | Sign | Date/Time | 11-26-12 | 12/10 | Matrix * |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | S - Soil |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | SE - Sediment |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | SO - Solid |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | SL - Sludge |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | W - Water |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | O - Oil |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | A - Air |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | DS - Drums Solids |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | DL - Drums Liquids |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | T - Tissue |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | WT - Wire |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | L - Liquid |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | V - Vegetation |
| Relinquished By | | | | Date/Time | | Received By | | | | Date/Time | | | X - Other |

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By: _____ Date/Time: _____

PRINTED 0 10/9/2012

A-6004-842 (REV 2)

Chain of Custody

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-370**
 Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|---------------------|-----------------------------|------------|
| Collector | J. Aguiler | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | HNF-N-506 52 / 54 | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1991/1993)

SPECIAL INSTRUCTIONS
 Site Wide Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 40389.
 FY12 and FY13 samples cannot be in the same SDG.

Total Activity Exemption: Yes No

| | | | | | | | |
|-----------|--------|----------|------|--------------------|----------------------------|--------------|--------------|
| Sample No | Filter | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
| B2MLJ5 | N | 11-26-12 | 1039 | 1x500-rL P | 300.0_ANIONS_IC_List-1 (5) | 48 Hours | Cool-AC |

| | | | | | | | | |
|-----------------|---------------------|----------|-----------------------------|-------------|----------------------------|----------|-----------------------------|--------------------|
| Relinquished By | Print J. Aguiler | Sign | Date/Time 11-26-12 10:10 | Received By | Print Cynthia R Johnson | Sign | Date/Time 11-26-12 13:00 | Matrix * |
| Relinquished By | | | | Received By | | | | S - Soil |
| Relinquished By | | | | Received By | | | | SE - Sediment |
| Relinquished By | | | | Received By | | | | SO - Solid |
| Relinquished By | | | | Received By | | | | SL - Sludge |
| Relinquished By | | | | Received By | | | | W - Water |
| Relinquished By | | | | Received By | | | | O - Oil |
| Relinquished By | | | | Received By | | | | A - Air |
| Relinquished By | | | | Received By | | | | DS - Dross Solids |
| Relinquished By | | | | Received By | | | | DL - Dross Liquids |
| Relinquished By | | | | Received By | | | | T - Tissue |
| Relinquished By | | | | Received By | | | | WI - Wine |
| Relinquished By | | | | Received By | | | | L - Liquid |
| Relinquished By | | | | Received By | | | | V - Vegetation |
| Relinquished By | | | | Received By | | | | X - Other |

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By: _____ Date/Time: _____

PRINTED 0 10/9/2012

A-6004-842 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X13-005-376
Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|---------------------|-----------------------------|------------|
| Collector | J. Aguilera | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | HNF-N-506 52 / 54 | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority: | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS

*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1998/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No

Site Wide Generator Knowledge Information Form applies
The CACN for all analytical work at WSCF is 403899.
FY12 and FY13 samples cannot be in the same SDG.

| Sample No. | Filter | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
|------------|--------|----------|------|--------------------|-----------------------------|--------------|--------------|
| B2MLK3 | N | 11-26-12 | 1016 | 1x500-ml P | 300 O_ ANIONS_IC_List-1 (5) | 48 Hours | Cool-4C |

| Relinquished By | Signature | Date/Time | Received By | Signature | Date/Time | Matrix * |
|-----------------|-----------|---------------|-------------------|-----------|---------------|--|
| J. Aguilera | | 11-26-12 1330 | Cynthia R Johnson | | 11-26-12 1340 | S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WT = Waste W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other |
| Relinquished By | | Date/Time | Received By | | Date/Time | |
| Relinquished By | | Date/Time | Received By | | Date/Time | |
| Relinquished By | | Date/Time | Received By | | Date/Time | |

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By: _____ Date/Time: _____

PRINTED: 01/09/2012

A-6004-842 (REV 2)

Chain of Custody

| | | | | | | |
|---|-----------------------------------|--|------------------------------|-------------------|---|--------------------------------|
| CH2MHill Plateau Remediation Company | | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | | C.O.C. # X13-005-256 |
| Collector | <i>J. Aguilar</i> | Contact/Requester | Karen Waters-Illstedt | | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | HNF-N-506 <i>SR / S, L</i> | | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority: | 31 Days | | Offsite Property No. | N/A |
| POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 500.5 (1990/1995) | | | | | | |
| SPECIAL INSTRUCTIONS Site Wide Generator Knowledge Information Form applies. The CACH for all analytical work at WSCF is 401899. FY12 and FY13 samples cannot be in the same SDG. | | | HOLD TIME 48 Hours | | Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |
| Sample No. | Filter | Date | Time | No/Type Container | Sample Analysis | Preservative |
| B2MKW2 | N | 11-26-12 | 1139 | 1x500-mL P | 3000_0_ANIONS_IC: Lat-1 (5) | Cool-4C |

| | | | | | | | | |
|--------------------------|-------------------|--|---------------|-------------|---------------------------|-----------|---------------|---|
| Relinquished By | <i>J. Aguilar</i> | Signature | Date/Time | Received By | <i>Cynthia R. Johnson</i> | Signature | Date/Time | Matrix * |
| Relinquished By | | | 11-26-12 1310 | Received By | | | 11-26-12 1310 | S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air |
| Relinquished By | | | | Received By | | | | DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other |
| Relinquished By | | | | Received By | | | | |
| FINAL SAMPLE DISPOSITION | | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | | Disposed By | | Date/Time | | |

PRINTED O 10/9/2012

A-6004-842 (REV 2)

Chain of Custody

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-185**
 Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|---------------------|-----------------------------|------------|
| Collector | J. Aguilera | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | HNF-N-506 52 / 54 | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1999/1995)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 403899.
 PVI 2 and PVI 3 samples cannot be in the same SDC.

| Sample No. | Filter | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
|------------|--------|----------|------|--------------------|-----------------------------|--------------|--------------|
| B2MKD1 | N | 11-26-12 | 114 | 1x500-mL P | 300.0 ANIONS IC: List-1 (5) | 48 Hours | Cool-AG |

| | | | | | | | |
|-----------------|-------------|-----------|--------------|-------------|-------------------|-----------|--------------|
| Relinquished By | J. Aguilera | Date/Time | 11-26-12 (M) | Received By | Cynthia R Johnson | Date/Time | 11-26-12 (M) |
| Relinquished By | | Date/Time | | Received By | | Date/Time | |
| Relinquished By | | Date/Time | | Received By | | Date/Time | |
| Relinquished By | | Date/Time | | Received By | | Date/Time | |

Matrix *

| | | | | | |
|----|---|----------|----|---|--------------|
| S | - | Soil | DS | - | Drum Solids |
| SE | - | Sediment | DL | - | Drum Liquids |
| SO | - | Solid | T | - | Tissue |
| SL | - | Sludge | WT | - | Wing |
| W | - | Water | L | - | Liquid |
| O | - | Oil | V | - | Vegetation |
| A | - | Air | X | - | Other |

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process)

PRINTED 0 10/9/2012 A-6004-842 (REV 2)

Sample Receipt

Chain of Custody

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-182**
 Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|--------------------------|-----------------------------|-------------|
| Collector | <i>J. Aguilar</i> | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAP No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064EES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | INF-N-506 <i>SR 5, 6</i> | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SLURV | Priority: | 31 Days PRIORITY | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS
 Site Wide Generator Knowledge Information Form applies
 The C.O.C. for all analytical work at WSCF is 403899,
 FT12 and FT13 samples cannot be in the same SIVG.

| | | | | | | | | | | | | | | | |
|------------|---------|--------|---|------|----------|------|------|--------------------|------------|-------------|-------------------|-----------|----------|--------------|---------|
| Sample No. | B2MKC00 | Filter | N | Date | 11-26-12 | Time | 1114 | No./Type Container | 1x500-mL P | Received By | Cynthia R Johnson | Hold Time | 48 Hours | Preservative | Cool-4C |
|------------|---------|--------|---|------|----------|------|------|--------------------|------------|-------------|-------------------|-----------|----------|--------------|---------|

| | | | | | | | |
|-----------------|--------------------|-----------|---------------|-------------|--------------------------|-----------|---------------|
| Relinquished By | <i>J. Aguilar</i> | Date/Time | 11-26-12 1310 | Received By | <i>Cynthia R Johnson</i> | Date/Time | 11-26-12 1310 |
| Relinquished By | <i>[Signature]</i> | Date/Time | | Received By | | Date/Time | |
| Relinquished By | | Date/Time | | Received By | | Date/Time | |
| Relinquished By | | Date/Time | | Received By | | Date/Time | |

Final Sample Disposition: Disposal Method (e.g., Return to customer per lab procedure, used in process)

PRINTED O 10/9/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-184**
 Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|----------------------------|-----------------------------|------------|
| Collector | <i>S. Aguilar</i> | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | INF-N-506 <i>52 / 5, 6</i> | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority: | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS
 Site Wide Generation Knowledge Information Form applies
 The CACN for all analytical work at WSCF is 403899
 FY12 and FY13 samples cannot be in the same SDG

Total Activity Exemption: Yes No

| Sample No. | Filter | * | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
|------------|--------|---|----------|------|--------------------|------------------------------|--------------|---------------|
| B2MKC9 | 10 | N | 11-26-12 | 1114 | 1x500-mL G/P | 6010_METALS_ICP- List-3 (18) | 6 Months | HNO3 10 pH <2 |
| B2MKD5 | 11 | Y | 11-26-12 | 1114 | 1x500 mL G/P | 6010_METALS_ICP- List-3 (18) | 6 Months | HNO3 10 pH <2 |

| | | | | | | | | | | | | | |
|-----------------|-------------------|-------|------|-----------|----------|------|-------------|---------------------------|-------|------|-----------|----------|------|
| Relinquished By | <i>S. Aguilar</i> | Print | Sign | Date/Time | 11-26-12 | 1310 | Received By | <i>Cynthia B. Johnson</i> | Print | Sign | Date/Time | 11-26-12 | 1310 |
| Relinquished By | | | | Date/Time | | | Received By | | | | Date/Time | | |
| Relinquished By | | | | Date/Time | | | Received By | | | | Date/Time | | |
| Relinquished By | | | | Date/Time | | | Received By | | | | Date/Time | | |

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By: _____ Date/Time: _____

Matrix *

| | | | | | |
|----|---|----------|----|---|--------------|
| S | - | Soil | DS | - | Drum Solids |
| SE | - | Sediment | DL | - | Drum Liquids |
| SO | - | Solid | T | - | Tissue |
| SL | - | Sidue | WI | - | Wipe |
| W | - | Water | L | - | Liquid |
| O | - | Oil | V | - | Vegetation |
| A | - | Air | X | - | Other |

PRINTED 0 10/9/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-181**
 Page 1 of 1

Collector **J. Aguilera** Contact/Requester **Karen Waters-Husted** Telephone No. **376-4650**
 SAE No. **X13-005** Sampling Origin **Hanford Site** Purchase Order/Charge Code **303064ES20**
 Project Title **AQUIFER TUBES, NOVEMBER 2012** Logbook No. **HNF-N-506 52 / 5, 4** Ice Chest No. **N/A**
 Shipped To (Lab) **Waste Sampling & Characterization** Method of Shipment **GOVERNMENT VEHICLE** Bill of Lading/Air Bill No. **N/A**
 Protocol **SURV** Priority: **31 Days** SPECIAL INSTRUCTIONS **PRIORITY** Offsite Property No. **N/A**
 Total Activity Exemption: Yes No

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)
 See Waste Generator Knowledge Information Form applies. The CACN for all analytical work at RSCF is 403899. P112 and P113 samples cannot be in the same SDG.

| Sample No. | Filter | * | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
|------------|--------|---|----------|------|--------------------|-----------------------------|--------------|----------------|
| B2MKC8 | N | W | 11-26-12 | 1114 | 1x500-mL G/P | 6010_METALS_ICP_List-3 (18) | 6 Months | HNO3 to pH < 2 |
| B2MKD4 | Y | W | 11-26-12 | 1114 | 1x500 mL G/P | 6010_METALS_ICP_List-3 (18) | 6 Months | HNO3 to pH < 2 |

| Retransmitted By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time | Matrix * |
|--------------------------|---|------|---------------|-------------------|-------|-----------|---------------|---|
| J. Aguilera | | | 11-26-12 1310 | Cynthia R Johnson | | | 11-26-12 1310 | S = Soil DS = Dism Solids SE = Sediment DL = Drum Leakage SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vapour A = Air X = Other |
| Retransmitted By | | | Date/Time | Received By | | | Date/Time | |
| Retransmitted By | | | Date/Time | Received By | | | Date/Time | |
| FINAL SAMPLE DISPOSITION | Disposal Method (e.g. Return to customer, per lab procedure, used in process) | | | Disposed By | | Date/Time | | |

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
X13-005-369
Page 1 of 1

| | | | | | | | | |
|--|-----------------------------------|---|--------------------|-----------------------|-------------------|---|--------------|---------------|
| Collector | S. Aguilar | | Contact/Requester | Karen Waters-Husted | | Telephone No. | 376-4650 | |
| SAF No. | X13-005 | | Sampling Origin | Hanford Site | | Purchase Order/Charge Code | 303064E520 | |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | | Logbook No. | HNF-N-506 52 / 5, 6 | | Fee Chest No. | N/A | |
| Shipped To (Lab) | Waste Sampling & Characterization | | Method of Shipment | GOVERNMENT VEHICL. E. | | Bill of Lading/Air Bill No. | N/A | |
| Protocol | SURV | | Priority: | 31 Days | | Offsite Property No. | N/A | |
| POSSIBLE SAMPLE HAZARDS/REMARKS | | | | | | | | |
| ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DKS Order 5100 3 (1990/1995) | | | | | | | | |
| SPECIAL INSTRUCTIONS | | | Hold Time | | | Total Activity Exemption | | |
| Site Wide Generator Knowledge Information Form applies | | | 6 Months | | | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | |
| The CACS for all analytical work at WSCF is 403899. | | | 6 Months | | | | | |
| FY12 and FY13 samples cannot be in the same SDC. | | | 6 Months | | | | | |
| Sample No. | Filter | * | Date | Time | No/Type Container | Sample Analysis | Holding Time | Preservative |
| BZMLJ9 | Y | | 11-26-12 | 1039 | 1x500 mL GIP | 6010_METALS_ICP: Lst: 3 (18) | 6 Months | HNO3 to pH <2 |
| BZMLJ3 | N | | 11-26-12 | 1039 | 1x500 mL GIP | 6010_METALS_ICP: Lst: 3 (18) | 6 Months | HNO3 to pH <2 |

| | | | | | | | | |
|--------------------------|-------|-----------|---------------|---|-------|-----------|---------------|--|
| Relinquished By | Print | Signature | Date/Time | Received By | Print | Signature | Date/Time | Matrix* |
| S. Aguilar | | | 11-26-12 1310 | Cynthia R Johnson | | | 11-26-12 1310 | S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air |
| Relinquished By | | | | Received By | | | | DS - Drum Solids DL - Drum Liquids T - Tissue WI - Waste L - Liquid V - Vegetation X - Other |
| Relinquished By | | | | Received By | | | | |
| Relinquished By | | | | Received By | | | | |
| FINAL SAMPLE DISPOSITION | | | | Disposal Method (e.g. Return to customer, per lab procedure, used in process) | | | | |
| PRINTED O 10/9/2012 | | | | A-6004-842 (REV 2) | | | | |

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-005-372**
 Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|---------------------|-----------------------------|------------|
| Collector | J. Aguilera | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 303064ES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | HNF-N-506 52 / 5, 4 | Ice Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SURV | Priority | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Certain Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS
 Site Wide Generator Knowledge Information form applies.
 The CACN for all analytical work at WSCF is 401899
 FY12 and FY13 samples cannot be in the same SDG

Total Activity Exemption: Yes No

| Sample No. | Filter | * | Date | Time | No/Type Container | Sample Analysis | Holding Time | Preservative |
|------------|--------|---|----------|------|-------------------|-------------------------------|--------------|---------------|
| B2MLJ4 16 | N | W | 11-26-12 | 1039 | 1X500 mL GP | 6010_METALS_ICP - List 3 (18) | 6 Months | HNO3 to pH <2 |
| B2MLK0 17 | Y | W | 11-26-12 | 1039 | 1X500-mL GP | 6010_METALS_ICP - List 3 (18) | 6 Months | HNO3 to pH <2 |

| | | | | | | | | | | | | | |
|-----------------|-------------|-------|------|-----------|----------|------|-------------|-------------------|-------|------|-----------|----------|------|
| Relinquished By | J. Aguilera | Print | Sign | Date/Time | 11-26-12 | 1310 | Received By | Cynthia R Johnson | Print | Sign | Date/Time | 11-26-12 | 1310 |
| Relinquished By | | | | Date/Time | | | Received By | | | | Date/Time | | |
| Relinquished By | | | | Date/Time | | | Received By | | | | Date/Time | | |
| Relinquished By | | | | Date/Time | | | Received By | | | | Date/Time | | |

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By
 Date/Time

Matrix *

| | | | | | |
|----|---|----------|----|---|--------------|
| S | = | Soil | DS | = | Drum Solids |
| SE | = | Sediment | DL | = | Drum Liquids |
| SS | = | Solid | T | = | Tissue |
| SL | = | Sludge | WT | = | Wipe |
| W | = | Water | L | = | Liquid |
| O | = | Oil | V | = | Vegetation |
| A | = | Air | X | = | Other |

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X13-005-375
Page 1 of 1

| | | | | | |
|------------------|-----------------------------------|--------------------|---------------------|-----------------------------|------------|
| Collector | J. Aquilera | Contact/Requester | Karen Waters-Husted | Telephone No. | 376-4650 |
| SAF No. | X13-005 | Sampling Origin | Hanford Site | Purchase Order/Charge Code | 30306HES20 |
| Project Title | AQUIFER TUBES, NOVEMBER 2012 | Logbook No. | INF-N-506 52 / 54 | Fee Chest No. | N/A |
| Shipped To (Lab) | Waste Sampling & Characterization | Method of Shipment | GOVERNMENT VEHICLE | Bill of Lading/Air Bill No. | N/A |
| Protocol | SLRV | Priority: | 31 Days | Offsite Property No. | N/A |

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1996/1995)

SPECIAL INSTRUCTIONS
 Site Waste Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 413899. P/T2 and P/T3 samples cannot be in the same SDC.

| Sample No. | Filter | * Date | Time | No/Type Container | Sample Analysis | Holding Time | Preservative |
|------------|--------|----------|------|-------------------|------------------------------|--------------|---------------|
| B2MLK2 | N | 11-26-12 | 1016 | 1x500-mL G/P | 6010_METALS_ICP: List 3 (18) | 6 Months | HNO3 to pH <2 |
| B2MLK5 | Y | 11-26-12 | 1016 | 1x500-mL G/P | 6010_METALS_ICP: List 3 (18) | 6 Months | HNO3 to pH <2 |

Total Activity Exemption: Yes No

| | | | | | | | | | | | |
|------------------|-------------|------------|-----------|----------|------|-------------|-------------------|------------|-----------|----------|------|
| Retransmitted By | J. Aquilera | Print Sign | Date/Time | 11-26-12 | 1310 | Received By | Cynthia R Johnson | Print Sign | Date/Time | 11-26-12 | 1310 |
| Retransmitted By | | | Date/Time | | | Received By | | | Date/Time | | |
| Retransmitted By | | | Date/Time | | | Received By | | | Date/Time | | |
| Retransmitted By | | | Date/Time | | | Received By | | | Date/Time | | |

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By: _____ Date/Time: _____

Matrix *

| | | | |
|----|----------|----|---------------|
| S | Soil | DS | Drum Solids |
| SE | Sediment | DL | Drum Leachate |
| SO | Solid | T | Tissue |
| SL | Sludge | WL | Wipe |
| W | Water | L | Liquid |
| O | Oil | V | Vegetation |
| A | Air | X | Other |

PRINTED O 10/9/2012

A-5004-842 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # X13-005-343
 Page 1 of 1

Collector: J Aguilar
 SAF No: X13-005
 Project Title: AQUIFER TUBES, NOVEMBER 2012
 Shipped To (Lab): Waste Sampling & Characterization
 Protocol: SURV

Contact/Requester: Karen Waters-Husted
 Sampling Origin: Hanford Site
 Logbook No: HNF-N-50652/54
 Method of Shipment: GOVERNMENT VEHICLE
 Priority: 31 Days
 Telephone No: 376-4650
 Purchase Order/Charge Code: 303064ES20
 Ice Chest No: N/A
 Bill of Lading/Air Bill No: N/A
 Offsite Property No: N/A
 POSSIBLE SAMPLE HAZARDS/REMARKS: *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5100.5 (1990/1993) ***
 SPECIAL INSTRUCTIONS: Hold Time: Total Activity Exemption: Yes No
 Site Wide Generation Knowledge Information Form applies. The CACM for all analytical work at WSCF is 413809. FY12 and FY13 samples cannot be in the same SDC.

| Sample No | Filter | Date | Time | No./Type Container | Sample Analysis | Holding Time | Preservative |
|-----------|--------|----------|------|--------------------|------------------------------|--------------|---------------|
| B2MLC2 | Y | 11-26-12 | 0955 | 1x500 mL G/P | 6010_METALS_ICP_List3 (18) | 6 Months | HNO3 to pH <2 |
| B2MLB9 | N | 11-26-12 | 0955 | 1x500-mL G/P | 6010_METALS_ICP_List3 (18) | 6 Months | HNO3 to pH <2 |
| B2MLB9 | N | 11-26-12 | 0955 | 1x250-mL G | TRITIUM_EIE_LSC: Tritium (1) | 6 Months | None |

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time | Disposed By | Print | Sign | Date/Time | Matrix * |
|-----------------|-------|-------------|---------------|-------------------|-------|-------------|---------------|-------------|-------|------|-----------|--|
| J. Aguilar | | [Signature] | 11-26-12 1310 | Cynthia R Johnson | | [Signature] | 11-26-12 1310 | | | | | S = Soil SE = Sediment SO = Solid SI = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other |
| Relinquished By | | | Date/Time | Received By | | | Date/Time | Disposed By | | | Date/Time | |
| Relinquished By | | | Date/Time | Received By | | | Date/Time | Disposed By | | | Date/Time | |
| Relinquished By | | | Date/Time | Received By | | | Date/Time | Disposed By | | | Date/Time | |

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 PRINTED O 10/9/2012 A-6004-842 (REV 2)