

DECEMBER 19, 2012

**WSCF Laboratory**

PO Box 650 S3-30  
Richland, WA 99352



December 19, 2012

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

Dear Scot Fitzgerald,

**FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121486**

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 WSCF121486

- \* 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

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Group # WSCF121486

Data Deliverable Date 12/20/12

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
S13-012	B2N142	121486001	WATER	11/19/12	11/19/12
S13-012	B2N150	121486002	WATER	11/19/12	11/19/12
S13-012	B2N154	121486003	WATER	11/19/12	11/19/12
S13-012	B2N177	121486004	WATER	11/19/12	11/19/12
S13-012	B2N181	121486005	WATER	11/19/12	11/19/12
X13-002	B2N2P7	121486006	WATER	11/19/12	11/19/12
S13-012	B2N182	121486007	WATER	11/19/12	11/19/12
S13-012	B2N151	121486008	WATER	11/19/12	11/19/12
S13-012	B2N155	121486009	WATER	11/19/12	11/19/12
S13-012	B2N178	121486010	WATER	11/19/12	11/19/12
S13-012	B2N143	121486011	WATER	11/19/12	11/19/12
S13-012	B2N180	121486012	WATER	11/19/12	11/19/12
S13-012	B2N149	121486013	WATER	11/19/12	11/19/12
S13-012	B2N153	121486014	WATER	11/19/12	11/19/12
S13-012	B2N176	121486015	WATER	11/19/12	11/19/12
S13-012	B2N141	121486016	WATER	11/19/12	11/19/12

ATTACHMENT 2

**NARRATIVE**

Consisting of 4 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):

- Sulfate – Exceeded spiking levels by a factor of 4. Spike recoveries and associated RPDs are not valid.
- 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):

- Calcium – Exceeded spiking levels by a factor of 4. Spike recoveries and associated RPDs are not valid.
- All other applicable QC controls are within the established limits.

**ICP-MS 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):

- All applicable QC controls are within the established limits.

**Total Alkalinity** – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- All applicable QC controls are within the established limits.

**Organic Comments**

**VOA** – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- All 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):

Tracers are used to determine chemical yield. RPD is monitored in sample duplicate and is not required for tracer recovery per SOW.

Attachment 2  
**Narrative**  
WSCF121486

**Gross Alpha / Gross Beta:**

- All applicable QC controls are within the established limits.

**Isotopic Uranium analysis:**

- Uranium-234 – The Blank is less than two times the RDL. “B” Flag not required.
- All other applicable QC controls are within the established limits.

**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 79 pages  
Including cover page

DECEMBER 19, 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 #** WSCF121486  
**Report Date** December 19, 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 # WSCF121486

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210627	210627	2	BLANK	85295	BLANK		Anions by Ion Chromatography (Water)
210627	210627	3	LCS	85296	LCS		Anions by Ion Chromatography (Water)
210627	210627	4	DUP	85297	B2N177(121486004DUP)	121486004	Anions by Ion Chromatography (Water)
210627	210627	5	MS	85298	B2N177(121486004MS)	121486004	Anions by Ion Chromatography (Water)
210627	210627	6	MSD	85299	B2N177(121486004MSD)	121486004	Anions by Ion Chromatography (Water)
210627	210627	8	SAMPLE	121486001	B2N142		Anions by Ion Chromatography (Water)
210627	210627	9	SAMPLE	121486002	B2N150		Anions by Ion Chromatography (Water)
210627	210627	10	SAMPLE	121486003	B2N154		Anions by Ion Chromatography (Water)
210627	210627	11	SAMPLE	121486004	B2N177		Anions by Ion Chromatography (Water)
210627	210627	12	SAMPLE	121486005	B2N181		Anions by Ion Chromatography (Water)
211218	211244	5	BLANK	85901	BLANK		ICP-6010 - All possible metals
211218	211244	7	LCS	85903	LCS		ICP-6010 - All possible metals
211218	211244	8	SAMPLE	121486007	B2N182		ICP-6010 - All possible metals
211218	211244	9	MS	85904	B2N182(121486007MS)	121486007	ICP-6010 - All possible metals
211218	211244	10	MSD	85905	B2N182(121486007MSD)	121486007	ICP-6010 - All possible metals
211218	211244	11	SAMPLE	121486008	B2N151		ICP-6010 - All possible metals
211218	211244	12	SAMPLE	121486009	B2N155		ICP-6010 - All possible metals
211218	211244	13	SAMPLE	121486010	B2N178		ICP-6010 - All possible metals
211218	211244	14	SAMPLE	121486011	B2N143		ICP-6010 - All possible metals
211218	211244	15	SAMPLE	121486012	B2N180		ICP-6010 - All possible metals
211218	211244	16	SAMPLE	121486013	B2N149		ICP-6010 - All possible metals
211218	211244	17	SAMPLE	121486014	B2N153		ICP-6010 - All possible metals
211218	211244	18	SAMPLE	121486015	B2N176		ICP-6010 - All possible metals

Batch QC List

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
211218	211244	19	SAMPLE	121486016	B2N141		ICP-6010 - All possible metals
211619	211628	4	BLANK	86449	BLANK		ICP-2008 MS All possible metal
211619	211628	5	LCS	86450	LCS		ICP-2008 MS All possible metal
211619	211628	6	SAMPLE	121486012	B2N180		ICP-2008 MS All possible metal
211619	211628	7	MS	86451	B2N180(121486012MS)	121486012	ICP-2008 MS All possible metal
211619	211628	8	MSD	86452	B2N180(121486012MSD)	121486012	ICP-2008 MS All possible metal
211619	211628	9	SAMPLE	121486013	B2N149		ICP-2008 MS All possible metal
211619	211628	10	SAMPLE	121486014	B2N153		ICP-2008 MS All possible metal
211619	211628	11	SAMPLE	121486015	B2N176		ICP-2008 MS All possible metal
211619	211628	12	SAMPLE	121486016	B2N141		ICP-2008 MS All possible metal

Batch QC List

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210732	210733	1	BLANK	85410	BLANK		SW-846 8260B Volatiles
210732	210733	2	LCS	85411	LCS		SW-846 8260B Volatiles
210732	210733	3	MS	85412	B2N0T6(121475014MS)	121475014	SW-846 8260B Volatiles
210732	210733	4	MSD	85413	B2N0T6(121475014MSD)	121475014	SW-846 8260B Volatiles
210732	210733	11	SAMPLE	121486006	B2N2P7		SW-846 8260B Volatiles
210732	210733	12	SAMPLE	121486014	B2N153		SW-846 8260B Volatiles
210732	210733	13	SAMPLE	121486016	B2N141		SW-846 8260B Volatiles
210732	210733	14	SAMPLE	121486015	B2N176		SW-846 8260B Volatiles
210732	210733	15	SAMPLE	121486013	B2N149		SW-846 8260B Volatiles
210732	210733	16	SAMPLE	121486012	B2N180		SW-846 8260B Volatiles

Batch QC List

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210616	210748	1	BLANK	85287	BLANK		Tritium by LSC
210616	210748	2	LCS	85288	LCS		Tritium by LSC
210616	210748	4	DUP	85289	B2MYX4(121468012DUP)	121468012	Tritium by LSC
210616	210748	5	MS	85290	B2MYX4(121468012MS)	121468012	Tritium by LSC
210616	210748	14	SAMPLE	121486016	B2N141		Tritium by LSC
210624	210830	1	BLANK	85291	BLANK		Uranium (AEA)
210624	210830	2	LCS	85292	LCS		Uranium (AEA)
210624	210830	3	SAMPLE	121486016	B2N141		Uranium (AEA)
210624	210830	4	DUP	85293	B2N141(121486016DUP)	121486016	Uranium (AEA)
210632	211030	1	BLANK	85318	BLANK		GAB Discrete analysis Alpha only
210632	211030	2	LCS	85319	LCS		GAB Discrete analysis Alpha only
210632	211030	3	SAMPLE	121486014	B2N153		GAB Discrete analysis Alpha only
210632	211030	4	DUP	85320	B2N153(121486014DUP)	121486014	GAB Discrete analysis Alpha only
210632	211030	5	SAMPLE	121486015	B2N176		GAB Discrete analysis Alpha only
210632	211030	6	SAMPLE	121486016	B2N141		GAB Discrete analysis Alpha only
210632	211031	1	BLANK	85318	BLANK		GAB Discrete analysis Beta only
210632	211031	2	LCS	85319	LCS		GAB Discrete analysis Beta only
210632	211031	3	SAMPLE	121486014	B2N153		GAB Discrete analysis Beta only
210632	211031	4	DUP	85320	B2N153(121486014DUP)	121486014	GAB Discrete analysis Beta only
210632	211031	5	SAMPLE	121486015	B2N176		GAB Discrete analysis Beta only
210632	211031	6	SAMPLE	121486016	B2N141		GAB Discrete analysis Beta only

Batch QC List

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121486

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210754	210754	1	LCS	85482	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	3	DUP	85483	B2N0N8(121475015DUP)	121475015	Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	4	SAMPLE	121486012	B2N180		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	5	SAMPLE	121486013	B2N149		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	6	SAMPLE	121486014	B2N153		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	7	SAMPLE	121486015	B2N176		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	8	SAMPLE	121486016	B2N141		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	13	LCS	85484	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	19	LCS	85485	LCS		Total Alkalinity as mg/L CaCO3 (Water)

Method Reference

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

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.

<b>LA-505-411</b>	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
<b>LA-505-412</b>	Determination of Trace Elements in Waters & Wastes by ICP Mass Spectrometry		
	EPA-600/R-94-111	200.8	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma
	HEIS	200.8_METALS_ICPMS	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma, Mass Spec.
<b>LA-533-410</b>	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 Organic, Volatiles

Group # WSCF121486

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-523-455	Volatile Sample Analysis by SW-846 Method 8260B		
	EPA SW-846	8000B	Determinative Chromographic Separations
	EPA SW-846	8260B	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
	HEIS	8260_VOA_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

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 # WSCF121486

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.

<b>LA-508-471</b>	Determination Of Uranium, Plutonium, And Americium		
	HEIS	UIISO_IE_PRECIP_AEA	Uranium Iso, Alpha Spec
<b>LA-508-421</b>	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
<b>LA-508-415</b>	Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples		
	HEIS	ALPHA_GPC	Gross Alpha by GPC
	HEIS	BETA_GPC	Gross Beta by GPC
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium beta isotopic, GPC

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 Wet Chemistry

Group # WSCF121486

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-531-411	Alkalinity		
	SM	2320	Alkalinity
	HEIS	2320_ALKALINITY	Alkalinity

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 # WSCF121486

Sample # 121486001  
 SAF# S13-012  
 Sample ID B2N142

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/19/12</b>										
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	D	0.296		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	21.3		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Bromide	24959-67-9	LA-533-410	UD	<0.22		ug/mL	2	0.22	0.96	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	5.82		ug/mL	2	0.038	0.20	11/19/12
Phosphate-P	PO4-P	LA-533-410	BD	0.0879		ug/mL	2	0.084	0.72	11/19/12
Sulfate	14808-79-8	LA-533-410	D	50.6		ug/mL	2	0.22	2.1	11/19/12

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 # WSCF121486

Sample # 121486002  
 SAF# S13-012  
 Sample ID B2N150

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/19/12</b>										
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	D	0.259		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	21.1		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	6.05		ug/mL	2	0.038	0.20	11/19/12
Sulfate	14808-79-8	LA-533-410	D	40.8		ug/mL	2	0.22	2.1	11/19/12

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 # WSCF121486

Sample # 121486003  
 SAF# S13-012  
 Sample ID B2N154

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/19/12</b>										
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	D	0.310		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	19.5		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	5.73		ug/mL	2	0.038	0.20	11/19/12
Sulfate	14808-79-8	LA-533-410	D	48.9		ug/mL	2	0.22	2.1	11/19/12

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 # WSCF121486

Sample # 121486004  
 SAF# S13-012  
 Sample ID B2N177

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										<b>11/19/12</b>
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	D	0.308		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	22.0		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	5.96		ug/mL	2	0.038	0.20	11/19/12
Sulfate	14808-79-8	LA-533-410	D	49.7		ug/mL	2	0.22	2.1	11/19/12

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 # WSCF121486

Sample # 121486005  
 SAF# S13-012  
 Sample ID B2N181

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										<b>11/19/12</b>
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	D	0.228		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	28.0		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	26.1		ug/mL	2	0.038	0.20	11/19/12
Sulfate	14808-79-8	LA-533-410	D	67.1		ug/mL	2	0.22	2.1	11/19/12

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 # WSCF121486

Sample # 121486007  
 SAF# S13-012  
 Sample ID B2N182

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		18600		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.00		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		8400		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		28900		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		84.3		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	6.50		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		85800		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		377		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486007  
 SAF# S13-012  
 Sample ID B2N182

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12

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 # WSCF121486

Sample # 121486008  
 SAF# S13-012  
 Sample ID B2N151

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	B	34.0		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10800		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.30		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		6040		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		20200		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		47.9		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	6.40		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		52600		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		208		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486008  
 SAF# S13-012  
 Sample ID B2N151

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12

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 # WSCF121486

Sample # 121486009  
 SAF# S13-012  
 Sample ID B2N155

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10700		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5260		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		23400		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		67.9		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		51500		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		234		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486009  
 SAF# S13-012  
 Sample ID B2N155

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12

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 # WSCF121486

Sample # 121486010  
 SAF# S13-012  
 Sample ID B2N178

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10500		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5560		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		21800		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		55.0		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		52900		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		233		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486010  
 SAF# S13-012  
 Sample ID B2N178

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12

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 # WSCF121486

Sample # 121486011  
 SAF# S13-012  
 Sample ID B2N143

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11400		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.00		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5720		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		24900		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		62.3		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		51100		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		220		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486011  
 SAF# S13-012  
 Sample ID B2N143

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12

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 # WSCF121486

Sample # 121486012  
 SAF# S13-012  
 Sample ID B2N180

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	B	23.3		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		18300		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	6.80		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		8300		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		28500		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		82.9		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	6.90		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		83600		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		370		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486012  
 SAF# S13-012  
 Sample ID B2N180

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12
<b>ICPMS Prep (W)</b>										<b>12/13/12</b>
<b>ICP-2008 MS All possible metal</b>										
Uranium	7440-61-1	LA-505-412		10.9		ug/L	1	0.050	0.25	12/17/12

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 # WSCF121486

Sample # 121486013  
 SAF# S13-012  
 Sample ID B2N149

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411		478		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11000		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	B	4.90		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.60		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		6130		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		20500		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		49.0		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	7.10		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		53200		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		210		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486013  
 SAF# S13-012  
 Sample ID B2N149

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12
<b>ICPMS Prep (W)</b>										<b>12/13/12</b>
<b>ICP-2008 MS All possible metal</b>										
Uranium	7440-61-1	LA-505-412	D	39.2		ug/L	2	0.10	0.50	12/17/12

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 # WSCF121486

Sample # 121486014  
 SAF# S13-012  
 Sample ID B2N153

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10900		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.80		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5370		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		23800		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		69.0		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	5.10		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		52500		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		235		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486014  
 SAF# S13-012  
 Sample ID B2N153

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12
<b>ICPMS Prep (W)</b>										<b>12/13/12</b>
<b>ICP-2008 MS All possible metal</b>										
Uranium	7440-61-1	LA-505-412	D	112		ug/L	2	0.10	0.50	12/17/12

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 # WSCF121486

Sample # 121486015  
 SAF# S13-012  
 Sample ID B2N176

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	B	29.0		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10500		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5610		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		21900		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		55.3		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		52800		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		225		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486015  
 SAF# S13-012  
 Sample ID B2N176

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12
<b>ICPMS Prep (W)</b>										<b>12/13/12</b>
<b>ICP-2008 MS All possible metal</b>										
Uranium	7440-61-1	LA-505-412	D	73.9		ug/L	2	0.10	0.50	12/17/12

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 # WSCF121486

Sample # 121486016  
 SAF# S13-012  
 Sample ID B2N141

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPAES Prep (W)</b>										<b>12/04/12</b>
<b>ICP-6010 - All possible metals</b>										
Iron	7439-89-6	LA-505-411	B	29.4		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11500		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.80		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5840		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		25500		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		63.1		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	5.60		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		51100		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		219		ug/L	1	9.0	45	12/05/12

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 # WSCF121486

Sample # 121486016  
 SAF# S13-012  
 Sample ID B2N141

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

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	12/05/12
<b>ICPMS Prep (W)</b>										<b>12/13/12</b>
<b>ICP-2008 MS All possible metal</b>										
Uranium	7440-61-1	LA-505-412	D	87.4		ug/L	2	0.10	0.50	12/17/12

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 Organic, Volatiles

Group # WSCF121486

Sample # 121486006  
 SAF# X13-002  
 Sample ID B2N2P7

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Preparation for 8260B (W)</b>										<b>11/26/12</b>
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methylene chloride	75-09-2	LA-523-455		18		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486006  
 SAF# X13-002  
 Sample ID B2N2P7

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/26/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486012  
 SAF# S13-012  
 Sample ID B2N180

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Preparation for 8260B (W)</b>										<b>11/26/12</b>
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486012  
 SAF# S13-012  
 Sample ID B2N180

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/26/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486013  
 SAF# S13-012  
 Sample ID B2N149

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Preparation for 8260B (W)</b>										<b>11/26/12</b>
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486013  
 SAF# S13-012  
 Sample ID B2N149

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/26/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486014  
 SAF# S13-012  
 Sample ID B2N153

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Preparation for 8260B (W)</b>										<b>11/26/12</b>
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Trichloroethene	79-01-6	LA-523-455	J	1.1		ug/L	1	1	5	11/26/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486014  
 SAF# S13-012  
 Sample ID B2N153

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/26/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486015  
 SAF# S13-012  
 Sample ID B2N176

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Preparation for 8260B (W)</b>										<b>11/26/12</b>
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Trichloroethene	79-01-6	LA-523-455	J	2.3		ug/L	1	1	5	11/26/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486015  
 SAF# S13-012  
 Sample ID B2N176

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/26/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486016  
 SAF# S13-012  
 Sample ID B2N141

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Preparation for 8260B (W)</b>										<b>11/26/12</b>
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Trichloroethene	79-01-6	LA-523-455	J	1.1		ug/L	1	1	5	11/26/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE

D - Analyte was reported at a secondary dilution factor.

E - The calibration exceeds the calibration range (GC/MS).

J - Analyte < PQL (or EQL) >= MDL.

N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Sample # 121486016  
 SAF# S13-012  
 Sample ID B2N141

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/26/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/26/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/26/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	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 was detected in both the BLANK and SAMPLE  
 D - Analyte was reported at a secondary dilution factor.  
 E - The calibration exceeds the calibration range (GC/MS).  
 J - Analyte < PQL (or EQL) >= MDL.  
 N - Presumed evidence based on MS library search(GC/MS only)

T - GC/MS or N - Non GC/MS - MS/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.

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

Sample # 121486014  
 SAF# S13-012  
 Sample ID B2N153

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>GAB Prep for Discrete Analysis (W)</b>										11/30/12
<b>GAB Discrete analysis Alpha only</b>										
Gross Alpha	12587-46-1	LA-508-415		50	7.3	pCi/L	1	2.1		12/05/12
<b>GAB Discrete analysis Beta only</b>										
Gross Beta	12587-47-2	LA-508-415		31	4.7	pCi/L	1	3.8		12/05/12

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.

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

Sample # 121486015  
 SAF# S13-012  
 Sample ID B2N176

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>GAB Prep for Discrete Analysis (W)</b>										11/30/12
<b>GAB Discrete analysis Alpha only</b>										
Gross Alpha	12587-46-1	LA-508-415		28	6	pCi/L	1	3.5		12/05/12
<b>GAB Discrete analysis Beta only</b>										
Gross Beta	12587-47-2	LA-508-415		20	5.4	pCi/L	1	6.9		12/05/12

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.

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

Sample # 121486016  
 SAF# S13-012  
 Sample ID B2N141

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Am/Cm/Pu/U/Np Prep (AEA) W</b>										<b>11/28/12</b>
<b>Uranium (AEA)</b>										
Uranium-234	U-233/234	LA-508-471		26	6.7	pCi/L	1	0.026		11/28/12
Uranium-235	15117-96-1	LA-508-471		1.9	.55	pCi/L	1	0.028		11/28/12
Uranium-238	U-238	LA-508-471		25	6.4	pCi/L	1	0.070		11/28/12
<b>GAB Prep for Discrete Analysis (W)</b>										<b>11/30/12</b>
<b>GAB Discrete analysis Alpha only</b>										
Gross Alpha	12587-46-1	LA-508-415		35	6.8	pCi/L	1	3.5		12/05/12
<b>GAB Discrete analysis Beta only</b>										
Gross Beta	12587-47-2	LA-508-415		22	5.6	pCi/L	1	6.9		12/05/12
<b>Tritium by LSC EICHROM WA/LIQ PREP</b>										<b>11/20/12</b>
<b>Tritium by LSC</b>										
Tritium	10028-17-8	LA-508-421		4300	930	pCi/L	1	300		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 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.

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121486

Sample # 121486012  
 SAF# S13-012  
 Sample ID B2N180

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/20/12</b>										
<b>Total Alkalinity as mg/L CaCO3 (Water)</b>										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		140		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 N - MS and/or MSD sample recovery outside control limits.  
 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.

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121486

Sample # 121486013  
 SAF# S13-012  
 Sample ID B2N149

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/20/12</b>										
<b>Total Alkalinity as mg/L CaCO3 (Water)</b>										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		120		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 N - MS and/or MSD sample recovery outside control limits.  
 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.

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121486

Sample # 121486014  
 SAF# S13-012  
 Sample ID B2N153

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/20/12</b>										
<b>Total Alkalinity as mg/L CaCO3 (Water)</b>										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		120		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 N - MS and/or MSD sample recovery outside control limits.  
 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.

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121486

Sample # 121486015  
 SAF# S13-012  
 Sample ID B2N176

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/20/12</b>										
<b>Total Alkalinity as mg/L CaCO3 (Water)</b>										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		120		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 N - MS and/or MSD sample recovery outside control limits.  
 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.

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121486

Sample # 121486016  
 SAF# S13-012  
 Sample ID B2N141

Matrix WATER  
 Sampled 11/19/12  
 Received 11/19/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/20/12</b>										
<b>Total Alkalinity as mg/L CaCO3 (Water)</b>										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		120		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 N - MS and/or MSD sample recovery outside control limits.  
 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 #** WSCF121486

**Analytical Batch** 210627 (QC Batch: 210627)      **Test** Anions by Ion Chromatography (Water)  
**Associated Samples** 121486001, 121486002, 121486003, 121486004, 121486005

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85295</b>								
Fluoride	16984-48-8	<0.023		ug/mL					U	11/19/12
Chloride	16887-00-6	<0.058		ug/mL					U	11/19/12
Nitrite-N	NO2-N	<0.019		ug/mL					U	11/19/12
Bromide	24959-67-9	<0.11		ug/mL					U	11/19/12
Nitrate-N	NO3-N	<0.019		ug/mL					U	11/19/12
Phosphate-P	PO4-P	<0.042		ug/mL					U	11/19/12
Sulfate	14808-79-8	<0.11		ug/mL					U	11/19/12
<b>LCS</b>		<b>QC Sample #85296</b>								
Fluoride	16984-48-8	0.945		ug/mL	95.4	90 - 110				11/19/12
Chloride	16887-00-6	1.88		ug/mL	95	90 - 110				11/19/12
Nitrite-N	NO2-N	1.03		ug/mL	105.1	90 - 110				11/19/12
Bromide	24959-67-9	3.95		ug/mL	100.7	90 - 110				11/19/12
Nitrate-N	NO3-N	0.893		ug/mL	100.9	90 - 110				11/19/12
Phosphate-P	PO4-P	1.92		ug/mL	100.3	90 - 110				11/19/12
Sulfate	14808-79-8	3.95		ug/mL	100.7	90 - 110				11/19/12
<b>DUP</b>		<b>QC Sample #85297</b>								
		<b>Original 121486004</b>								

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Fluoride	16984-48-8	0.308	0.298	ug/mL			3.10	20	D	11/19/12
Chloride	16887-00-6	22.0	22.0	ug/mL			0.20	20	D	11/19/12
Nitrite-N	NO2-N	<0.038	<0.038	ug/mL			0.00	20	UD	11/19/12
Bromide	24959-67-9		<0.22	ug/mL			16.80	20	UD	11/19/12
Nitrate-N	NO3-N	5.96	5.94	ug/mL			0.30	20	D	11/19/12
Phosphate-P	PO4-P		<0.084	ug/mL			0.00	20	UD	11/19/12
Sulfate	14808-79-8	49.7	49.8	ug/mL			0.10	20	D	11/19/12
<b>MS</b>		<b>QC Sample #85298</b>								
		<b>Original 121486004</b>								
Fluoride	16984-48-8	0.308	0.977	ug/mL	97.7	80 - 120			D	11/19/12
Chloride	16887-00-6	22.0	2.32	ug/mL	116.2	80 - 120			D	11/19/12
Nitrite-N	NO2-N	<0.038	0.930	ug/mL	94.1	80 - 120			D	11/19/12
Bromide	24959-67-9		4.08	ug/mL	103.1	80 - 120			D	11/19/12
Nitrate-N	NO3-N	5.96	0.879	ug/mL	98.3	80 - 120			D	11/19/12
Phosphate-P	PO4-P		1.98	ug/mL	102.3	80 - 120			D	11/19/12
Sulfate	14808-79-8	49.7	3.72	ug/mL	93.9	80 - 120			DX	11/19/12
<b>MSD</b>		<b>QC Sample #85299</b>								
		<b>Original 121486004</b>								
		<b>Paired 85298</b>								
Fluoride	16984-48-8	0.308	0.931	ug/mL	93.1	80 - 120	3.70	20	D	11/19/12
Chloride	16887-00-6	22.0	2.06	ug/mL	103.1	80 - 120	1.10	20	D	11/19/12
Nitrite-N	NO2-N	<0.038	0.917	ug/mL	92.8	80 - 120	1.40	20	D	11/19/12
Bromide	24959-67-9		4.03	ug/mL	101.7	80 - 120	1.40	20	D	11/19/12
Nitrate-N	NO3-N	5.96	0.798	ug/mL	89.2	80 - 120	1.20	20	D	11/19/12
Phosphate-P	PO4-P		1.98	ug/mL	102.7	80 - 120	0.30	20	D	11/19/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Sulfate	14808-79-8	49.7	3.07	ug/mL	77.6	80 - 120	1.20	20	DX	11/19/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Analytical Batch 210733 (QC Batch: 210732) Test SW-846 8260B Volatiles  
 Associated Samples 121486006, 121486012, 121486013, 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85410</b>								
1,1-Dichloroethene	75-35-4	<1		ug/L					U	11/26/12
Trichloroethene	79-01-6	<1		ug/L					U	11/26/12
Benzene	71-43-2	<1		ug/L					U	11/26/12
Toluene	108-88-3	<1		ug/L					U	11/26/12
Chlorobenzene	108-90-7	<1		ug/L					U	11/26/12
1,1-Dichloroethane	75-34-3	<1		ug/L					U	11/26/12
Ethylbenzene	100-41-4	<1		ug/L					U	11/26/12
1,2-Dichloroethane	107-06-2	<1		ug/L					U	11/26/12
Methyl isobutyl ketone	108-10-1	<1		ug/L					U	11/26/12
Tetrachloroethene	127-18-4	<1		ug/L					U	11/26/12
Total Xylenes	1330-20-7	<1		ug/L					U	11/26/12
Carbon tetrachloride	56-23-5	<1		ug/L					U	11/26/12
Acetone	67-64-1	<1		ug/L					U	11/26/12
Chloroform	67-66-3	<1		ug/L					U	11/26/12
1,1,1-Trichloroethane	71-55-6	<1		ug/L					U	11/26/12
Vinyl chloride	75-01-4	<1		ug/L					U	11/26/12
Methylene chloride	75-09-2	<1		ug/L					U	11/26/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Carbon disulfide	75-15-0		<1	ug/L					U	11/26/12
Methyl ethyl ketone	78-93-3		<1	ug/L					U	11/26/12
1,1,2-Trichloroethane	79-00-5		<1	ug/L					U	11/26/12
1-Butanol	71-36-3		<100	ug/L					U	11/26/12
Tetrahydrofuran	109-99-9		<2	ug/L					U	11/26/12
trans-1,2-Dichloroethene	156-60-5		<1	ug/L					U	11/26/12
cis-1,2-Dichloroethene	156-59-2		<1	ug/L					U	11/26/12
Propionitrile	107-12-0		<2	ug/L					U	11/26/12
1,4-Dichlorobenzene	106-46-7		<1	ug/L					U	11/26/12
<b>LCS</b>										
										<b>QC Sample #85411</b>
1,1-Dichloroethene	75-35-4		20	ug/L	80.2	75 - 125				11/26/12
Trichloroethene	79-01-6		24	ug/L	97.4	75 - 125				11/26/12
Benzene	71-43-2		25	ug/L	101.1	75 - 125				11/26/12
Toluene	108-88-3		25	ug/L	100.2	75 - 125				11/26/12
Chlorobenzene	108-90-7		25	ug/L	98.7	75 - 125				11/26/12
1,1-Dichloroethane	75-34-3		23	ug/L	92.2	75 - 125				11/26/12
Ethylbenzene	100-41-4		26	ug/L	106	75 - 125				11/26/12
1,2-Dichloroethane	107-06-2		25	ug/L	99	75 - 125				11/26/12
1,1,1-Trichloroethane	71-55-6		25	ug/L	99.9	75 - 125				11/26/12
Carbon disulfide	75-15-0		19	ug/L	76.8	75 - 125				11/26/12
1,1,2-Trichloroethane	79-00-5		24	ug/L	95.1	75 - 125				11/26/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
trans-1,2-Dichloroethene	156-60-5		23	ug/L	93	75 - 125				11/26/12
cis-1,2-Dichloroethene	156-59-2		24	ug/L	95.8	75 - 125				11/26/12
<b>MS</b>			<b>QC Sample #85412</b>							
			<b>Original 121475014</b>							
1,1-Dichloroethene	75-35-4		21	ug/L	82.2	75 - 125				11/26/12
Trichloroethene	79-01-6		25	ug/L	100.7	75 - 125				11/26/12
Benzene	71-43-2		26	ug/L	103	75 - 125				11/26/12
Toluene	108-88-3		26	ug/L	103.4	75 - 125				11/26/12
Chlorobenzene	108-90-7		25	ug/L	101.9	75 - 125				11/26/12
1,1-Dichloroethane	75-34-3		23	ug/L	93	75 - 125				11/26/12
Ethylbenzene	100-41-4		27	ug/L	109.2	75 - 125				11/26/12
1,2-Dichloroethane	107-06-2		25	ug/L	101.3	75 - 125				11/26/12
1,1,1-Trichloroethane	71-55-6		25	ug/L	100.4	75 - 125				11/26/12
Carbon disulfide	75-15-0		19	ug/L	76.9	75 - 125				11/26/12
1,1,2-Trichloroethane	79-00-5		25	ug/L	99.2	75 - 125				11/26/12
trans-1,2-Dichloroethene	156-60-5		24	ug/L	94.1	75 - 125				11/26/12
cis-1,2-Dichloroethene	156-59-2		25	ug/L	98.7	75 - 125				11/26/12
<b>MSD</b>			<b>QC Sample #85413</b>							
			<b>Original 121475014</b>							
			<b>Paired 85412</b>							
1,1-Dichloroethene	75-35-4		21	ug/L	84.8	75 - 125	3.10	20		11/26/12
Trichloroethene	79-01-6		26	ug/L	102.3	75 - 125	1.60	20		11/26/12
Benzene	71-43-2		26	ug/L	103.6	75 - 125	0.50	20		11/26/12
Toluene	108-88-3		26	ug/L	105.4	75 - 125	1.90	20		11/26/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chlorobenzene	108-90-7		25	ug/L	101.8	75 - 125	0.20	20		11/26/12
1,1-Dichloroethane	75-34-3		24	ug/L	95.4	75 - 125	2.50	20		11/26/12
Ethylbenzene	100-41-4		27	ug/L	109.9	75 - 125	0.60	20		11/26/12
1,2-Dichloroethane	107-06-2		26	ug/L	102.8	75 - 125	1.50	20		11/26/12
1,1,1-Trichloroethane	71-55-6		25	ug/L	101	75 - 125	0.60	20		11/26/12
Carbon disulfide	75-15-0		20	ug/L	80	75 - 125	3.90	20		11/26/12
1,1,2-Trichloroethane	79-00-5		26	ug/L	103.1	75 - 125	3.90	20		11/26/12
trans-1,2-Dichloroethene	156-60-5		24	ug/L	95.8	75 - 125	1.80	20		11/26/12
cis-1,2-Dichloroethene	156-59-2		25	ug/L	100.9	75 - 125	2.20	20		11/26/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Radiochemistry

**Group #** WSCF121486

**Analytical Batch** 210748 (QC Batch: 210616)  
**Associated Samples** 121486016

**Test** Tritium by LSC

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										
			<b>QC Sample #85287</b>							
Tritium	10028-17-8		19	pCi/L					U	11/26/12
<b>LCS</b>			<b>QC Sample #85288</b>							
Tritium	10028-17-8		3300	pCi/L	106.6	80 - 120				11/26/12
<b>DUP</b>			<b>QC Sample #85289</b>							
			<b>Original 121468012</b>							
Tritium	10028-17-8		1100	pCi/L			9.70	20		11/26/12
<b>MS</b>			<b>QC Sample #85290</b>							
			<b>Original 121468012</b>							
Tritium	10028-17-8		20000	pCi/L	96.6	75 - 125				11/26/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Wet Chemistry

**Group #** WSCF121486

**Analytical Batch** 210754 (QC Batch: 210754)      **Test** Total Alkalinity as mg/L CaCO3 (Water)  
**Associated Samples** 121486012, 121486013, 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>LCS</b>			<b>QC Sample #85482</b>							
Total Alkalinity as CaCO3	ALKALINITY	97		mg/L	97.4	80 - 120				11/20/12
<b>DUP</b>			<b>QC Sample #85483</b>							
			<b>Original 121475015</b>							
Total Alkalinity as CaCO3	ALKALINITY	150		mg/L			0.00	20		11/20/12
<b>LCS</b>			<b>QC Sample #85484</b>							
Total Alkalinity as CaCO3	ALKALINITY	97		mg/L	97.2	80 - 120				11/20/12
<b>LCS</b>			<b>QC Sample #85485</b>							
Total Alkalinity as CaCO3	ALKALINITY	97		mg/L	96.8	80 - 120				11/20/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Radiochemistry

**Group #** WSCF121486

**Analytical Batch** 210830 (QC Batch: 210624)  
**Associated Samples** 121486016

**Test** Uranium (AEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85291</b>								
Uranium-234	U-233/234		0.10	pCi/L					X	11/28/12
Uranium-235	15117-96-1		0.028	pCi/L					U	11/28/12
Uranium-238	U-238		0.052	pCi/L					U	11/28/12
<b>LCS</b>		<b>QC Sample #85292</b>								
Uranium-238	U-238		8.8	pCi/sample	103.7	80 - 120				11/28/12
<b>DUP</b>		<b>QC Sample #85293</b>								
		<b>Original 121486016</b>								
Uranium-234	U-233/234	26	25	pCi/L			3.50	20		11/28/12
Uranium-235	15117-96-1	1.9	1.7	pCi/L			6.60	20		11/28/12
Uranium-238	U-238	25	24	pCi/L			0.20	20		11/28/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

Analytical Batch 211030 (QC Batch: 210632) Test GAB Discrete analysis Alpha only  
 Associated Samples 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85318</b>								
Gross Alpha	12587-46-1		-0.099	pCi/L					U	12/05/12
<b>LCS</b>		<b>QC Sample #85319</b>								
Gross Alpha	12587-46-1		78	pCi/L	110.7	80 - 120				12/05/12
<b>DUP</b>		<b>QC Sample #85320</b>								
		<b>Original 121486014</b>								
Gross Alpha	12587-46-1	50	53	pCi/L			6.20	20		12/05/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

Analytical Batch 211031 (QC Batch: 210632) Test GAB Discrete analysis Beta only  
 Associated Samples 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85318</b>								
Gross Beta	12587-47-2		-2.3	pCi/L					U	12/05/12
<b>LCS</b>		<b>QC Sample #85319</b>								
Gross Beta	12587-47-2		310	pCi/L	102.9	80 - 120				12/05/12
<b>DUP</b>		<b>QC Sample #85320</b>								
		<b>Original 121486014</b>								
Gross Beta	12587-47-2	31	35	pCi/L			12.60	20		12/05/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Inorganic

**Group #** WSCF121486

**Analytical Batch** 211244 (QC Batch: 211218)      **Test** ICP-6010 - All possible metals  
**Associated Samples** 121486007, 121486008, 121486009, 121486010, 121486011, 121486012, 121486013, 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85901</b>								
Iron	7439-89-6	<19		ug/L					U	12/05/12
Magnesium	7439-95-4	<4.0		ug/L					U	12/05/12
Manganese	7439-96-5	<4.0		ug/L					U	12/05/12
Nickel	7440-02-0	<4.0		ug/L					U	12/05/12
Potassium	7440-09-7	<76		ug/L					U	12/05/12
Silver	7440-22-4	<4.0		ug/L					U	12/05/12
Sodium	7440-23-5	<10		ug/L					U	12/05/12
Antimony	7440-36-0	<36		ug/L					U	12/05/12
Barium	7440-39-3	<4.0		ug/L					U	12/05/12
Cadmium	7440-43-9	<4.0		ug/L					U	12/05/12
Chromium	7440-47-3	<5.0		ug/L					U	12/05/12
Cobalt	7440-48-4	<4.0		ug/L					U	12/05/12
Copper	7440-50-8	<4.0		ug/L					U	12/05/12
Vanadium	7440-62-2	<5.0		ug/L					U	12/05/12
Zinc	7440-66-6	<5.0		ug/L					U	12/05/12
Calcium	7440-70-2	<49		ug/L					U	12/05/12
Strontium	7440-24-6	<9.0		ug/L					U	12/05/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Beryllium	7440-41-7		<4.0	ug/L					U	12/05/12
<b>LCS</b>			<b>QC Sample #85903</b>							
Iron	7439-89-6		1010	ug/L	100.8	80 - 120				12/05/12
Magnesium	7439-95-4		10400	ug/L	104.3	80 - 120				12/05/12
Manganese	7439-96-5		1040	ug/L	103.6	80 - 120				12/05/12
Nickel	7440-02-0		1010	ug/L	100.6	80 - 120				12/05/12
Potassium	7440-09-7		11000	ug/L	110.2	80 - 120				12/05/12
Silver	7440-22-4		1030	ug/L	102.8	80 - 120				12/05/12
Sodium	7440-23-5		10500	ug/L	105.2	80 - 120				12/05/12
Antimony	7440-36-0		1020	ug/L	102.4	80 - 120				12/05/12
Barium	7440-39-3		1060	ug/L	105.6	80 - 120				12/05/12
Cadmium	7440-43-9		1020	ug/L	101.6	80 - 120				12/05/12
Chromium	7440-47-3		1020	ug/L	102.3	80 - 120				12/05/12
Cobalt	7440-48-4		994	ug/L	99.4	80 - 120				12/05/12
Copper	7440-50-8		1040	ug/L	104.3	80 - 120				12/05/12
Vanadium	7440-62-2		1020	ug/L	102.1	80 - 120				12/05/12
Zinc	7440-66-6		1040	ug/L	104	80 - 120				12/05/12
Calcium	7440-70-2		20500	ug/L	102.5	80 - 120				12/05/12
Strontium	7440-24-6		1000	ug/L	100.3	80 - 120				12/05/12
Beryllium	7440-41-7		1040	ug/L	103.7	80 - 120				12/05/12
<b>MS</b>			<b>QC Sample #85904</b>							
			<b>Original 121486007</b>							
Iron	7439-89-6	<19	994	ug/L	99.4	75 - 125				12/05/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Magnesium	7439-95-4	18600	9910	ug/L	99.1	75 - 125				12/05/12
Manganese	7439-96-5	<4.0	1000	ug/L	100.5	75 - 125				12/05/12
Nickel	7440-02-0	4.00	948	ug/L	94.8	75 - 125				12/05/12
Potassium	7440-09-7	8400	10900	ug/L	109.3	75 - 125				12/05/12
Silver	7440-22-4	<4.0	1020	ug/L	101.7	75 - 125				12/05/12
Sodium	7440-23-5	28900	9750	ug/L	97.5	75 - 125				12/05/12
Antimony	7440-36-0	<36	1020	ug/L	102	75 - 125				12/05/12
Barium	7440-39-3	84.3	1050	ug/L	104.6	75 - 125				12/05/12
Cadmium	7440-43-9	<4.0	999	ug/L	99.9	75 - 125				12/05/12
Chromium	7440-47-3	<5.0	996	ug/L	99.6	75 - 125				12/05/12
Cobalt	7440-48-4	<4.0	944	ug/L	94.4	75 - 125				12/05/12
Copper	7440-50-8	<4.0	1030	ug/L	102.6	75 - 125				12/05/12
Vanadium	7440-62-2	6.50	1000	ug/L	100	75 - 125				12/05/12
Zinc	7440-66-6	<5.0	1020	ug/L	102	75 - 125				12/05/12
Calcium	7440-70-2	85800	17400	ug/L	87.2	75 - 125			X	12/05/12
Strontium	7440-24-6	377	964	ug/L	96.4	75 - 125				12/05/12
Beryllium	7440-41-7	<4.0	1030	ug/L	102.7	75 - 125				12/05/12
<b>MSD</b>		<b>QC Sample #85905</b>								
		<b>Original 121486007</b>				<b>Paired 85904</b>				
Iron	7439-89-6	<19	975	ug/L	97.5	75 - 125	1.90	20		12/05/12
Magnesium	7439-95-4	18600	9400	ug/L	94	75 - 125	1.80	20		12/05/12
Manganese	7439-96-5	<4.0	989	ug/L	98.9	75 - 125	1.60	20		12/05/12
Nickel	7440-02-0	4.00	931	ug/L	93.1	75 - 125	1.80	20		12/05/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Potassium	7440-09-7	8400	10600	ug/L	105.8	75 - 125	1.80	20		12/05/12
Silver	7440-22-4	<4.0	988	ug/L	98.8	75 - 125	2.90	20		12/05/12
Sodium	7440-23-5	28900	9120	ug/L	91.2	75 - 125	1.60	20		12/05/12
Antimony	7440-36-0	<36	994	ug/L	99.4	75 - 125	2.60	20		12/05/12
Barium	7440-39-3	84.3	1020	ug/L	102.3	75 - 125	2.10	20		12/05/12
Cadmium	7440-43-9	<4.0	980	ug/L	98	75 - 125	1.90	20		12/05/12
Chromium	7440-47-3	<5.0	977	ug/L	97.7	75 - 125	1.90	20		12/05/12
Cobalt	7440-48-4	<4.0	925	ug/L	92.5	75 - 125	2.00	20		12/05/12
Copper	7440-50-8	<4.0	1000	ug/L	100.4	75 - 125	2.20	20		12/05/12
Vanadium	7440-62-2	6.50	976	ug/L	97.6	75 - 125	2.50	20		12/05/12
Zinc	7440-66-6	<5.0	998	ug/L	99.8	75 - 125	2.10	20		12/05/12
Calcium	7440-70-2	85800	15600	ug/L	77.8	75 - 125	1.90	20	X	12/05/12
Strontium	7440-24-6	377	937	ug/L	93.7	75 - 125	2.00	20		12/05/12
Beryllium	7440-41-7	<4.0	1010	ug/L	100.9	75 - 125	1.80	20		12/05/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121486

Analytical Batch 211628 (QC Batch: 211619) Test ICP-2008 MS All possible metal  
 Associated Samples 121486012, 121486013, 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #86449</b>								
Uranium	7440-61-1		<0.050	ug/L					U	12/17/12
<b>LCS</b>		<b>QC Sample #86450</b>								
Uranium	7440-61-1		43.7	ug/L	109.2	85 - 115				12/17/12
<b>MS</b>		<b>QC Sample #86451</b>								
		<b>Original 121486012</b>								
Uranium	7440-61-1	10.9	46.3	ug/L	115.8	70 - 130				12/17/12
<b>MSD</b>		<b>QC Sample #86452</b>								
		<b>Original 121486012</b>								
		<b>Paired 86451</b>								
Uranium	7440-61-1	10.9	45.6	ug/L	114	70 - 130	1.30	20		12/17/12

\* - QC result out of range n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Analytical Batch 210733 (QC Batch: 210732) Test SW-846 8260B Volatiles  
 Associated Samples 121486006, 121486012, 121486013, 121486014, 121486015, 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>SAMPLE</b>		<b>Sample #121486006</b>								
1,2-Dichloroethane-d4	17060-07-0				94.5	75 - 125				11/26/12
Toluene-d8	2037-26-5				94.1	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				98.6	75 - 125				11/26/12
<b>SAMPLE</b>		<b>Sample #121486012</b>								
1,2-Dichloroethane-d4	17060-07-0				96.2	75 - 125				11/26/12
Toluene-d8	2037-26-5				94.1	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				98.9	75 - 125				11/26/12
<b>SAMPLE</b>		<b>Sample #121486013</b>								
1,2-Dichloroethane-d4	17060-07-0				99.9	75 - 125				11/26/12
Toluene-d8	2037-26-5				94	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				98.6	75 - 125				11/26/12
<b>SAMPLE</b>		<b>Sample #121486014</b>								
1,2-Dichloroethane-d4	17060-07-0				97.9	75 - 125				11/26/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Organic, Volatiles

**Group #** WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				94.3	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				96.8	75 - 125				11/26/12
<b>SAMPLE</b>			<b>Sample #121486015</b>							
1,2-Dichloroethane-d4	17060-07-0				95.6	75 - 125				11/26/12
Toluene-d8	2037-26-5				94.1	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				98.6	75 - 125				11/26/12
<b>SAMPLE</b>			<b>Sample #121486016</b>							
1,2-Dichloroethane-d4	17060-07-0				98.3	75 - 125				11/26/12
Toluene-d8	2037-26-5				94.2	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				97.6	75 - 125				11/26/12
<b>BLANK</b>			<b>QC Sample #85410</b>							
1,2-Dichloroethane-d4	17060-07-0				94	75 - 125				11/26/12
Toluene-d8	2037-26-5				93.5	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				95.8	75 - 125				11/26/12
<b>LCS</b>			<b>QC Sample #85411</b>							
4-Bromofluorobenzene	460-00-4				91.6	75 - 125				11/26/12
1,2-Dichloroethane-d4	17060-07-0				94.7	75 - 125				11/26/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121486

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				91.9	75 - 125				11/26/12
<b>MS</b>										
1,2-Dichloroethane-d4	17060-07-0				96.2	75 - 125				11/26/12
Toluene-d8	2037-26-5				93.2	75 - 125				11/26/12
4-Bromofluorobenzene	460-00-4				92.6	75 - 125				11/26/12
<b>MSD</b>										
1,2-Dichloroethane-d4	17060-07-0				96.6	75 - 125	n/a			11/26/12
Toluene-d8	2037-26-5				92.8	75 - 125	n/a			11/26/12
4-Bromofluorobenzene	460-00-4				93.4	75 - 125	n/a			11/26/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121486

Analytical Batch 210830 (QC Batch: 210624) Test Uranium (AEA)  
 Associated Samples 121486016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>SAMPLE</b>		<b>Sample #121486016</b>								
Uranium-232 Tracer	14158-29-3				94	25 - 105				11/28/12
<b>BLANK</b>		<b>QC Sample #85291</b>								
Uranium-232 Tracer	14158-29-3				97.3	25 - 105				11/28/12
<b>LCS</b>		<b>QC Sample #85292</b>								
Uranium-232 Tracer	14158-29-3				73.6	25 - 105				11/28/12
<b>DUP</b>		<b>QC Sample #85293</b>								
		<b>Original 121486016</b>								
Uranium-232 Tracer	14158-29-3				80.9	25 - 105	n/a			11/28/12

\* - QC result out of range

n/a - Not Applicable

Attention: Scot Fitzgerald

Group #

WSCF121486

**Quality Control Comments**

Department Inorganic

85298 B2N177(121486004MS)

**Analyte** Sulfate - Anions by Ion Chromatography (Water)

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85299 B2N177(121486004MSD)

**Analyte** Sulfate - Anions by Ion Chromatography (Water)

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85904 B2N182(121486007MS)

**Analyte** Calcium - ICP-6010 - All possible metals

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85905 B2N182(121486007MSD)

**Analyte** Calcium - ICP-6010 - All possible metals

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

Attention: Scot Fitzgerald

Group #

WSCF121486

**Quality Control Comments**

Department Radiochemistry

---

85291 BLANK for HBN 210624 [RADP/737

**Analyte** Uranium-234 - Uranium (AEA)

[1] The blank is less than 2X the MDC and is acceptable.

ATTACHMENT4

**SAMPLE RECEIPT**

Consisting of 14 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 #: 401647

Work Order #: 121486

Profile #: S13-012-543

Proj. Mgr.:

Phone:

The following samples were received from you on 11/19/2012 2:30:00 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
		<b>Tests scheduled</b>		
121486001	B2N142	WATER	11/19/2012 10:40	11/19/2012 14:30
		IC-W		
121486002	B2N150	WATER	11/19/2012 12:32	11/19/2012 14:30
		IC-W		
121486003	B2N154	WATER	11/19/2012 09:54	11/19/2012 14:30
		IC-W		
121486004	B2N177	WATER	11/19/2012 11:35	11/19/2012 14:30
		IC-W		
121486005	B2N181	WATER	11/19/2012 13:32	11/19/2012 14:30
		IC-W		
121486006	B2N2P7	WATER	11/19/2012 09:54	11/19/2012 14:30
		8260V-W		
121486007	B2N182	WATER	11/19/2012 13:32	11/19/2012 14:30
		6010-W		
121486008	B2N151	WATER	11/19/2012 12:32	11/19/2012 14:30
		6010-W		
121486009	B2N155	WATER	11/19/2012 09:54	11/19/2012 14:30
		6010-W		
121486010	B2N178	WATER	11/19/2012 11:35	11/19/2012 14:30
		6010-W		
121486011	B2N143	WATER	11/19/2012 10:40	11/19/2012 14:30

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

6010-W

121486012	B2N180	WATER	11/19/2012 13:32	11/19/2012 14:30
2008-W; 6010-W; 8260V-W; ALK-W				
121486013	B2N149	WATER	11/19/2012 12:32	11/19/2012 14:30
2008-W; 6010-W; 8260V-W; ALK-W				
121486014	B2N153	WATER	11/19/2012 09:54	11/19/2012 14:30
2008-W; 6010-W; 8260V-W; ALK-W; GAB-AO-W; GAB-BO-W				
121486015	B2N176	WATER	11/19/2012 11:35	11/19/2012 14:30
2008-W; 6010-W; 8260V-W; ALK-W; GAB-AO-W; GAB-BO-W				
121486016	B2N141	WATER	11/19/2012 10:40	11/19/2012 14:30
2008-W; 6010-W; 8260V-W; AEA-U-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W				

**Test Acronym Description**

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
8260V-W	Volatiles by 8260B (W)
AEA-U-W	Uranium Isotopic (AEA) (W)
ALK-W	Total Alkalinity (W)
GAB-AO-W	Gross Alpha/Beta (A only)(W)
GAB-BO-W	Gross Alpha/Beta (B only)(W)
H3-COL-W	Tritium by EICHROM Column (W)
IC-W	Anions by IC (W)

CH2M Hill Plateau Remediation Company  
**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**  
 C.O.C. # **S13-012-543**  
 Page 1 of 1

Collector	Robert Crow	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 48 / 91	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 541990/1993)

**SPECIAL INSTRUCTIONS**  
 FY12 and FY13 samples cannot be in the same SDC. Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.

Total Activity Exemption: Yes  No

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2N142	N	11-19-12	1040	1x500-mL P	300 0_ANIONS_IC: List-1 + Brom_Phosp (7)	48 Hours	Cool-4C

Reinquished By	Print Robert Crow	Sign <i>Robert Crow</i>	Date/Time 11-19-12 1430	Received By	Print Cynthia R Johnson	Sign <i>Cynthia R Johnson</i>	Date/Time 11-19-12 1430
Reinquished By			Date/Time	Received By			Date/Time
Reinquished By			Date/Time	Received By			Date/Time
Reinquished By			Date/Time	Received By			Date/Time

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

FINAL SAMPLE DISPOSITION

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

Disposed By

Date/Time

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A-8004-842 (REV 2)

Chain of Custody

<b>CH2M Hill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S13-012-547</b>
				Page 1 of 1

Collector	Robert Crow	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAR No.	S13-012	Sampling Origin	Hamford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV. DECEMBER 2012	Logbook No.	HNF-N-506 58/91	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
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>		<b>SPECIAL INSTRUCTIONS</b>		<b>Hold Time</b>	
*** 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: FY12 and FY13 samples cannot be in the same SDG. Site-Wise Generator Knowledge information from applies. The CACH for all analytical work at WSCF is 401647.		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	B2N150	Filter	N	Date	11-19-12
Time	1232	No/Type Container	1x500-ml P	Sample Analysis	300.0 ANIONS, IC: List-1 (5)
				Holding Time	48 Hours
				Preservative	Cool-4C

Relinquished By	Robert Crow	By	Robert Crow	Signature	[Signature]	Date/Time	11-19-12 11:10
Received By	Cynthia R Johnson	Received By	Cynthia R Johnson	Signature	[Signature]	Date/Time	11-19-12 11:10
Relinquished By		Date/Time		Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	

Matrix =

S	=	Soil	DS	=	Drum Solids
SF	=	Sediment	DI	=	Datum Liquids
SO	=	Solid	T	=	Tissue
SL	=	Sludge	WI	=	Wipe
W	=	Water	L	=	Liquid
O	=	Oil	V	=	Vegetation
A	=	Air	X	=	Other

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A-800-4-842 (REV 2)

Chain of Custody

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S13-012-549</b>
				Page 1 of 1

Collector	Robert Crow	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ESS20
Project Title	SURV. DECEMBER 2012	Logbook No.	HNF-N-50648/91	Ice Chest No.	N/A
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocols	SURV	Priority:	31 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>		<b>SPECIAL INSTRUCTIONS</b>		<b>Hold Time</b>	
*** 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)		FY12 and FY13 samples cannot be in the same SDG. Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Filter	Date	Time	No./Type Container	Received By
B2M154	N	11-19-12	0954	1x500-mL P	Cynthia R Johnson
					3000_ANIONS_IC: List-1 (5)
					Sample Analysis
					Holding Time
					48 Hours
					Preservative
					Cool-4C

Relinquished By	Robert Crow	Sign	<i>R Crow</i>	Date/Time	11-19-12	1430	Received By	Cynthia R Johnson	Sign	<i>C Johnson</i>	Date/Time	11-19-12	1430
Relinquished By				Date/Time			Received By				Date/Time		
Relinquished By				Date/Time			Received By				Date/Time		
Relinquished By				Date/Time			Received By				Date/Time		

S	Soil	DS	Dam Solids
SE	Sediment	DL	Dam Liquids
SO	Solid	T	Tissue
SL	Sludge	WI	Wipe
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)

Disposed By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

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A-6004-642 (REV 2)

Chain of Custody

<b>CH2M Hill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>				C.O.C. # <b>S13-012-561</b>	
Collector: <b>Robert Crow</b>		Contract/Requester: <b>Karen Waters-Husted</b>		Telephone No.: <b>376-4650</b>		Page 1 of 1	
SAMP No.: <b>S13-012</b>		Sampling Origin: <b>Hanford Site</b>		Purchase Order/Charge Code: <b>300071ESS20</b>			
Project Title: <b>SURV, DECEMBER 2012</b>		Logbook No.: <b>HNF-N-506 48 / 9L</b>		Ice Chest No.: <b>N/A</b>			
Shipped To (Lab): <b>Waste Sampling &amp; Characterization</b>		Method of Shipment: <b>GOVERNMENT VEHICLE</b>		Bill of Lading/Air Bill No.: <b>N/A</b>			
Protocol: <b>SURV</b>		Priority: <b>31 Days</b>		Onsite Property No.: <b>N/A</b>			
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ***** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 3400.3 (1990/1993)							
<b>SPECIAL INSTRUCTIONS</b> FY12 and FY13 samples cannot be in the same SFG. Site-Wide Generator Knowledge Information Form applies. The CACTM for all analytical work at WSCF is 401647.							
Sample No. <b>B2M177</b>				Filter: <b>N</b>		Date: <b>1-19-12</b>	
Time: <b>1135</b>				No/Type Container: <b>1x500-mL P</b>		Sample Analysis: <b>300.0_ANIONS_IC: List-1 (5)</b>	
Holding Time: <b>48 Hours</b>				Preservative: <b>Cool-4C</b>			

  

Relinquished By	Signature	Date/Time	Received By	Signature	Date/Time	Matrix *
Relinquished By: <b>Robert Crow</b>	<i>Robert Crow</i>	1-19-12 11:30	Received By: <b>Cynthia R Johnson</b>	<i>Cynthia R Johnson</i>	1-19-12 1440	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Volatiles X = Other
Relinquished By:			Received By:			
Relinquished By:			Received By:			
Relinquished By:			Received By:			
FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)						

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A-6004-942 (REV 2)

Chain of Custody

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # S13-012-563 Page 1 of 1	
Collector	Robert Crow	Contact/Requester	Karen Waters-Husted		Telephone No.	376-4650	
SAF No.	S13-012	Sampling Origin	Hanford Site		Purchase Order/Charge Code	300071ESS20	
Project Title	SURV, DECEMBER 2012	Lagbook No.	HNF-N-506 48 / 91		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	
<b>POSSIBLE SAMPLE HAZARDOUS/REMARKS</b> *** 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)				<b>SPECIAL INSTRUCTIONS</b> FV12 and FV13 sample cannot be in the same SIXI. Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.			
Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2M181	N	11-19-12	1332	1x500-mL P	300.0 ANIONS, IC: List-1 (5)	48 Hours	Cool-4C
Relinquished By	Print Robert Crow	Sign <i>R Crow</i>	Date/Time 11-19-12 1430	Received By	Print Cynthia R Johnson	Sign <i>C Johnson</i>	Date/Time 11-19-12 1430
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
<b>FINAL SAMPLE DISPOSITION</b> Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By			

PRINTED O 10/24/2012

A-6004-942 (REV 2)

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

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X13-002-047

Page 1 of 1

Collector	Robert Crow	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
S&P No.	X13-002	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ESS20
Project Title	GW Sitewide Surv, FY13	Logbook No.	HNF-N-506 48/9L	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	SURV	Priority:	31 Days PRIORITY	Onsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS  
 \*\*Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 436.1.\*\*

SPECIAL INSTRUCTIONS  
 Site Wide Generator Knowledge Information form applies. The CACN for all analytical work at WSCF is 401547. FY12 and FY13 samples cannot be in the same SDC. These samples can be batched with A, T, S and W13 S&P.

Sample No.	Filter	*	Date	Time	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
B2N2P7	N	W	11-19-12	0954	1x20 mL P	B260_VOA_GCMS: List-2 (25)		6 Months	None
B2N2P7	N	W	11-19-12	0954	3x40-mL aGs*	B260_VOA_GCMS: List-2 (25)		14 Days	HCl or H2SO4 to pH <2/Coool-4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By	Robert Crow	R Crow	11-19-12 11:43	Received By	Cynthia R Johnson		11-19-12 11:43	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 WT = Wipe L = Label V = Vespation X = Other

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

PRINTED ON 11/7/2012

A-6004-842 (REV 2)

Sample Receipt

Chain of Custody

<b>CH2M Hill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S13-012-562</b>
				Page 1 of 1
Collector <b>Robert Crow</b>	Contact/Requester <b>Karen Waters-Husted</b>	Telephone No. <b>376-4650</b>		
SAF No. <b>S13-012</b>	Sampling Origin <b>Hanford Site</b>	Purchase Order/Charge Code <b>300071FS20</b>		
Project Title <b>SURV. DECEMBER 2012</b>	Logbook No. <b>HNF-N-506 48/91</b>	Ice Chest No. <b>N/A</b>		
Shipped To (Lab) <b>Waste Sampling &amp; Characterization</b>	Method of Shipment <b>GOVERNMENT VEHICLE</b>	Bill of Lading/Air Bill No. <b>N/A</b>		
Protocol <b>SURV</b>	Priority <b>31 Days</b>	Offsite Property No. <b>N/A</b>		

**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**  
 FY12 and FY13 samples cannot be in the same SDG. Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.  
 Hold Time  
 Total Activity Exemption: Yes  No

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2N182	Y	11-19-12	1332	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N180	N			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N180	N			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool-4C
B2N180	N			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N180	N			3x40-mL aCS*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool-4C

Relinquished By <b>Robert Crow</b>	Print <i>R Crow</i>	Sign	Date/Time <b>11-19-12</b>	Received By <b>Christina R Johnson</b>	Print <i>Christina R Johnson</i>	Sign	Date/Time <b>11-19-12</b>
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time	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
  - SE = Sediment
  - SO = Solid
  - SL = Sludge
  - W = Water
  - O = Oil
  - A = Air
  - DS = Drum Solids
  - DL = Drum Linings
  - T = Tissue
  - WI = Wire
  - L = Liquid
  - V = Vegetation
  - X = Other

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

Disposed By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

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Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company  
**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**  
 C.O.C.# **S13-012-546**  
 Page 1 of 1

Collector: <b>Robert Crow</b>	Contact/Requester: <b>Karen Waters-Husted</b>	Telephone No.: <b>376-4650</b>
SAF No.: <b>S13-012</b>	Sampling Origin: <b>Hanford Site</b>	Purchase Order/Charge Code: <b>300071ES20</b>
Project Title: <b>SURV. DECEMBER 2012</b>	Logbook No.: <b>HNF-N-506 48/91</b>	Ice Client No.: <b>N/A</b>
Shipped To (Lab): <b>Waste Sampling &amp; Characterization</b>	Method of Shipment: <b>GOVERNMENT VEHICLE</b>	Bill of Lading/Air Bill No.: <b>N/A</b>
Protocol: <b>SURV</b>	Priority: <b>31 Days</b>	Office Property No.: <b>N/A</b>

**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**  
 FY12 and FY13 samples cannot be in the same SDG. Site-Wide Generator Knowledge Information Form applies. The CAMN for all analytical work at WSCF is 401647.

**Hold Time**  
 Total Activity Exemption: Yes  No

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2N151	Y	11-19-12	1232	1x500-mL G/P	6010_METALS_ICP- List: 3 (18)	6 Months	HNO3 to pH <2
B2N149	N			1x500-mL G/P	2008_METALS_ICPMS- Uranium (1)	6 Months	HNO3 to pH <2
B2N149	N			1x250-mL G/P	2320_ALKALINITY / Alkalinity (1)	14 Days	Cool-4C
B2N149	N			1x500-mL G/P	6010_METALS_ICP- List: 3 (18)	6 Months	HNO3 to pH <2
B2N149	N			3x40-mL vials	8280_VOA_GCMS: List: 2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool-4C

Relinquished By: <b>Robert Crow</b>	Received By: <b>Cynthia R Johnson</b>	Date/Time: <b>11-19-12 11:30</b>	Date/Time: <b>11-19-12 11:30</b>
Relinquished By: <b>R Crow</b>	Received By: <b>Cynthia R Johnson</b>	Date/Time: <b>11-19-12 11:30</b>	Date/Time: <b>11-19-12 11:30</b>
Relinquished By: _____	Received By: _____	Date/Time: _____	Date/Time: _____
Relinquished By: _____	Received By: _____	Date/Time: _____	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 = Dism Solids
SE = Sediment	DL = Dism Lipids
SO = Solid	T = Tissue
SL = Sludge	WI = Wipe
W = Water	L = Liquid
O = Oil	V = Vegetation
A = Air	X = Other

PRINTED 10/24/2012

A-5004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company  
**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**  
 C.O.C.# S13-012-548  
 Page 1 of 1

Collector: Robert Crow  
 SAF No.: S13-012  
 Project Title: SURV. DECEMBER 2012  
 Shipped To (Lab): Waste Sampling & Characterization  
 Protocol: SURV  
 Contact/Requester: Karen Waters-Husted  
 Sampling Origin: Hanford Site  
 Logbook No.: HNF-N-506 48 / 91  
 Method of Shipment: GOVERNMENT VEHICLE  
 Priority: 31 Days PRIORITY  
 Telephone No.: 376-4650  
 Purchase Order/Charge Code: 30007IES20  
 Ice Chest No.: N/A  
 Bill of Lading/Air Bill No.: N/A  
 Office 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 5600.5 (1990/1993)  
 SPECIAL INSTRUCTIONS  
 Hold Time: PY12 and PY13 samples cannot be in the same SDG. Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.  
 Total Activity Exemption: Yes  No

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Hold Time	Preservative
B2N153 14	N	11-19-12	0954	1x500-mL G/P	200.8 METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N153	N			1x250-mL G/P	2320 ALKALINITY: Alkalinity (1)	14 Days	Coel-4C
B2N153	N			1x500-mL G/P	6010 METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N153	N			3x40-mL egs*	8260_VOA_GCMS: List-2 (28)	14 Days	HCl or H2SO4 to pH <2/Coel-4C
B2N153	N			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N155	Y			1x500-mL G/P	6010 METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By: Robert Crow	Print	Sign	Date/Time: 11-19-12 11:00	Received By: Cynthia R. Johnson	Print	Sign	Date/Time: 11-19-12 11:00
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 = Damm Solids
SE = Sediment	DL = Damm Liquids
SO = Solid	T = Tissue
SL = Sludge	WT = Wire
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)  
 Disposed By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
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Sample Receipt

Chain of Custody

**CH2M Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. # **S13-012-560**  
Page 1 of 1

Collector	Robert Crow	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 <u>48 / 9 /</u>	Fee Credit 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	Office 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** Hold Time:  Yes  No  
 FY12 and FY13 samples cannot be in the same SDG. Site-Wide Generator Knowledge Information Form applies. The CANTM for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2N176	N	W	11-19-12	1135	1x500-mL G/P	200.8 METALS, JCPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N176	N	W			1x250-mL G/P	2320 ALKALINITY: Alkalinity (1)	14 Days	COOL-4C
B2N176	N	W			1x500-mL G/P	6010 METALS, JCP: Lst-3 (18)	6 Months	HNO3 to pH <2
B2N176	N	W			3x40-mL eG4*	8280 VOL, GCMS: Lst-2 (25)	14 Days	HCl or H2SO4 to pH <2/COOL-4C
B2N176	N	W			1x500-mL G/P	ALPHABETA, GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N178	Y	W			1x500-mL G/P	6010 METALS, JCP: Lst-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Robert Crow	Signature	Date/Time	Received By	Cynthia R. Johnson	Signature	Date/Time	Matrix *
Relinquished By			11-19-12	Received By			11-19-12	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 Wt = 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: \_\_\_\_\_

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Sample Receipt

Chain of Custody

**CH2MHill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

CO.C.# **S13-012-542**  
Page 1 of 1

Collector: **Robert Crow**      Contact/Requester: **Karen Waters-Husted**      Telephone No.: **376-4650**

SAF No.: **S13-012**      Sampling Origin: **Hamford Site**      Purchase Order/Change Code: **300071ES20**

Project Title: **SURV. DECEMBER 2012**      Logbook No.: **HNF-N-506 48 / 91**      Ice Chart 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**      **PRIORITY**      Hold Time: **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)

**SPECIAL INSTRUCTIONS**  
 FY12 and FY13 samples cannot be in the same SDG. Site-Wide Generator Knowledge Information Form applies. The CAMN for all analytical work at WSCF is 401647.

Sample No.	Filter	Date	Time	No/Type Container	Received By	Sample Analysis	Holding Time	Preservative
B2N141 (U)	N	11-19-12	1040	1x500-mL G/P	200 8_METALS_ICPMS: Uranium (1)		6 Months	HNO3 to pH <2
B2N141	N			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)		14 Days	Cool-4C
B2N141	N			1x500-mL G/P	6010_METALS_ICP: Lst-3 (18)		6 Months	HNO3 to pH <2
B2N141	N			3x40-mL aG+*	8280_VOA_GCMS: Lst-2 (25)		14 Days	HCl or H2SO4 to pH <2/Cool-4C
B2N141	N			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)		6 Months	HNO3 to pH <2
B2N141	N			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)		6 Months	None
B2N141	N			1x14 G/P	USO_IE_PRECIP_AEA: Lst-1 (3)		6 Months	HNO3 to pH <2
B2N143	Y			1x500-mL G/P	6010_METALS_ICP: Lst-3 (18)		6 Months	HNO3 to pH <2

Reinquished By: **Robert Crow**      Print      Sign      Date/Time: **11-19-12 11:30**

Received By: **Christina B. Robinson**      Print      Sign      Date/Time: **11-19-12 11:30**

Reinquished By: \_\_\_\_\_      Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_      Date/Time: \_\_\_\_\_

Reinquished By: \_\_\_\_\_      Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_      Date/Time: \_\_\_\_\_

FINAL SAMPLE DISPOSITION: \_\_\_\_\_      Disposed By: \_\_\_\_\_      Date/Time: \_\_\_\_\_

PRINTED ID: 10/24/2012      A-5004-842 (REV 2)

Matrix \*

S = Soil	DS = Drum Solids
SE = Sediment	DL = Dross Liquids
SO = Solid	T = Tissue
SL = Sludge	WT = Waste
W = Water	L = Liquid
O = Oil	V = Volatile
A = Air	X = Other