

DECEMBER 11, 2012

WSCF Laboratory

PO Box 650 S3-30
Richland, WA 99352



December 11, 2012

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

Dear Scot Fitzgerald,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121459

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 WSCF121459

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

Very truly yours,

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

Electronically signed by Joseph Hale

For Lab Manager, Dan T. Smith

WSCF Analytical Lab

(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF121459

Data Deliverable Date 12/14/12

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
S13-011	B2MMX7	121459001	WATER	11/13/12	11/13/12
X13-002	B2N2P3	121459002	WATER	11/13/12	11/13/12
S13-011	B2MMY0	121459003	WATER	11/13/12	11/13/12
S13-011	B2MMW7	121459004	WATER	11/13/12	11/13/12
S13-011	B2MN04	121459005	WATER	11/13/12	11/13/12
S13-011	B2MMX2	121459006	WATER	11/13/12	11/13/12
S13-011	B2MN05	121459007	WATER	11/13/12	11/13/12
S13-011	B2MMY3	121459008	WATER	11/13/12	11/13/12
S13-011	B2MMX0	121459009	WATER	11/13/12	11/13/12
S13-011	B2MN10	121459010	WATER	11/13/12	11/13/12
S13-011	B2MMX5	121459011	WATER	11/13/12	11/13/12
S13-011	B2MN11	121459012	WATER	11/13/12	11/13/12
S13-011	B2MMN5	121459013	WATER	11/13/12	11/13/12
S13-011	B2MMV5	121459014	WATER	11/13/12	11/13/12
S13-011	B2MMN2	121459015	WATER	11/13/12	11/13/12
S13-011	B2MMV1	121459016	WATER	11/13/12	11/13/12

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

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):

- Silver – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
- Silver –Matrix Spike Duplicate recovery was outside established laboratory limits. Affected sample results in this batch were “N” flagged.
- All other 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

Semi-VOA – 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.

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):

Gross Alpha / Gross Beta:

- Gross Alpha – Duplicate Relative Percent Difference(s) (RPD) did not meet the established laboratory limits. Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
- All other applicable QC controls are within the established limits.

Tritium:

- All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF121459

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 83 pages
Including cover page

DECEMBER 11, 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 # WSCF121459
Report Date December 11, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Marisol Avila

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 # WSCF121459

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210914	211131	5	BLANK	85622	BLANK		ICP-6010 - All possible metals
210914	211131	7	LCS	85624	LCS		ICP-6010 - All possible metals
210914	211131	8	SAMPLE	121459003	B2MMY0		ICP-6010 - All possible metals
210914	211131	9	MS	85625	B2MMY0(121459003MS)	121459003	ICP-6010 - All possible metals
210914	211131	10	MSD	85626	B2MMY0(121459003MSD)	121459003	ICP-6010 - All possible metals
210914	211131	11	SAMPLE	121459004	B2MMW7		ICP-6010 - All possible metals
210914	211131	12	SAMPLE	121459005	B2MN04		ICP-6010 - All possible metals
210914	211131	13	SAMPLE	121459006	B2MMX2		ICP-6010 - All possible metals
210914	211131	14	SAMPLE	121459007	B2MN05		ICP-6010 - All possible metals
210914	211131	15	SAMPLE	121459008	B2MMY3		ICP-6010 - All possible metals
210914	211131	16	SAMPLE	121459009	B2MMX0		ICP-6010 - All possible metals
210914	211131	17	SAMPLE	121459010	B2MN10		ICP-6010 - All possible metals
210914	211131	18	SAMPLE	121459011	B2MMX5		ICP-6010 - All possible metals
210914	211131	19	SAMPLE	121459012	B2MN11		ICP-6010 - All possible metals
210914	211131	22	SAMPLE	121459013	B2MMN5		ICP-6010 - All possible metals
210914	211131	23	SAMPLE	121459014	B2MMV5		ICP-6010 - All possible metals
210914	211131	24	SAMPLE	121459015	B2MMN2		ICP-6010 - All possible metals
210914	211131	25	SAMPLE	121459016	B2MMV1		ICP-6010 - All possible metals

Batch QC List

Attention Scot Fitzgerald
 Department Organic, Semivolatiles

Group # WSCF121459

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210318	210418	1	BLANK	85000	BLANK		SW-846 8270D Semivolatiles
210318	210418	2	LCS	85001	LCS		SW-846 8270D Semivolatiles
210318	210418	3	LCSD	85004	LCSD		SW-846 8270D Semivolatiles
210318	210418	4	MS	85002	B2MXL9(121439002MS)	121439002	SW-846 8270D Semivolatiles
210318	210418	5	MSD	85003	B2MXL9(121439002MSD)	121439002	SW-846 8270D Semivolatiles
210318	210418	15	SAMPLE	121459015	B2MMN2		SW-846 8270D Semivolatiles

Batch QC List

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210376	210377	1	BLANK	85213	BLANK		SW-846 8260B Volatiles
210376	210377	2	LCS	85214	LCS		SW-846 8260B Volatiles
210376	210377	3	MS	85215	B2LXK1(121421001MS)	121421001	SW-846 8260B Volatiles
210376	210377	4	MSD	85216	B2LXK1(121421001MSD)	121421001	SW-846 8260B Volatiles
210376	210377	6	SAMPLE	121459002	B2N2P3		SW-846 8260B Volatiles
210376	210377	7	SAMPLE	121459015	B2MMN2		SW-846 8260B Volatiles
210376	210377	8	SAMPLE	121459001	B2MMX7		SW-846 8260B Volatiles

Batch QC List

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121459

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210248	210721	1	BLANK	84931	BLANK		Tritium by LSC
210248	210721	2	LCS	84932	LCS		Tritium by LSC
210248	210721	4	DUP	84933	B2MMW2(121446005DU	121446005	Tritium by LSC
210248	210721	5	MS	84934	B2MMW2(121446005MS)	121446005	Tritium by LSC
210248	210721	13	SAMPLE	121459003	B2MMY0		Tritium by LSC
210248	210721	14	SAMPLE	121459004	B2MMW7		Tritium by LSC
210248	210721	15	SAMPLE	121459005	B2MN04		Tritium by LSC
210248	210721	16	SAMPLE	121459006	B2MMX2		Tritium by LSC
210248	210721	17	SAMPLE	121459007	B2MN05		Tritium by LSC
210248	210721	18	SAMPLE	121459015	B2MMN2		Tritium by LSC
210248	210721	19	SAMPLE	121459016	B2MMV1		Tritium by LSC
210321	211026	1	BLANK	84324	BLANK		GAB Discrete analysis Alpha only
210321	211026	2	LCS	84325	LCS		GAB Discrete analysis Alpha only
210321	211026	3	SAMPLE	121459003	B2MMY0		GAB Discrete analysis Alpha only
210321	211026	4	DUP	84326	B2MMD1(121393007DUP	121459003	GAB Discrete analysis Alpha only
210321	211026	5	SAMPLE	121459004	B2MMW7		GAB Discrete analysis Alpha only
210321	211026	6	SAMPLE	121459005	B2MN04		GAB Discrete analysis Alpha only
210321	211026	7	SAMPLE	121459006	B2MMX2		GAB Discrete analysis Alpha only
210321	211026	8	SAMPLE	121459007	B2MN05		GAB Discrete analysis Alpha only
210321	211026	9	SAMPLE	121459015	B2MMN2		GAB Discrete analysis Alpha only
210321	211026	10	SAMPLE	121459016	B2MMV1		GAB Discrete analysis Alpha only
210321	211027	1	BLANK	84324	BLANK		GAB Discrete analysis Beta only
210321	211027	2	LCS	84325	LCS		GAB Discrete analysis Beta only

Batch QC List

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121459

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210321	211027	3	SAMPLE	121459003	B2MMY0		GAB Discrete analysis Beta only
210321	211027	4	DUP	84326	B2MMD1(121393007DUP 121459003		GAB Discrete analysis Beta only
210321	211027	5	SAMPLE	121459004	B2MMW7		GAB Discrete analysis Beta only
210321	211027	6	SAMPLE	121459005	B2MN04		GAB Discrete analysis Beta only
210321	211027	7	SAMPLE	121459006	B2MMX2		GAB Discrete analysis Beta only
210321	211027	8	SAMPLE	121459007	B2MN05		GAB Discrete analysis Beta only
210321	211027	9	SAMPLE	121459015	B2MMN2		GAB Discrete analysis Beta only
210321	211027	10	SAMPLE	121459016	B2MMV1		GAB Discrete analysis Beta only

Batch QC List

Attention Scot Fitzgerald
 Department Wet Chemistry

Group # WSCF121459

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210653	210653	1	LCS	85361	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210653	210653	9	DUP	85362	B2MN75(121448008DUP)	121448008	Total Alkalinity as mg/L CaCO3 (Water)
210653	210653	13	LCS	85363	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210653	210653	18	SAMPLE	121459016	B2MMV1		Total Alkalinity as mg/L CaCO3 (Water)
210653	210653	19	LCS	85364	LCS		Total Alkalinity as mg/L CaCO3 (Water)

Method Reference

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121459

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

LA-505-411	Elemental Analysis by ICP Atomic Emission Spectroscopy (ICP AES)		
	EPA SW-846	6010C	Inductively Coupled Plasma-Atomic Emmission Spectrometry
	HEIS	6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmission Spectrometry

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, Semivolatiles

Group # WSCF121459

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-523-456	Semivolatile Sample Analysis by SW-846 Method 8270D		
EPA SW-846	8000B		Determinative Chromagraphic Separations
EPA SW-846	3510C		Separatory Funnel Liquid-Liquid Extraction
EPA SW-846	8270D		Semivolatile Organic Compounds by Gas
EPA SW-846	3545		Pressurized Fluid Extraction (PFE)
			Chromatography/Mass Spectrometry (GC/MS)
HEIS	8270_SVOA_GCMS		Semivolatile 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 Organic, Volatiles

Group # WSCF121459

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 # WSCF121459

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

LA-508-421	Operation of the Tri-Carb Model 2500TR Liquid Scintillation Analyzer		
	HEIS	ALPHA_LSC	A/B Liquid Scintillation
	HEIS	BETA_LSC	A/B Liquid Scintillation
	HEIS	TC99_3MDSK_LSC	TC99 by Liquid Scintillation
	HEIS	TRITIUM_EIE_LSC	Tritium, by Eichrome ion exchange, LSC
LA-508-415	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 # WSCF121459

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 # WSCF121459

Sample # 121459003
 SAF# S13-011
 Sample ID B2MMY0

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	52.7		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		16000		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		3880		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		34300		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		102		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	B	14.5		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		65800		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		343		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459003
 SAF# S13-011
 Sample ID B2MMY0

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459004
 SAF# S13-011
 Sample ID B2MMW7

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411		528		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		10700		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		3770		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		10000		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		79.1		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	B	14.6		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		46700		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		214		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459004
 SAF# S13-011
 Sample ID B2MMW7

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459005
 SAF# S13-011
 Sample ID B2MN04

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		52.0		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411	U	<76		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		63.9		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411	B	168		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411	U	<9.0		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459005
 SAF# S13-011
 Sample ID B2MN04

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459006
 SAF# S13-011
 Sample ID B2MMX2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	81.7		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		11500		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	B	5.00		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		4870		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		18500		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		54.3		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411		41.6		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		55300		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		243		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459006
 SAF# S13-011
 Sample ID B2MMX2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459007
 SAF# S13-011
 Sample ID B2MN05

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		10100		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		4430		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		11700		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		46.2		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411		26.4		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	14.6		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		49500		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		215		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459007
 SAF# S13-011
 Sample ID B2MN05

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459008
 SAF# S13-011
 Sample ID B2MMY3

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		16000		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	B	5.70		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		3850		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		33800		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		102		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	B	14.1		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		66500		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		348		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459008
 SAF# S13-011
 Sample ID B2MMY3

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459009
 SAF# S13-011
 Sample ID B2MMX0

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	58.7		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		10400		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		3710		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		9790		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		76.8		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	B	11.9		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		44800		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		206		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459009
 SAF# S13-011
 Sample ID B2MMX0

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459010
 SAF# S13-011
 Sample ID B2MN10

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411	U	<76		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411	U	<10		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411	U	<49		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411	U	<9.0		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459010
 SAF# S13-011
 Sample ID B2MN10

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459011
 SAF# S13-011
 Sample ID B2MMX5

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		11600		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		5070		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		19100		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		51.4		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411		41.2		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	5.60		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		56500		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		246		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459011
 SAF# S13-011
 Sample ID B2MMX5

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459012
 SAF# S13-011
 Sample ID B2MN11

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	24.2		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		10100		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		4460		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		11700		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		46.2		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411		27.2		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	13.5		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		50400		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		220		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459012
 SAF# S13-011
 Sample ID B2MN11

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459013
 SAF# S13-011
 Sample ID B2MMN5

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		16000		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		6830		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		38600		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		37.4		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	B	13.1		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	14.4		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		49600		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		346		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459013
 SAF# S13-011
 Sample ID B2MMN5

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459014
 SAF# S13-011
 Sample ID B2MMV5

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411		271		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		8980		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		4740		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		8640		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		67.4		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	21.6		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		25500		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		171		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459014
 SAF# S13-011
 Sample ID B2MMV5

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		15700		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		6640		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		38000		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		36.8		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	B	11.1		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	13.9		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		49000		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		342		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 # WSCF121459

Sample # 121459016
 SAF# S13-011
 Sample ID B2MMV1

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										12/03/12
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411		267		ug/L	1	19	95	12/04/12
Magnesium	7439-95-4	LA-505-411		8850		ug/L	1	4.0	20	12/04/12
Manganese	7439-96-5	LA-505-411	B	4.90		ug/L	1	4.0	20	12/04/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Potassium	7440-09-7	LA-505-411		4780		ug/L	1	76	380	12/04/12
Silver	7440-22-4	LA-505-411	UN	<4.0		ug/L	1	4.0	20	12/04/12
Sodium	7440-23-5	LA-505-411		8540		ug/L	1	10	50	12/04/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/04/12
Barium	7440-39-3	LA-505-411		65.6		ug/L	1	4.0	20	12/04/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/04/12
Vanadium	7440-62-2	LA-505-411	B	23.1		ug/L	1	5.0	25	12/04/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/04/12
Calcium	7440-70-2	LA-505-411		25100		ug/L	1	49	240	12/04/12
Strontium	7440-24-6	LA-505-411		169		ug/L	1	9.0	45	12/04/12

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 # WSCF121459

Sample # 121459016
 SAF# S13-011
 Sample ID B2MMV1

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	12/04/12

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 o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 11, 2012

Attention Scot Fitzgerald
 Department Organic, Semivolatiles

Group # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8270 (W) CLE										11/13/12
SW-846 8270D Semivolatiles										
4-Nitrophenol	100-02-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Phenol	108-95-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Pyrene	129-00-0	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
n-Nitroso-di-n-propylamine	621-64-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Acenaphthene	83-32-9	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Pentachlorophenol	87-86-5	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
2-Chlorophenol	95-57-8	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Bis-(2-Ethylhexyl)phthalate	117-81-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
2,4-Dichlorophenol	120-83-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
2-Nitrophenol	88-75-5	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Naphthalene	91-20-3	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
2-Methylphenol	95-48-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12

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 D - Analyte was reported at a secondary dilution factor.
 E - The calibration exceeds the calibration range (GC/MS).
 J - Analyte < lowest calibration but >= MDL.
 N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
 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, Semivolatiles

Group # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
3 & 4 Methylphenol, Total	65794-96-9	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Tributyl phosphate	126-73-8	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
2-Picoline	109-06-8	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Tris(2-chloroethyl)phosphate	115-96-8	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Methylphenols, Total	1319-77-3	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12
Benzothiazole	95-16-9	LA-523-456	U	<0.9		ug/L	1	0.9	1	11/16/12

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Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Sample # 121459001
 SAF# S13-011
 Sample ID B2MMX7

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										11/16/12
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12

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 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.
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 PQL is equivalent to Estimated Quantitation Limit (EQL)
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Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Sample # 121459001
 SAF# S13-011
 Sample ID B2MMX7

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	11/16/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/16/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/16/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/16/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12

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Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Sample # 121459002
 SAF# X13-002
 Sample ID B2N2P3

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										11/16/12
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Methylene chloride	75-09-2	LA-523-455	J	2.7		ug/L	1	1	5	11/16/12

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Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Sample # 121459002
 SAF# X13-002
 Sample ID B2N2P3

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	11/16/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/16/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/16/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/16/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12

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Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										11/16/12
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12

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Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

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	11/16/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/16/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/16/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/16/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/16/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/16/12

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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 # WSCF121459

Sample # 121459003
 SAF# S13-011
 Sample ID B2MMY0

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		14	3.8	pCi/L	1	2.8		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		6.4	3.7	pCi/L	1	5.7		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		2200	520	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459004
 SAF# S13-011
 Sample ID B2MMW7

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		2.2	1.4	pCi/L	1	1.9		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415	U	3.5	2.4	pCi/L	1	3.7		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		920	280	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459005
 SAF# S13-011
 Sample ID B2MN04

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415	U	-0.36	.62	pCi/L	1	1.4		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415	U	-0.80	1.9	pCi/L	1	3.4		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421	U	110	160	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459006
 SAF# S13-011
 Sample ID B2MMX2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415	U	0.71	1.3	pCi/L	1	2.2		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415	U	3.9	2.8	pCi/L	1	4.4		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		5900	1200	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459007
 SAF# S13-011
 Sample ID B2MN05

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		2.6	1.6	pCi/L	1	2.2		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415	U	2.9	2.7	pCi/L	1	4.4		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		1100	310	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459015
 SAF# S13-011
 Sample ID B2MMN2

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		3.0	1.8	pCi/L	1	2.3		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		8.8	3.2	pCi/L	1	4.4		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		1700	420	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459016
 SAF# S13-011
 Sample ID B2MMV1

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
GAB Prep for Discrete Analysis (W)										11/30/12
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415	U	1.0	1.1	pCi/L	1	1.8		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415	U	3.6	2.3	pCi/L	1	3.7		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										11/14/12
Tritium by LSC										
Tritium	10028-17-8	LA-508-421	U	-32	230	pCi/L	1	290		11/22/12

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 # WSCF121459

Sample # 121459016
 SAF# S13-011
 Sample ID B2MMV1

Matrix WATER
 Sampled 11/13/12
 Received 11/13/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
11/14/12										
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		93		mg/L	1	1	10	11/14/12

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 Organic, Volatiles

Group # WSCF121459

Analytical Batch 210377 (QC Batch: 210376) **Test** SW-846 8260B Volatiles
Associated Samples 121459001, 121459002, 121459015

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #85213								
1,1-Dichloroethene	75-35-4	<1		ug/L					U	11/16/12
Trichloroethene	79-01-6	<1		ug/L					U	11/16/12
Benzene	71-43-2	<1		ug/L					U	11/16/12
Toluene	108-88-3	<1		ug/L					U	11/16/12
Chlorobenzene	108-90-7	<1		ug/L					U	11/16/12
1,1-Dichloroethane	75-34-3	<1		ug/L					U	11/16/12
Ethylbenzene	100-41-4	<1		ug/L					U	11/16/12
1,2-Dichloroethane	107-06-2	<1		ug/L					U	11/16/12
Methyl isobutyl ketone	108-10-1	<1		ug/L					U	11/16/12
Tetrachloroethene	127-18-4	<1		ug/L					U	11/16/12
Total Xylenes	1330-20-7	<1		ug/L					U	11/16/12
Carbon tetrachloride	56-23-5	<1		ug/L					U	11/16/12
Acetone	67-64-1	<1		ug/L					U	11/16/12
Chloroform	67-66-3	<1		ug/L					U	11/16/12
1,1,1-Trichloroethane	71-55-6	<1		ug/L					U	11/16/12
Vinyl chloride	75-01-4	<1		ug/L					U	11/16/12
Methylene chloride	75-09-2	<1		ug/L					U	11/16/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Carbon disulfide	75-15-0		<1	ug/L					U	11/16/12
Methyl ethyl ketone	78-93-3		<1	ug/L					U	11/16/12
1,1,2-Trichloroethane	79-00-5		<1	ug/L					U	11/16/12
1-Butanol	71-36-3		<100	ug/L					U	11/16/12
Tetrahydrofuran	109-99-9		<2	ug/L					U	11/16/12
trans-1,2-Dichloroethene	156-60-5		<1	ug/L					U	11/16/12
cis-1,2-Dichloroethene	156-59-2		<1	ug/L					U	11/16/12
Propionitrile	107-12-0		<2	ug/L					U	11/16/12
1,4-Dichlorobenzene	106-46-7		<1	ug/L					U	11/16/12
LCS			QC Sample #85214							
1,1-Dichloroethene	75-35-4		24	ug/L	98	75 - 125				11/16/12
Trichloroethene	79-01-6		29	ug/L	115.4	75 - 125				11/16/12
Benzene	71-43-2		30	ug/L	118	75 - 125				11/16/12
Toluene	108-88-3		29	ug/L	117.8	75 - 125				11/16/12
Chlorobenzene	108-90-7		29	ug/L	114.5	75 - 125				11/16/12
1,1-Dichloroethane	75-34-3		27	ug/L	109	75 - 125				11/16/12
Ethylbenzene	100-41-4		31	ug/L	123.7	75 - 125				11/16/12
1,2-Dichloroethane	107-06-2		29	ug/L	115.8	75 - 125				11/16/12
1,1,1-Trichloroethane	71-55-6		31	ug/L	123.1	75 - 125				11/16/12
Carbon disulfide	75-15-0		22	ug/L	87.8	75 - 125				11/16/12
1,1,2-Trichloroethane	79-00-5		30	ug/L	118.9	75 - 125				11/16/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
trans-1,2-Dichloroethene	156-60-5		28	ug/L	112.2	75 - 125				11/16/12
cis-1,2-Dichloroethene	156-59-2		28	ug/L	111.8	75 - 125				11/16/12
MS			QC Sample #85215							
			Original 121421001							
1,1-Dichloroethene	75-35-4		25	ug/L	99.3	75 - 125				11/16/12
Trichloroethene	79-01-6		29	ug/L	115.6	75 - 125				11/16/12
Benzene	71-43-2		30	ug/L	119.2	75 - 125				11/16/12
Toluene	108-88-3		30	ug/L	118.2	75 - 125				11/16/12
Chlorobenzene	108-90-7		29	ug/L	115	75 - 125				11/16/12
1,1-Dichloroethane	75-34-3		28	ug/L	110.4	75 - 125				11/16/12
Ethylbenzene	100-41-4		31	ug/L	124.2	75 - 125				11/16/12
1,2-Dichloroethane	107-06-2		29	ug/L	115.7	75 - 125				11/16/12
1,1,1-Trichloroethane	71-55-6		31	ug/L	124.2	75 - 125				11/16/12
Carbon disulfide	75-15-0		22	ug/L	89	75 - 125				11/16/12
1,1,2-Trichloroethane	79-00-5		30	ug/L	118.5	75 - 125				11/16/12
trans-1,2-Dichloroethene	156-60-5		28	ug/L	112.1	75 - 125				11/16/12
cis-1,2-Dichloroethene	156-59-2		28	ug/L	114	75 - 125				11/16/12
MSD			QC Sample #85216							
			Original 121421001							
			Paired 85215							
1,1-Dichloroethene	75-35-4		25	ug/L	98.9	75 - 125	0.40	20		11/16/12
Trichloroethene	79-01-6		29	ug/L	116.2	75 - 125	0.50	20		11/16/12
Benzene	71-43-2		30	ug/L	118.2	75 - 125	0.90	20		11/16/12
Toluene	108-88-3		29	ug/L	117.8	75 - 125	0.30	20		11/16/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chlorobenzene	108-90-7		29	ug/L	115.4	75 - 125	0.30	20		11/16/12
1,1-Dichloroethane	75-34-3		28	ug/L	111.5	75 - 125	1.00	20		11/16/12
Ethylbenzene	100-41-4		31	ug/L	122.9	75 - 125	1.10	20		11/16/12
1,2-Dichloroethane	107-06-2		30	ug/L	118.2	75 - 125	2.10	20		11/16/12
1,1,1-Trichloroethane	71-55-6		31	ug/L	122.1	75 - 125	1.70	20		11/16/12
Carbon disulfide	75-15-0		22	ug/L	87.4	75 - 125	1.70	20		11/16/12
1,1,2-Trichloroethane	79-00-5		29	ug/L	117.7	75 - 125	0.70	20		11/16/12
trans-1,2-Dichloroethene	156-60-5		28	ug/L	112.2	75 - 125	0.10	20		11/16/12
cis-1,2-Dichloroethene	156-59-2		29	ug/L	115.9	75 - 125	1.70	20		11/16/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF121459

Analytical Batch 210418 (QC Batch: 210318)
Associated Samples 121459015

Test SW-846 8270D Semivolatiles

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #85000								
4-Nitrophenol	100-02-7	<1		ug/L					U	11/15/12
1,4-Dichlorobenzene	106-46-7	<1		ug/L					U	11/15/12
2,4-Dinitrotoluene	121-14-2	<1		ug/L					U	11/15/12
1,2,4-Trichlorobenzene	120-82-1	<1		ug/L					U	11/15/12
Phenol	108-95-2	<1		ug/L					U	11/15/12
Pyrene	129-00-0	<1		ug/L					U	11/15/12
4-Chloro-3-methylphenol	59-50-7	<1		ug/L					U	11/15/12
n-Nitroso-di-n-propylamine	621-64-7	<1		ug/L					U	11/15/12
Acenaphthene	83-32-9	<1		ug/L					U	11/15/12
Pentachlorophenol	87-86-5	<1		ug/L					U	11/15/12
2-Chlorophenol	95-57-8	<1		ug/L					U	11/15/12
Bis-(2-Ethylhexyl)phthalate	117-81-7	<1		ug/L					U	11/15/12
2,4-Dichlorophenol	120-83-2	<1		ug/L					U	11/15/12
2-Nitrophenol	88-75-5	<1		ug/L					U	11/15/12
Naphthalene	91-20-3	<1		ug/L					U	11/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Semivolatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
2-Methylphenol	95-48-7		21	ug/L	73.1	46 - 114				11/15/12
2-Nitrophenol	88-75-5		21	ug/L	75.2	51 - 114				11/15/12
2,4-Dichlorophenol	120-83-2		21	ug/L	74.7	50 - 114				11/15/12
Naphthalene	91-20-3		21	ug/L	73	57 - 110				11/15/12
Benzothiazole	95-16-9		23	ug/L	81.6	59 - 114				11/15/12
Tributyl phosphate	126-73-8		23	ug/L	79.6	59 - 113				11/15/12
Tris(2-chloroethyl)phosphate	115-96-8		24	ug/L	84.7	58 - 118				11/15/12
Bis-(2-Ethylhexyl)phthalate	117-81-7		23	ug/L	79.5	64 - 134				11/15/12
2-Picoline	109-06-8		23	ug/L	81.7	50 - 104				11/15/12
MSD										
			QC Sample #85003							
			Original	121439002					Paired	85002
4-Nitrophenol	100-02-7		13	ug/L	45.9	15 - 57	8.50	20		11/15/12
1,2,4-Trichlorobenzene	120-82-1		21	ug/L	75.6	51 - 104	2.10	20		11/15/12
Phenol	108-95-2		12	ug/L	41.1	24 - 65	5.00	20		11/15/12
1,4-Dichlorobenzene	106-46-7		15	ug/L	78.4	52 - 114	3.30	20		11/15/12
2,4-Dinitrotoluene	121-14-2		23	ug/L	79.8	57 - 112	2.80	20		11/15/12
Pyrene	129-00-0		21	ug/L	75.4	58 - 119	5.30	20		11/15/12
4-Chloro-3-methylphenol	59-50-7		23	ug/L	81.4	56 - 115	0.50	20		11/15/12
n-Nitroso-di-n-propylamine	621-64-7		22	ug/L	77.5	60 - 112	2.00	20		11/15/12
Acenaphthene	83-32-9		22	ug/L	79.3	60 - 113	4.20	20		11/15/12
Pentachlorophenol	87-86-5		25	ug/L	89.4	32 - 127	5.70	20		11/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Semivolatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Pentachlorophenol	87-86-5		22	ug/L	72.3	17 - 125	12.00	20		11/15/12
2-Chlorophenol	95-57-8		21	ug/L	69.7	55 - 109	6.10	20		11/15/12
2-Methylphenol	95-48-7		22	ug/L	72.2	59 - 107	2.80	20		11/15/12
2-Nitrophenol	88-75-5		21	ug/L	70.1	48 - 113	6.90	20		11/15/12
2,4-Dichlorophenol	120-83-2		21	ug/L	70.1	52 - 110	5.80	20		11/15/12
Naphthalene	91-20-3		21	ug/L	68.5	55 - 110	4.30	20		11/15/12
Benzothiazole	95-16-9		23	ug/L	77.8	61 - 113	3.70	20		11/15/12
Tributyl phosphate	126-73-8		22	ug/L	74.9	65 - 108	6.40	20		11/15/12
Tris(2-chloroethyl)phosphate	115-96-8		23	ug/L	77.3	60 - 117	10.40	20		11/15/12
Bis-(2-Ethylhexyl)phthalate	117-81-7		23	ug/L	75.3	64 - 133	5.60	20		11/15/12
2-Picoline	109-06-8		22	ug/L	74.2	59 - 102	8.70	20		11/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121459

Analytical Batch 210653 (QC Batch: 210653)
Associated Samples 121459016

Test Total Alkalinity as mg/L CaCO3 (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			QC Sample #85361							
Total Alkalinity as CaCO3	ALKALINITY	98		mg/L	97.6	80 - 120				11/14/12
DUP			QC Sample #85362							
			Original 121448008							
Total Alkalinity as CaCO3	ALKALINITY	95		mg/L			0.00	20		11/14/12
LCS			QC Sample #85363							
Total Alkalinity as CaCO3	ALKALINITY	97		mg/L	97.5	80 - 120				11/14/12
LCS			QC Sample #85364							
Total Alkalinity as CaCO3	ALKALINITY	98		mg/L	97.7	80 - 120				11/14/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121459

Analytical Batch 210721 (QC Batch: 210248) **Test** Tritium by LSC
Associated Samples 121459003, 121459004, 121459005, 121459006, 121459007, 121459015, 121459016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK										
			QC Sample #84931							
Tritium	10028-17-8		51	pCi/L					U	11/22/12
LCS			QC Sample #84932							
Tritium	10028-17-8		3500	pCi/L	112.6	80 - 120				11/22/12
DUP			QC Sample #84933							
			Original 121446005							
Tritium	10028-17-8		620	pCi/L			7.20	20		11/22/12
MS			QC Sample #84934							
			Original 121446005							
Tritium	10028-17-8		22000	pCi/L	105	75 - 125				11/22/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121459

Analytical Batch 211026 (QC Batch: 210321) **Test** GAB Discrete analysis Alpha only
Associated Samples 121459003, 121459004, 121459005, 121459006, 121459007, 121459015, 121459016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #84324								
Gross Alpha LCS	12587-46-1		-0.089	pCi/L					U	12/05/12
		QC Sample #84325								
Gross Alpha DUP	12587-46-1		57	pCi/L	96.1	80 - 120				12/05/12
		QC Sample #84326								
		Original 121459003								
Gross Alpha	12587-46-1	14	6.2	pCi/L			78.80	20	* X	12/05/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF121459

Analytical Batch 211027 (QC Batch: 210321) Test GAB Discrete analysis Beta only
 Associated Samples 121459003, 121459004, 121459005, 121459006, 121459007, 121459015, 121459016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #84324								
Gross Beta	12587-47-2		-0.95	pCi/L					U	12/05/12
LCS		QC Sample #84325								
Gross Beta	12587-47-2		240	pCi/L	96.5	80 - 120				12/05/12
DUP		QC Sample #84326								
		Original 121459003								
Gross Beta	12587-47-2	6.4	4.3	pCi/L			39.60	20	* U	12/05/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121459

Analytical Batch 211131 (QC Batch: 210914) **Test** ICP-6010 - All possible metals
Associated Samples 121459003, 121459004, 121459005, 121459006, 121459007, 121459008, 121459009, 121459010, 121459011, 121459012, 121459013, 121459014, 121459015, 121459016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #85622								
Iron	7439-89-6		<19	ug/L					U	12/04/12
Magnesium	7439-95-4		<4.0	ug/L					U	12/04/12
Manganese	7439-96-5		<4.0	ug/L					U	12/04/12
Nickel	7440-02-0		<4.0	ug/L					U	12/04/12
Potassium	7440-09-7		<76	ug/L					U	12/04/12
Silver	7440-22-4		<4.0	ug/L					U	12/04/12
Sodium	7440-23-5		<10	ug/L					U	12/04/12
Antimony	7440-36-0		<36	ug/L					U	12/04/12
Barium	7440-39-3		<4.0	ug/L					U	12/04/12
Cadmium	7440-43-9		<4.0	ug/L					U	12/04/12
Chromium	7440-47-3		<5.0	ug/L					U	12/04/12
Cobalt	7440-48-4		<4.0	ug/L					U	12/04/12
Copper	7440-50-8		<4.0	ug/L					U	12/04/12
Vanadium	7440-62-2		<5.0	ug/L					U	12/04/12
Zinc	7440-66-6		<5.0	ug/L					U	12/04/12
Calcium	7440-70-2		<49	ug/L					U	12/04/12
Strontium	7440-24-6		<9.0	ug/L					U	12/04/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Beryllium LCS	7440-41-7		<4.0	ug/L					U	12/04/12
QC Sample #85624										
Iron	7439-89-6		1000	ug/L	100.3	80 - 120				12/04/12
Magnesium	7439-95-4		10200	ug/L	101.6	80 - 120				12/04/12
Manganese	7439-96-5		1020	ug/L	102.3	80 - 120				12/04/12
Nickel	7440-02-0		1010	ug/L	101	80 - 120				12/04/12
Potassium	7440-09-7		10600	ug/L	106	80 - 120				12/04/12
Silver	7440-22-4		1000	ug/L	100.3	80 - 120				12/04/12
Sodium	7440-23-5		10200	ug/L	101.6	80 - 120				12/04/12
Antimony	7440-36-0		1040	ug/L	103.5	80 - 120				12/04/12
Barium	7440-39-3		1020	ug/L	102.3	80 - 120				12/04/12
Cadmium	7440-43-9		1010	ug/L	101.3	80 - 120				12/04/12
Chromium	7440-47-3		1010	ug/L	101.2	80 - 120				12/04/12
Cobalt	7440-48-4		1000	ug/L	100	80 - 120				12/04/12
Copper	7440-50-8		1010	ug/L	101.2	80 - 120				12/04/12
Vanadium	7440-62-2		1000	ug/L	100.3	80 - 120				12/04/12
Zinc	7440-66-6		1040	ug/L	103.8	80 - 120				12/04/12
Calcium	7440-70-2		20500	ug/L	102.6	80 - 120				12/04/12
Strontium	7440-24-6		995	ug/L	99.5	80 - 120				12/04/12
Beryllium MS	7440-41-7		1020	ug/L	102.1	80 - 120				12/04/12
QC Sample #85625										
Original 121459003										
Iron	7439-89-6	52.7	1020	ug/L	101.7	75 - 125				12/04/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Magnesium	7439-95-4	16000	10600	ug/L	105.7	75 - 125				12/04/12
Manganese	7439-96-5	<4.0	1030	ug/L	103.3	75 - 125				12/04/12
Nickel	7440-02-0	<4.0	997	ug/L	99.7	75 - 125				12/04/12
Potassium	7440-09-7	3880	10800	ug/L	108.5	75 - 125				12/04/12
Silver	7440-22-4	<4.0	1010	ug/L	101.3	75 - 125				12/04/12
Sodium	7440-23-5	34300	10400	ug/L	103.6	75 - 125				12/04/12
Antimony	7440-36-0	<36	1050	ug/L	105.4	75 - 125				12/04/12
Barium	7440-39-3	102	1030	ug/L	103.4	75 - 125				12/04/12
Cadmium	7440-43-9	<4.0	1020	ug/L	102.3	75 - 125				12/04/12
Chromium	7440-47-3	14.5	1020	ug/L	101.6	75 - 125				12/04/12
Cobalt	7440-48-4	<4.0	990	ug/L	99	75 - 125				12/04/12
Copper	7440-50-8	<4.0	1010	ug/L	101.4	75 - 125				12/04/12
Vanadium	7440-62-2	<5.0	1020	ug/L	101.8	75 - 125				12/04/12
Zinc	7440-66-6	<5.0	1050	ug/L	105.1	75 - 125				12/04/12
Calcium	7440-70-2	65800	21900	ug/L	109.7	75 - 125				12/04/12
Strontium	7440-24-6	343	1020	ug/L	101.6	75 - 125				12/04/12
Beryllium	7440-41-7	<4.0	1040	ug/L	104.2	75 - 125				12/04/12
MSD			QC Sample #85626							
			Original	121459003				Paired	85625	
Iron	7439-89-6	52.7	1080	ug/L	107.7	75 - 125	5.50	20		12/04/12
Magnesium	7439-95-4	16000	11100	ug/L	111.1	75 - 125	2.00	20		12/04/12
Manganese	7439-96-5	<4.0	1050	ug/L	105.1	75 - 125	1.70	20		12/04/12
Nickel	7440-02-0	<4.0	1020	ug/L	101.8	75 - 125	2.10	20		12/04/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Potassium	7440-09-7	3880	11100	ug/L	111	75 - 125	1.70	20		12/04/12
Silver	7440-22-4	<4.0	48.3	ug/L	4.8	75 - 125	181.80	20	* NX	12/04/12
Sodium	7440-23-5	34300	10800	ug/L	108.1	75 - 125	1.00	20		12/04/12
Antimony	7440-36-0	<36	1070	ug/L	106.6	75 - 125	1.10	20		12/04/12
Barium	7440-39-3	102	1030	ug/L	103.1	75 - 125	0.30	20		12/04/12
Cadmium	7440-43-9	<4.0	1060	ug/L	106.2	75 - 125	3.70	20		12/04/12
Chromium	7440-47-3	14.5	1030	ug/L	103.2	75 - 125	1.50	20		12/04/12
Cobalt	7440-48-4	<4.0	1000	ug/L	100.5	75 - 125	1.50	20		12/04/12
Copper	7440-50-8	<4.0	1020	ug/L	102.4	75 - 125	1.00	20		12/04/12
Vanadium	7440-62-2	<5.0	1030	ug/L	102.8	75 - 125	1.00	20		12/04/12
Zinc	7440-66-6	<5.0	1090	ug/L	108.6	75 - 125	3.30	20		12/04/12
Calcium	7440-70-2	65800	24400	ug/L	121.9	75 - 125	2.70	20		12/04/12
Strontium	7440-24-6	343	1040	ug/L	104.3	75 - 125	2.00	20		12/04/12
Beryllium	7440-41-7	<4.0	1060	ug/L	106.2	75 - 125	1.90	20		12/04/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Analytical Batch 210377 (QC Batch: 210376) Test SW-846 8260B Volatiles
 Associated Samples 121459001, 121459002, 121459015

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE		Sample #121459001								
1,2-Dichloroethane-d4	17060-07-0				103.6	75 - 125				11/16/12
Toluene-d8	2037-26-5				91.5	75 - 125				11/16/12
4-Bromofluorobenzene	460-00-4				101.7	75 - 125				11/16/12
SAMPLE		Sample #121459002								
1,2-Dichloroethane-d4	17060-07-0				104.4	75 - 125				11/16/12
Toluene-d8	2037-26-5				92.8	75 - 125				11/16/12
4-Bromofluorobenzene	460-00-4				103.5	75 - 125				11/16/12
SAMPLE		Sample #121459015								
1,2-Dichloroethane-d4	17060-07-0				103.9	75 - 125				11/16/12
Toluene-d8	2037-26-5				92.4	75 - 125				11/16/12
4-Bromofluorobenzene	460-00-4				102.9	75 - 125				11/16/12
BLANK		QC Sample #85213								
1,2-Dichloroethane-d4	17060-07-0				98	75 - 125				11/16/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				93.5	75 - 125				11/16/12
4-Bromofluorobenzene	460-00-4				100.9	75 - 125				11/16/12
LCS		QC Sample #85214								
1,2-Dichloroethane-d4	17060-07-0				103.2	75 - 125				11/16/12
Toluene-d8	2037-26-5				92.4	75 - 125				11/16/12
4-Bromofluorobenzene	460-00-4				95.5	75 - 125				11/16/12
MS		QC Sample #85215								
		Original 121421001								
1,2-Dichloroethane-d4	17060-07-0				103.5	75 - 125				11/16/12
Toluene-d8	2037-26-5				92.4	75 - 125				11/16/12
4-Bromofluorobenzene	460-00-4				97.4	75 - 125				11/16/12
MSD		QC Sample #85216								
		Original 121421001								
		Paired 85215								
1,2-Dichloroethane-d4	17060-07-0				101.8	75 - 125	n/a			11/16/12
Toluene-d8	2037-26-5				92.8	75 - 125	n/a			11/16/12
4-Bromofluorobenzene	460-00-4				97.4	75 - 125	n/a			11/16/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF121459

Analytical Batch 210418 (QC Batch: 210318) **Test** SW-846 8270D Semivolatiles
Associated Samples 121459015

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE		Sample #121459015								
2-Fluorophenol	367-12-4				55.6	34 - 103				11/16/12
Phenol-d5	4165-62-2				38.7	10 - 93				11/16/12
Nitrobenzene-d5	4165-60-0				75.6	49 - 133				11/16/12
2-Methylnaphthalene-d10	7297-45-2				79.3	60 - 135				11/16/12
2-Fluorobiphenyl	321-60-8				78.8	48 - 132				11/16/12
2,4,6-Tribromophenol	118-79-6				68.4	33 - 134				11/16/12
Fluoranthene-d10	93951-69-0				88.4	62 - 139				11/16/12
Terphenyl-d14	98904-43-9				75.8	56 - 138				11/16/12
BLANK		QC Sample #85000								
2-Fluorophenol	367-12-4				59.2	34 - 103				11/15/12
Phenol-d5	4165-62-2				43.1	10 - 93				11/15/12
Nitrobenzene-d5	4165-60-0				75.8	49 - 133				11/15/12
2-Methylnaphthalene-d10	7297-45-2				78	60 - 135				11/15/12
2-Fluorobiphenyl	321-60-8				78	48 - 132				11/15/12
2,4,6-Tribromophenol	118-79-6				74.5	33 - 134				11/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Semivolatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Fluoranthene-d10	93951-69-0				88.4	62 - 139				11/15/12
Terphenyl-d14	98904-43-9				75.6	56 - 138				11/15/12
LCS			QC Sample #85001							
2-Fluorophenol	367-12-4			ug/L	63.6	34 - 103				11/15/12
Phenol-d5	4165-62-2			ug/L	48	10 - 93				11/15/12
Nitrobenzene-d5	4165-60-0			ug/L	78.5	49 - 133				11/15/12
2,4,6-Tribromophenol	118-79-6			ug/L	84	33 - 134				11/15/12
2-Fluorobiphenyl	321-60-8			ug/L	80.4	48 - 132				11/15/12
Terphenyl-d14	98904-43-9			ug/L	78.6	56 - 138				11/15/12
2-Methylnaphthalene-d10	7297-45-2			ug/L	79.6	60 - 135				11/15/12
Fluoranthene-d10	93951-69-0			ug/L	92.4	62 - 139				11/15/12
MS			QC Sample #85002							
			Original 121439002							
2-Fluorophenol	367-12-4			ug/L	55.1	34 - 103				11/15/12
Phenol-d5	4165-62-2			ug/L	37.6	10 - 93				11/15/12
Nitrobenzene-d5	4165-60-0			ug/L	77.4	49 - 133				11/15/12
2,4,6-Tribromophenol	118-79-6			ug/L	82.1	33 - 134				11/15/12
2-Fluorobiphenyl	321-60-8			ug/L	80.1	48 - 132				11/15/12
Terphenyl-d14	98904-43-9			ug/L	75.8	56 - 138				11/15/12
2-Methylnaphthalene-d10	7297-45-2			ug/L	79.7	60 - 135				11/15/12
Fluoranthene-d10	93951-69-0			ug/L	90	62 - 139				11/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Semivolatiles

Group # WSCF121459

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MSD		QC Sample #85003								
			Original	121439002					Paired 85002	
2-Fluorophenol	367-12-4			ug/L	59.5	34 - 103	n/a			11/15/12
Phenol-d5	4165-62-2			ug/L	40	10 - 93	n/a			11/15/12
Nitrobenzene-d5	4165-60-0			ug/L	79.6	49 - 133	n/a			11/15/12
2,4,6-Tribromophenol	118-79-6			ug/L	85.4	33 - 134	n/a			11/15/12
2-Fluorobiphenyl	321-60-8			ug/L	83.1	48 - 132	n/a			11/15/12
Terphenyl-d14	98904-43-9			ug/L	78.9	56 - 138	n/a			11/15/12
2-Methylnaphthalene-d10	7297-45-2			ug/L	81.9	60 - 135	n/a			11/15/12
Fluoranthene-d10	93951-69-0			ug/L	92.8	62 - 139	n/a			11/15/12
LCSD		QC Sample #85004								
									Paired 85001	
2-Fluorophenol	367-12-4			ug/L	61.9	34 - 103	n/a			11/15/12
Phenol-d5	4165-62-2			ug/L	47.3	10 - 93	n/a			11/15/12
Nitrobenzene-d5	4165-60-0			ug/L	76.8	49 - 133	n/a			11/15/12
2,4,6-Tribromophenol	118-79-6			ug/L	76.8	33 - 134	n/a			11/15/12
2-Fluorobiphenyl	321-60-8			ug/L	73.3	48 - 132	n/a			11/15/12
Terphenyl-d14	98904-43-9			ug/L	74.7	56 - 138	n/a			11/15/12
2-Methylnaphthalene-d10	7297-45-2			ug/L	71.6	60 - 135	n/a			11/15/12
Fluoranthene-d10	93951-69-0			ug/L	89.7	62 - 139	n/a			11/15/12

* - QC result out of range

n/a - Not Applicable

Tentatively Identified Peak Report

DECEMBER 11, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121459

Peak Name	CAS #	RT	RQ	Result	Units
121459001	B2MMX7				
Pentane, 2-methyl-	107-83-5	11.3049		11	ug/L
Propane, 2-cyclopropyl	3638-35-5	11.9415		6.7	ug/L
Cyclohexane, methyl-	108-87-2	18.204		23	ug/L

Attention: Scot Fitzgerald

Group #

WSCF121459

Quality Control Comments

Department Inorganic

85626

B2MMY0(121459003MSD)

Analyte

Silver - ICP-6010 - All possible metals

[1] Matrix Spike RPD outside established laboratory limits No flags assigned.

Attention: Scot Fitzgerald

Group #

WSCF121459

Quality Control Comments

Department Radiochemistry

84326

B2MMD1(121393007DUP)

Analyte

Gross Alpha - GAB Discrete analysis Alpha only

- [1] The duplicate is outside of default RPD limits. RPD limit does not apply to results less than 5X the Minimum Detectable Concentration.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 12 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 #: 121459

Profile #: S13-011-304

Proj. Mgr.:

Phone:

The following samples were received from you on 11/13/2012 3:15:00 PM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
		Tests scheduled		
121459001	B2MMX7	WATER	11/13/2012 12:36	11/13/2012 15:15
		8260V-W		
121459002	B2N2P3	WATER	11/13/2012 08:35	11/13/2012 15:15
		8260V-W		
121459003	B2MMY0	WATER	11/13/2012 13:12	11/13/2012 15:15
		6010-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121459004	B2MMW7	WATER	11/13/2012 14:29	11/13/2012 15:15
		6010-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121459005	B2MN04	WATER	11/13/2012 07:15	11/13/2012 15:15
		6010-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121459006	B2MMX2	WATER	11/13/2012 11:13	11/13/2012 15:15
		6010-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121459007	B2MN05	WATER	11/13/2012 10:29	11/13/2012 15:15
		6010-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121459008	B2MMY3	WATER	11/13/2012 13:12	11/13/2012 15:15
		6010-W		
121459009	B2MMX0	WATER	11/13/2012 14:29	11/13/2012 15:15
		6010-W		
121459010	B2MN10	WATER	11/13/2012 07:15	11/13/2012 15:15
		6010-W		
121459011	B2MMX5	WATER	11/13/2012 11:13	11/13/2012 15:15

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

6010-W				
121459012	B2MN11	WATER	11/13/2012 10:29	11/13/2012 15:15
6010-W				
121459013	B2MMN5	WATER	11/13/2012 08:35	11/13/2012 15:15
6010-W				
121459014	B2MMV5	WATER	11/13/2012 09:50	11/13/2012 15:15
6010-W				
121459015	B2MMN2	WATER	11/13/2012 08:35	11/13/2012 15:15
6010-W; 8260V-W; 8270SV-W; GAB-AO-W; GAB-BO-W; H3-COL-W				
121459016	B2MMV1	WATER	11/13/2012 09:50	11/13/2012 15:15
6010-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W				

Test Acronym Description

Test Acronym	Description
6010-W	ICP-AES (W)
8260V-W	Volatiles by 8260B (W)
8270SV-W	Semivolatiles by 8270D (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)

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# S13-011-304
Page 1 of 1

Collector	F. M. Hall	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	30007IES20
Project Title	SURV, NOVEMBER 2012	Logbook No.	HNF-N-506 51/45	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	CERCLA	Priority:	31 Days	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/7/93)

121459

SPECIAL INSTRUCTIONS Hold Time
 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 No

Sample No.	Filter	Date	Time	No/Type Container	Received By	Activity	Sample Analysis	Holding Time	Preservative
B2M1MX7	N	11/13/12	1236	3x40-mL eGS*	8260_VOA_GCIMS: List:2 (25)	Activity Scan		14 Days	HCl or H2SO4 to pH <2/ Cool-4C
B2M1MX7	N			1x20-mL P				6 Months	None

Reinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall		<i>[Signature]</i>	NOV 13 2012 15:15	7A Franzen	<i>[Signature]</i>		NOV 13 2012 15:15
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	DS = Drum Solids
SE = Sediment	DL = Drum Liquids
SO = Solid	T = Tissue
SL = Sludge	WT = Waste
W = Water	L = Liquid
O = Oil	V = Volatile
A = Air	X = Other

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

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A-5004-842 (REV 2)

Chain of Custody

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **X13-002-043**
 Page 1 of 1

Collector	F.M. Hill	Contract/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X13-002	Sampling Origin	Hamford Site	Purchase Order/Charge Code	300071ES20
Project Title	GW Sitewide Surv, FY13	Logbook No.	HNF-N-506/51/45	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 may or may not be regulated for transportation per 49 CFR 171.17
 Dangerous Goods Regulations but are not releasable per DOE Order 435.1.1**

SPECIAL INSTRUCTIONS
 Site Wide Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 1-12 and 1-13 samples cannot be in the same SPG.
 These samples can be batched with A, 1, 3 and W13 SAFS

HOLD TIME
 Total Activity Exemption: Yes No

Sample No.	Filter	Date	Time	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
D2N2P3	2	N	W	1x20-mL P	8260_VOA GCMS: List-2 (25)		6 Months	None
B2N2P3	1	N	W	3x10-mL aGCs*			14 Days	HCl or H2SO4 to pH <2/Cool-4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By	F.M. Hill	<i>[Signature]</i>	NOV 13 2012 15:15	Received By	<i>[Signature]</i>	<i>[Signature]</i>	NOV 13 2012 15:15	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By				Received By				DS = Dura Solids DL = Dura Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By				Received By				

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

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A-5004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **S13-011-298**
 Page 1 of 1

Collector: **F.M. Hill** Contact/Requester: **Karen Waters-Husted** Telephone No.: **376-4650**
 SAF No.: **S13-011** Sampling Origin: **Hanford Site** Purchase Order/Charge Code: **300071ESS20**
 Project Title: **SURV. NOVEMBER 2012** Logbook No.: **INF-N-506 5146** 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: **CERCLA** Priority: **31 Days PRIORITY** Offsite Property No.: **N/A**

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5100.3 (1990/1995) ***
 SPECIAL INSTRUCTIONS: **Hold Time** Total Activity Exemption: Yes No
 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.

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MMW7 4	N	11/13/12	1429	1x500-mL G/P	6010_METALS_IQP: List-3 (18)	6 Months	HNO3 to pH <2
B2MMW7	N			1x500-mL G/P	ALP-HABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2MMW7	N			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None
B2MMX0 9	Y			1x500-mL G/P	6010_METALS_IQP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
F.M. Hill			NOV 13 2012 15:15	Ta Prozin			NOV 13 2012 15:15	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue W1 = Wire L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g. Return to customer, per lab procedure, used in process)				Disposed By

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A-6004-842 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **S13-011-315**
 Page 1 of 1

Collector: **F.M. Hill** Contact/Requester: **Karen Waters-Husted** Telephone No.: **376-4650**
 SAF No.: **S13-011** Sampling Origin: **Hamford Site** Purchase Order/Charge Code: **300071ESS20**
 Project Title: **SURV, NOVEMBER 2012** Logbook No.: **HNF-N-506 5145** 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: **CERCLA** Priority: **31 Days PRIORITY** Onsite 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: **Total Activity Exemption: Yes No**
 P.Y12 and P.Y13 samples cannot be in the same SIG; Site-Wide Generator Knowledge Information Form applies. The CACR for all analytical work at WSCF is 401647.

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2MN10	10	11/3/12	0715	1x500 mL GP	6010_METALS_ICP. List-3 (18)	6 Months	HNO3 to pH <2
B2MN04	5			1x500-mL GP	6010_METALS_ICP. List-3 (18)	6 Months	HNO3 to pH <2
B2MN04				1x500-mL GP	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2MN04				1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By: F.M. Hill			NOV 13 2012 15:15	Received By: TA FENYI			NOV 13 2012 15:15	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water Q = Oil A = Air DS = Drum Solids DL = Drum Linings T = Tissue WT = Wipe L = Liquid V = Vegetation 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) Disposed By: Date/Time: **A-6004-842 (REV 2)**

Chain of Custody

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C.# **S13-011-301**
 Page 1 of 1

Collector: **F.M. Hill** Contract/Requester: Karen Waters-Husted Telephone No. 376-4650
 S&P No.: S13-011 Sampling Origin: Hanford Site Purchase Order/Charge Code: 300071ESS20
 Project Title: SURV. NOVEMBER 2012 Logbook No.: HNF-N-506 SL145 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: CERCLA Priority: 31 Days SPECIAL INSTRUCTIONS: PRIORITY Hold Time: N/A
 OFFSITE PROPERTY NO. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Certain Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5803 (1990/1993)
 SPECIAL INSTRUCTIONS: Hold Time: N/A
 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.

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
D2MMX2	N	11/3/12	1113	1x500-ml GPF	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2MMX2	N			1x500-ml GPF	ALPHABETA.GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2MMX2	N			1x250-ml G	TRITIUM_EIE_ISG: Tritium (1)	6 Months	None
B2MMX5	Y			1x500-ml GPF	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
F.M. Hill			NOV 13 2012 15:15	<i>Theresa...</i>			NOV 13 2012 15:15	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Date/Time

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Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# S13-011-318
Page 1 of 1

Collector: **F.M. Hill** Contact/Requester: Karen Waters-Husted Telephone No. 376-4650

SAF No. S13-011 Sampling Origin: Hartford Site Purchase Order/Charge Code 300071E520

Project Title: SURV. NOVEMBER 2012 Logbook No. HNF-N-506 51 / 45 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: CERCLA Priority: 31 Days SPECIAL INSTRUCTIONS: PRIORITY Hold Time: N/A

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

SPECIAL INSTRUCTIONS: PRIORITY Hold Time: N/A Total Activity Exemption: Yes No
 FY12 and FY13 samples 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
B2MN11	12	11/3/12	1039	1x600 mL GIP	6010. METALS, ICP- List: 3 (18)	6 Months	HNO3 to pH <2
B2MN05	7			1x500-mL GIP	6010. METALS, ICP- List: 3 (18)	6 Months	HNO3 to pH <2
B2MN05	N			1x500-mL GIP	ALPHABETA, GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2MN05	N			1x250-mL G	TRITIUM, EIE LSC: Tritium (1)	6 Months	None

Relinquished By: F.M. Hill Print Sign	Date/Time: NOV 13 2012 1515	Received By: <i>TA Razvan</i> Print Sign	Date/Time: NOV 13 2012 1515	Matrix *
Relinquished By:	Date/Time:	Received By:	Date/Time:	S = Soil DS = Drum Solids
Relinquished By:	Date/Time:	Received By:	Date/Time:	SE = Sediment DL = Drum Liquids
Relinquished By:	Date/Time:	Received By:	Date/Time:	SO = Solid T = Tissue
Relinquished By:	Date/Time:	Received By:	Date/Time:	SL = Sludge W/L = Waste
Relinquished By:	Date/Time:	Received By:	Date/Time:	W = Water L = Liquid
Relinquished By:	Date/Time:	Received By:	Date/Time:	O = Oil V = Vegetation
Relinquished By:	Date/Time:	Received By:	Date/Time:	A = Air X = Other
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By:	Date/Time:	

PRINTED ON 10/10/2012

A-6004-842 (REV 2)

