WSCF Laboratory
PO Box 650 S3-30
Richland, WA 99352

December 19, 2012

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

Dear Scot Fitzgerald,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121487

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 WSCF121487

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

Very truly yours,

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 # WSCF121487
Data Deliverable Date 12/20/12

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
S13-012	B2N0Y7	121487001	WATER	11/19/12	11/19/12
S13-012	B2N101	121487002	WATER	11/19/12	11/19/12
S13-012	B2N104	121487003	WATER	11/19/12	11/19/12
S13-012	B2N108	121487004	WATER	11/19/12	11/19/12
S13-012	B2N126	121487005	WATER	11/19/12	11/19/12
S13-012	B2N138	121487006	WATER	11/19/12	11/19/12
S13-012	B2N0Y8	121487007	WATER	11/19/12	11/19/12
S13-012	B2N105	121487008	WATER	11/19/12	11/19/12
S13-012	B2N109	121487009	WATER	11/19/12	11/19/12
S13-012	B2N139	121487010	WATER	11/19/12	11/19/12
S13-012	B2N127	121487011	WATER	11/19/12	11/19/12
S13-012	B2N0Y6	121487012	WATER	11/19/12	11/19/12
S13-012	B2N103	121487013	WATER	11/19/12	11/19/12
S13-012	B2N107	121487014	WATER	11/19/12	11/19/12
S13-012	B2N137	121487015	WATER	11/19/12	11/19/12
S13-012	B2N125	121487016	WATER	11/19/12	11/19/12
S13-012	B2N100	121487017	WATER	11/19/12	11/19/12

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Attachment 2
Narrative
WSCF121487

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.

Attachment 2
Narrative
WSCF121487

Inorganic Comments

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

- Batch QC 210627
  - Sulfate – Exceeded spiking levels by a factor of 4. Spike recoveries and associated RPDs are not valid.
- Batch QC 210716
  - Chloride – Exceeded spiking levels by a factor of 4. Spike recoveries and associated RPDs are not valid.
  - All other applicable QC controls are within the established limits.

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

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

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

- All applicable QC controls are within the established limits.

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

- All applicable QC controls are within the established limits.

Organic Comments

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

- All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF121487

Radiochemistry Comments

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

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

Gross Alpha / Gross Beta:

- All applicable QC controls are within the established limits.

Isotopic Uranium analysis:

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

Strontium-89/90:

- All applicable QC controls are within the established limits.

Tritium:

- All applicable QC controls are within the established limits.

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

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 88 pages
Including cover page

WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation

PO Box 1600
Richland, WA 99352

Attention: Scot Fitzgerald

Contract #	MOA-FH-CHPRC-2008
Group #	WSCF121487
Report Date	December 19, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Heather Medley

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

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

Batch QC List

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210627	210627	2	BLANK	85295	BLANK		Anions by Ion Chromatography (Water)
210627	210627	3	LCS	85296	LCS		Anions by Ion Chromatography (Water)
210627	210627	4	DUP	85297	B2N177(121486004DUP)	121486004	Anions by Ion Chromatography (Water)
210627	210627	5	MS	85298	B2N177(121486004MS)	121486004	Anions by Ion Chromatography (Water)
210627	210627	6	MSD	85299	B2N177(121486004MSD)	121486004	Anions by Ion Chromatography (Water)
210627	210627	13	SAMPLE	121487001	B2N0Y7		Anions by Ion Chromatography (Water)
210627	210627	14	SAMPLE	121487002	B2N101		Anions by Ion Chromatography (Water)
210627	210627	15	SAMPLE	121487003	B2N104		Anions by Ion Chromatography (Water)
210627	210627	16	SAMPLE	121487004	B2N108		Anions by Ion Chromatography (Water)
210627	210627	17	SAMPLE	121487006	B2N138		Anions by Ion Chromatography (Water)
210716	210716	2	BLANK	85366	BLANK		Anions by Ion Chromatography (Water)
210716	210716	3	LCS	85367	LCS		Anions by Ion Chromatography (Water)
210716	210716	4	DUP	85368	B2N0W3(121488005DUP	121488005	Anions by Ion Chromatography (Water)
210716	210716	5	MS	85369	B2N0W3(121488005MS)	121488005	Anions by Ion Chromatography (Water)
210716	210716	6	MSD	85370	B2N0W3(121488005MSD	121488005	Anions by Ion Chromatography (Water)
210716	210716	8	SAMPLE	121487005	B2N126		Anions by Ion Chromatography (Water)
211218	211244	5	BLANK	85901	BLANK		ICP-6010 - All possible metals
211218	211244	7	LCS	85903	LCS		ICP-6010 - All possible metals
211218	211244	9	MS	85904	B2N182(121486007MS)	121486007	ICP-6010 - All possible metals
211218	211244	10	MSD	85905	B2N182(121486007MSD)	121486007	ICP-6010 - All possible metals
211218	211244	22	SAMPLE	121487007	B2N0Y8		ICP-6010 - All possible metals
211218	211244	23	SAMPLE	121487008	B2N105		ICP-6010 - All possible metals
211218	211244	24	SAMPLE	121487009	B2N109		ICP-6010 - All possible metals

Batch QC List

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
211218	211244	25	SAMPLE	121487010	B2N139		ICP-6010 - All possible metals
211218	211244	26	SAMPLE	121487011	B2N127		ICP-6010 - All possible metals
211218	211244	27	SAMPLE	121487012	B2N0Y6		ICP-6010 - All possible metals
211218	211244	28	SAMPLE	121487013	B2N103		ICP-6010 - All possible metals
211218	211244	29	SAMPLE	121487014	B2N107		ICP-6010 - All possible metals
211218	211244	30	SAMPLE	121487015	B2N137		ICP-6010 - All possible metals
211218	211244	31	SAMPLE	121487016	B2N125		ICP-6010 - All possible metals
211619	211628	4	BLANK	86449	BLANK		ICP-2008 MS All possible metal
211619	211628	5	LCS	86450	LCS		ICP-2008 MS All possible metal
211619	211628	7	MS	86451	B2N180(121486012MS)	121486012	ICP-2008 MS All possible metal
211619	211628	8	MSD	86452	B2N180(121486012MSD)	121486012	ICP-2008 MS All possible metal
211619	211628	13	SAMPLE	121487012	B2N0Y6		ICP-2008 MS All possible metal
211619	211628	14	SAMPLE	121487013	B2N103		ICP-2008 MS All possible metal
211619	211628	15	SAMPLE	121487014	B2N107		ICP-2008 MS All possible metal
211619	211628	16	SAMPLE	121487015	B2N137		ICP-2008 MS All possible metal
211619	211628	17	SAMPLE	121487016	B2N125		ICP-2008 MS All possible metal
211619	211628	20	SAMPLE	121487017	B2N100		ICP-2008 MS All possible metal

Batch QC List

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210734	210735	1	BLANK	85414	BLANK		SW-846 8260B Volatiles
210734	210735	2	LCS	85415	LCS		SW-846 8260B Volatiles
210734	210735	3	MS	85416	B2N0Y6(121487012MS)	121487012	SW-846 8260B Volatiles
210734	210735	4	MSD	85417	B2N0Y6(121487012MSD)	121487012	SW-846 8260B Volatiles
210734	210735	7	SAMPLE	121487016	B2N125		SW-846 8260B Volatiles
210734	210735	10	SAMPLE	121487015	B2N137		SW-846 8260B Volatiles
210734	210735	12	SAMPLE	121487014	B2N107		SW-846 8260B Volatiles
210734	210735	13	SAMPLE	121487013	B2N103		SW-846 8260B Volatiles
210734	210735	15	SAMPLE	121487012	B2N0Y6		SW-846 8260B Volatiles

Batch QC List

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210616	210748	1	BLANK	85287	BLANK		Tritium by LSC
210616	210748	2	LCS	85288	LCS		Tritium by LSC
210616	210748	4	DUP	85289	B2MYX4(121468012DUP	121468012	Tritium by LSC
210616	210748	5	MS	85290	B2MYX4(121468012MS)	121468012	Tritium by LSC
210616	210748	15	SAMPLE	121487014	B2N107		Tritium by LSC
210616	210748	16	SAMPLE	121487015	B2N137		Tritium by LSC
210616	210748	17	SAMPLE	121487016	B2N125		Tritium by LSC
210624	210830	1	BLANK	85291	BLANK		Uranium (AEA)
210624	210830	2	LCS	85292	LCS		Uranium (AEA)
210624	210830	4	DUP	85293	B2N141(121486016DUP)	121486016	Uranium (AEA)
210624	210830	5	SAMPLE	121487014	B2N107		Uranium (AEA)
210624	210830	6	SAMPLE	121487015	B2N137		Uranium (AEA)
210624	210830	7	SAMPLE	121487016	B2N125		Uranium (AEA)
210632	211030	1	BLANK	85318	BLANK		GAB Discrete analysis Alpha only
210632	211030	2	LCS	85319	LCS		GAB Discrete analysis Alpha only
210632	211030	4	DUP	85320	B2N153(121486014DUP)	121486014	GAB Discrete analysis Alpha only
210632	211030	7	SAMPLE	121487012	B2N0Y6		GAB Discrete analysis Alpha only
210632	211030	8	SAMPLE	121487013	B2N103		GAB Discrete analysis Alpha only
210632	211030	9	SAMPLE	121487014	B2N107		GAB Discrete analysis Alpha only
210632	211030	10	SAMPLE	121487015	B2N137		GAB Discrete analysis Alpha only
210632	211030	11	SAMPLE	121487016	B2N125		GAB Discrete analysis Alpha only
210632	211031	1	BLANK	85318	BLANK		GAB Discrete analysis Beta only
210632	211031	2	LCS	85319	LCS		GAB Discrete analysis Beta only

Batch QC List

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210632	211031	4	DUP	85320	B2N153(121486014DUP)	121486014	GAB Discrete analysis Beta only
210632	211031	7	SAMPLE	121487012	B2N0Y6		GAB Discrete analysis Beta only
210632	211031	8	SAMPLE	121487013	B2N103		GAB Discrete analysis Beta only
210632	211031	9	SAMPLE	121487014	B2N107		GAB Discrete analysis Beta only
210632	211031	10	SAMPLE	121487015	B2N137		GAB Discrete analysis Beta only
210632	211031	11	SAMPLE	121487016	B2N125		GAB Discrete analysis Beta only
210927	211238	1	BLANK	85714	BLANK		Strontium 89/90 (GPC/GEA)
210927	211238	2	LCS	85715	LCS		Strontium 89/90 (GPC/GEA)
210927	211238	3	DUP	85716	B2N006(121468014DUP)	121468014	Strontium 89/90 (GPC/GEA)
210927	211238	5	SAMPLE	121487016	B2N125		Strontium 89/90 (GPC/GEA)

Batch QC List

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210754	210754	1	LCS	85482	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	3	DUP	85483	B2N0N8(121475015DUP)	121475015	Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	9	SAMPLE	121487012	B2N0Y6		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	10	SAMPLE	121487013	B2N103		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	11	SAMPLE	121487014	B2N107		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	12	SAMPLE	121487015	B2N137		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	13	LCS	85484	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	14	SAMPLE	121487016	B2N125		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	15	SAMPLE	121487017	B2N100		Total Alkalinity as mg/L CaCO3 (Water)
210754	210754	19	LCS	85485	LCS		Total Alkalinity as mg/L CaCO3 (Water)

Method Reference

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

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 Emmision Spectrometry
	HEIS	6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	Determination of Trace Elements in Waters & Wastes by ICP Mass Spectrometry		
	EPA-600/R-94-111	200.8	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma
	HEIS	200.8_METALS_ICPMS	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma, Mass Spec.
LA-533-410	Anion Analysis by Ion Chromatography		
	EPA-600/R-94-111	300.0	Determination of Inorganic Anions by Ion Chromatography
	HEIS	300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

Method Reference

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

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 # WSCF121487

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-220-406	Strontium-89 and 90 in Aqueous Samples by SR-SPEC Separation		
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium 89/90, by Sr-Spec Sep.
LA-508-471	Determination Of Uranium, Plutonium, And Americium		
	HEIS	UISO_IE_PRECIP_AEA	Uranium Iso, Alpha Spec
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 # WSCF121487

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487001
SAF# S13-012
Sample ID B2N0Y7

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/19/12
Anions by Ion Chromatography (Water)										
Fluoride	16984-48-8	LA-533-410	D	0.243		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	18.8		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Bromide	24959-67-9	LA-533-410	UD	<0.22		ug/mL	2	0.22	0.96	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	5.69		ug/mL	2	0.038	0.20	11/19/12
Phosphate-P	PO4-P	LA-533-410	BD	0.201		ug/mL	2	0.084	0.72	11/19/12
Sulfate	14808-79-8	LA-533-410	D	48.7		ug/mL	2	0.22	2.1	11/19/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487002
SAF# S13-012
Sample ID B2N101

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/19/12
Anions by Ion Chromatography (Water)										
Fluoride	16984-48-8	LA-533-410	D	0.288		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	14.4		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Bromide	24959-67-9	LA-533-410	UD	<0.22		ug/mL	2	0.22	0.96	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	4.39		ug/mL	2	0.038	0.20	11/19/12
Phosphate-P	PO4-P	LA-533-410	UD	<0.084		ug/mL	2	0.084	0.72	11/19/12
Sulfate	14808-79-8	LA-533-410	D	37.7		ug/mL	2	0.22	2.1	11/19/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487003
SAF# S13-012
Sample ID B2N104

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/19/12
Anions by Ion Chromatography (Water)										
Fluoride	16984-48-8	LA-533-410	D	0.345		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	18.9		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	6.15		ug/mL	2	0.038	0.20	11/19/12
Sulfate	14808-79-8	LA-533-410	D	45.7		ug/mL	2	0.22	2.1	11/19/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487004
SAF# S13-012
Sample ID B2N108

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/19/12
Anions by Ion Chromatography (Water)										
Fluoride	16984-48-8	LA-533-410	D	0.260		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	20.0		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Bromide	24959-67-9	LA-533-410	UD	<0.22		ug/mL	2	0.22	0.96	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	5.93		ug/mL	2	0.038	0.20	11/19/12
Phosphate-P	PO4-P	LA-533-410	BD	0.244		ug/mL	2	0.084	0.72	11/19/12
Sulfate	14808-79-8	LA-533-410	D	51.3		ug/mL	2	0.22	2.1	11/19/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487005
SAF# S13-012
Sample ID B2N126

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/20/12
Anions by Ion Chromatography (Water)										
Fluoride	16984-48-8	LA-533-410	D	0.285		ug/mL	2	0.046	0.14	11/20/12
Chloride	16887-00-6	LA-533-410	D	20.6		ug/mL	2	0.12	0.81	11/20/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/20/12
Bromide	24959-67-9	LA-533-410	UD	<0.22		ug/mL	2	0.22	0.96	11/20/12
Nitrate-N	NO3-N	LA-533-410	D	5.76		ug/mL	2	0.038	0.20	11/20/12
Phosphate-P	PO4-P	LA-533-410	UD	<0.084		ug/mL	2	0.084	0.72	11/20/12
Sulfate	14808-79-8	LA-533-410	D	49.8		ug/mL	2	0.22	2.1	11/20/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487006
SAF# S13-012
Sample ID B2N138

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/19/12
Anions by Ion Chromatography (Water)										
Fluoride	16984-48-8	LA-533-410	D	0.261		ug/mL	2	0.046	0.14	11/19/12
Chloride	16887-00-6	LA-533-410	D	8.19		ug/mL	2	0.12	0.81	11/19/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/19/12
Bromide	24959-67-9	LA-533-410	UD	<0.22		ug/mL	2	0.22	0.96	11/19/12
Nitrate-N	NO3-N	LA-533-410	D	2.40		ug/mL	2	0.038	0.20	11/19/12
Phosphate-P	PO4-P	LA-533-410	BD	0.181		ug/mL	2	0.084	0.72	11/19/12
Sulfate	14808-79-8	LA-533-410	D	26.3		ug/mL	2	0.22	2.1	11/19/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487007
SAF# S13-012
Sample ID B2N0Y8

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11200		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		4030		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		22000		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		71.3		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	B	10.8		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		50900		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		216		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487007
SAF# S13-012
Sample ID B2N0Y8

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487008
SAF# S13-012
Sample ID B2N105

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	24.8		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10400		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		6160		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		23300		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		47.4		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	6.30		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		47300		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		193		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487008
SAF# S13-012
Sample ID B2N105

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487009
SAF# S13-012
Sample ID B2N109

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11200		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		4200		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		22400		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		69.8		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		50500		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		215		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487009
SAF# S13-012
Sample ID B2N109

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487010
SAF# S13-012
Sample ID B2N139

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	25.2		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		6530		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.60		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		3030		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		14000		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		44.7		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	5.00		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		29400		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		125		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487010
SAF# S13-012
Sample ID B2N139

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487011
SAF# S13-012
Sample ID B2N127

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11400		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5750		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		25500		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		61.5		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		52100		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		230		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487011
SAF# S13-012
Sample ID B2N127

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487012
SAF# S13-012
Sample ID B2N0Y6

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	B	41.6		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11300		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		4140		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		22500		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		72.4		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	B	13.4		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		50700		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		218		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487012
SAF# S13-012
Sample ID B2N0Y6

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
ICPMS Prep (W)										**12/13/12**
ICP-2008 MS All possible metal										
Uranium	7440-61-1	LA-505-412	D	119		ug/L	2	0.10	0.50	12/17/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487013
SAF# S13-012
Sample ID B2N103

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411		522		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		10200		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	B	7.70		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.00		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		6140		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		23100		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		47.4		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	7.50		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		45300		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		189		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487013
SAF# S13-012
Sample ID B2N103

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
ICPMS Prep (W)										**12/13/12**
ICP-2008 MS All possible metal										
Uranium	7440-61-1	LA-505-412	D	32.2		ug/L	2	0.10	0.50	12/17/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487014
SAF# S13-012
Sample ID B2N107

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11200		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	5.40		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		4270		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		22700		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		70.3		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		49600		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		211		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487014
SAF# S13-012
Sample ID B2N107

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
ICPMS Prep (W)										**12/13/12**
ICP-2008 MS All possible metal										
Uranium	7440-61-1	LA-505-412	D	121		ug/L	2	0.10	0.50	12/17/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487015
SAF# S13-012
Sample ID B2N137

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		6570		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	B	4.00		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		3020		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		14100		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		45.5		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		29500		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		125		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487015
SAF# S13-012
Sample ID B2N137

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
ICPMS Prep (W)										**12/13/12**
ICP-2008 MS All possible metal										
Uranium	7440-61-1	LA-505-412	D	53.2		ug/L	2	0.10	0.50	12/17/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487016
SAF# S13-012
Sample ID B2N125

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**12/04/12**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<19		ug/L	1	19	95	12/05/12
Magnesium	7439-95-4	LA-505-411		11300		ug/L	1	4.0	20	12/05/12
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Potassium	7440-09-7	LA-505-411		5730		ug/L	1	76	380	12/05/12
Silver	7440-22-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Sodium	7440-23-5	LA-505-411		25200		ug/L	1	10	50	12/05/12
Antimony	7440-36-0	LA-505-411	U	<36		ug/L	1	36	180	12/05/12
Barium	7440-39-3	LA-505-411		61.1		ug/L	1	4.0	20	12/05/12
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
Vanadium	7440-62-2	LA-505-411	B	5.70		ug/L	1	5.0	25	12/05/12
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	25	12/05/12
Calcium	7440-70-2	LA-505-411		52800		ug/L	1	49	240	12/05/12
Strontium	7440-24-6	LA-505-411		229		ug/L	1	9.0	45	12/05/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487016
SAF# S13-012
Sample ID B2N125

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/05/12
ICPMS Prep (W)										**12/13/12**
ICP-2008 MS All possible metal										
Uranium	7440-61-1	LA-505-412	D	92.2		ug/L	2	0.10	0.50	12/17/12

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

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

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Sample # 121487017
SAF# S13-012
Sample ID B2N100

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep (W)										**12/13/12**
ICP-2008 MS All possible metal										
Uranium	7440-61-1	LA-505-412	D	163		ug/L	2	0.10	0.50	12/17/12

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

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

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X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487012
SAF# S13-012
Sample ID B2N0Y6

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										**11/26/12**
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary dilution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487012
SAF# S13-012
Sample ID B2N0Y6

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/27/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor
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B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary dilution factor.
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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
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X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487013
SAF# S13-012
Sample ID B2N103

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										**11/26/12**
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Trichloroethene	79-01-6	LA-523-455	J	1.1		ug/L	1	1	5	11/27/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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J - Analyte < PQL (or EQL) >= MDL.
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T - GC/MS or N - Non GC/MS - MS/MSD recovery outside control limits
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487013
SAF# S13-012
Sample ID B2N103

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/27/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor
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X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
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WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487014
SAF# S13-012
Sample ID B2N107

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										**11/26/12**
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary dilution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487014
SAF# S13-012
Sample ID B2N107

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/27/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor
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D - Analyte was reported at a secondary dilution factor.
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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.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487015
SAF# S13-012
Sample ID B2N137

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										**11/26/12**
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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

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

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487015
SAF# S13-012
Sample ID B2N137

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/27/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary dilution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487016
SAF# S13-012
Sample ID B2N125

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										**11/26/12**
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Trichloroethene	79-01-6	LA-523-455	J	1.3		ug/L	1	1	5	11/27/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary dilution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Sample # 121487016
SAF# S13-012
Sample ID B2N125

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/27/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/27/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/27/12
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/27/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary dilution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Sample # 121487012
SAF# S13-012
Sample ID B2N0Y6

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

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		48	7	pCi/L	1	2.1		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		33	4.9	pCi/L	1	3.8		12/05/12

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

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

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Sample # 121487013
SAF# S13-012
Sample ID B2N103

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

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		16	3.4	pCi/L	1	2.1		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		16	3.4	pCi/L	1	3.8		12/05/12

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

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

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Sample # 121487014
SAF# S13-012
Sample ID B2N107

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Am/Cm/Pu/U/Np Prep (AEA) W										**11/28/12**
Uranium (AEA)										
Uranium-234	U-233/234	LA-508-471		39	10	pCi/L	1	0.084		11/28/12
Uranium-235	15117-96-1	LA-508-471		3.2	.91	pCi/L	1	0.034		11/28/12
Uranium-238	U-238	LA-508-471		36	9.2	pCi/L	1	0.031		11/28/12
GAB Prep for Discrete Analysis (W)										**11/30/12**
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		54	7.6	pCi/L	1	2.1		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		31	4.7	pCi/L	1	3.8		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										**11/20/12**
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		4900	1000	pCi/L	1	300		11/26/12

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

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

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Sample # 121487015
SAF# S13-012
Sample ID B2N137

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Am/Cm/Pu/U/Np Prep (AEA) W										**11/28/12**
Uranium (AEA)										
Uranium-234	U-233/234	LA-508-471		17	4.3	pCi/L	1	0.11		11/28/12
Uranium-235	15117-96-1	LA-508-471		1.4	.42	pCi/L	1	0.11		11/28/12
Uranium-238	U-238	LA-508-471		16	4.3	pCi/L	1	0.096		11/28/12
GAB Prep for Discrete Analysis (W)										**11/30/12**
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		31	5	pCi/L	1	1.8		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		15	3.2	pCi/L	1	3.7		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										**11/20/12**
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		2000	470	pCi/L	1	300		11/26/12

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

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

o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Sample # 121487016
SAF# S13-012
Sample ID B2N125

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Am/Cm/Pu/U/Np Prep (AEA) W										**11/28/12**
Uranium (AEA)										
Uranium-234	U-233/234	LA-508-471		26	6.6	pCi/L	1	0.073		11/28/12
Uranium-235	15117-96-1	LA-508-471		1.8	.55	pCi/L	1	0.029		11/28/12
Uranium-238	U-238	LA-508-471		25	6.4	pCi/L	1	0.073		11/28/12
GAB Prep for Discrete Analysis (W)										**11/30/12**
GAB Discrete analysis Alpha only										
Gross Alpha	12587-46-1	LA-508-415		36	5.8	pCi/L	1	2.1		12/05/12
GAB Discrete analysis Beta only										
Gross Beta	12587-47-2	LA-508-415		26	4.2	pCi/L	1	3.8		12/05/12
Strontium 89/90 WATER/LIQUID PREP										**12/04/12**
Strontium 89/90 (GPC/GEA)										
Strontium-89_90	SR-RAD	LA-220-406	U	-0.063	.91	pCi/L	1	1.6		12/05/12
Tritium by LSC EICHROM WA/LIQ PREP										**11/20/12**
Tritium by LSC										
Tritium	10028-17-8	LA-508-421		4200	910	pCi/L	1	300		11/26/12

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

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

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Sample # 121487012
SAF# S13-012
Sample ID B2N0Y6

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/20/12
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		110		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary dilution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Sample # 121487013
SAF# S13-012
Sample ID B2N103

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/20/12
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		110		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary dilution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Sample # 121487014
SAF# S13-012
Sample ID B2N107

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/20/12
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		110		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary dilution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Sample # 121487015
SAF# S13-012
Sample ID B2N137

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/20/12
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		81		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary dilution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Sample # 121487016
SAF# S13-012
Sample ID B2N125

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

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

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

B - Analyte < the RDL but >= the IDL/MDL.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary dilution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Sample # 121487017
SAF# S13-012
Sample ID B2N100

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/20/12
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		110		mg/L	1	1	10	11/20/12

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

B - Analyte < the RDL but >= the IDL/MDL.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary dilution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)
o - LCS recovery outside established laboratory acceptance limits.

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Analytical Batch 210627 (QC Batch: 210627) **Test** Anions by Ion Chromatography (Water)
Associated Samples 121487001, 121487002, 121487003, 121487004, 121487006

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

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

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

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

* - QC result out of range

n/a - Not Applicable

Quality Control Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Analytical Batch 210716 (QC Batch: 210716)
Associated Samples 121487005

Test Anions by Ion Chromatography (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #85366**							
Fluoride	16984-48-8		<0.023	ug/mL					U	11/20/12
Chloride	16887-00-6		<0.058	ug/mL					U	11/20/12
Nitrite-N	NO2-N		<0.019	ug/mL					U	11/20/12
Bromide	24959-67-9		<0.11	ug/mL					U	11/20/12
Nitrate-N	NO3-N		<0.019	ug/mL					U	11/20/12
Phosphate-P	PO4-P		<0.042	ug/mL					U	11/20/12
Sulfate	14808-79-8		<0.11	ug/mL					U	11/20/12
LCS			**QC Sample #85367**							
Fluoride	16984-48-8		0.948	ug/mL	95.7	90 - 110				11/20/12
Chloride	16887-00-6		1.94	ug/mL	97.8	90 - 110				11/20/12
Nitrite-N	NO2-N		1.00	ug/mL	102.7	90 - 110				11/20/12
Bromide	24959-67-9		4.01	ug/mL	102.1	90 - 110				11/20/12
Nitrate-N	NO3-N		0.903	ug/mL	102	90 - 110				11/20/12
Phosphate-P	PO4-P		1.87	ug/mL	98	90 - 110				11/20/12
Sulfate	14808-79-8		3.99	ug/mL	101.7	90 - 110				11/20/12
DUP			**QC Sample #85368**							
			Original 121488005							

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Fluoride	16984-48-8		0.474	ug/mL			1.10	20	D	11/20/12
Chloride	16887-00-6		11.2	ug/mL			1.70	20	D	11/20/12
Nitrite-N	NO2-N		<0.038	ug/mL			0.00	20	UD	11/20/12
Bromide	24959-67-9		<0.22	ug/mL			0.00	20	UD	11/20/12
Nitrate-N	NO3-N		0.564	ug/mL			0.90	20	D	11/20/12
Phosphate-P	PO4-P		<0.084	ug/mL			0.00	20	UD	11/20/12
Sulfate	14808-79-8		19.2	ug/mL			3.30	20	D	11/20/12
MS			**QC Sample #85369**							
			Original	**121488005**						
Fluoride	16984-48-8		0.985	ug/mL	98.5	80 - 120			D	11/20/12
Chloride	16887-00-6		1.69	ug/mL	84.6	80 - 120			DX	11/20/12
Nitrite-N	NO2-N		0.916	ug/mL	92.7	80 - 120			D	11/20/12
Bromide	24959-67-9		3.86	ug/mL	97.4	80 - 120			D	11/20/12
Nitrate-N	NO3-N		0.850	ug/mL	95.1	80 - 120			D	11/20/12
Phosphate-P	PO4-P		1.98	ug/mL	102.4	80 - 120			D	11/20/12
Sulfate	14808-79-8		3.56	ug/mL	89.9	80 - 120			D	11/20/12
MSD			**QC Sample #85370**							
			Original	**121488005**				**Paired**	**85369**	
Fluoride	16984-48-8		0.958	ug/mL	95.8	80 - 120	1.90	20	D	11/20/12
Chloride	16887-00-6		1.43	ug/mL	71.3	80 - 120	2.10	20	DX	11/20/12
Nitrite-N	NO2-N		0.900	ug/mL	91.1	80 - 120	1.80	20	D	11/20/12
Bromide	24959-67-9		3.98	ug/mL	100.5	80 - 120	3.10	20	D	11/20/12
Nitrate-N	NO3-N		0.848	ug/mL	94.8	80 - 120	0.20	20	D	11/20/12
Phosphate-P	PO4-P		1.92	ug/mL	99.2	80 - 120	3.20	20	D	11/20/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Sulfate	14808-79-8		3.28	ug/mL	82.7	80 - 120	1.20	20	D	11/20/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analytical Batch 210735 (QC Batch: 210734) **Test** SW-846 8260B Volatiles
Associated Samples 121487012, 121487013, 121487014, 121487015, 121487016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #85414**							
1,1-Dichloroethene	75-35-4		<1	ug/L					U	11/27/12
Trichloroethene	79-01-6		<1	ug/L					U	11/27/12
Benzene	71-43-2		<1	ug/L					U	11/27/12
Toluene	108-88-3		<1	ug/L					U	11/27/12
Chlorobenzene	108-90-7		<1	ug/L					U	11/27/12
1,1-Dichloroethane	75-34-3		<1	ug/L					U	11/27/12
Ethylbenzene	100-41-4		<1	ug/L					U	11/27/12
1,2-Dichloroethane	107-06-2		<1	ug/L					U	11/27/12
Methyl isobutyl ketone	108-10-1		<1	ug/L					U	11/27/12
Tetrachloroethene	127-18-4		<1	ug/L					U	11/27/12
Total Xylenes	1330-20-7		<1	ug/L					U	11/27/12
Carbon tetrachloride	56-23-5		<1	ug/L					U	11/27/12
Acetone	67-64-1		<1	ug/L					U	11/27/12
Chloroform	67-66-3		<1	ug/L					U	11/27/12
1,1,1-Trichloroethane	71-55-6		<1	ug/L					U	11/27/12
Vinyl chloride	75-01-4		<1	ug/L					U	11/27/12
Methylene chloride	75-09-2		<1	ug/L					U	11/27/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Carbon disulfide	75-15-0		<1	ug/L					U	11/27/12
Methyl ethyl ketone	78-93-3		<1	ug/L					U	11/27/12
1,1,2-Trichloroethane	79-00-5		<1	ug/L					U	11/27/12
1-Butanol	71-36-3		<100	ug/L					U	11/27/12
Tetrahydrofuran	109-99-9		<2	ug/L					U	11/27/12
trans-1,2-Dichloroethene	156-60-5		<1	ug/L					U	11/27/12
cis-1,2-Dichloroethene	156-59-2		<1	ug/L					U	11/27/12
Propionitrile	107-12-0		<2	ug/L					U	11/27/12
1,4-Dichlorobenzene	106-46-7		<1	ug/L					U	11/27/12
LCS			**QC Sample #85415**							
1,1-Dichloroethene	75-35-4		20	ug/L	79.2	75 - 125				11/27/12
Trichloroethene	79-01-6		24	ug/L	96.2	75 - 125				11/27/12
Benzene	71-43-2		26	ug/L	102.1	75 - 125				11/27/12
Toluene	108-88-3		25	ug/L	101.7	75 - 125				11/27/12
Chlorobenzene	108-90-7		25	ug/L	99.8	75 - 125				11/27/12
1,1-Dichloroethane	75-34-3		23	ug/L	93.4	75 - 125				11/27/12
Ethylbenzene	100-41-4		26	ug/L	105.1	75 - 125				11/27/12
1,2-Dichloroethane	107-06-2		26	ug/L	104.3	75 - 125				11/27/12
1,1,1-Trichloroethane	71-55-6		25	ug/L	98.9	75 - 125				11/27/12
Carbon disulfide	75-15-0		20	ug/L	78.5	75 - 125				11/27/12
1,1,2-Trichloroethane	79-00-5		25	ug/L	101.1	75 - 125				11/27/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
trans-1,2-Dichloroethene	156-60-5		23	ug/L	91.4	75 - 125				11/27/12
cis-1,2-Dichloroethene	156-59-2		24	ug/L	95.7	75 - 125				11/27/12
MS			**QC Sample #85416**							
			Original 121487012							
1,1-Dichloroethene	75-35-4	<1	20	ug/L	79.2	75 - 125				11/27/12
Trichloroethene	79-01-6	<1	25	ug/L	101.1	75 - 125				11/27/12
Benzene	71-43-2	<1	26	ug/L	103.8	75 - 125				11/27/12
Toluene	108-88-3	<1	26	ug/L	103.7	75 - 125				11/27/12
Chlorobenzene	108-90-7	<1	25	ug/L	101.7	75 - 125				11/27/12
1,1-Dichloroethane	75-34-3	<1	24	ug/L	94.1	75 - 125				11/27/12
Ethylbenzene	100-41-4	<1	27	ug/L	108.6	75 - 125				11/27/12
1,2-Dichloroethane	107-06-2	<1	26	ug/L	104.8	75 - 125				11/27/12
1,1,1-Trichloroethane	71-55-6	<1	25	ug/L	99.4	75 - 125				11/27/12
Carbon disulfide	75-15-0	<1	20	ug/L	78.7	75 - 125				11/27/12
1,1,2-Trichloroethane	79-00-5	<1	26	ug/L	102.4	75 - 125				11/27/12
trans-1,2-Dichloroethene	156-60-5	<1	23	ug/L	92.8	75 - 125				11/27/12
cis-1,2-Dichloroethene	156-59-2	<1	25	ug/L	99.1	75 - 125				11/27/12
MSD			**QC Sample #85417**							
			Original 121487012					**Paired**	**85416**	
1,1-Dichloroethene	75-35-4	<1	20	ug/L	78.6	75 - 125	0.70	20		11/27/12
Trichloroethene	79-01-6	<1	25	ug/L	99.3	75 - 125	1.80	20		11/27/12
Benzene	71-43-2	<1	25	ug/L	101.4	75 - 125	2.30	20		11/27/12
Toluene	108-88-3	<1	26	ug/L	102.8	75 - 125	0.80	20		11/27/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chlorobenzene	108-90-7	<1	25	ug/L	99.4	75 - 125	2.20	20		11/27/12
1,1-Dichloroethane	75-34-3	<1	23	ug/L	93.8	75 - 125	0.30	20		11/27/12
Ethylbenzene	100-41-4	<1	27	ug/L	106.8	75 - 125	1.60	20		11/27/12
1,2-Dichloroethane	107-06-2	<1	25	ug/L	98.9	75 - 125	5.80	20		11/27/12
1,1,1-Trichloroethane	71-55-6	<1	25	ug/L	99.7	75 - 125	0.20	20		11/27/12
Carbon disulfide	75-15-0	<1	20	ug/L	78.3	75 - 125	0.50	20		11/27/12
1,1,2-Trichloroethane	79-00-5	<1	24	ug/L	94.5	75 - 125	8.00	20		11/27/12
trans-1,2-Dichloroethene	156-60-5	<1	23	ug/L	92.6	75 - 125	0.20	20		11/27/12
cis-1,2-Dichloroethene	156-59-2	<1	24	ug/L	97.8	75 - 125	1.30	20		11/27/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 210748 (QC Batch: 210616)
Associated Samples 121487014, 121487015, 121487016

Test Tritium by LSC

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF121487

Analytical Batch 210754 (QC Batch: 210754) **Test** Total Alkalinity as mg/L CaCO3 (Water)
Associated Samples 121487012, 121487013, 121487014, 121487015, 121487016, 121487017

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 210830 (QC Batch: 210624)
Associated Samples 121487014, 121487015, 121487016

Test Uranium (AEA)

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 211030 (QC Batch: 210632) **Test** GAB Discrete analysis Alpha only
Associated Samples 121487012, 121487013, 121487014, 121487015, 121487016

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 211031 (QC Batch: 210632) **Test** GAB Discrete analysis Beta only
Associated Samples 121487012, 121487013, 121487014, 121487015, 121487016

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 211238 (QC Batch: 210927)
Associated Samples 121487016

Test Strontium 89/90 (GPC/GEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #85714**							
Strontium-89_90	SR-RAD		0.64	pCi/L					U	12/05/12
LCS			**QC Sample #85715**							
Strontium-89_90	SR-RAD		91	pCi/L	101.9	80 - 120				12/05/12
DUP			**QC Sample #85716**							
			Original 121468014							
Strontium-89_90	SR-RAD		1.1	pCi/L			13.70	20	U	12/05/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Analytical Batch 211244 (QC Batch: 211218) **Test** ICP-6010 - All possible metals
Associated Samples 121487007, 121487008, 121487009, 121487010, 121487011, 121487012, 121487013, 121487014, 121487015, 121487016

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

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

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

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

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF121487

Analytical Batch 211628 (QC Batch: 211619) **Test** ICP-2008 MS All possible metal
Associated Samples 121487012, 121487013, 121487014, 121487015, 121487016, 121487017

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

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analytical Batch 210735 (QC Batch: 210734) **Test** SW-846 8260B Volatiles
Associated Samples 121487012, 121487013, 121487014, 121487015, 121487016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #121487012**							
1,2-Dichloroethane-d4	17060-07-0				96.4	75 - 125				11/27/12
Toluene-d8	2037-26-5				94	75 - 125				11/27/12
4-Bromofluorobenzene	460-00-4				100	75 - 125				11/27/12
SAMPLE			**Sample #121487013**							
1,2-Dichloroethane-d4	17060-07-0				94.2	75 - 125				11/27/12
Toluene-d8	2037-26-5				94.1	75 - 125				11/27/12
4-Bromofluorobenzene	460-00-4				99.4	75 - 125				11/27/12
SAMPLE			**Sample #121487014**							
1,2-Dichloroethane-d4	17060-07-0				99.9	75 - 125				11/27/12
Toluene-d8	2037-26-5				94.3	75 - 125				11/27/12
4-Bromofluorobenzene	460-00-4				99.2	75 - 125				11/27/12
SAMPLE			**Sample #121487015**							
1,2-Dichloroethane-d4	17060-07-0				98.5	75 - 125				11/27/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				94	75 - 125				11/27/12
4-Bromofluorobenzene	460-00-4				100.7	75 - 125				11/27/12
SAMPLE			**Sample #121487016**							
1,2-Dichloroethane-d4	17060-07-0				97.3	75 - 125				11/27/12
Toluene-d8	2037-26-5				93.1	75 - 125				11/27/12
4-Bromofluorobenzene	460-00-4				99.3	75 - 125				11/27/12
BLANK			**QC Sample #85414**							
1,2-Dichloroethane-d4	17060-07-0				96.9	75 - 125				11/27/12
Toluene-d8	2037-26-5				94.2	75 - 125				11/27/12
4-Bromofluorobenzene	460-00-4				98.8	75 - 125				11/27/12
LCS			**QC Sample #85415**							
4-Bromofluorobenzene	460-00-4				94.4	75 - 125				11/27/12
1,2-Dichloroethane-d4	17060-07-0				99.6	75 - 125				11/27/12
Toluene-d8	2037-26-5				92.5	75 - 125				11/27/12
MS			**QC Sample #85416**							
			Original 121487012							
1,2-Dichloroethane-d4	17060-07-0				98.7	75 - 125				11/27/12
Toluene-d8	2037-26-5				93.6	75 - 125				11/27/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121487

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
4-Bromofluorobenzene	460-00-4				94.9	75 - 125				11/27/12
MSD			**QC Sample #85417**							
			Original	**121487012**				**Paired**	**85416**	
1,2-Dichloroethane-d4	17060-07-0				95.2	75 - 125	n/a			11/27/12
Toluene-d8	2037-26-5				93.3	75 - 125	n/a			11/27/12
4-Bromofluorobenzene	460-00-4				94.8	75 - 125	n/a			11/27/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 210830 (QC Batch: 210624)
Associated Samples 121487014, 121487015, 121487016

Test Uranium (AEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #121487014**							
Uranium-232 Tracer	14158-29-3				77.2	25 - 105				11/28/12
SAMPLE			**Sample #121487015**							
Uranium-232 Tracer	14158-29-3				91	25 - 105				11/28/12
SAMPLE			**Sample #121487016**							
Uranium-232 Tracer	14158-29-3				82.1	25 - 105				11/28/12
BLANK			**QC Sample #85291**							
Uranium-232 Tracer	14158-29-3				97.3	25 - 105				11/28/12
LCS			**QC Sample #85292**							
Uranium-232 Tracer	14158-29-3				73.6	25 - 105				11/28/12
DUP			**QC Sample #85293**							
			Original 121486016							
Uranium-232 Tracer	14158-29-3				80.9	25 - 105	n/a			11/28/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

DECEMBER 19, 2012

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF121487

Analytical Batch 211238 (QC Batch: 210927)
Associated Samples 121487016

Test Strontium 89/90 (GPC/GEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #121487016**							
Strontium Nitrate	10042-76-9			mg	70.2	25 - 105				12/05/12
BLANK			**QC Sample #85714**							
Strontium Nitrate	10042-76-9			mg	63.6	25 - 105				12/05/12
LCS			**QC Sample #85715**							
Strontium Nitrate	10042-76-9			mg	73.6	25 - 105				12/05/12
DUP			**QC Sample #85716**							
			Original 121468014							
Strontium Nitrate	10042-76-9			mg	72.7	25 - 105	n/a			12/05/12

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

Attention: Scot Fitzgerald **Group #** WSCF121487

Quality Control Comments

Department Inorganic

85298 B2N177(121486004MS)

Analyte Sulfate - Anions by Ion Chromatography (Water)
[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85299 B2N177(121486004MSD)

Analyte Sulfate - Anions by Ion Chromatography (Water)
[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85369 B2N0W3(121488005MS)

Analyte Chloride - Anions by Ion Chromatography (Water)
[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85370 B2N0W3(121488005MSD)

Analyte Chloride - Anions by Ion Chromatography (Water)
[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85904 B2N182(121486007MS)

Analyte Calcium - ICP-6010 - All possible metals
[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

85905 B2N182(121486007MSD)

Analyte Calcium - ICP-6010 - All possible metals
[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

Attention: Scot Fitzgerald

Group # WSCF121487

Quality Control Comments

Department Radiochemistry

85291 BLANK for HBN 210624 [RADP/737

Analyte Uranium-234 - Uranium (AEA)

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

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 15 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 #: 121487
Profile #: S13-012-519
Proj. Mgr.:
Phone:

The following samples were received from you on 11/19/2012 2:50:00 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		
121487001	B2N0Y7	WATER	11/19/2012 13:59	11/19/2012 14:50
		IC-W		
121487002	B2N101	WATER	11/19/2012 11:21	11/19/2012 14:50
		IC-W		
121487003	B2N104	WATER	11/19/2012 13:15	11/19/2012 14:50
		IC-W		
121487004	B2N108	WATER	11/19/2012 12:30	11/19/2012 14:50
		IC-W		
121487005	B2N126	WATER	11/19/2012 10:05	11/19/2012 14:50
		IC-W		
121487006	B2N138	WATER	11/19/2012 11:57	11/19/2012 14:50
		IC-W		
121487007	B2N0Y8	WATER	11/19/2012 13:59	11/19/2012 14:50
		6010-W		
121487008	B2N105	WATER	11/19/2012 13:15	11/19/2012 14:50
		6010-W		
121487009	B2N109	WATER	11/19/2012 12:30	11/19/2012 14:50
		6010-W		
121487010	B2N139	WATER	11/19/2012 11:57	11/19/2012 14:50
		6010-W		
121487011	B2N127	WATER	11/19/2012 10:05	11/19/2012 14:50

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

		6010-W		
121487012	B2N0Y6	WATER	11/19/2012 13:59	11/19/2012 14:50
		2008-W; 6010-W; 8260V-W; ALK-W; GAB-AO-W; GAB-BO-W		
121487013	B2N103	WATER	11/19/2012 13:15	11/19/2012 14:50
		2008-W; 6010-W; 8260V-W; ALK-W; GAB-AO-W; GAB-BO-W		
121487014	B2N107	WATER	11/19/2012 12:30	11/19/2012 14:50
		2008-W; 6010-W; 8260V-W; AEA-U-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121487015	B2N137	WATER	11/19/2012 11:57	11/19/2012 14:50
		2008-W; 6010-W; 8260V-W; AEA-U-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W		
121487016	B2N125	WATER	11/19/2012 10:05	11/19/2012 14:50
		2008-W; 6010-W; 8260V-W; AEA-U-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W; SR89/90-W		
121487017	B2N100	WATER	11/19/2012 11:21	11/19/2012 14:50
		2008-W; ALK-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
8260V-W	Volatiles by 8260B (W)
AEA-U-W	Uranium Isotopic (AEA) (W)
ALK-W	Total Alkalinity (W)
GAB-AO-W	Gross Alpha/Beta (A only)(W)
GAB-BO-W	Gross Alpha/Beta (B only)(W)
H3-COL-W	Tritium by EICHROM Column (W)
IC-W	Anions by IC (W)
SR89/90-W	Strontium 89/90 (GPC) (W)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S13-012-519 Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51/52	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	PRIORITY	Offsite Property No.	N/A

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

121487

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
B2N0Y7	1	N	W	11.19.12	1359	1x500 mL P	300.0_ANIONS_IC: List-1 + Brom_Phosp (7)	48 Hours	Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER			NOV 19 2012 1450	TA Frazier			NOV 19 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 10/24/2012 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S13-012-521 Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51152	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N101 2	N	W	10-19-12	1121	1x500-mL P	300.0_ANIONS_IC. List-1 + Brom_Phosp (7)	48 Hours	Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER		NOV 19 2012	1450	TA FRAZIER		NOV 19 2012	1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 10/24/2012 A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-523**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51152	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 **PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N104 3	N	W	11-19-12	1315	1x500-mL P	300.0_ANIONS_IC. List-1 (5)	48 Hours	Cool~4C

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
JANELLE ZUNKER	Janelle Zunker	NOV 19 2012 1450	TA FRAZIER	Jess. Frazier	NOV 19 2012 1450
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

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

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

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A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-525**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51152	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 **PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N108 4	N	W	11-19-12	1230	1x500-mL P	300.0_ANIONS_IC: List-1 + Brom_Phosp (7)	48 Hours	Cool~4C

11/19/12 tab 11-19-12

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER		Janelle Zunker	NOV 1 9 2012 1450	TA FRAZIER		Tanya Frazier	NOV 19 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S13-012-535 Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51/52	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N126 5	N	W	11-19-12	1005	1x500-mL P	300.0_ANIONS_IC: List-1 + Brom_Phosp (7)	48 Hours	Cool~4C

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
JANELLE ZUNKER	Janelle Zunker	NOV 19 2012 1450	TA Frazier	Teresa Frazier	NOV 19 2012 1450
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

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SE	= Sediment	DL	= Drum Liquids
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SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

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

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A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-541**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51/52	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 **PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N138 6	N	W	11-19-12	1157	1x500-mL P	300.0_ANIONS_IC: List-1 + Brom_Phosp (7)	48 Hours	Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER		Janelle Zunker	NOV 19 2012 1450	TA FRAZIER		Tess. Fr	NOV 19 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-518**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51 / 52	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	**PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N0Y6 12	N	W	11-19-12	1359	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N0Y6	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2N0Y6	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N0Y6	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2N0Y6	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N0Y8 7	Y	W	11-19-12	1359	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER			NOV 1 9 2012 1450	TA FRAZIER			NOV 1 9 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 10/24/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-522**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51/52	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	**PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N103 13	N	W	11-19-12	1315	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N103	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2N103	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N103	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2N103	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N105 8	Y	W	11-19-12	1315	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER		Janelle Zunker	NOV 19 2012 1450	TA Fnazier		Teresa Frazier	NOV 19 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 10/24/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-524**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51/52	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 **PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N109 9	Y	W	11-19-12	1230	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N107 14	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N107	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2N107	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N107	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2N107	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N107	N	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None
B2N107	N	W	11-19-12	1230	1x1-L G/P	UISO_IE_PRECIP_AEA: List-1 (3)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER		NOV 19 2012	1450	TA FRAZIER			NOV 19 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED 10/24/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-540**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 511 52	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	**PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N137 15	N	W	11-19-12	1157	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N137	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2N137	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N137	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2N137	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N137	N	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None
B2N137	N	W			1x1-L G/P	UISO_IE_PRECIP_AEA: List-1 (3)	6 Months	HNO3 to pH <2
B2N139 10	Y	W	11-19-12	1157	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER	Janelle Zunker	NOV 19 2012	1450	TA FRANKEN	Teresa Franken	NOV 19 2012	1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 10/24/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S13-012-534**

Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51152	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	**PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N125 16	N	W	11-19-12	1005	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N125	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2N125	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2N125	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2N125	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B2N125	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B2N125	N	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None
B2N125	N	W			1x1-L G/P	UISO_IE_PRECIP_AEA: List-1 (3)	6 Months	HNO3 to pH <2
B2N127 N	Y	W	11-19-12	1005	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER			NOV 19 2012 1450	TA FRAZIER			NOV 19 2012 1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 10/24/2012

A-6004-842 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S13-012-520 Page 1 of 1

Collector	JANELLE ZUNKER	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2012	Logbook No.	HNF-N-506 51/52	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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
B2N100 17	N	W	10-19-12	1121	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B2N100 ↓	N	W	10-19-12	1121	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JANELLE ZUNKER		NOV 19 2012	1450	TA FRAZIER		NOV 19 2012	1450
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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