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

May 2, 2014

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

Dear Scot Fitzgerald,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF140621

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 WSCF140621

* 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 # WSCF140621
Data Deliverable Date 05/05/14

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
W14-004	B2W5K8	140621001	WATER	04/04/14	04/04/14
W14-004	B2W5J2	140621002	WATER	04/04/14	04/04/14
W14-004	B2W624	140621003	WATER	04/04/14	04/04/14
W14-004	B2W623	140621004	WATER	04/04/14	04/04/14
W14-004	B2W622	140621005	WATER	04/04/14	04/04/14
W14-004	B2W610	140621006	WATER	04/04/14	04/04/14
W14-004	B2W611	140621007	WATER	04/04/14	04/04/14
W14-004	B2W612	140621008	WATER	04/04/14	04/04/14
W14-004	B2W5L0	140621009	WATER	04/04/14	04/04/14
W14-004	B2W5J4	140621010	WATER	04/04/14	04/04/14

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Attachment 2
Narrative
WSCF140621

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), to Contract 39818, Revision 4, "WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

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.
- **o** – LCS recovery outside established laboratory acceptance limits.

Analytical Methodology for Requested Analyses

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

Attachment 2
Narrative
WSCF140621

Inorganic Comments

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

- 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.

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.

Total Organic Carbon – 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.

Total Organic Halides – 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.

Organic Comments

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

- All applicable QC controls are within the established limits.

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 47 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 # WSCF140621
Report Date May 2, 2014

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.

Batch QC List

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
231244	232244	5	BLANK	108543	BLANK		ICP-6010 - All possible metals
231244	232244	7	LCS	108545	LCS		ICP-6010 - All possible metals
231244	232244	9	MS	108546	B2W5L4(140615015MS)	140615015	ICP-6010 - All possible metals
231244	232244	10	MSD	108547	B2W5L4(140615015MSD	140615015	ICP-6010 - All possible metals
231244	232244	11	SAMPLE	140621001	B2W5K8		ICP-6010 - All possible metals
231244	232244	12	SAMPLE	140621002	B2W5J2		ICP-6010 - All possible metals
231244	232244	13	SAMPLE	140621009	B2W5L0		ICP-6010 - All possible metals
231244	232244	14	SAMPLE	140621010	B2W5J4		ICP-6010 - All possible metals
232361	232362	1	BLANK	109481	BLANK		Total Organic Halides
232361	232362	2	LCS	109482	LCS		Total Organic Halides
232361	232362	4	MS	109483	B2W605(140615008MS)	140615008	Total Organic Halides
232361	232362	5	MSD	109484	B2W605(140615008MSD	140615008	Total Organic Halides
232361	232362	11	SAMPLE	140621001	B2W5K8		Total Organic Halides
232361	232362	12	SAMPLE	140621002	B2W5J2		Total Organic Halides
232361	232362	13	SAMPLE	140621003	B2W624		Total Organic Halides
232363	232365	1	BLANK	109490	BLANK		Total Organic Halides
232363	232365	2	LCS	109491	LCS		Total Organic Halides
232363	232365	4	MS	109492	B2W623(140621004MS)	140621004	Total Organic Halides
232363	232365	5	MSD	109493	B2W623(140621004MSD	140621004	Total Organic Halides
232363	232365	6	SAMPLE	140621004	B2W623		Total Organic Halides
232363	232365	7	SAMPLE	140621005	B2W622		Total Organic Halides
232363	232365	8	SAMPLE	140621006	B2W610		Total Organic Halides
232363	232365	9	SAMPLE	140621007	B2W611		Total Organic Halides

Batch QC List

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
232363	232365	10	SAMPLE	140621008	B2W612		Total Organic Halides

Batch QC List

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
231236	232146	1	BLANK	108489	BLANK		SW-846 8270D Semivolatiles
231236	232146	2	LCS	108490	LCS		SW-846 8270D Semivolatiles
231236	232146	3	MS	108491	B2W5D6(140609001MS)	140609001	SW-846 8270D Semivolatiles
231236	232146	4	MSD	108492	B2W5D6(140609001MSD	140609001	SW-846 8270D Semivolatiles
231236	232146	11	SAMPLE	140621002	B2W5J2		SW-846 8270D Semivolatiles

Batch QC List

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
231437	231437	1	LCS	108614	LCS		Total Alkalinity as mg/L CaCO3 (Water)
231437	231437	2	DUP	108615	B2W5H4(140615002DUP	140615002	Total Alkalinity as mg/L CaCO3 (Water)
231437	231437	6	SAMPLE	140621001	B2W5K8		Total Alkalinity as mg/L CaCO3 (Water)
231437	231437	13	LCS	108616	LCS		Total Alkalinity as mg/L CaCO3 (Water)
231863	231863	2	BLANK	108925	BLANK		Total Organic Carbon
231863	231863	3	LCS	108926	LCS		Total Organic Carbon
231863	231863	17	MS	108930	B2W626(140615011MS)	140615011	Total Organic Carbon
231863	231863	18	MSD	108931	B2W626(140615011MSD)	140615011	Total Organic Carbon
231863	231863	21	SAMPLE	140621001	B2W5K8		Total Organic Carbon
231863	231863	22	SAMPLE	140621002	B2W5J2		Total Organic Carbon
231863	231863	23	SAMPLE	140621003	B2W624		Total Organic Carbon
231863	231863	24	SAMPLE	140621004	B2W623		Total Organic Carbon
231863	231863	25	SAMPLE	140621005	B2W622		Total Organic Carbon
231863	231863	26	SAMPLE	140621006	B2W610		Total Organic Carbon
231863	231863	27	SAMPLE	140621007	B2W611		Total Organic Carbon
231863	231863	28	SAMPLE	140621008	B2W612		Total Organic Carbon

Method Reference

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

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-523-444	Total Organic Halides Based on SW-846 Method 9020B		
	EPA SW-846	9020B	Total Organic Halides (TOX)
	HEIS	9020_TOX	Total Organic Halides (TOX)

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

Method Reference

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

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

LA-523-456 Semivolatile Sample Analysis by SW-846 Method 8270D

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

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

Method Reference

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

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
LA-344-406	Total Organic Carbon (TOC) Based on SW-846		
	EPA SW-846	9060	Total Organic Carbon
	HEIS	9060_TOC	Total Organic Carbon

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

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621001
SAF# W14-004
Sample ID B2W5K8

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**04/23/14**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<40		ug/L	1	40	50	04/23/14
Magnesium	7439-95-4	LA-505-411		15700		ug/L	1	60	750	04/23/14
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Nickel	7440-02-0	LA-505-411	U	<10		ug/L	1	10	40	04/23/14
Potassium	7440-09-7	LA-505-411		7340		ug/L	1	250	4000	04/23/14
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Sodium	7440-23-5	LA-505-411		17800		ug/L	1	100	500	04/23/14
Antimony	7440-36-0	LA-505-411	U	<20		ug/L	1	20	60	04/23/14
Barium	7440-39-3	LA-505-411		33.1		ug/L	1	4.0	20	04/23/14
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Chromium	7440-47-3	LA-505-411	B	8.98		ug/L	1	5.0	10	04/23/14
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	04/23/14
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	8.0	04/23/14
Vanadium	7440-62-2	LA-505-411	B	21.9		ug/L	1	5.0	25	04/23/14
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Calcium	7440-70-2	LA-505-411		57200		ug/L	1	50	1000	04/23/14
Strontium	7440-24-6	LA-505-411		268		ug/L	1	8.0	10	04/23/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621001
SAF# W14-004
Sample ID B2W5K8

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Arsenic	7440-38-2	LA-505-411	U	<25		ug/L	1	25	30	04/23/14
Beryllium	7440-41-7	LA-505-411	U	<2.0		ug/L	1	2.0	4.0	04/23/14
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	10.7		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621002
SAF# W14-004
Sample ID B2W5J2

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**04/23/14**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<40		ug/L	1	40	50	04/23/14
Magnesium	7439-95-4	LA-505-411		18800		ug/L	1	60	750	04/23/14
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Nickel	7440-02-0	LA-505-411	U	<10		ug/L	1	10	40	04/23/14
Potassium	7440-09-7	LA-505-411		7930		ug/L	1	250	4000	04/23/14
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Sodium	7440-23-5	LA-505-411		25000		ug/L	1	100	500	04/23/14
Antimony	7440-36-0	LA-505-411	U	<20		ug/L	1	20	60	04/23/14
Barium	7440-39-3	LA-505-411		45.3		ug/L	1	4.0	20	04/23/14
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Chromium	7440-47-3	LA-505-411		20.9		ug/L	1	5.0	10	04/23/14
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	04/23/14
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	8.0	04/23/14
Vanadium	7440-62-2	LA-505-411	B	17.3		ug/L	1	5.0	25	04/23/14
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Calcium	7440-70-2	LA-505-411		68800		ug/L	1	50	1000	04/23/14
Arsenic	7440-38-2	LA-505-411	U	<25		ug/L	1	25	30	04/23/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621002
SAF# W14-004
Sample ID B2W5J2

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	10.7		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621003
SAF# W14-004
Sample ID B2W624

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	9.75		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621004
SAF# W14-004
Sample ID B2W623

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	7.21		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621005
SAF# W14-004
Sample ID B2W622

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	7.50		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621006
SAF# W14-004
Sample ID B2W610

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	9.59		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621007
SAF# W14-004
Sample ID B2W611

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	7.61		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621008
SAF# W14-004
Sample ID B2W612

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for TOX (W)										**04/15/14**
Total Organic Halides										
Total Organic Halides	59473-04-0	LA-523-444	B	8.68		ug/L	1	5.0	15	04/15/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621009
SAF# W14-004
Sample ID B2W5L0

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**04/23/14**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<40		ug/L	1	40	50	04/23/14
Magnesium	7439-95-4	LA-505-411		15500		ug/L	1	60	750	04/23/14
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Nickel	7440-02-0	LA-505-411	U	<10		ug/L	1	10	40	04/23/14
Potassium	7440-09-7	LA-505-411		7240		ug/L	1	250	4000	04/23/14
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Sodium	7440-23-5	LA-505-411		17600		ug/L	1	100	500	04/23/14
Antimony	7440-36-0	LA-505-411	U	<20		ug/L	1	20	60	04/23/14
Barium	7440-39-3	LA-505-411		31.8		ug/L	1	4.0	20	04/23/14
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Chromium	7440-47-3	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	04/23/14
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	8.0	04/23/14
Vanadium	7440-62-2	LA-505-411	B	22.0		ug/L	1	5.0	25	04/23/14
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Calcium	7440-70-2	LA-505-411		56300		ug/L	1	50	1000	04/23/14
Strontium	7440-24-6	LA-505-411		263		ug/L	1	8.0	10	04/23/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621009
SAF# W14-004
Sample ID B2W5L0

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Arsenic	7440-38-2	LA-505-411	U	<25		ug/L	1	25	30	04/23/14
Beryllium	7440-41-7	LA-505-411	U	<2.0		ug/L	1	2.0	4.0	04/23/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Sample # 140621010
SAF# W14-004
Sample ID B2W5J4

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPAES Prep (W)										**04/23/14**
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<40		ug/L	1	40	50	04/23/14
Magnesium	7439-95-4	LA-505-411		17400		ug/L	1	60	750	04/23/14
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Nickel	7440-02-0	LA-505-411	U	<10		ug/L	1	10	40	04/23/14
Potassium	7440-09-7	LA-505-411		7380		ug/L	1	250	4000	04/23/14
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Sodium	7440-23-5	LA-505-411		23200		ug/L	1	100	500	04/23/14
Antimony	7440-36-0	LA-505-411	U	<20		ug/L	1	20	60	04/23/14
Barium	7440-39-3	LA-505-411		42.1		ug/L	1	4.0	20	04/23/14
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	5.0	04/23/14
Chromium	7440-47-3	LA-505-411		15.6		ug/L	1	5.0	10	04/23/14
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	04/23/14
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	8.0	04/23/14
Vanadium	7440-62-2	LA-505-411	B	15.8		ug/L	1	5.0	25	04/23/14
Zinc	7440-66-6	LA-505-411	U	<5.0		ug/L	1	5.0	10	04/23/14
Calcium	7440-70-2	LA-505-411		64200		ug/L	1	50	1000	04/23/14
Arsenic	7440-38-2	LA-505-411	U	<25		ug/L	1	25	30	04/23/14

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.

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Sample # 140621002
SAF# W14-004
Sample ID B2W5J2

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8270 (W) CLE										**04/08/14**
SW-846 8270D Semivolatiles										
4-Nitrophenol	100-02-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
Phenol	108-95-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
Pentachlorophenol	87-86-5	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2-Chlorophenol	95-57-8	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2,4-Dimethylphenol	105-67-9	LA-523-456	U	<1		ug/L	1	1	2	04/22/14
2,4-Dichlorophenol	120-83-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2,4-Dinitrophenol	51-28-5	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
4,6-Dinitro-2-methylphenol	534-52-1	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2-Nitrophenol	88-75-5	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2-Methylphenol	95-48-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2,4,5-Trichlorophenol	95-95-4	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
3 & 4 Methylphenol, Total	65794-96-9	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2,4,6-Trichlorophenol	88-06-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
2,3,4,6-Tetrachlorophenol	58-90-2	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14

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 - Exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Sample # 140621002
SAF# W14-004
Sample ID B2W5J2

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
2,6-Dichlorophenol	87-65-0	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14
Dinoseb(..dinitromethylphenol)	88-85-7	LA-523-456	U	<0.9		ug/L	1	0.9	1	04/22/14

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 - Exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621001
SAF# W14-004
Sample ID B2W5K8

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/09/14
Total Alkalinity as mg/L CaCO3 (Water)										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		97		mg/L	1	1	10	04/09/14
Carbonate	CO3ALKALINI	LA-531-411	U	<1		mg/L	1	1		04/09/14
Bicarbonate	71-52-3	LA-531-411		97		mg/L	1	1		04/09/14
Hydroxyl ion	84625-61-6	LA-531-411	U	<1		mg/L	1	1		04/09/14
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.212		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621002
SAF# W14-004
Sample ID B2W5J2

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.237		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621003
SAF# W14-004
Sample ID B2W624

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.223		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621004
SAF# W14-004
Sample ID B2W623

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.210		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621005
SAF# W14-004
Sample ID B2W622

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.242		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621006
SAF# W14-004
Sample ID B2W610

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.232		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621007
SAF# W14-004
Sample ID B2W611

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.221		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Sample # 140621008
SAF# W14-004
Sample ID B2W612

Matrix WATER
Sampled 04/04/14
Received 04/04/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/14/14
Total Organic Carbon										
Total Organic Carbon	TOC	LA-344-406	B	0.231		mg/L	1	0.10	0.30	04/14/14

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.
Ignitability: <20C listed in the result field indicates sample ignited at room temperature. Maximum temperature tested for ignitability is at 100C

Quality Control Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Analytical Batch 231437 (QC Batch: 231437) **Test** Total Alkalinity as mg/L CaCO3 (Water)
Associated Samples 140621001

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			**QC Sample #108614**							
Total Alkalinity as CaCO3	ALKALINITY		95	mg/L	94.8	80 - 120				04/09/14
DUP			**QC Sample #108615**							
			Original 140615002							
Total Alkalinity as CaCO3	ALKALINITY		67	mg/L			2.90	20		04/09/14
LCS			**QC Sample #108616**							
Total Alkalinity as CaCO3	ALKALINITY		97	mg/L	96.9	80 - 120				04/09/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Wet Chemistry

Group # WSCF140621

Analytical Batch 231863 (QC Batch: 231863) **Test** Total Organic Carbon
Associated Samples 140621001, 140621002, 140621003, 140621004, 140621005, 140621006, 140621007, 140621008

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #108925**							
Total Organic Carbon	TOC		<0.045	mg/L					U	04/14/14
LCS			**QC Sample #108926**							
Total Organic Carbon	TOC		1.95	mg/L	97.7	80 - 120				04/14/14
MS			**QC Sample #108930**							
			Original 140615011							
Total Organic Carbon	TOC		2.07	mg/L	103.3	75 - 125				04/14/14
MSD			**QC Sample #108931**							
			Original 140615011					**Paired**	**108930**	
Total Organic Carbon	TOC		2.06	mg/L	102.9	75 - 125	0.30	20		04/14/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Analytical Batch 232146 (QC Batch: 231236) **Test** SW-846 8270D Semivolatiles
Associated Samples 140621002

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #108489**						
4-Nitrophenol	100-02-7		<1	ug/L				U	04/22/14
Phenol	108-95-2		<1	ug/L				U	04/22/14
4-Chloro-3-methylphenol	59-50-7		<1	ug/L				U	04/22/14
Pentachlorophenol	87-86-5		<1	ug/L				U	04/22/14
2-Chlorophenol	95-57-8		<1	ug/L				U	04/22/14
2,4-Dimethylphenol	105-67-9		<2	ug/L				U	04/22/14
2,4-Dichlorophenol	120-83-2		<1	ug/L				U	04/22/14
2,4-Dinitrophenol	51-28-5		<1	ug/L				U	04/22/14
4,6-Dinitro-2-methylphenol	534-52-1		<1	ug/L				U	04/22/14
2-Nitrophenol	88-75-5		<1	ug/L				U	04/22/14
2-Methylphenol	95-48-7		<1	ug/L				U	04/22/14
2,4,5-Trichlorophenol	95-95-4		<1	ug/L				U	04/22/14
3 & 4 Methylphenol, Total	65794-96-9		<1	ug/L				U	04/22/14
2,4,6-Trichlorophenol	88-06-2		<1	ug/L				U	04/22/14
2,3,4,6-Tetrachlorophenol	58-90-2		<1	ug/L				U	04/22/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
2,6-Dichlorophenol	87-65-0		<1	ug/L					U	04/22/14
Dinoseb(..dinitromethylphenol)	88-85-7		<1	ug/L					U	04/22/14
LCS			**QC Sample #108490**							
4-Nitrophenol	100-02-7		11	ug/L	35.7	5 - 88				04/22/14
Phenol	108-95-2		15	ug/L	48.6	18 - 89				04/22/14
4-Chloro-3-methylphenol	59-50-7		24	ug/L	79.7	62 - 109				04/22/14
Pentachlorophenol	87-86-5		16	ug/L	53	17 - 125				04/22/14
2-Chlorophenol	95-57-8		23	ug/L	76.6	55 - 109				04/22/14
2-Methylphenol	95-48-7		23	ug/L	75.1	59 - 107				04/22/14
2-Nitrophenol	88-75-5		24	ug/L	79.5	48 - 113				04/22/14
2,4-Dimethylphenol	105-67-9		25	ug/L	82.9	58 - 113				04/22/14
2,4-Dichlorophenol	120-83-2		23	ug/L	76	52 - 110				04/22/14
MS			**QC Sample #108491**							
			Original 140609001							
4-Nitrophenol	100-02-7		7.4	ug/L	26.2	15 - 57				04/22/14
Phenol	108-95-2		10	ug/L	36.1	24 - 65				04/22/14
4-Chloro-3-methylphenol	59-50-7		21	ug/L	74.5	56 - 115				04/22/14
Pentachlorophenol	87-86-5		15	ug/L	53.7	32 - 127				04/22/14
2-Chlorophenol	95-57-8		21	ug/L	74.2	52 - 113				04/22/14
2-Methylphenol	95-48-7		19	ug/L	67.9	46 - 114				04/22/14
2-Nitrophenol	88-75-5		23	ug/L	79.9	51 - 114				04/22/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
2,4-Dimethylphenol	105-67-9		23	ug/L	82	46 - 124				04/22/14
2,4-Dichlorophenol	120-83-2		21	ug/L	75.5	50 - 114				04/22/14
MSD			**QC Sample #108492**							
			Original 140609001						**Paired 108491**	
4-Nitrophenol	100-02-7		8.2	ug/L	28.9	15 - 57	9.90	20		04/22/14
Phenol	108-95-2		11	ug/L	38.9	24 - 65	7.50	20		04/22/14
4-Chloro-3-methylphenol	59-50-7		23	ug/L	81.5	56 - 115	9.00	20		04/22/14
Pentachlorophenol	87-86-5		16	ug/L	56.6	32 - 127	5.20	20		04/22/14
2-Chlorophenol	95-57-8		22	ug/L	77.1	52 - 113	3.90	20		04/22/14
2-Methylphenol	95-48-7		20	ug/L	72.1	46 - 114	6.00	20		04/22/14
2-Nitrophenol	88-75-5		24	ug/L	85.6	51 - 114	6.90	20		04/22/14
2,4-Dimethylphenol	105-67-9		25	ug/L	87.8	46 - 124	6.80	20		04/22/14
2,4-Dichlorophenol	120-83-2		23	ug/L	81.6	50 - 114	7.70	20		04/22/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Analytical Batch 232244 (QC Batch: 231244) **Test** ICP-6010 - All possible metals
Associated Samples 140621001, 140621002, 140621009, 140621010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #108543**							
Iron	7439-89-6		<40	ug/L					U	04/23/14
Magnesium	7439-95-4		<60	ug/L					U	04/23/14
Manganese	7439-96-5		<4.0	ug/L					U	04/23/14
Nickel	7440-02-0		<10	ug/L					U	04/23/14
Potassium	7440-09-7		<250	ug/L					U	04/23/14
Silver	7440-22-4		<5.0	ug/L					U	04/23/14
Sodium	7440-23-5		<100	ug/L					U	04/23/14
Antimony	7440-36-0		<20	ug/L					U	04/23/14
Barium	7440-39-3		<4.0	ug/L					U	04/23/14
Cadmium	7440-43-9		<4.0	ug/L					U	04/23/14
Chromium	7440-47-3		<5.0	ug/L					U	04/23/14
Cobalt	7440-48-4		<4.0	ug/L					U	04/23/14
Copper	7440-50-8		<4.0	ug/L					U	04/23/14
Vanadium	7440-62-2		<5.0	ug/L					U	04/23/14
Zinc	7440-66-6		<5.0	ug/L					U	04/23/14
Calcium	7440-70-2		<50	ug/L					U	04/23/14
Strontium	7440-24-6		<8.0	ug/L					U	04/23/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Arsenic	7440-38-2		<25	ug/L					U	04/23/14
Beryllium	7440-41-7		<2.0	ug/L					U	04/23/14
LCS			**QC Sample #108545**							
Iron	7439-89-6		1010	ug/L	101	80 - 120				04/23/14
Magnesium	7439-95-4		10100	ug/L	100.6	80 - 120				04/23/14
Manganese	7439-96-5		994	ug/L	99.4	80 - 120				04/23/14
Nickel	7440-02-0		976	ug/L	97.6	80 - 120				04/23/14
Potassium	7440-09-7		9950	ug/L	99.5	80 - 120				04/23/14
Silver	7440-22-4		971	ug/L	97.1	80 - 120				04/23/14
Sodium	7440-23-5		10000	ug/L	100.2	80 - 120				04/23/14
Antimony	7440-36-0		974	ug/L	97.4	80 - 120				04/23/14
Barium	7440-39-3		989	ug/L	98.9	80 - 120				04/23/14
Cadmium	7440-43-9		967	ug/L	96.7	80 - 120				04/23/14
Chromium	7440-47-3		973	ug/L	97.3	80 - 120				04/23/14
Cobalt	7440-48-4		974	ug/L	97.4	80 - 120				04/23/14
Copper	7440-50-8		974	ug/L	97.4	80 - 120				04/23/14
Vanadium	7440-62-2		968	ug/L	96.8	80 - 120				04/23/14
Zinc	7440-66-6		971	ug/L	97.1	80 - 120				04/23/14
Calcium	7440-70-2		20200	ug/L	101.1	80 - 120				04/23/14
Strontium	7440-24-6		1010	ug/L	101.4	80 - 120				04/23/14
Arsenic	7440-38-2		987	ug/L	98.7	80 - 120				04/23/14
Beryllium	7440-41-7		972	ug/L	97.2	80 - 120				04/23/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MS			**QC Sample #108546**							
			Original 140615015							
Iron	7439-89-6		1030	ug/L	102.8	75 - 125				04/23/14
Magnesium	7439-95-4		8610	ug/L	86.1	75 - 125				04/23/14
Manganese	7439-96-5		1000	ug/L	100.4	75 - 125				04/23/14
Nickel	7440-02-0		983	ug/L	98.3	75 - 125				04/23/14
Potassium	7440-09-7		10700	ug/L	107.2	75 - 125				04/23/14
Silver	7440-22-4		1030	ug/L	103	75 - 125				04/23/14
Sodium	7440-23-5		9270	ug/L	92.7	75 - 125				04/23/14
Antimony	7440-36-0		1030	ug/L	102.8	75 - 125				04/23/14
Barium	7440-39-3		987	ug/L	98.7	75 - 125				04/23/14
Cadmium	7440-43-9		1020	ug/L	101.5	75 - 125				04/23/14
Chromium	7440-47-3		998	ug/L	99.8	75 - 125				04/23/14
Cobalt	7440-48-4		990	ug/L	99	75 - 125				04/23/14
Copper	7440-50-8		1030	ug/L	102.7	75 - 125				04/23/14
Vanadium	7440-62-2		1000	ug/L	100.2	75 - 125				04/23/14
Zinc	7440-66-6		984	ug/L	98.4	75 - 125				04/23/14
Calcium	7440-70-2		15500	ug/L	77.6	75 - 125			X	04/23/14
Strontium	7440-24-6		995	ug/L	99.5	75 - 125				04/23/14
Arsenic	7440-38-2		1050	ug/L	104.6	75 - 125				04/23/14
Beryllium	7440-41-7		1000	ug/L	100.2	75 - 125				04/23/14
MSD			**QC Sample #108547**							
			Original 140615015					**Paired**	**108546**	
Iron	7439-89-6		1010	ug/L	100.9	75 - 125	1.90	20		04/23/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Magnesium	7439-95-4		8160	ug/L	81.6	75 - 125	1.10	20		04/23/14
Manganese	7439-96-5		996	ug/L	99.6	75 - 125	0.80	20		04/23/14
Nickel	7440-02-0		975	ug/L	97.5	75 - 125	0.90	20		04/23/14
Potassium	7440-09-7		10300	ug/L	102.9	75 - 125	2.10	20		04/23/14
Silver	7440-22-4		1030	ug/L	103	75 - 125	0.00	20		04/23/14
Sodium	7440-23-5		9090	ug/L	90.9	75 - 125	0.60	20		04/23/14
Antimony	7440-36-0		1030	ug/L	102.9	75 - 125	0.10	20		04/23/14
Barium	7440-39-3		971	ug/L	97.1	75 - 125	1.50	20		04/23/14
Cadmium	7440-43-9		1010	ug/L	100.5	75 - 125	1.00	20		04/23/14
Chromium	7440-47-3		988	ug/L	98.8	75 - 125	1.00	20		04/23/14
Cobalt	7440-48-4		986	ug/L	98.6	75 - 125	0.40	20		04/23/14
Copper	7440-50-8		1020	ug/L	102.1	75 - 125	0.60	20		04/23/14
Vanadium	7440-62-2		989	ug/L	98.9	75 - 125	1.30	20		04/23/14
Zinc	7440-66-6		971	ug/L	97.1	75 - 125	1.30	20		04/23/14
Calcium	7440-70-2		14300	ug/L	71.7	75 - 125	1.00	20	X	04/23/14
Strontium	7440-24-6		982	ug/L	98.2	75 - 125	0.90	20		04/23/14
Arsenic	7440-38-2		1040	ug/L	103.7	75 - 125	0.80	20		04/23/14
Beryllium	7440-41-7		994	ug/L	99.4	75 - 125	0.90	20		04/23/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Analytical Batch 232362 (QC Batch: 232361)
Associated Samples 140621001, 140621002, 140621003

Test Total Organic Halides

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #109481**							
Total Organic Halides	59473-04-0		<5.0	ug/L					U	04/15/14
LCS			**QC Sample #109482**							
Total Organic Halides	59473-04-0		404	mg/L	101	80 - 120				04/15/14
MS			**QC Sample #109483**							
			Original 140615008							
Total Organic Halides	59473-04-0		40.4	ug/L	101.1	75 - 125				04/15/14
MSD			**QC Sample #109484**							
			Original 140615008					**Paired**	**109483**	
Total Organic Halides	59473-04-0		40.8	ug/L	102.1	75 - 125	0.80	20		04/15/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140621

Analytical Batch 232365 (QC Batch: 232363) **Test** Total Organic Halides
Associated Samples 140621004, 140621005, 140621006, 140621007, 140621008

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #109490**								
Total Organic Halides	59473-04-0		<5.0	ug/L						U	04/15/14
LCS			**QC Sample #109491**								
Total Organic Halides	59473-04-0		389	mg/L	97.3	80 - 120					04/15/14
MS			**QC Sample #109492**								
			Original 140621004								
Total Organic Halides	59473-04-0	7.21	39.2	ug/L	97.9	75 - 125					04/15/14
MSD			**QC Sample #109493**								
			Original 140621004						**Paired**	**109492**	
Total Organic Halides	59473-04-0	7.21	38.4	ug/L	96.1	75 - 125	1.60	20			04/15/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Analytical Batch 232146 (QC Batch: 231236) **Test** SW-846 8270D Semivolatiles
Associated Samples 140621002

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #108489**							
2-Fluorophenol	367-12-4				68.4	34 - 103				04/22/14
Phenol-d5	4165-62-2				49.4	10 - 93				04/22/14
Nitrobenzene-d5	4165-60-0				81.2	49 - 133				04/22/14
2-Methylnaphthalene-d10	7297-45-2				79.6	60 - 135				04/22/14
2-Fluorobiphenyl	321-60-8				82.6	48 - 132				04/22/14
2,4,6-Tribromophenol	118-79-6				63.6	33 - 134				04/22/14
Fluoranthene-d10	93951-69-0				93.2	62 - 139				04/22/14
Terphenyl-d14	98904-43-9				97.3	56 - 138				04/22/14
LCS			**QC Sample #108490**							
2-Fluorophenol	367-12-4				70.1	34 - 103				04/22/14
Phenol-d5	4165-62-2				51.8	10 - 93				04/22/14
Nitrobenzene-d5	4165-60-0				88.1	49 - 133				04/22/14
2-Methylnaphthalene-d10	7297-45-2				88.4	60 - 135				04/22/14
2-Fluorobiphenyl	321-60-8				87.1	48 - 132				04/22/14
2,4,6-Tribromophenol	118-79-6				83.3	33 - 134				04/22/14

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Fluoranthene-d10	93951-69-0				91.9	62 - 139				04/22/14
Terphenyl-d14	98904-43-9				97.6	56 - 138				04/22/14
MS			**QC Sample #108491**							
			Original 140609001							
2-Fluorophenol	367-12-4				58.7	34 - 103				04/22/14
Phenol-d5	4165-62-2				37	10 - 93				04/22/14
Nitrobenzene-d5	4165-60-0				87.7	49 - 133				04/22/14
2-Methylnaphthalene-d10	7297-45-2				85.6	60 - 135				04/22/14
2-Fluorobiphenyl	321-60-8				88.8	48 - 132				04/22/14
2,4,6-Tribromophenol	118-79-6				78.8	33 - 134				04/22/14
Fluoranthene-d10	93951-69-0				93.1	62 - 139				04/22/14
Terphenyl-d14	98904-43-9				93.6	56 - 138				04/22/14
MSD			**QC Sample #108492**							
			Original 140609001					**Paired**	**108491**	
2-Fluorophenol	367-12-4				59.3	34 - 103	n/a			04/22/14
Phenol-d5	4165-62-2				39.2	10 - 93	n/a			04/22/14
Nitrobenzene-d5	4165-60-0				92.7	49 - 133	n/a			04/22/14
2-Methylnaphthalene-d10	7297-45-2				93	60 - 135	n/a			04/22/14
2-Fluorobiphenyl	321-60-8				94.1	48 - 132	n/a			04/22/14
2,4,6-Tribromophenol	118-79-6				81.9	33 - 134	n/a			04/22/14
Fluoranthene-d10	93951-69-0				91.7	62 - 139	n/a			04/22/14
Terphenyl-d14	98904-43-9				98.1	56 - 138	n/a			04/22/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF140621

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #140621002**							
2-Fluorophenol	367-12-4				56.3	34 - 103				04/22/14
Phenol-d5	4165-62-2				37	10 - 93				04/22/14
Nitrobenzene-d5	4165-60-0				73.4	49 - 133				04/22/14
2-Methylnaphthalene-d10	7297-45-2				71.9	60 - 135				04/22/14
2-Fluorobiphenyl	321-60-8				75	48 - 132				04/22/14
2,4,6-Tribromophenol	118-79-6				48.7	33 - 134				04/22/14
Fluoranthene-d10	93951-69-0				77.2	62 - 139				04/22/14
Terphenyl-d14	98904-43-9				91.6	56 - 138				04/22/14

* - QC result out of range

n/a - Not Applicable

Analytical Comment Report

Attention: Scot Fitzgerald

Group # WSCF140621

Quality Control Comments

Department Inorganic

108546 B2W5L4(140615015MS)

Analyte Calcium - ICP-6010 - All possible metals

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

108547 B2W5L4(140615015MSD)

Analyte Calcium - ICP-6010 - All possible metals

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

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 5 pages
Including cover page

Sample Receipt

Waste Sampling and Characterization Facility
P.O. Box 650 S3-30, Richland WA 99352
Phone: (509) 373-7005/FAX: (509) 372-0456

ACKNOWLEDGEMENT OF SAMPLES RECEIVED

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

ATTN: Scot Fitzgerald

Customer Code: CHPRC
CACN: 401647
Work Order #: 140621
Customer Work ID: W14-004-066
Due Date: 05/05/2014 **(R031)**

The following samples were received from you on 4/4/2014 2:20:00 PM. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact WSCF Client Services. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
140621001	B2W5K8	WATER	4/4/2014 12:36	4/4/2014 14:20

Procedure	Compound List
ICP-6010 - All possible metals	6010 ICP Common + GW03
Total Alkalinity as mg/L CaCO3 (Water)	Alkalinity,Carbonate,Bicarbonate,Hydroxyl Ion
Total Organic Carbon	TOC
Total Organic Halides	TOX

Sample #	Sample ID	Matrix	Collected	Received
140621002	B2W5J2	WATER	4/4/2014 13:29	4/4/2014 14:20

Procedure	Compound List
ICP-6010 - All possible metals	6010 ICP Common
SW-846 8270D Semivolatiles	8270 Phenolic GC Common
Total Organic Carbon	TOC
Total Organic Halides	TOX

Sample #	Sample ID	Matrix	Collected	Received
140621003	B2W624	WATER	4/4/2014 12:36	4/4/2014 14:20

Procedure	Compound List
Total Organic Carbon	TOC
Total Organic Halides	TOX

Sample #	Sample ID	Matrix	Collected	Received
140621004	B2W623	WATER	4/4/2014 12:36	4/4/2014 14:20

Procedure	Compound List
Total Organic Carbon	TOC
Total Organic Halides	TOX

Sample #	Sample ID	Matrix	Collected	Received
140621005	B2W622	WATER	4/4/2014 12:36	4/4/2014 14:20

Procedure	Compound List
Total Organic Carbon	TOC
Total Organic Halides	TOX

Sample #	Sample ID	Matrix	Collected	Received
140621006	B2W610	WATER	4/4/2014 13:29	4/4/2014 14:20

Procedure	Compound List
Total Organic Carbon	TOC

Sample Receipt

Waste Sampling and Characterization Facility
P.O. Box 650 S3-30, Richland WA 99352
Phone: (509) 373-7005/FAX: (509) 372-0456

Sample #	Sample ID	Matrix	Collected	Received
140621007	B2W611	WATER	4/4/2014 13:29	4/4/2014 14:20
Procedure		**Compound List**		
Total Organic Carbon		TOC		
Total Organic Halides		TOX		
Sample #	**Sample ID**	**Matrix**	**Collected**	**Received**
140621008	B2W612	WATER	4/4/2014 13:29	4/4/2014 14:20
Procedure		**Compound List**		
Total Organic Carbon		TOC		
Total Organic Halides		TOX		
Sample #	**Sample ID**	**Matrix**	**Collected**	**Received**
140621009	B2W5L0	WATER	4/4/2014 12:36	4/4/2014 14:20
Procedure		**Compound List**		
ICP-6010 - All possible metals		6010 ICP Common + GW03		
Sample #	**Sample ID**	**Matrix**	**Collected**	**Received**
140621010	B2W5J4	WATER	4/4/2014 13:29	4/4/2014 14:20
Procedure		**Compound List**		
ICP-6010 - All possible metals		6010 ICP Common		

Sample Receipt

Chain of Custody

CHZMHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W14-004-066**

Page 1 of 1

Collector Dan Wohlin	**Contact/Requester** Karen Waters-Husted	**Telephone No.** 509-376-4650	
SAF No. W14-004	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code** 300071ES20	
Project Title RCRA, APRIL 2014	**Logbook No.** HNF-N-506 66 / 2	**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 RCRA	**Priority** 31 Days **PRIORITY**	**Offsite Property No.** N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

**** Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.

140621

Sample No	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2W5K8 1	N	W	4-4-14	1236	1x500-mL G/P	6010_METALS_ICP: COMMON; 6010_METALS_ICP: GW 03	6 Months	HNO3 to pH <2
B2W5K8	N	W			1x250-mL G/P	2320_A_KALINITY: GW 01	14 Days	Cool~4C
B2W5K8	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool~4C
B2W5K8	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool~4C
B2W624 3	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Deys	H2SO4 to pH <2/Cool~4C
B2W624	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool~4C
B2W623 4	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool~4C
B2W623	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool~4C
B2W5L0 5	Y	W			1x500-mL G/P	6010_METALS_ICP: COMMON; 6010_METALS_ICP: GW 03	6 Months	HNO3 to pH <2
B2W622 6	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool~4C
B2W622	N	W	4-4-14	1236	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool~4C

Relinquished By **Dan Wohlin**	Print / Sign	Date/Time APR 04 2014 1420	Received By
Relinquished By	Date/Time		Received By
Relinquished By	Date/Time		Received By
Relinquished By	Date/Time		Received By
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By

Received By: Sign — Date/Time APR 04 2014 1420

Date/Time

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

PRINTED 04/24/2014

A-6034-842 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W14-004-058**

Page 1 of 1

Collector Dan Woeble	**Contact/Requester** Karen Waters-Husted	**Telephone No.** 509-376-4650	
SAF No. W14-004	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code** 300071 HS20	
Project Title RCRA, APRIL 2014	**Logbook No.** HNF-N-506 66/2	**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 RCRA	**Priority:** 31 Days **PRIORITY**	**Offsite Property No.** N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CAON for analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No.Type Container	Sample Analysis	Holding Time	Preservative
B2W5J4 10	Y	W	4-4-14	1329	1x500-mL GP	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B2W611 7	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool-4C
B2W611 ↓	N	W			1x250-mL aG	9060_TCC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool-4C
B2W612 8	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool-4C
B2W612 ↓	N	W			1x250-mL aG	9060_TCC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool-4C
B2W5J2 2	N	W			1x500-mL GP	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B2W5J2	N	W			4x1 LaG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool-4C
B2W5J2	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool-4C
B2W5J2 ↓	N	W			1x250-mL aG	9060_TCC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool-4C
B2W610 9	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool-4C
B2W610 ↓	N	W	4-4-14	1329	1x250-mL aG	9060_TCC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool-4C

Relinquished By Dan Woeble	Sign	Date/Time APR 04 2014 1420	Received By	Date/Time
Relinquished By	Print	Date/Time	Received By	Date/Time APR 04 2014 1420
Relinquished By		Date/Time	Received By	Date/Time
Relinquished By		Date/Time	Received By	Date/Time

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

FRINTED O 3/4/2014

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

A-5004-842 (REV 2)