

DECEMBER 10, 2012

**WSCF Laboratory**

PO Box 650 S3-30  
Richland, WA 99352



December 10, 2012

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

Dear Scot Fitzgerald,

**FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121437**

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 WSCF121437

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

Very truly yours,

An electronic signature of Dan T. Smith, which appears as a stylized, handwritten line.

Electronically signed by Joseph Hale  
For Lab Manager, Dan T. Smith  
WSCF Analytical Lab  
(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

**DECEMBER 10, 2012**

**ATTACHMENT 1**

**COVER SHEET**

Consisting of 2 pages  
Including cover page

**WSCF SAF Number Cross Reference**

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Group # WSCF121437  
Data Deliverable Date 12/10/12

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
I13-005	B2MP30	121437001	WATER	11/07/12	11/07/12
I13-005	B2MP41	121437002	WATER	11/07/12	11/07/12
I13-005	B2MP22	121437003	WATER	11/07/12	11/07/12
I13-005	B2MP23	121437004	WATER	11/07/12	11/07/12

**DECEMBER 10, 2012**

**ATTACHMENT 2**

**NARRATIVE**

Consisting of 5 pages  
Including cover page

**Introduction**

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

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

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

- Sample Issue Resolution Form SDR13-030 regarding VOA Appendix IX list is attached to this report.

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

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

**Analytical Methodology for Requested Analyses**

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

**Inorganic Comments**

**ICP-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):

- Vanadium was detected in the Blank and evaluated.
- 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 Dissolved Solids** – The hold time requirement for this analysis was met. A Duplicate, Blank and Laboratory Control Sample were analyzed for this sample 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.

#### **Organic Comments**

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

- All applicable QC controls are within the established limits.

#### **Radiochemistry Comments**

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

##### **Tritium:**

- All applicable QC controls are within the established limits.

##### **Technetium-99:**

- All applicable QC controls are within the established limits.

Attachment 2  
**Narrative**  
WSCF121437

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 2  
Narrative  
WSCF121437

## SAMPLE ISSUE RESOLUTION

SIR NUM SDR13-030  
REV NUM 0  
DATE INITIATED 11/2/2012

### SAMPLE EVENT INFORMATION

SAF NUM(S) W13-011  
OPERABLE UNIT(S) NONE  
PROJECT(S) RCRA13  
SAMPLE EVENT TITLE(S) RCRA13  
LABORATORY Waste Sampling & Characterization

### SAMPLING INFORMATION

NUMBER OF SAMPLES 11  
SAMPLE NUMBERS B2MN32, B2MN52, B2MN57, B2MN71, B2MN81, B2MN82, B2MN89, B2MN94, B2MN99, B2MNB5, B2MNCO, B2MNX8, B2MNX9, B2MP16, B2MP30, B2MP41, B2MP22, B2MP23, B2MXL9, B2MN75, B2MN47, B2MN42, B2MXM8, B2MXN9, B2MXN8, B2MXM7, B2MN63, B2MN64, B2MP06, B2MP07  
SAMPLE MATRIX WATER  
COLLECTION DATE -  
SDG NUM WSCF121398, WSCF121401, WSCF121402, WSCF121404, WSCF121411, WSCF121419, WSCF121437, WSCF121439, WSCF121448, WSCF121450, WSCF121456

### ISSUE BACKGROUND

CLASS General Laboratory Direction  
TYPE Clarification of Direction  
DESCRIPTION The chain of custodies requested service 8260\_VOA\_GCMS\_IX: COMMON. The SAF also requests some of the add-on for 8260\_VOA\_GCMS\_IX: COMMON Add-ons

### DISPOSITION

DESCRIPTION PROPOSED DISPOSITION: Please confirm the service lists/analytes that need to be reported.  
JUSTIFICATION ACCEPTED DISPOSITION: Use the full list under the "COMMON" service list and add ons, as provided by Doris

SUBMITTED BY: Heather Medley/WSCF DATE: 11/2/12

DECEMBER 10, 2012

ATTACHMENT 3

**ANALYTICAL RESULTS**

Consisting of 63 pages  
Including cover page

DECEMBER 10, 2012

## WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation

PO Box 1600  
Richland, WA 99352

Attention: Scot Fitzgerald

**Contract #** MOA-FH-CHPRC-2008  
**Group #** WSCF121437  
**Report Date** December 10, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Marisol Avila

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

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

**DECEMBER 10, 2012****Batch QC List** —

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

**Group #** WSCF121437

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210827	211022	4	BLANK	85614	BLANK		ICP-2008 MS All possible metal
210827	211022	5	LCS	85615	LCS		ICP-2008 MS All possible metal
210827	211022	7	MS	85616	B2MNT0(121436001MS) 121436001		ICP-2008 MS All possible metal
210827	211022	8	MSD	85617	B2MNT0(121436001MSD 121436001		ICP-2008 MS All possible metal
210827	211022	12	SAMPLE	121437001	B2MP30		ICP-2008 MS All possible metal
210827	211022	13	SAMPLE	121437002	B2MP41		ICP-2008 MS All possible metal
210827	211022	14	SAMPLE	121437003	B2MP22		ICP-2008 MS All possible metal
210827	211022	15	SAMPLE	121437004	B2MP23		ICP-2008 MS All possible metal

**DECEMBER 10, 2012****Batch QC List** —

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

**Group #** WSCF121437

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210313	210314	1	BLANK	84986	BLANK		SW-846 8260B Volatiles
210313	210314	2	LCS	84987	LCS		SW-846 8260B Volatiles
210313	210314	3	MS	84988	B2MNX8(121411014MS)	121411014	SW-846 8260B Volatiles
210313	210314	4	MSD	84989	B2MNX8(121411014MSD)	121411014	SW-846 8260B Volatiles
210313	210314	9	SAMPLE	121437003	B2MP22		SW-846 8260B Volatiles
210313	210314	11	SAMPLE	121437002	B2MP41		SW-846 8260B Volatiles
210313	210314	13	SAMPLE	121437001	B2MP30		SW-846 8260B Volatiles
210313	210314	14	SAMPLE	121437004	B2MP23		SW-846 8260B Volatiles
210313	210314	20	SAMPLE	121437002	B2MP41		SW-846 8260B Volatiles

**DECEMBER 10, 2012**

**Batch QC List**

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

**Group #** WSCF121437

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
209915	209939	1	BLANK	84679	BLANK		TC99 by Liquid Scintillation
209915	209939	2	LCS	84680	LCS		TC99 by Liquid Scintillation
209915	209939	4	DUP	84681	B2MNX8(121411014DUP)	121411014	TC99 by Liquid Scintillation
209915	209939	5	MS	84682	B2MNX8(121411014MS)	121411014	TC99 by Liquid Scintillation
209915	209939	16	SAMPLE	121437001	B2MP30		TC99 by Liquid Scintillation
209915	209939	17	SAMPLE	121437002	B2MP41		TC99 by Liquid Scintillation
209915	209939	18	SAMPLE	121437003	B2MP22		TC99 by Liquid Scintillation
209915	209939	19	SAMPLE	121437004	B2MP23		TC99 by Liquid Scintillation
210114	210415	1	BLANK	84806	BLANK		Tritium by LSC
210114	210415	2	LCS	84807	LCS		Tritium by LSC
210114	210415	4	DUP	84808	B2MP50(121432006DUP)	121432006	Tritium by LSC
210114	210415	5	MS	84809	B2MP50(121432006MS)	121432006	Tritium by LSC
210114	210415	10	SAMPLE	121437002	B2MP41		Tritium by LSC

## Batch QC List

Attention Scot Fitzgerald  
Department Wet Chemistry

Group # WSCF121437

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210122	210122	1	LCS	84826	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	5	DUP	84827	B2LLT4(121422001DUP) 121422001		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	10	SAMPLE	121437001	B2MP30		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	11	SAMPLE	121437002	B2MP41		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	12	SAMPLE	121437003	B2MP22		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	13	LCS	84828	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	14	SAMPLE	121437004	B2MP23		Total Alkalinity as mg/L CaCO3 (Water)
210122	210122	19	LCS	84829	LCS		Total Alkalinity as mg/L CaCO3 (Water)
210251	210251	1	BLANK	84938	BLANK		Total Dissolved Solids 180 C Dry
210251	210251	2	LCS	84939	LCS		Total Dissolved Solids 180 C Dry
210251	210251	3	SAMPLE	121437001	B2MP30		Total Dissolved Solids 180 C Dry
210251	210251	4	DUP	84940	B2MP30(121437001DUP) 121437001		Total Dissolved Solids 180 C Dry
210251	210251	5	SAMPLE	121437002	B2MP41		Total Dissolved Solids 180 C Dry
210251	210251	6	SAMPLE	121437003	B2MP22		Total Dissolved Solids 180 C Dry
210251	210251	7	SAMPLE	121437004	B2MP23		Total Dissolved Solids 180 C Dry
210417	210417	2	BLANK	85225	BLANK		Total Organic Carbon
210417	210417	3	LCS	85226	LCS		Total Organic Carbon
210417	210417	4	MS	85227	B2MNR7(121436004MS) 121436004		Total Organic Carbon
210417	210417	5	MSD	85228	B2MNR7(121436004MSD 121436004		Total Organic Carbon
210417	210417	10	SAMPLE	121437001	B2MP30		Total Organic Carbon
210417	210417	11	SAMPLE	121437002	B2MP41		Total Organic Carbon
210417	210417	12	SAMPLE	121437003	B2MP22		Total Organic Carbon
210417	210417	13	SAMPLE	121437004	B2MP23		Total Organic Carbon

Attention Scot Fitzgerald  
Department Inorganic

Group # WSCF121437

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-505-412	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.

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

Attention Scot Fitzgerald  
Department Organic, Volatiles

Group # WSCF121437

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
	EPA SW-846	8260B
	HEIS	8260_VOA_GCMS
		Determinative Chromographic Separations
		Volatile Organic Compounds by Gas
		Chromatography/Mass Spectrometry (GC/MS)
		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>

Attention      Scot Fitzgerald  
Department    Radiochemistry

Group #      WSCF121437

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.

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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	

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

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

**Group #** WSCF121437

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

<b>LA-531-411</b>	Alkalinity		
SM	2320	Alkalinity	
HEIS	2320_ALKALINITY	Alkalinity	
<b>LA-344-406</b>			
Total Organic Carbon (TOC) Based on SW-846			
EPA SW-846	9060	Total Organic Carbon	
HEIS	9060_TOC	Total Organic Carbon	
<b>LA-519-422</b>			
Total Dissolved Solids Dried at 180 C			
Standard Methods	SM2540C	Filterable Residue	
HEIS	2540C_TDS	Residue, Filterable	

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

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

**Group #** WSCF121437

<b>Sample #</b>	121437001	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP30	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
<b>ICPMS Prep (W)</b>										11/29/12
<b>ICP-2008 MS All possible metal</b>										
Aluminum	7429-90-5	LA-505-412	BD	33.1		ug/L	2	10	100	11/30/12
Manganese	7439-96-5	LA-505-412	D	104		ug/L	2	0.20	2.0	11/30/12
Nickel	7440-02-0	LA-505-412	D	8.35		ug/L	2	0.20	2.0	11/30/12
Silver	7440-22-4	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	11/30/12
Barium	7440-39-3	LA-505-412	D	46.9		ug/L	2	0.40	4.0	11/30/12
Beryllium	7440-41-7	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Cadmium	7440-43-9	LA-505-412	BD	0.286		ug/L	2	0.10	1.0	11/30/12
Chromium	7440-47-3	LA-505-412	D	178		ug/L	2	0.20	2.0	11/30/12
Cobalt	7440-48-4	LA-505-412	D	0.886		ug/L	2	0.10	0.50	11/30/12
Copper	7440-50-8	LA-505-412	D	3.41		ug/L	2	0.20	2.0	11/30/12
Vanadium	7440-62-2	LA-505-412	D	36.3		ug/L	2	0.40	4.0	11/30/12
Zinc	7440-66-6	LA-505-412	UD	<2.0		ug/L	2	2.0	20	11/30/12
Lead	7439-92-1	LA-505-412	D	1.71		ug/L	2	0.10	1.0	11/30/12
Molybdenum	7439-98-7	LA-505-412	D	8.21		ug/L	2	0.10	1.0	11/30/12
Strontium	7440-24-6	LA-505-412	D	215		ug/L	2	0.20	2.0	11/30/12
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437001  
**SAF#** I13-005  
**Sample ID** B2MP30

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Tin	7440-31-5	LA-505-412	BD	0.140		ug/L	2	0.10	1.0	11/30/12
Uranium	7440-61-1	LA-505-412	D	2.87		ug/L	2	0.10	0.50	11/30/12
Arsenic	7440-38-2	LA-505-412	BD	1.94		ug/L	2	0.40	4.0	11/30/12
Selenium	7782-49-2	LA-505-412	BD	3.17		ug/L	2	2.0	20	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437002  
**SAF#** I13-005  
**Sample ID** B2MP41

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPMS Prep (W)</b>										11/29/12
<b>ICP-2008 MS All possible metal</b>										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	100	11/30/12
Manganese	7439-96-5	LA-505-412	D	2.22		ug/L	2	0.20	2.0	11/30/12
Nickel	7440-02-0	LA-505-412	D	24.8		ug/L	2	0.20	2.0	11/30/12
Silver	7440-22-4	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	11/30/12
Barium	7440-39-3	LA-505-412	D	58.9		ug/L	2	0.40	4.0	11/30/12
Beryllium	7440-41-7	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Cadmium	7440-43-9	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Chromium	7440-47-3	LA-505-412	D	81.5		ug/L	2	0.20	2.0	11/30/12
Cobalt	7440-48-4	LA-505-412	BD	0.118		ug/L	2	0.10	0.50	11/30/12
Copper	7440-50-8	LA-505-412	BD	0.746		ug/L	2	0.20	2.0	11/30/12
Vanadium	7440-62-2	LA-505-412	D	33.1		ug/L	2	0.40	4.0	11/30/12
Zinc	7440-66-6	LA-505-412	BD	2.54		ug/L	2	2.0	20	11/30/12
Lead	7439-92-1	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Molybdenum	7439-98-7	LA-505-412	D	4.69		ug/L	2	0.10	1.0	11/30/12
Strontium	7440-24-6	LA-505-412	D	351		ug/L	2	0.20	2.0	11/30/12
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437002  
**SAF#** I13-005  
**Sample ID** B2MP41

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Tin	7440-31-5	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Uranium	7440-61-1	LA-505-412	D	1.77		ug/L	2	0.10	0.50	11/30/12
Arsenic	7440-38-2	LA-505-412	BD	2.44		ug/L	2	0.40	4.0	11/30/12
Selenium	7782-49-2	LA-505-412	BD	3.96		ug/L	2	2.0	20	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437003  
**SAF#** I13-005  
**Sample ID** B2MP22

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPMS Prep (W)</b>										11/29/12
<b>ICP-2008 MS All possible metal</b>										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	100	11/30/12
Manganese	7439-96-5	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Nickel	7440-02-0	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Silver	7440-22-4	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	11/30/12
Barium	7440-39-3	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	11/30/12
Beryllium	7440-41-7	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Cadmium	7440-43-9	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Chromium	7440-47-3	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	11/30/12
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Vanadium	7440-62-2	LA-505-412	BDC	0.838		ug/L	2	0.40	4.0	11/30/12
Zinc	7440-66-6	LA-505-412	UD	<2.0		ug/L	2	2.0	20	11/30/12
Lead	7439-92-1	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Molybdenum	7439-98-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Strontium	7440-24-6	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437003  
**SAF#** I13-005  
**Sample ID** B2MP22

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Tin	7440-31-5	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Arsenic	7440-38-2	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	11/30/12
Selenium	7782-49-2	LA-505-412	UD	<2.0		ug/L	2	2.0	20	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437004  
**SAF#** I13-005  
**Sample ID** B2MP23

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>ICPMS Prep (W)</b>										11/29/12
<b>ICP-2008 MS All possible metal</b>										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	100	11/30/12
Manganese	7439-96-5	LA-505-412	BD	0.252		ug/L	2	0.20	2.0	11/30/12
Nickel	7440-02-0	LA-505-412	BD	0.874		ug/L	2	0.20	2.0	11/30/12
Silver	7440-22-4	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	11/30/12
Barium	7440-39-3	LA-505-412	D	60.4		ug/L	2	0.40	4.0	11/30/12
Beryllium	7440-41-7	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	11/30/12
Cadmium	7440-43-9	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Chromium	7440-47-3	LA-505-412	D	119		ug/L	2	0.20	2.0	11/30/12
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	11/30/12
Copper	7440-50-8	LA-505-412	BD	0.312		ug/L	2	0.20	2.0	11/30/12
Vanadium	7440-62-2	LA-505-412	D	26.5		ug/L	2	0.40	4.0	11/30/12
Zinc	7440-66-6	LA-505-412	UD	<2.0		ug/L	2	2.0	20	11/30/12
Lead	7439-92-1	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Molybdenum	7439-98-7	LA-505-412	D	7.29		ug/L	2	0.10	1.0	11/30/12
Strontium	7440-24-6	LA-505-412	D	198		ug/L	2	0.20	2.0	11/30/12
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

<b>Sample #</b>	121437004	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP23	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Tin	7440-31-5	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	11/30/12
Arsenic	7440-38-2	LA-505-412	BD	2.43		ug/L	2	0.40	4.0	11/30/12
Selenium	7782-49-2	LA-505-412	BD	3.15		ug/L	2	2.0	20	11/30/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)

C - Analyte was found in the Associated Blank. (Inorganic)

D - Analyte was reported at a secondary dilution factor.

E - Analyte is an estimate, see comment section.

N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

<b>Sample #</b>	121437001	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP30	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
<b>Preparation for 8260B (W)</b>										11/14/12
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte 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 #** WSCF121437

<b>Sample #</b>	121437001	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP30	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Carbon tetrachloride	56-23-5	LA-523-455	J	3.3		ug/L	1	1	5	11/14/12
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/14/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte 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 #** WSCF121437

<b>Sample #</b>	121437001	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP30	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Trichlorofluoromethane	75-69-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetonitrile	75-05-8	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
Isobutyl alcohol	78-83-1	LA-523-455	U	<200		ug/L	1	200	1.E3	11/14/12
Iodomethane	74-88-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1,2-Tetrachloroethane	630-20-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2,3-Trichloropropane	96-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromo-3-chloropropane	96-12-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromoethane	106-93-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrolein	107-02-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrylonitrile	107-13-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Allyl chloride	107-05-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene bromide	74-95-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dichlorodifluoromethane	75-71-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethyl methacrylate	97-63-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

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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 #** WSCF121437

<b>Sample #</b>	121437001	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP30	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Methacrylonitrile	126-98-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl methacrylate	80-62-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trans-1,4-dichloro-2-butene	110-57-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl acetate	108-05-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroprene	126-99-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte 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 #** WSCF121437

<b>Sample #</b>	121437002	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP41	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
<b>Preparation for 8260B (W)</b>										11/14/12
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trichloroethene	79-01-6	LA-523-455	J	2.5		ug/L	1	1	5	11/14/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

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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

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PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

<b>Sample #</b>	121437002	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP41	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Carbon tetrachloride	56-23-5	LA-523-455		370		ug/L	1	10	50	11/16/12
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroform	67-66-3	LA-523-455		6.4		ug/L	1	1	5	11/14/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/14/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/14/12

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

**Group #** WSCF121437

<b>Sample #</b>	121437002	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP41	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Trichlorofluoromethane	75-69-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetonitrile	75-05-8	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
Isobutyl alcohol	78-83-1	LA-523-455	U	<200		ug/L	1	200	1.E3	11/14/12
Iodomethane	74-88-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1,2-Tetrachloroethane	630-20-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2,3-Trichloropropane	96-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromo-3-chloropropane	96-12-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromoethane	106-93-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrolein	107-02-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrylonitrile	107-13-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Allyl chloride	107-05-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene bromide	74-95-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dichlorodifluoromethane	75-71-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethyl methacrylate	97-63-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

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

**Group #** WSCF121437

<b>Sample #</b>	121437002	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP41	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Methacrylonitrile	126-98-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl methacrylate	80-62-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trans-1,4-dichloro-2-butene	110-57-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl acetate	108-05-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroprene	126-99-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

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

**Group #** WSCF121437

<b>Sample #</b>	121437003	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP22	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
<b>Preparation for 8260B (W)</b>										11/14/12
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

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

**Group #** WSCF121437

<b>Sample #</b>	121437003	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP22	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/14/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/14/12

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

**Group #** WSCF121437

<b>Sample #</b>	121437003	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP22	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Trichlorofluoromethane	75-69-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetonitrile	75-05-8	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
Isobutyl alcohol	78-83-1	LA-523-455	U	<200		ug/L	1	200	1.E3	11/14/12
Iodomethane	74-88-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1,2-Tetrachloroethane	630-20-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2,3-Trichloropropane	96-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromo-3-chloropropane	96-12-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromoethane	106-93-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrolein	107-02-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrylonitrile	107-13-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Allyl chloride	107-05-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene bromide	74-95-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dichlorodifluoromethane	75-71-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethyl methacrylate	97-63-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

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

**Group #** WSCF121437

<b>Sample #</b>	121437003	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP22	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Methacrylonitrile	126-98-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl methacrylate	80-62-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trans-1,4-dichloro-2-butene	110-57-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl acetate	108-05-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroprene	126-99-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte 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 #** WSCF121437

<b>Sample #</b>	121437004	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP23	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
<b>Preparation for 8260B (W)</b>										11/14/12
<b>SW-846 8260B Volatiles</b>										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte 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 #** WSCF121437

**Sample #** 121437004  
**SAF#** I13-005  
**Sample ID** B2MP23

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/14/12
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte 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 #** WSCF121437

<b>Sample #</b>	121437004	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP23	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Trichlorofluoromethane	75-69-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acetonitrile	75-05-8	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/14/12
Isobutyl alcohol	78-83-1	LA-523-455	U	<200		ug/L	1	200	1.E3	11/14/12
Iodomethane	74-88-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,1,1,2-Tetrachloroethane	630-20-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2,3-Trichloropropane	96-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromo-3-chloropropane	96-12-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
1,2-Dibromoethane	106-93-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrolein	107-02-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Acrylonitrile	107-13-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Allyl chloride	107-05-1	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methylene bromide	74-95-3	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Dichlorodifluoromethane	75-71-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Ethyl methacrylate	97-63-2	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

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.

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 #** WSCF121437

<b>Sample #</b>	121437004	<b>Matrix</b>	WATER
<b>SAF#</b>	I13-005	<b>Sampled</b>	11/07/12
<b>Sample ID</b>	B2MP23	<b>Received</b>	11/07/12

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>TP Err</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analyzed</b>
Methacrylonitrile	126-98-7	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Methyl methacrylate	80-62-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Trans-1,4-dichloro-2-butene	110-57-6	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Vinyl acetate	108-05-4	LA-523-455	U	<1		ug/L	1	1	5	11/14/12
Chloroprene	126-99-8	LA-523-455	U	<1		ug/L	1	1	5	11/14/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE

D - Analyte was reported at a secondary dilution factor.

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

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

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

T - GC/MS or N - Non GC/MS - MS/MSD recovery outside control limits

U - Analyzed for but not detected above limiting criteria.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
Department Radiochemistry

Group # WSCF121437

Sample # 121437001  
SAF# I13-005  
Sample ID B2MP30

Matrix WATER  
Sampled 11/07/12  
Received 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
TC99 by Liquid Scin. WATER/LIQUID PREP										11/08/12
TC99 by Liquid Scintillation										
Technetium-99	14133-76-7	LA-508-421		34	8.2	pCi/L	1	6.7		11/11/12

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 #** WSCF121437

**Sample #** 121437002  
**SAF#** I13-005  
**Sample ID** B2MP41

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>TC99 by Liquid Scin. WATER/LIQUID PREP</b>										11/08/12
<b>TC99 by Liquid Scintillation</b>										
Technetium-99	14133-76-7	LA-508-421	U	-2.4	4	pCi/L	1	6.7		11/11/12
<b>Tritium by LSC EICHROM WA/LIQ PREP</b>										11/13/12
<b>Tritium by LSC</b>										
Tritium	10028-17-8	LA-508-421	U	130	200	pCi/L	1	300		11/16/12

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 #** WSCF121437

**Sample #** 121437003  
**SAF#** I13-005  
**Sample ID** B2MP22

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
TC99 by Liquid Scin. WATER/LIQUID PREP										11/08/12
TC99 by Liquid Scintillation										
Technetium-99	14133-76-7	LA-508-421	U	-2.8	4	pCi/L	1	6.7		11/11/12

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 # WSCF121437

Sample # 121437004  
SAF# I13-005  
Sample ID B2MP23

Matrix WATER  
Sampled 11/07/12  
Received 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
TC99 by Liquid Scin. WATER/LIQUID PREP										11/08/12
TC99 by Liquid Scintillation										
Technetium-99	14133-76-7	LA-508-421	U	5.0	4.2	pCi/L	1	6.7		11/11/12

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE

U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.

X,Y or Z - See comment detail and/or narrative.

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

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

**Group #** WSCF121437

**Sample #** 121437001  
**SAF#** I13-005  
**Sample ID** B2MP30

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/12/12
<b>Total Alkalinity as mg/L CaCO<sub>3</sub> (Water)</b>										
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	LA-531-411		130		mg/L	1	1	10	11/12/12
Carbonate	CO3ALKALINI	LA-531-411	U	<1		mg/L	1	1		11/12/12
Bicarbonate	71-52-3	LA-531-411		130		mg/L	1	1		11/12/12
Hydroxyl ion	84625-61-6	LA-531-411	U	<1		mg/L	1	1		11/12/12
										11/12/12
<b>Total Dissolved Solids 180 C Dry</b>										
Total Dissolved Solids	TDS	LA-519-422		276		mg/L	1	10	50	11/12/12
										11/15/12
<b>Total Organic Carbon</b>										
Total Organic Carbon	TOC	LA-344-406	B	0.204		mg/L	1	0.10	0.30	11/15/12

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 #** WSCF121437

**Sample #** 121437002  
**SAF#** I13-005  
**Sample ID** B2MP41

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
11/12/12										
<b>Total Alkalinity as mg/L CaCO<sub>3</sub> (Water)</b>										
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	LA-531-411		110		mg/L	1	1	10	11/12/12
Carbonate	CO3ALKALINI	LA-531-411	U	<1		mg/L	1	1		11/12/12
Bicarbonate	71-52-3	LA-531-411		110		mg/L	1	1		11/12/12
Hydroxyl ion	84625-61-6	LA-531-411	U	<1		mg/L	1	1		11/12/12
11/12/12										
<b>Total Dissolved Solids 180 C Dry</b>										
Total Dissolved Solids	TDS	LA-519-422		351		mg/L	1	10	50	11/12/12
11/15/12										
<b>Total Organic Carbon</b>										
Total Organic Carbon	TOC	LA-344-406	B	0.258		mg/L	1	0.10	0.30	11/15/12

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 #** WSCF121437

**Sample #** 121437003  
**SAF#** I13-005  
**Sample ID** B2MP22

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
11/12/12										
<b>Total Alkalinity as mg/L CaCO<sub>3</sub> (Water)</b>										
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	LA-531-411	U	<1		mg/L	1	1	10	11/12/12
Carbonate	CO3ALKALINI	LA-531-411	U	<1		mg/L	1	1		11/12/12
Bicarbonate	71-52-3	LA-531-411	U	<1		mg/L	1	1		11/12/12
Hydroxyl ion	84625-61-6	LA-531-411	U	<1		mg/L	1	1		11/12/12
11/12/12										
<b>Total Dissolved Solids 180 C Dry</b>										
Total Dissolved Solids	TDS	LA-519-422	B	13.0		mg/L	1	10	50	11/12/12
11/15/12										
<b>Total Organic Carbon</b>										
Total Organic Carbon	TOC	LA-344-406	U	<0.10		mg/L	1	0.10	0.30	11/15/12

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 #** WSCF121437

**Sample #** 121437004  
**SAF#** I13-005  
**Sample ID** B2MP23

**Matrix** WATER  
**Sampled** 11/07/12  
**Received** 11/07/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
11/12/12										
<b>Total Alkalinity as mg/L CaCO<sub>3</sub> (Water)</b>										
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	LA-531-411		150		mg/L	1	1	10	11/12/12
Carbonate	CO3ALKALINI	LA-531-411	U	<1		mg/L	1	1		11/12/12
Bicarbonate	71-52-3	LA-531-411		150		mg/L	1	1		11/12/12
Hydroxyl ion	84625-61-6	LA-531-411	U	<1		mg/L	1	1		11/12/12
11/12/12										
<b>Total Dissolved Solids 180 C Dry</b>										
Total Dissolved Solids	TDS	LA-519-422		291		mg/L	1	10	50	11/12/12
11/15/12										
<b>Total Organic Carbon</b>										
Total Organic Carbon	TOC	LA-344-406	B	0.258		mg/L	1	0.10	0.30	11/15/12

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

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121437

Analytical Batch 209939 (QC Batch: 209915) Test TC99 by Liquid Scintillation  
 Associated Samples 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										<b>QC Sample #84679</b>
Technetium-99										U 11/11/12
<b>LCS</b>										<b>QC Sample #84680</b>
Technetium-99	14133-76-7	0.70		pCi/L						11/11/12
<b>DUP</b>										<b>QC Sample #84681</b>
Technetium-99										Original 121411014
<b>MS</b>										<b>QC Sample #84682</b>
Technetium-99										Original 121411014
Technetium-99										11/11/12
14133-76-7										950 pCi/L 109.4 75 - 125

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121437

Analytical Batch 210122 (QC Batch: 210122) Test Total Alkalinity as mg/L CaCO<sub>3</sub> (Water)  
 Associated Samples 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed	
<b>LCS</b>										<b>QC Sample #84826</b>	
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	97	mg/L	97.4	80 - 120					11/12/12	
<b>DUP</b>										<b>QC Sample #84827</b>	
		<b>Original 121422001</b>									
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	200	mg/L				0.00	20		11/12/12	
<b>LCS</b>										<b>QC Sample #84828</b>	
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	97	mg/L	97.3	80 - 120					11/12/12	
<b>LCS</b>										<b>QC Sample #84829</b>	
Total Alkalinity as CaCO <sub>3</sub>	ALKALINITY	97	mg/L	97.2	80 - 120					11/12/12	

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
Department Wet Chemistry

Group # WSCF121437

Analytical Batch 210251 (QC Batch: 210251) Test Total Dissolved Solids 180 C Dry  
Associated Samples 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										<b>QC Sample #84938</b>
Total Dissolved Solids TDS <10 mg/L										U 11/12/12
<b>LCS</b>										<b>QC Sample #84939</b>
Total Dissolved Solids TDS 640 mg/L 103.2 80 - 120										11/12/12
<b>DUP</b>										<b>QC Sample #84940</b>
Total Dissolved Solids TDS 276 266 mg/L										Original 121437001
Total Dissolved Solids TDS 276 266 mg/L										3.70 5 11/12/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121437

Analytical Batch 210314 (QC Batch: 210313) Test SW-846 8260B Volatiles  
 Associated Samples 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										<b>QC Sample #84986</b>
1,1-Dichloroethene	75-35-4		<1	ug/L				U		11/14/12
Trichloroethene	79-01-6		<1	ug/L				U		11/14/12
Benzene	71-43-2		<1	ug/L				U		11/14/12
Toluene	108-88-3		<1	ug/L				U		11/14/12
Chlorobenzene	108-90-7		<1	ug/L				U		11/14/12
1,1-Dichloroethane	75-34-3		<1	ug/L				U		11/14/12
Ethylbenzene	100-41-4		<1	ug/L				U		11/14/12
Styrene	100-42-5		<1	ug/L				U		11/14/12
cis-1,3-Dichloropropene	10061-01-5		<1	ug/L				U		11/14/12
trans-1,3-Dichloropropene	10061-02-6		<1	ug/L				U		11/14/12
1,2-Dichloroethane	107-06-2		<1	ug/L				U		11/14/12
Methyl isobutyl ketone	108-10-1		<1	ug/L				U		11/14/12
Dibromochloromethane	124-48-1		<1	ug/L				U		11/14/12
Tetrachloroethene	127-18-4		<1	ug/L				U		11/14/12
Total Xylenes	1330-20-7		<1	ug/L				U		11/14/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
Total 1,2-Dichloroethene	540-59-0	<1		ug/L				U	11/14/12
Carbon tetrachloride	56-23-5	<1		ug/L				U	11/14/12
2-Hexanone	591-78-6	<1		ug/L				U	11/14/12
Acetone	67-64-1	<1		ug/L				U	11/14/12
Chloroform	67-66-3	<1		ug/L				U	11/14/12
1,1,1-Trichloroethane	71-55-6	<1		ug/L				U	11/14/12
Bromomethane	74-83-9	<1		ug/L				U	11/14/12
Chloromethane	74-87-3	<1		ug/L				U	11/14/12
Chloroethane	75-00-3	<1		ug/L				U	11/14/12
Vinyl chloride	75-01-4	<1		ug/L				U	11/14/12
Methylene chloride	75-09-2	<1		ug/L				U	11/14/12
Carbon disulfide	75-15-0	<1		ug/L				U	11/14/12
Bromoform	75-25-2	<1		ug/L				U	11/14/12
Bromodichloromethane	75-27-4	<1		ug/L				U	11/14/12
1,2-Dichloropropane	78-87-5	<1		ug/L				U	11/14/12
Methyl ethyl ketone	78-93-3	<1		ug/L				U	11/14/12
1,1,2-Trichloroethane	79-00-5	<1		ug/L				U	11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	<1		ug/L				U	11/14/12
1-Butanol	71-36-3	<100		ug/L				U	11/14/12
Tetrahydrofuran	109-99-9	<2		ug/L				U	11/14/12
Trichlorofluoromethane	75-69-4	<1		ug/L				U	11/14/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
trans-1,2-Dichloroethene	156-60-5		<1	ug/L				U	11/14/12
Acetonitrile	75-05-8		<2	ug/L				U	11/14/12
cis-1,2-Dichloroethene	156-59-2		<1	ug/L				U	11/14/12
Propionitrile	107-12-0		<2	ug/L				U	11/14/12
Isobutyl alcohol	78-83-1		<200	ug/L				U	11/14/12
Iodomethane	74-88-4		<1	ug/L				U	11/14/12
1,1,1,2-Tetrachloroethane	630-20-6		<1	ug/L				U	11/14/12
1,2,3-Trichloropropane	96-18-4		<1	ug/L				U	11/14/12
1,2-Dibromo-3-chloropropane	96-12-8		<1	ug/L				U	11/14/12
1,2-Dibromoethane	106-93-4		<1	ug/L				U	11/14/12
Acrolein	107-02-8		<1	ug/L				U	11/14/12
Acrylonitrile	107-13-1		<1	ug/L				U	11/14/12
Allyl chloride	107-05-1		<1	ug/L				U	11/14/12
Methylene bromide	74-95-3		<1	ug/L				U	11/14/12
Dichlorodifluoromethane	75-71-8		<1	ug/L				U	11/14/12
Ethyl methacrylate	97-63-2		<1	ug/L				U	11/14/12
Methacrylonitrile	126-98-7		<1	ug/L				U	11/14/12
Methyl methacrylate	80-62-6		<1	ug/L				U	11/14/12
Trans-1,4-dichloro-2-butene	110-57-6		<1	ug/L				U	11/14/12
Vinyl acetate	108-05-4		<1	ug/L				U	11/14/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group # WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chloroprene	126-99-8	<1		ug/L					U	11/14/12
<b>LCS</b>										
			<b>QC Sample #84987</b>							
1,1-Dichloroethene	75-35-4	23		ug/L	91	75 - 125				11/14/12
Trichloroethene	79-01-6	26		ug/L	102.8	75 - 125				11/14/12
Benzene	71-43-2	27		ug/L	106.5	75 - 125				11/14/12
Toluene	108-88-3	27		ug/L	107.3	75 - 125				11/14/12
Chlorobenzene	108-90-7	26		ug/L	105	75 - 125				11/14/12
1,1-Dichloroethane	75-34-3	25		ug/L	98.7	75 - 125				11/14/12
Ethylbenzene	100-41-4	28		ug/L	112.7	75 - 125				11/14/12
Styrene	100-42-5	28		ug/L	112.3	75 - 125				11/14/12
trans-1,3-Dichloropropene	10061-02-6	27		ug/L	108.5	75 - 125				11/14/12
1,2-Dichloroethane	107-06-2	25		ug/L	98.3	75 - 125				11/14/12
1,1,1-Trichloroethane	71-55-6	27		ug/L	109.6	75 - 125				11/14/12
Dibromochloromethane	124-48-1	25		ug/L	101.7	75 - 125				11/14/12
Carbon disulfide	75-15-0	21		ug/L	84	75 - 125				11/14/12
Bromoform	75-25-2	26		ug/L	105	75 - 125				11/14/12
Bromodichloromethane	75-27-4	28		ug/L	110.4	75 - 125				11/14/12
1,2-Dichloropropane	78-87-5	26		ug/L	104.1	75 - 125				11/14/12
1,1,2-Trichloroethane	79-00-5	26		ug/L	103	75 - 125				11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	24		ug/L	94.8	75 - 125				11/14/12

\* - QC result out of range

n/a - Not Applicable

**DECEMBER 10, 2012**

**Quality Control Report**

Attention Scot Fitzgerald  
 Department Organic, Volatiles

**Group #** WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
trans-1,2-Dichloroethene	156-60-5	25		ug/L	101.4	75 - 125				11/14/12
cis-1,2-Dichloroethene	156-59-2	25		ug/L	100.3	75 - 125				11/14/12
<b>MS</b>										
<b>QC Sample #84988</b>										
<b>Original 121411014</b>										
1,1-Dichloroethene	75-35-4	24		ug/L	94.2	75 - 125				11/14/12
Trichloroethene	79-01-6	27		ug/L	108.1	75 - 125				11/14/12
Benzene	71-43-2	27		ug/L	108.8	75 - 125				11/14/12
Toluene	108-88-3	28		ug/L	110.2	75 - 125				11/14/12
Chlorobenzene	108-90-7	27		ug/L	107.4	75 - 125				11/14/12
1,1-Dichloroethane	75-34-3	26		ug/L	102.2	75 - 125				11/14/12
Ethylbenzene	100-41-4	29		ug/L	116.5	75 - 125				11/14/12
Styrene	100-42-5	29		ug/L	114.9	75 - 125				11/14/12
trans-1,3-Dichloropropene	10061-02-6	28		ug/L	113	75 - 125				11/14/12
1,2-Dichloroethane	107-06-2	26		ug/L	105.9	75 - 125				11/14/12
1,1,1-Trichloroethane	71-55-6	28		ug/L	113	75 - 125				11/14/12
Dibromochloromethane	124-48-1	27		ug/L	109	75 - 125				11/14/12
Carbon disulfide	75-15-0	22		ug/L	86	75 - 125				11/14/12
Bromoform	75-25-2	29		ug/L	114.2	75 - 125				11/14/12
Bromodichloromethane	75-27-4	29		ug/L	115.1	75 - 125				11/14/12
1,2-Dichloropropane	78-87-5	27		ug/L	108.8	75 - 125				11/14/12
1,1,2-Trichloroethane	79-00-5	27		ug/L	107.4	75 - 125				11/14/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Organic, Volatiles

Group #

WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
1,1,2,2-Tetrachloroethane	79-34-5	26		ug/L	105.3	75 - 125				11/14/12
trans-1,2-Dichloroethene	156-60-5	26		ug/L	105.2	75 - 125				11/14/12
cis-1,2-Dichloroethene	156-59-2	26		ug/L	105.1	75 - 125				11/14/12
<b>MSD</b>										
<b>QC Sample #84989</b>										
<b>Original 121411014 Paired 84988</b>										
1,1-Dichloroethene	75-35-4	24		ug/L	95.5	75 - 125	1.40	20		11/14/12
Trichloroethene	79-01-6	27		ug/L	109.8	75 - 125	1.40	20		11/14/12
Benzene	71-43-2	28		ug/L	110.4	75 - 125	1.40	20		11/14/12
Toluene	108-88-3	28		ug/L	110.2	75 - 125	0.10	20		11/14/12
Chlorobenzene	108-90-7	27		ug/L	107.2	75 - 125	0.10	20		11/14/12
1,1-Dichloroethane	75-34-3	26		ug/L	104.7	75 - 125	2.50	20		11/14/12
Ethylbenzene	100-41-4	29		ug/L	115	75 - 125	1.20	20		11/14/12
Styrene	100-42-5	28		ug/L	113.3	75 - 125	1.40	20		11/14/12
trans-1,3-Dichloropropene	10061-02-6	28		ug/L	112.8	75 - 125	0.20	20		11/14/12
1,2-Dichloroethane	107-06-2	26		ug/L	104.2	75 - 125	1.60	20		11/14/12
1,1,1-Trichloroethane	71-55-6	29		ug/L	114.4	75 - 125	1.30	20		11/14/12
Dibromochloromethane	124-48-1	27		ug/L	107.9	75 - 125	1.00	20		11/14/12
Carbon disulfide	75-15-0	22		ug/L	86.1	75 - 125	0.10	20		11/14/12
Bromoform	75-25-2	28		ug/L	111.7	75 - 125	2.30	20		11/14/12
Bromodichloromethane	75-27-4	29		ug/L	115.7	75 - 125	0.50	20		11/14/12
1,2-Dichloropropane	78-87-5	28		ug/L	110.8	75 - 125	1.80	20		11/14/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report****DECEMBER 10, 2012****Attention** Scot Fitzgerald  
**Department** Organic, Volatiles**Group #**

WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
1,1,2-Trichloroethane	79-00-5	27		ug/L	107.8	75 - 125	0.30	20		11/14/12
1,1,2,2-Tetrachloroethane	79-34-5	26		ug/L	104	75 - 125	1.20	20		11/14/12
trans-1,2-Dichloroethene	156-60-5	27		ug/L	107.9	75 - 125	2.60	20		11/14/12
cis-1,2-Dichloroethene	156-59-2	27		ug/L	107.6	75 - 125	2.30	20		11/14/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
Department Radiochemistry

Group # WSCF121437

Analytical Batch 210415 (QC Batch: 210114) Test Tritium by LSC  
Associated Samples 121437002

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										<b>QC Sample #84806</b>
Tritium LCS										pCi/L
	10028-17-8	61								U
<b>QC Sample #84807</b>										
Tritium DUP										pCi/L
	10028-17-8	3600			115.4	80 - 120				11/16/12
<b>QC Sample #84808</b>										
Original 121432006										
Tritium MS										pCi/L
	10028-17-8	510					18.80	20		11/16/12
<b>QC Sample #84809</b>										
Original 121432006										
Tritium										10028-17-8
		20000		pCi/L	94.1	75 - 125				11/16/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Wet Chemistry

Group # WSCF121437

Analytical Batch 210417 (QC Batch: 210417) Test Total Organic Carbon  
 Associated Samples 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										QC Sample #85225
Total Organic Carbon	TOC		<0.045	mg/L					U	11/15/12
<b>LCS</b>										QC Sample #85226
Total Organic Carbon	TOC		2.18	mg/L	108.8	80 - 120				11/15/12
<b>MS</b>										QC Sample #85227
										Original 121436004
Total Organic Carbon	TOC		2.18	mg/L	109	75 - 125				11/15/12
<b>MSD</b>										QC Sample #85228
										Original 121436004
Total Organic Carbon	TOC		2.19	mg/L	109.6	75 - 125	0.50	20		Paired 85227
										11/15/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121437

Analytical Batch 211022 (QC Batch: 210827) Test ICP-2008 MS All possible metal  
 Associated Samples 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										<b>QC Sample #85614</b>
Aluminum	7429-90-5		<5.0	ug/L				U		11/30/12
Manganese	7439-96-5		<0.10	ug/L				U		11/30/12
Nickel	7440-02-0		<0.10	ug/L				U		11/30/12
Silver	7440-22-4		<0.050	ug/L				U		11/30/12
Antimony	7440-36-0		<0.30	ug/L				U		11/30/12
Barium	7440-39-3		<0.20	ug/L				U		11/30/12
Beryllium	7440-41-7		<0.10	ug/L				U		11/30/12
Cadmium	7440-43-9		<0.050	ug/L				U		11/30/12
Chromium	7440-47-3		<0.10	ug/L				U		11/30/12
Cobalt	7440-48-4		<0.050	ug/L				U		11/30/12
Copper	7440-50-8		<0.10	ug/L				U		11/30/12
Vanadium	7440-62-2		0.317	ug/L				B		11/30/12
Zinc	7440-66-6		<1.0	ug/L				U		11/30/12
Lead	7439-92-1		<0.050	ug/L				U		11/30/12
Molybdenum	7439-98-7		<0.050	ug/L				U		11/30/12
Strontium	7440-24-6		<0.10	ug/L				U		11/30/12
Thallium	7440-28-0		<0.050	ug/L				U		11/30/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Tin	7440-31-5	<0.050		ug/L					U	11/30/12
Uranium	7440-61-1	<0.050		ug/L					U	11/30/12
Arsenic	7440-38-2	<0.20		ug/L					U	11/30/12
Selenium	7782-49-2	<1.0		ug/L					U	11/30/12
<b>LCS</b>			<b>QC Sample #85615</b>							
Aluminum	7429-90-5	440		ug/L	109.9	85 - 115				11/30/12
Manganese	7439-96-5	43.6		ug/L	108.9	85 - 115				11/30/12
Nickel	7440-02-0	42.9		ug/L	107.4	85 - 115				11/30/12
Silver	7440-22-4	44.2		ug/L	110.4	85 - 115				11/30/12
Antimony	7440-36-0	43.2		ug/L	108	85 - 115				11/30/12
Barium	7440-39-3	44.0		ug/L	110	85 - 115				11/30/12
Beryllium	7440-41-7	43.5		ug/L	108.8	85 - 115				11/30/12
Cadmium	7440-43-9	42.4		ug/L	106.1	85 - 115				11/30/12
Chromium	7440-47-3	42.9		ug/L	107.2	85 - 115				11/30/12
Cobalt	7440-48-4	43.3		ug/L	108.2	85 - 115				11/30/12
Copper	7440-50-8	43.0		ug/L	107.6	85 - 115				11/30/12
Vanadium	7440-62-2	43.0		ug/L	107.6	85 - 115				11/30/12
Zinc	7440-66-6	39.7		ug/L	99.3	85 - 115				11/30/12
Lead	7439-92-1	44.9		ug/L	112.4	85 - 115				11/30/12
Molybdenum	7439-98-7	43.5		ug/L	108.8	85 - 115				11/30/12
Strontium	7440-24-6	439		ug/L	109.8	85 - 115				11/30/12
Thallium	7440-28-0	43.6		ug/L	108.9	85 - 115				11/30/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

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

**Group #**

WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Tin	7440-31-5	43.3	ug/L	108.2	85 - 115					11/30/12
Uranium	7440-61-1	44.2	ug/L	110.4	85 - 115					11/30/12
Arsenic	7440-38-2	41.9	ug/L	104.7	85 - 115					11/30/12
Selenium	7782-49-2	39.2	ug/L	98	85 - 115					11/30/12
<b>MS</b>		<b>QC Sample #85616</b>								
		<b>Original 121436001</b>								
Aluminum	7429-90-5	410	ug/L	102.6	70 - 130					11/30/12
Manganese	7439-96-5	40.3	ug/L	100.9	70 - 130					11/30/12
Nickel	7440-02-0	38.7	ug/L	96.8	70 - 130					11/30/12
Silver	7440-22-4	41.6	ug/L	104	70 - 130					11/30/12
Antimony	7440-36-0	43.4	ug/L	108.5	70 - 130					11/30/12
Barium	7440-39-3	43.5	ug/L	108.8	70 - 130					11/30/12
Beryllium	7440-41-7	39.3	ug/L	98.2	70 - 130					11/30/12
Cadmium	7440-43-9	41.6	ug/L	103.9	70 - 130					11/30/12
Chromium	7440-47-3	39.8	ug/L	99.5	70 - 130					11/30/12
Cobalt	7440-48-4	39.7	ug/L	99.4	70 - 130					11/30/12
Copper	7440-50-8	38.5	ug/L	96.2	70 - 130					11/30/12
Vanadium	7440-62-2	38.9	ug/L	97.4	70 - 130					11/30/12
Zinc	7440-66-6	36.8	ug/L	91.9	70 - 130					11/30/12
Lead	7439-92-1	44.3	ug/L	110.7	70 - 130					11/30/12
Molybdenum	7439-98-7	43.9	ug/L	109.8	70 - 130					11/30/12
Strontium	7440-24-6	432	ug/L	108	70 - 130					11/30/12
Thallium	7440-28-0	43.4	ug/L	108.5	70 - 130					11/30/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Tin	7440-31-5	43.3	ug/L	108.2	70 - 130					11/30/12
Uranium	7440-61-1	44.8	ug/L	112	70 - 130					11/30/12
Arsenic	7440-38-2	42.0	ug/L	105	70 - 130					11/30/12
Selenium	7782-49-2	38.7	ug/L	96.7	70 - 130					11/30/12
<b>MSD</b>		<b>QC Sample #85617</b>								
		<b>Original 121436001</b>								
								<b>Paired</b>	<b>85616</b>	
Aluminum	7429-90-5	424	ug/L	106	70 - 130		3.20	20		11/30/12
Manganese	7439-96-5	42.0	ug/L	104.9	70 - 130		3.90	20		11/30/12
Nickel	7440-02-0	40.0	ug/L	100.1	70 - 130		3.30	20		11/30/12
Silver	7440-22-4	42.5	ug/L	106.3	70 - 130		2.10	20		11/30/12
Antimony	7440-36-0	44.1	ug/L	110.3	70 - 130		1.70	20		11/30/12
Barium	7440-39-3	44.5	ug/L	111.2	70 - 130		1.50	20		11/30/12
Beryllium	7440-41-7	41.8	ug/L	104.5	70 - 130		6.20	20		11/30/12
Cadmium	7440-43-9	42.6	ug/L	106.4	70 - 130		2.40	20		11/30/12
Chromium	7440-47-3	40.9	ug/L	102.3	70 - 130		2.70	20		11/30/12
Cobalt	7440-48-4	41.1	ug/L	102.8	70 - 130		3.40	20		11/30/12
Copper	7440-50-8	39.3	ug/L	98.3	70 - 130		2.20	20		11/30/12
Vanadium	7440-62-2	40.8	ug/L	102.1	70 - 130		2.60	20		11/30/12
Zinc	7440-66-6	37.0	ug/L	92.5	70 - 130		0.70	20		11/30/12
Lead	7439-92-1	45.1	ug/L	112.8	70 - 130		1.90	20		11/30/12
Molybdenum	7439-98-7	44.5	ug/L	111.2	70 - 130		1.00	20		11/30/12
Strontium	7440-24-6	438	ug/L	109.5	70 - 130		1.10	20		11/30/12
Thallium	7440-28-0	44.0	ug/L	110.1	70 - 130		1.50	20		11/30/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report****DECEMBER 10, 2012**Attention Scot Fitzgerald  
Department Inorganic**Group #**

WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Tin	7440-31-5	44.0	ug/L	110	70 - 130	1.60	20			11/30/12
Uranium	7440-61-1	45.2	ug/L	113	70 - 130	0.80	20			11/30/12
Arsenic	7440-38-2	42.5	ug/L	106.3	70 - 130	1.10	20			11/30/12
Selenium	7782-49-2	40.0	ug/L	100	70 - 130	3.30	20			11/30/12

\* - QC result out of range

n/a - Not Applicable

## Quality Control Report

DECEMBER 10, 2012

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

**Group #** WSCF121437

**Analytical Batch** 210314 (QC Batch: 210313)      **Test** SW-846 8260B Volatiles  
**Associated Samples** 121437001, 121437002, 121437003, 121437004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>SAMPLE</b>		<b>Sample #121437001</b>								
1,2-Dichloroethane-d4	17060-07-0				102.2	75 - 125				11/14/12
Toluene-d8	2037-26-5				93.6	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				102.2	75 - 125				11/14/12
<b>SAMPLE</b>		<b>Sample #121437002</b>								
1,2-Dichloroethane-d4	17060-07-0				103.8	75 - 125				11/14/12
Toluene-d8	2037-26-5				94	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				103.7	75 - 125				11/14/12
<b>SAMPLE</b>		<b>Sample #121437003</b>								
1,2-Dichloroethane-d4	17060-07-0				105.6	75 - 125				11/14/12
Toluene-d8	2037-26-5				93.4	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				103.3	75 - 125				11/14/12
<b>SAMPLE</b>		<b>Sample #121437004</b>								
1,2-Dichloroethane-d4	17060-07-0				104.4	75 - 125				11/14/12

\* - QC result out of range

n/a - Not Applicable

**DECEMBER 10, 2012**

**Quality Control Report**

Attention Scot Fitzgerald  
 Department Organic, Volatiles

**Group #** WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				93.3	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				102.5	75 - 125				11/14/12
<b>BLANK</b>										
		<b>QC Sample #84986</b>								
1,2-Dichloroethane-d4	17060-07-0				100.4	75 - 125				11/14/12
Toluene-d8	2037-26-5				94.3	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				101	75 - 125				11/14/12
<b>LCS</b>										
		<b>QC Sample #84987</b>								
1,2-Dichloroethane-d4	17060-07-0				98.3	75 - 125				11/14/12
Toluene-d8	2037-26-5				94	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				96.3	75 - 125				11/14/12
<b>MS</b>										
		<b>QC Sample #84988</b>								
		<b>Original 121411014</b>								
1,2-Dichloroethane-d4	17060-07-0				99	75 - 125				11/14/12
Toluene-d8	2037-26-5				93.6	75 - 125				11/14/12
4-Bromofluorobenzene	460-00-4				96.5	75 - 125				11/14/12
<b>MSD</b>										
		<b>QC Sample #84989</b>								
		<b>Original 121411014</b>								
		<b>Paired 84988</b>								
1,2-Dichloroethane-d4	17060-07-0				98.4	75 - 125	n/a			11/14/12
Toluene-d8	2037-26-5				93.8	75 - 125	n/a			11/14/12

\* - QC result out of range

n/a - Not Applicable

**Quality Control Report****DECEMBER 10, 2012****Attention** Scot Fitzgerald  
**Department** Organic, Volatiles**Group #** WSCF121437

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
4-Bromofluorobenzene	460-00-4				96.4	75 - 125	n/a			11/14/12

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

**Tentatively Identified Peak Report****DECEMBER 10, 2012****Attention** Scot Fitzgerald  
**Department** Organic, Volatiles**Group #** WSCF121437

<b>Peak Name</b>	<b>CAS #</b>	<b>RT</b>	<b>RQ</b>	<b>Result</b>	<b>Units</b>
<b>121437001</b>	<b>B2MP30</b>				
Unknown	UNKNOWN-01	15.044		.35	ug/L
Trichloroacetyl chlori	76-02-8	15.783		2.9	ug/L
<b>121437002</b>	<b>B2MP41</b>				
Unknown	UNKNOWN-01	5.0091		2.5	ug/L
Unknown	UNKNOWN-02	5.0927		1.8	ug/L
Unknown	UNKNOWN-03	6.5846		7.8	ug/L
Unknown	UNKNOWN-04	9.8385		1.9	ug/L

**ATTACHMENT4**

**SAMPLE RECEIPT**

Consisting of 6 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

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**WSCF Laboratory**

PO Box 650 S3-30  
Richland, WA 99352

ATTN: Scot Fitzgerald

Customer Code: CHPRC

PO #: 401647

Work Order #: 121437

Profile #: I13-005-057

Proj. Mgr.:

Phone:

---

The following samples were received from you on 11/7/2012 2:05:00 PM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
<b>Tests scheduled</b>				
121437001	B2MP30	WATER	11/7/2012 11:20	11/7/2012 14:05
		2008-W; 8260V-W; ALK-W; TC99-W; TDS-W; TOC-W		
121437002	B2MP41	WATER	11/7/2012 09:40	11/7/2012 14:05
		2008-W; 8260V-W; ALK-W; H3-COL-W; TC99-W; TDS-W; TOC-W		
121437003	B2MP22	WATER	11/7/2012 07:45	11/7/2012 14:05
		2008-W; 8260V-W; ALK-W; TC99-W; TDS-W; TOC-W		
121437004	B2MP23	WATER	11/7/2012 12:10	11/7/2012 14:05
		2008-W; 8260V-W; ALK-W; TC99-W; TDS-W; TOC-W		

**Test Acronym Description**

Test Acronym	Description
2008-W	ICP-MS (W)
8260V-W	Volatiles by 8260B (W)
ALK-W	Total Alkalinity (W)
H3-COL-W	Tritium by EICHROM Column (W)
TC99-W	Technetium-99 (W)
TDS-W	Total Dissolved Solids (W)
TOC-W	Total Organic Carbon (W)

---

**CH2MHILL Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. # **II3-005-057**

Page 1 of 1

Collector **F. M. Hall**  
SAF No. **113-005**  
Project Title **2ZP1, NOVEMBER 2012**  
Shipped To (Lab) **Waste Sampling & Characterization**  
Protocol **CERCLA**

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

**121437**

Contact/Requester	Karen Waters-Husted
Sampling Origin	Hanford Site
Logbook No.	HNF-N-506 <i>4/9/2012</i>
Method of Shipment	GOVERNMENT VEHICLE
Priority:	31 Days
<b>PRIORITY</b>	
SPECIAL INSTRUCTIONS	
200 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.	

Total Activity Exemption: Yes  No

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MP30	N	W	11-7-12	1120	1x500-mL G/P	160.1_TDS_TDS (1)	Cool-4C
B2MP30	N	W			1x500-mL G/P	>200.8_METALS_ICPMs: List-1 (26)	HNO3 to pH <2
B2MP30	N	W			1x500-mL G/P	>200.8_METALS_ICPMs: Uranium (1)	HNO3 to pH <2
B2MP30	N	W			1x500-mL G/P	>2320_ALKALINITY: List-1 (4)	Cool-4C
B2MP30	N	W			1x250-mL G/P	>8260_VOA_GOMS_Ix: COMMON	14 Days
B2MP30	N	W			3x40-mL Ags*	>9060_TOC_TOC (1)	HCl or H2SO4 to pH <2/Cool->4C
B2MP30	N	W			1x250-mL Ag	>9060_TOC_TOC (1)	HCl or H2SO4 to pH <2/Cool->4C
B2MP30	N	W			1x1-L G/P	>TC9_3MDSK_LSC: Tc-99 (1)	28 Days
B2MP30	N	W					6 Months

Relinquished By	Print	Date/Time	Print	Date/Time	Print	Date/Time	Matrix *
<b>F. M. Hall</b>	<i>F. M. Hall</i>	<b>NOV 07 2012</b>	<b>SP 400</b>	<b>NOV 07 2012</b>	<b>SP 400</b>	<b>NOV 07 2012</b>	S = Soil DS = Drum Solids
<b>Retained By</b>	<b>Cynthia R. Johnson</b>	<b>NOV 12 2012</b>	<b>SP 400</b>	<b>NOV 12 2012</b>	<b>SP 400</b>	<b>NOV 12 2012</b>	SE = Sediment DL = Drum Liquids
<b>Relinquished By</b>							SO = Solid T = Tissue
<b>Retained By</b>							SL = Sludge WI = Wine
<b>Relinquished By</b>							O = Liquid L = Liquid
<b>Retained By</b>							A = Air V = Vegetation
<b>Relinquished By</b>							X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Date/Time	Disposed By	Date/Time
PRINTED ON <b>10/10/2012</b>				<b>A-5004-842 (REV 2)</b>

## Sample Receipt

DECEMBER 10, 2012

## Chain of Custody

C.O.C. #  
**113-005-063**

Page 1 of 1

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

Collector	F. M. Hall	Contact/Requester	Karen Waters-Husted
SAF No.	113-005	Sampling Origin	Hanford Site
Project Title	ZZP1, NOVEMBER 2012	Logbook No.	HNF-N-506 <i>22/22</i>
Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Priority:	<b>31 Days</b>	Office Property No.	N/A
Protocol	Waste Sampling & Characterization	Hold Time	
Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material or concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MP41 <i>2</i>	N	W	11-7-12	0940	1x500-mL G/P	160.1_TDS_TDS (1) 200.8_METALS_ICPMS_Lis-1 (26)	7 Days	Coat-4C
B2MP41	N	W			1x500-mL G/P		6 Months	HNO3 to pH <2
B2MP41	N	W			1x500-mL G/P	200.8_METALS_ICPMS_Uranium (1)	6 Months	HNO3 to pH <2
B2MP41	N	W			1x250-mL G/P	2320_ALKALINITY_Lis-1 (4)	14 Days	Coat-4C
B2MP41	N	W			3x250-mL aG	8260_VOA_GCMS_X COMMON	14 Days	HCl or H2SO4 to pH >2/Cool-4C
B2MP41	N	W			1x250-mL aG	9060_TOC_TOC (1)	28 Days	HCl or H2SO4 to pH >2/Cool-4C
B2MP41	N	W			1x1-L G/P	TC99_3MDSK_LSC_Tc-99 (1)	6 Months	HCl to pH <2
B2MP41	N	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

Relinquished By	Print	Sign	Date/Time	Print	Sign	Date/Time	Print	Sign	Date/Time	Matrix *
F. M. Hall	<i>F. M. Hall</i>		NOV 07 2012 1400	<i>Karen Waters-Husted</i>		NOV 07 2012 1400	<i>Cynthia R Johnson</i>		NOV 07 2012 1400	S = Soil
Received By										DLS = Drum Solids
Printed By										SL = Sediment
Relinquished By										DL = Drum Liquids
Received By										T = Tissue
Date/Time										W = Wine
Date/Time										L = Liquid
Date/Time										O = Oil
Date/Time										V = Vegetation
Date/Time										A = Air
Date/Time										X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
PRINTED ON 10/10/2012			A-6004-842 (REV 2)

## Chain of Custody

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST																																																																																																																																	
C.O.C. # <b>113-005-051</b>																																																																																																																																	
Page 1 of 1																																																																																																																																	
Collector	F. M. Hall	Contact Requester	Karen Waters-Husted	Telephone No.	376-4650	Purchase Order/Charge Code	300071ES20																																																																																																																										
SAF No.	113-005	Sampling Origin	Hanford Site	Ice Chest No.	N/A																																																																																																																												
Project Title	ZZP1, NOVEMBER 2012	Logbook No.	HNF-N-506 #7174	Bill of Lading/Air Bill No.	N/A																																																																																																																												
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Offsite Property No.	N/A																																																																																																																												
Protocol	CERCLA	Priority	<b>PRIORITY</b>	SPECIAL INSTRUCTIONS	Hold Time			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No																																																																																																																									
200 Area Generator Knowledge Information Form applies. The CXCN for all analytical work at WSCF is 401647																																																																																																																																	
POSSIBLE SAMPLE HAZARDS/REMARKS  *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)																																																																																																																																	
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Requisitioned By		Date/Time		Received By		Date/Time		L = Wine																																																																																																																									
Requisitioned By		Date/Time		Received By		Date/Time		O = Oil																																																																																																																									
Requisitioned By		Date/Time		Received By		Date/Time		V = Vegetation																																																																																																																									
Requisitioned By		Date/Time		Received By		Date/Time		X = Air																																																																																																																									

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

## Sample Receipt

DECEMBER 10, 2012

## Chain of Custody

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST										C.O.C. #	113-005-054	
Collector	F. M. Hall	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650	Page 1 of 1						
SAF No.	113-005	Sampling Origin	Hanford Site	Purchase Order/Charge Code:	300071ES20							
Project Title	2ZP1, NOVEMBER 2012	Logbook No.	HNF-N-506 92 / 24	Ice Chest No.	N/A							
Method of Shipment	GOVERNMENT VEHICLE			Bill of Lading/Air Bill No.	N/A							
Priority:	<b>PRIORITY</b>	SPECIAL INSTRUCTIONS		Offsite Property No.	N/A							
Method of Sampling & Characterization	Waste Sampling & Characterization	Hold Time		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								
Protocol	CFRCL A	20U Area Generator Knowledge Information Form applies.										
POSSIBLE SAMPLE HAZARDS/REMARKS										The CACN for all analytical work at WSCF is 301617.		
*** Contains Radioactive Material of concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990, 5033)												
Sample No	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative					
B2MP23	4	N	W	1/1-7-12	1x210	1x500-mL GrP	160.1_TDS: TDS (1)	7 Days	Cool~4C			
B2MP23		N	W			1x500-mL GrP	200.8_METALS_ICPMS: List-1 (26)	6 Months	HNO3 to pH <2			
B2MP23		N	W			1x250-mL GrP	2320_ALKALINITY: List-1 (4)	14 Days	Cool~4C			
B2MP23		N	W			3x100-mL aG's	8260_VOA_GCMS_IK: COMMON	14 Days	HCl or H <sub>2</sub> SO <sub>4</sub> to pH <2/Cool~4C			
B2MP23		N	W			1x250-mL aG	9060_TOC: TOC (1)	28 Days	HCl or H <sub>2</sub> SO <sub>4</sub> to pH <2/Cool~4C			
B2MP23	✓	N	W			1x1-L GrP	TC99_3MDSK_L SG: TC-99 (1)	6 Months	HCl to pH <2			

  

Relinquished By	F. M. Hall	Date/Time	Received By	Date/Time	Matrix *
Printed Name	<i>F. M. Hall</i>	Printed Name	<i>Cynthia R Johnson</i>	Date/Time	Matrix *
Printed Name	<i>Retired by F. M. Hall</i>	Date/Time	<i>11/12/12</i>	Date/Time	S = Soil
Printed Name		Date/Time		Date/Time	SE = Sediment
Printed Name		Date/Time		Date/Time	SO = Solid
Printed Name		Date/Time		Date/Time	SL = Sludge
Printed Name		Date/Time		Date/Time	W = Water
Printed Name		Date/Time		Date/Time	O = Oil
Printed Name		Date/Time		Date/Time	V = Vegetation
Printed Name		Date/Time		Date/Time	A = Air
Printed Name		Date/Time		Date/Time	Other

  

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Date/Time
PRINTED ON	10/10/2012	Date/Time