

MAY 6, 2014

WSCF Laboratory

PO Box 650 S3-30
Richland, WA 99352



May 6, 2014

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

Dear Scot Fitzgerald,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF140633

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 WSCF140633

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

Very truly yours,

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

Electronically signed by Joseph Hale

For Lab Manager, Dan T. Smith

WSCF Analytical Lab

(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF140633
Data Deliverable Date 05/08/14

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F14-003	B2W2H4	140633001	WATER	04/08/14	04/08/14
F14-003	B2W2H8	140633002	WATER	04/08/14	04/08/14
F14-003	B2W2H5	140633003	WATER	04/08/14	04/08/14
F14-003	B2W2H9	140633004	WATER	04/08/14	04/08/14
F14-003	B2W2H3	140633005	WATER	04/08/14	04/08/14
F14-003	B2W9Y7	140633006	WATER	04/08/14	04/08/14

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Samples were received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW)*, to Contract 39818, Revision 4, "WSCF ANALYTICAL SERVICES FOR GROUNDWATER."

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

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

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

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

Analytical Methodology for Requested Analyses

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

Inorganic Comments

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

- All applicable QC controls are within the established limits.

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

- All applicable QC controls are within the established limits.

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

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

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Technetium-99 is analyzed without prep therefore there is no Matrix Spike or Matrix Spike Duplicate with analysis. Analytical Note(s):

- Barium –Matrix Spike Duplicate recovery was outside established laboratory limits. Affected sample results in this batch were “N” flagged.
- All other applicable QC controls are within the established limits.

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):

- 1,2-Dichloropropane – Matrix Spike recovery did not meet established laboratory acceptance limits. Affected sample results in this batch were “T” flagged.
- All other applicable QC controls are within the established limits.

Radiochemistry Comments

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

Attachment 2
Narrative
WSCF140633

Tritium:

- All applicable QC controls are within the established limits.

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

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 37 pages
Including cover page

WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation

PO Box 1600
Richland, WA 99352

Attention: Scot Fitzgerald

Contract # MOA-FH-CHPRC-2008
Group # WSCF140633
Report Date May 6, 2014

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Marisol Avila

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

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

Batch QC List

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140633

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
231244	232244	5	BLANK	108543	BLANK		ICP-6010 - All possible metals
231244	232244	7	LCS	108545	LCS		ICP-6010 - All possible metals
231244	232244	9	MS	108546	B2W5L4(140615015MS)	140615015	ICP-6010 - All possible metals
231244	232244	10	MSD	108547	B2W5L4(140615015MSD)	140615015	ICP-6010 - All possible metals
231244	232244	30	SAMPLE	140633003	B2W2H5		ICP-6010 - All possible metals
231244	232244	31	SAMPLE	140633004	B2W2H9		ICP-6010 - All possible metals
231338	231338	2	BLANK	108593	BLANK		Anions by Ion Chromatography (Water)
231338	231338	3	LCS	108594	LCS		Anions by Ion Chromatography (Water)
231338	231338	4	MS	108595	B2W2H9(140633004MS)	140633004	Anions by Ion Chromatography (Water)
231338	231338	5	MSD	108596	B2W2H9(140633004MSD)	140633004	Anions by Ion Chromatography (Water)
231338	231338	8	SAMPLE	140633003	B2W2H5		Anions by Ion Chromatography (Water)
231338	231338	9	SAMPLE	140633004	B2W2H9		Anions by Ion Chromatography (Water)
231438	231438	1	BLANK	108617	BLANK		Hexavalent chromium Discrete Analyzer
231438	231438	3	LCS	108619	LCS		Hexavalent chromium Discrete Analyzer
231438	231438	4	DUP	108620	B2W2H8(140633002DUP)	140633002	Hexavalent chromium Discrete Analyzer
231438	231438	5	MS	108621	B2W2H8(140633002MS)	140633002	Hexavalent chromium Discrete Analyzer
231438	231438	6	SAMPLE	140633002	B2W2H8		Hexavalent chromium Discrete Analyzer
231438	231438	7	SAMPLE	140633001	B2W2H4		Hexavalent chromium Discrete Analyzer
232555	232561	4	BLANK	109661	BLANK		ICP-2008 MS All possible metal
232555	232561	5	LCS	109662	LCS		ICP-2008 MS All possible metal
232555	232561	7	MS	109663	B2W820(140622007MS)	140622007	ICP-2008 MS All possible metal
232555	232561	8	MSD	109664	B2W820(140622007MSD)	140622007	ICP-2008 MS All possible metal
232555	232561	12	SAMPLE	140633003	B2W2H5		ICP-2008 MS All possible metal

Batch QC List

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140633

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
232555	232561	13	SAMPLE	140633004	B2W2H9		ICP-2008 MS All possible metal

Batch QC List

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF140633

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
231261	231262	1	BLANK	108578	BLANK		SW-846 8260B Volatiles
231261	231262	2	LCS	108579	LCS		SW-846 8260B Volatiles
231261	231262	3	MS	108580	B2W2H3(140633005MS)	140633005	SW-846 8260B Volatiles
231261	231262	4	MSD	108581	B2W2H3(140633005MSD)	140633005	SW-846 8260B Volatiles
231261	231262	7	SAMPLE	140633005	B2W2H3		SW-846 8260B Volatiles
231261	231262	8	SAMPLE	140633006	B2W9Y7		SW-846 8260B Volatiles

Batch QC List

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF140633

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
231036	231865	1	BLANK	108441	BLANK		Tritium by LSC
231036	231865	2	LCS	108442	LCS		Tritium by LSC
231036	231865	4	DUP	108443	B2W904(140608001DUP)	140608001	Tritium by LSC
231036	231865	5	MSPK	108444	B2W904(140608001MSP)		Tritium by LSC
231036	231865	17	SAMPLE	140633003	B2W2H5		Tritium by LSC
231036	231865	18	SAMPLE	140633004	B2W2H9		Tritium by LSC
231860	231877	1	BLANK	108910	BLANK		Technetium-99 by ICP MS
231860	231877	2	LCS	108911	LCS		Technetium-99 by ICP MS
231860	231877	18	SAMPLE	140633003	B2W2H5		Technetium-99 by ICP MS
231860	231877	19	SAMPLE	140633004	B2W2H9		Technetium-99 by ICP MS

Method Reference

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF140633

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-265-403	Hexavalent Chromium Analysis		
	EPA SW-846	7196A	Hexavalent Chromium
	HEIS	7196_CR6	Hexavalent Chromium
LA-505-411	Elemental Analysis by ICP Atomic Emission Spectroscopy (ICP AES)		
	EPA SW-846	6010C	Inductively Coupled Plasma-Atomic Emmission Spectrometry
	HEIS	6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmission Spectrometry
LA-505-412	Determination of Trace Elements in Waters & Wastes by ICP Mass Spectrometry		
	EPA-600/R-94-111	200.8	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma
	HEIS	200.8_METALS_ICPMS	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma, Mass Spec.
LA-533-410	Anion Analysis by Ion Chromatography		
	EPA-600/R-94-111	300.0	Determination of Inorganic Anions by Ion Chromatography
	HEIS	300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

Method Reference

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF140633

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.

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

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

Method Reference

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF140633

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-218-413	Tritium By Ion Removal Using Eichrom Resin Columns (Prep)		
	N/A	PREP METHOD	
LA-508-421	Operation of the Tri-Carb Model 2500TR Liquid Scintillation Analyzer		
	HEIS	ALPHA_LSC	A/B Liquid Scintillation
	HEIS	BETA_LSC	A/B Liquid Scintillation
	HEIS	TC99_3MDSK_LSC	TC99 by Liquid Scintillation
	HEIS	TRITIUM_EIE_LSC	Tritium, by Eichrome ion exchange, LSC
LA-505-412	Technicium-99 by ICP-MS		
	HEIS	RADISOTOPES_ICPMS	Tc-99 by ICPMS

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Sample # 140633001
 SAF# F14-003
 Sample ID B2W2H4

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/08/14
Hexavalent chromium Discrete Analyzer										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	04/08/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Sample # 140633002
 SAF# F14-003
 Sample ID B2W2H8

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/08/14
Hexavalent chromium Discrete Analyzer										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	04/08/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Sample # 140633003
 SAF# F14-003
 Sample ID B2W2H5

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/08/14
Anions by Ion Chromatography (Water)										
Nitrate-N	NO3-N	LA-533-410	UD	<0.040		ug/mL	2	0.040	0.20	04/08/14
										04/23/14
ICPAES Prep (W)										
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411	U	<40		ug/L	1	40	50	04/23/14
Magnesium	7439-95-4	LA-505-411	U	<60		ug/L	1	60	750	04/23/14
Calcium	7440-70-2	LA-505-411	B	119		ug/L	1	50	1000	04/23/14
										04/30/14
ICPMS Prep (W)										
ICP-2008 MS All possible metal										
Aluminum	7429-90-5	LA-505-412	UD	<20		ug/L	2	20	100	05/05/14
Manganese	7439-96-5	LA-505-412	BD	0.894		ug/L	2	0.20	2.0	05/05/14
Nickel	7440-02-0	LA-505-412	BD	0.622		ug/L	2	0.20	2.0	05/05/14
Barium	7440-39-3	LA-505-412	BDN	1.78		ug/L	2	0.40	4.0	05/05/14
Cadmium	7440-43-9	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	05/05/14
Chromium	7440-47-3	LA-505-412	BD	0.524		ug/L	2	0.20	2.0	05/05/14
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	05/05/14
Copper	7440-50-8	LA-505-412	BD	0.598		ug/L	2	0.20	2.0	05/05/14
Vanadium	7440-62-2	LA-505-412	BD	0.426		ug/L	2	0.40	4.0	05/05/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Sample # 140633003
 SAF# F14-003
 Sample ID B2W2H5

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lead	7439-92-1	LA-505-412	BD	0.108		ug/L	2	0.10	1.0	05/05/14
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	05/05/14
Strontium	7440-24-6	LA-505-412	UD	<0.40		ug/L	2	0.40	2.0	05/05/14
Uranium	7440-61-1	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	05/05/14
Arsenic	7440-38-2	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	05/05/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Sample # 140633004
 SAF# F14-003
 Sample ID B2W2H9

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										04/08/14
Anions by Ion Chromatography (Water)										
Nitrate-N	NO3-N	LA-533-410	D	3.34		ug/mL	2	0.040	0.20	04/08/14
										04/23/14
ICPAES Prep (W)										
ICP-6010 - All possible metals										
Iron	7439-89-6	LA-505-411		940		ug/L	1	40	50	04/23/14
Magnesium	7439-95-4	LA-505-411		15400		ug/L	1	60	750	04/23/14
Calcium	7440-70-2	LA-505-411		40100		ug/L	1	50	1000	04/23/14
										04/30/14
ICPMS Prep (W)										
ICP-2008 MS All possible metal										
Aluminum	7429-90-5	LA-505-412	BD	22.4		ug/L	2	20	100	05/05/14
Manganese	7439-96-5	LA-505-412	D	51.5		ug/L	2	0.20	2.0	05/05/14
Nickel	7440-02-0	LA-505-412	BD	1.16		ug/L	2	0.20	2.0	05/05/14
Barium	7440-39-3	LA-505-412	DN	42.3		ug/L	2	0.40	4.0	05/05/14
Cadmium	7440-43-9	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	05/05/14
Chromium	7440-47-3	LA-505-412	BD	0.544		ug/L	2	0.20	2.0	05/05/14
Cobalt	7440-48-4	LA-505-412	BD	0.194		ug/L	2	0.10	0.50	05/05/14
Copper	7440-50-8	LA-505-412	BD	0.788		ug/L	2	0.20	2.0	05/05/14
Vanadium	7440-62-2	LA-505-412	D	10.3		ug/L	2	0.40	4.0	05/05/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Sample # 140633004
 SAF# F14-003
 Sample ID B2W2H9

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lead	7439-92-1	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	05/05/14
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	05/05/14
Strontium	7440-24-6	LA-505-412	D	160		ug/L	2	0.40	2.0	05/05/14
Uranium	7440-61-1	LA-505-412	D	1.24		ug/L	2	0.10	0.50	05/05/14
Arsenic	7440-38-2	LA-505-412	BD	3.57		ug/L	2	0.40	4.0	05/05/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Sample # 140633005
 SAF# F14-003
 Sample ID B2W2H3

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Trichloroethene	79-01-6	LA-523-455	U	<0.5		ug/L	1	0.5	1	04/08/14
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	4	04/08/14
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	04/08/14

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE

D - Analyte was reported at a secondary dilution factor.

E - Exceeds the calibration range (GC/MS).

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

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

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

U - Analyzed for but not detected above limiting criteria.

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

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Sample # 140633005
 SAF# F14-003
 Sample ID B2W2H3

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

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	3	04/08/14
2-Hexanone	591-78-6	LA-523-455	U	<5		ug/L	1	5	20	04/08/14
Acetone	67-64-1	LA-523-455	U	<5		ug/L	1	5	20	04/08/14
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Chloromethane	74-87-3	LA-523-455	U	<2		ug/L	1	2	10	04/08/14
Chloroethane	75-00-3	LA-523-455	U	<2		ug/L	1	2	10	04/08/14
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,2-Dichloropropane	78-87-5	LA-523-455	UT	<1		ug/L	1	1	5	04/08/14
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Sample # 140633006
 SAF# F14-003
 Sample ID B2W9Y7

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Preparation for 8260B (W)										04/08/14
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Trichloroethene	79-01-6	LA-523-455	U	<0.5		ug/L	1	0.5	1	04/08/14
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	4	04/08/14
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	04/08/14

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE

D - Analyte was reported at a secondary dilution factor.

E - Exceeds the calibration range (GC/MS).

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

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

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

U - Analyzed for but not detected above limiting criteria.

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

PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Sample # 140633006
 SAF# F14-003
 Sample ID B2W9Y7

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

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	3	04/08/14
2-Hexanone	591-78-6	LA-523-455	U	<5		ug/L	1	5	20	04/08/14
Acetone	67-64-1	LA-523-455	U	<5		ug/L	1	5	20	04/08/14
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Chloromethane	74-87-3	LA-523-455	U	<2		ug/L	1	2	10	04/08/14
Chloroethane	75-00-3	LA-523-455	U	<2		ug/L	1	2	10	04/08/14
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,2-Dichloropropane	78-87-5	LA-523-455	UT	<1		ug/L	1	1	5	04/08/14
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	04/08/14

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

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF140633

Sample # 140633003
 SAF# F14-003
 Sample ID B2W2H5

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep (W)										04/16/14
Technetium-99 by ICP MS										
Technetium-99	14133-76-7	LA-505-412	U	<0.0010		ug/L	1	0.0010		04/16/14
Tritium by LSC EICHROM WA/LIQ PREP										04/09/14
Tritium by LSC										
Tritium	10028-17-8	LA-508-421	U	13	170	pCi/L	1	290		04/14/14

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

B - The associated QC sample Blank has a result > or = the MDA
 U - Analyzed for but not detected above limiting criteria.
 N - Spike Recovery is Outside Control Limits.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

WSCF Analytical Results Report

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF140633

Sample # 140633004
 SAF# F14-003
 Sample ID B2W2H9

Matrix WATER
 Sampled 04/08/14
 Received 04/08/14

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep (W)										04/16/14
Technetium-99 by ICP MS										
Technetium-99	14133-76-7	LA-505-412		0.0010		ug/L	1	0.0010		04/16/14
Tritium by LSC EICHROM WA/LIQ PREP										04/09/14
Tritium by LSC										
Tritium	10028-17-8	LA-508-421	U	210	190	pCi/L	1	290		04/14/14

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

B - The associated QC sample Blank has a result > or = the MDA
 U - Analyzed for but not detected above limiting criteria.
 N - Spike Recovery is Outside Control Limits.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Analytical Batch 231262 (QC Batch: 231261) Test SW-846 8260B Volatiles
 Associated Samples 140633005, 140633006

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #108578								
1,1-Dichloroethene	75-35-4	<1		ug/L					U	04/08/14
Trichloroethene	79-01-6	<0.5		ug/L					U	04/08/14
Benzene	71-43-2	<1		ug/L					U	04/08/14
Toluene	108-88-3	<1		ug/L					U	04/08/14
Chlorobenzene	108-90-7	<1		ug/L					U	04/08/14
1,1-Dichloroethane	75-34-3	<1		ug/L					U	04/08/14
Ethylbenzene	100-41-4	<1		ug/L					U	04/08/14
Styrene	100-42-5	<1		ug/L					U	04/08/14
cis-1,3-Dichloropropene	10061-01-5	<1		ug/L					U	04/08/14
trans-1,3-Dichloropropene	10061-02-6	<1		ug/L					U	04/08/14
1,2-Dichloroethane	107-06-2	<1		ug/L					U	04/08/14
Methyl isobutyl ketone	108-10-1	<1		ug/L					U	04/08/14
Dibromochloromethane	124-48-1	<1		ug/L					U	04/08/14
Tetrachloroethene	127-18-4	<1		ug/L					U	04/08/14
Total Xylenes	1330-20-7	<1		ug/L					U	04/08/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chlorobenzene	108-90-7	<1	23	ug/L	91.5	75 - 125	1.50	20		04/08/14
1,1-Dichloroethane	75-34-3	<1	21	ug/L	83	75 - 125	0.80	20		04/08/14
Ethylbenzene	100-41-4	<1	22	ug/L	86.1	75 - 125	0.40	20		04/08/14
Styrene	100-42-5	<1	21	ug/L	84.2	75 - 125	0.70	20		04/08/14
trans-1,3-Dichloropropene	10061-02-6	<1	22	ug/L	86	75 - 125	4.20	20		04/08/14
1,2-Dichloroethane	107-06-2	<1	23	ug/L	90.2	75 - 125	4.20	20		04/08/14
1,1,1-Trichloroethane	71-55-6	<1	22	ug/L	86.4	75 - 125	0.60	20		04/08/14
Dibromochloromethane	124-48-1	<1	27	ug/L	109.4	75 - 125	5.30	20		04/08/14
Carbon disulfide	75-15-0	<1	21	ug/L	82.2	75 - 125	0.20	20		04/08/14
Bromoform	75-25-2	<1	27	ug/L	107.9	75 - 125	8.10	20		04/08/14
Bromodichloromethane	75-27-4	<1	24	ug/L	94.2	75 - 125	3.70	20		04/08/14
1,2-Dichloropropane	78-87-5	<1	19	ug/L	76.9	75 - 125	3.30	20		04/08/14
1,1,2-Trichloroethane	79-00-5	<1	21	ug/L	84.3	75 - 125	3.20	20		04/08/14
1,1,2,2-Tetrachloroethane	79-34-5	<1	20	ug/L	81.4	75 - 125	1.80	20		04/08/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Analytical Batch 231338 (QC Batch: 231338) Test Anions by Ion Chromatography (Water)
 Associated Samples 140633003, 140633004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK										
			QC Sample #108593							
Nitrate-N	NO3-N		<0.020	ug/mL					U	04/08/14
LCS			QC Sample #108594							
Nitrate-N	NO3-N		0.897	ug/mL	101.3	90 - 110				04/08/14
MS			QC Sample #108595							
			Original 140633004							
Nitrate-N	NO3-N	3.34	0.923	ug/mL	103.2	80 - 120			D	04/08/14
MSD			QC Sample #108596							
			Original 140633004							
Nitrate-N	NO3-N	3.34	0.944	ug/mL	105.6	80 - 120	0.50	20	Paired D	108595 04/08/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Analytical Batch 231438 (QC Batch: 231438) Test Hexavalent chromium Discrete Analyzer
 Associated Samples 140633001, 140633002

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK										
Hexavalent chromium	18540-29-9		<0.0020	mg/L					U	04/08/14
LCS										
Hexavalent chromium	18540-29-9		0.0525	mg/L	105	90 - 110				04/08/14
DUP										
Hexavalent chromium	18540-29-9	<0.0020	<0.0020	mg/L			0.00	20	U	04/08/14
MS										
Hexavalent chromium	18540-29-9	<0.0020	0.0390	mg/L	97.5	85 - 115				04/08/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Radiochemistry

Group # WSCF140633

Analytical Batch 231877 (QC Batch: 231860)
 Associated Samples 140633003, 140633004

Test Technetium-99 by ICP MS

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #108910								
Technetium-99	14133-76-7		<0.0010	ug/L					U	04/16/14
LCS		QC Sample #108911								
Technetium-99	14133-76-7		0.052	ug/L	97	85 - 115				04/16/14
* - QC result out of range				n/a - Not Applicable						

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Analytical Batch 232244 (QC Batch: 231244) Test ICP-6010 - All possible metals
 Associated Samples 140633003, 140633004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #108543								
Iron	7439-89-6	<40		ug/L					U	04/23/14
Magnesium	7439-95-4	<60		ug/L					U	04/23/14
Calcium	7440-70-2	<50		ug/L					U	04/23/14
LCS		QC Sample #108545								
Iron	7439-89-6	1010		ug/L	101	80 - 120				04/23/14
Magnesium	7439-95-4	10100		ug/L	100.6	80 - 120				04/23/14
Calcium	7440-70-2	20200		ug/L	101.1	80 - 120				04/23/14
MS		QC Sample #108546								
		Original 140615015								
Iron	7439-89-6	1030		ug/L	102.8	75 - 125				04/23/14
Magnesium	7439-95-4	8610		ug/L	86.1	75 - 125				04/23/14
Calcium	7440-70-2	15500		ug/L	77.6	75 - 125			X	04/23/14
MSD		QC Sample #108547								
		Original 140615015								
		Paired 108546								
Iron	7439-89-6	1010		ug/L	100.9	75 - 125	1.90	20		04/23/14
Magnesium	7439-95-4	8160		ug/L	81.6	75 - 125	1.10	20		04/23/14
Calcium	7440-70-2	14300		ug/L	71.7	75 - 125	1.00	20	X	04/23/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Analytical Batch 232561 (QC Batch: 232555) Test ICP-2008 MS All possible metal
 Associated Samples 140633003, 140633004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #109661								
Aluminum	7429-90-5	<10		ug/L					U	05/05/14
Manganese	7439-96-5	<0.10		ug/L					U	05/05/14
Nickel	7440-02-0	<0.10		ug/L					U	05/05/14
Barium	7440-39-3	<0.20		ug/L					U	05/05/14
Cadmium	7440-43-9	<0.050		ug/L					U	05/05/14
Chromium	7440-47-3	<0.10		ug/L					U	05/05/14
Cobalt	7440-48-4	<0.050		ug/L					U	05/05/14
Copper	7440-50-8	<0.10		ug/L					U	05/05/14
Vanadium	7440-62-2	<0.20		ug/L					U	05/05/14
Lead	7439-92-1	<0.050		ug/L					U	05/05/14
Mercury	7439-97-6	<0.050		ug/L					U	05/05/14
Strontium	7440-24-6	<0.20		ug/L					U	05/05/14
Uranium	7440-61-1	<0.050		ug/L					U	05/05/14
Arsenic	7440-38-2	<0.20		ug/L					U	05/05/14
LCS		QC Sample #109662								
Aluminum	7429-90-5	355		ug/L	88.8	85 - 115				05/05/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Inorganic

Group # WSCF140633

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Vanadium	7440-62-2		34.2	ug/L	85.5	70 - 130				05/05/14
Lead	7439-92-1		34.5	ug/L	86.3	70 - 130				05/05/14
Mercury	7439-97-6		1.77	ug/L	88.4	70 - 130				05/05/14
Strontium	7440-24-6		321	ug/L	80.2	70 - 130				05/05/14
Uranium	7440-61-1		35.9	ug/L	89.7	70 - 130				05/05/14
Arsenic	7440-38-2		37.7	ug/L	94.1	70 - 130				05/05/14
MSD			QC Sample #109664							
			Original	140622007				Paired	109663	
Aluminum	7429-90-5		305	ug/L	76.3	70 - 130	15.60	20		05/05/14
Manganese	7439-96-5		32.3	ug/L	80.7	70 - 130	8.00	20		05/05/14
Nickel	7440-02-0		31.2	ug/L	77.9	70 - 130	11.80	20		05/05/14
Barium	7440-39-3		27.7	ug/L	69.2	70 - 130	4.60	20	N	05/05/14
Cadmium	7440-43-9		33.5	ug/L	83.7	70 - 130	9.70	20		05/05/14
Chromium	7440-47-3		30.7	ug/L	76.8	70 - 130	9.70	20		05/05/14
Cobalt	7440-48-4		32.3	ug/L	80.9	70 - 130	9.00	20		05/05/14
Copper	7440-50-8		31.9	ug/L	79.7	70 - 130	10.20	20		05/05/14
Vanadium	7440-62-2		31.1	ug/L	77.8	70 - 130	6.20	20		05/05/14
Lead	7439-92-1		30.9	ug/L	77.2	70 - 130	11.10	20		05/05/14
Mercury	7439-97-6		1.59	ug/L	79.6	70 - 130	10.10	20		05/05/14
Strontium	7440-24-6		289	ug/L	72.2	70 - 130	5.40	20		05/05/14
Uranium	7440-61-1		32.1	ug/L	80.1	70 - 130	10.20	20		05/05/14
Arsenic	7440-38-2		34.0	ug/L	85	70 - 130	8.50	20		05/05/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Analytical Batch 231262 (QC Batch: 231261) Test SW-846 8260B Volatiles
 Associated Samples 140633005, 140633006

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #108578								
1,2-Dichloroethane-d4	17060-07-0				102	75 - 125				04/08/14
Toluene-d8	2037-26-5				101	75 - 125				04/08/14
4-Bromofluorobenzene	460-00-4				92.4	75 - 125				04/08/14
LCS		QC Sample #108579								
1,2-Dichloroethane-d4	17060-07-0				103.1	75 - 125				04/08/14
Toluene-d8	2037-26-5				113.5	75 - 125				04/08/14
4-Bromofluorobenzene	460-00-4				92.4	75 - 125				04/08/14
MS		QC Sample #108580								
		Original 140633005								
1,2-Dichloroethane-d4	17060-07-0				104.6	75 - 125				04/08/14
Toluene-d8	2037-26-5				100.6	75 - 125				04/08/14
4-Bromofluorobenzene	460-00-4				103.6	75 - 125				04/08/14
MSD		QC Sample #108581								
		Original 140633005								
1,2-Dichloroethane-d4	17060-07-0				107.6	75 - 125	n/a		Paired 108580	04/08/14

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF140633

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				100.5	75 - 125	n/a			04/08/14
4-Bromofluorobenzene	460-00-4				91.8	75 - 125	n/a			04/08/14
SAMPLE			Sample #140633005							
1,2-Dichloroethane-d4	17060-07-0				106.6	75 - 125				04/08/14
Toluene-d8	2037-26-5				100.3	75 - 125				04/08/14
4-Bromofluorobenzene	460-00-4				92.6	75 - 125				04/08/14
SAMPLE			Sample #140633006							
1,2-Dichloroethane-d4	17060-07-0				105	75 - 125				04/08/14
Toluene-d8	2037-26-5				99.7	75 - 125				04/08/14
4-Bromofluorobenzene	460-00-4				93.4	75 - 125				04/08/14

* - QC result out of range

n/a - Not Applicable

Analytical Comment Report

Attention: Scot Fitzgerald

Group #

WSCF140633

Quality Control CommentsDepartment Inorganic

108546

B2W5L4(140615015MS)

Analyte

Calcium - ICP-6010 - All possible metals

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

108547

B2W5L4(140615015MSD)

Analyte

Calcium - ICP-6010 - All possible metals

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

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 10 pages
Including cover page

Sample Receipt

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

ACKNOWLEDGEMENT OF SAMPLES RECEIVED

WSCF Laboratory

PO Box 650 S3-30
 Richland, WA 99352

ATTN: Scot Fitzgerald

Customer Code: CHPRC
CA CN: 403857
Work Order #: 140633
Customer Work ID: F14-003-063
Due Date: 05/08/2014 (7H)

The following samples were received from you on 4/8/2014 10:35:00 AM. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact WSCF Client Services. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
140633001	B2W2H4	WATER	4/8/2014 07:30	4/8/2014 10:35
Procedure		Compound List		
Hexavalent chromium Discrete Analyzer		Cr6		
Sample #	Sample ID	Matrix	Collected	Received
140633002	B2W2H8	WATER	4/8/2014 09:25	4/8/2014 10:35
Procedure		Compound List		
Hexavalent chromium Discrete Analyzer		Cr6		
Sample #	Sample ID	Matrix	Collected	Received
140633003	B2W2H5	WATER	4/8/2014 07:30	4/8/2014 10:35
Procedure		Compound List		
Anions by Ion Chromatography (Water)		NO3		
ICP-2008 MS All possible metal		Al, Mn, Ni, Ba, Cd, Cr, Co, Cu, V, Pb, Hg, Sr, U, As		
ICP-6010 - All possible metals		Fe, Mg, Ca		
Technetium-99 by ICP MS		Tc-99		
Tritium by LSC		H3		
Sample #	Sample ID	Matrix	Collected	Received
140633004	B2W2H9	WATER	4/8/2014 09:25	4/8/2014 10:35
Procedure		Compound List		
Anions by Ion Chromatography (Water)		NO3		
ICP-2008 MS All possible metal		Al, Mn, Ni, Ba, Cd, Cr, Co, Cu, V, Pb, Hg, Sr, U, As		
ICP-6010 - All possible metals		Fe, Mg, Ca		
Technetium-99 by ICP MS		Tc-99		
Tritium by LSC		H3		
Sample #	Sample ID	Matrix	Collected	Received
140633005	B2W2H3	WATER	4/8/2014 07:30	4/8/2014 10:35
Procedure		Compound List		
SW-846 8260B Volatiles		8260 GCMS Common + CH01		
Sample #	Sample ID	Matrix	Collected	Received
140633006	B2W9Y7	WATER	4/8/2014 09:25	4/8/2014 10:35
Procedure		Compound List		
SW-846 8260B Volatiles		8260 GCMS Common + CH01		

Sample Receipt

Chain of Custody

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PAGE 1 OF 1	
COLLECTOR <i>C. Felton</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C8070, 1-002 FTB *S 4/2/14	PROJECT DESIGNATION FY2014 203-7p-1 Remedial Action Wells Sampling and Analysis - Water	FIELD LOGBOOK NO. HNF-N-507-26-72	SAF NO. F14-003	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>D/A</i>	FIELD LOGBOOK NO. HNF-N-507-26-72	ACTUAL SAMPLE DEPTH (N/A)	COA 302938ES-10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A			

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	COOL-IC
A-Air	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 158.1.	HOLDING TIME	24 hours
2L-Drum		TYPE OF CONTAINER	2G
35-Drum		NO. OF CONTAINER(S)	1
Solids		VOLUME	500ML
-Liquid		SAMPLE ANALYSIS	
3-Oil		SPECIAL HANDLING AND/OR STORAGE	
3E-Sediment		SAMPLE DATE	4/8/14
T-Tissue		SAMPLE TIME	0730
V-Vegetation			
W-Water			
WI-Wipe			
X-Other			
BZW2H4	WATER		

CHAIN OF POSSESSION	SIGN/PRINT NAMES	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM <i>C. Felton</i>	RECEIVED BY/STORED IN <i>STANISLAU</i>	4/8/14 1035	4/8/14 1035
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		

LABORATORY SECTION	RECEIVED BY	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

PRINTED ON 2/7/2014

SPECIAL INSTRUCTIONS
 ** The CACN for all analytical work at WSCF laboratory is "03857".
 The 200 Area SRGRP Characterization and Monitoring Sampling and Analysis CKI applies to this SAF. ** VOA analysis will be conducted with a 24 hour turnaround time on preliminary data. The VOA samples will be placed on a separate COC. ** Cr VI holding times MUST BE MET. Sample Management Project Coordinator must be contacted immediately if there is a problem. ** The laboratory is to report all TICs for Method 8260. TPVL-14-058

TPVL 14-058

Sample Receipt

Chain of Custody

C12M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PAGE 1 OF 1	
COLLECTOR <i>E. Felton</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 711	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9070, 1-008	PROJECT DESIGNATION F7014 200-7P-1 Remedial Action Wells Sampling and Analysis - Water	FIELD LOGBOOK NO. HNF-N-507-26-Y1	SAF NO. F-4-003	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
ICE CHEST NO. N/A	OFFSITE PROPERTY NO. N/A	ACTUAL SAMPLE DEPTH 589.59 ft	COA 302938ES10	BILL OF LADING/AIR BILL NO. N/A	
SHIPPED TO Waste Sampling & Characterization					

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SPECIAL HANDLING AND/OR STORAGE
B2W2H8	Contains Radioactive Material & concentrations that may or may not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	COOL-1C	24 Hours	ac	1	500ML	
							179N LAB COMMON
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
		4/16/14	0945				

CHAIN OF POSSESSION	SIGN/PRINT NAMES	DATE/TIME	DATE/TIME	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>E. Felton</i>	RECEIVED BY/STORED IN <i>C. Gussner</i>	4/16/14 10:31	4/16/14 09:58	** The CACN for all analytical work at WSCF laboratory is 403857. ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis CKI applies to this SAF. ** VOA analysis will be conducted with a 24 hour turnaround time on preliminary data. The VOA samples will be placed on a separate COC. ** CR VI holding times MUST BE MET. Sample Management Project Coordinator must be contacted immediately if there is a problem. ** The laboratory is to report all TTCs for Method 8260. TRVL-14-058 TRVL 14 - 058
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	DATE/TIME	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD			

PRINTED ON 3/7/2014

A-6003-01.8 (REV 2)

Sample Receipt

Chain of Custody

CH22HILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F:14-003-064	PAGE 1 OF 2
COLLECTOR C. FELLTON	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C8900, 100% FTR - 4/14/14 ICE CHEST NO. N/A	PROJECT DESIGNATION P2014 200-ZD-1 Remedial Action Waste Sampling and Analysis - Water	FIELD LOGBOOK NO. HNF-1407-26-71	ACTUAL SAMPLE DEPTH (N/A)	SAF. NO. F14-003	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A			

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
A-Air B-L-Drum C-Liquor D5-Drum E-Solids F-Liquid G-Oil H-Soil I-Sediment J-Tissue K-Vegetation L-Water M-Wipe N-Urine	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 453.1.	HNO3 to pH <2 28 Days	48 hours	G	1	200ML	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
BW7H-5	WATER				1	0730	

CHAIN OF POSSESSION	STGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
REINQUISHED BY/REMOVED FROM C. FELLTON	RECEIVED BY/STORED IN C. FELLTON	DATE/TIME 4/8/14 10:55
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
REINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME

LABORATORY SECTION	RECEIVED BY	DATE/TIME	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME	DISPOSED BY

PRINTED ON 3/7/2014

A-6003-608 (REV 2)

IR/L-14-058

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

Sample Receipt

Chain of Custody

CH2M HILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F14-003-064	PAGE 2 OF 2
COLLECTOR <i>Fullons</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6447	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C8070, F100, F18 ICE CHEST NO. <i>116/14</i>	PROJECT DESIGNATION FY2014 200-ZP-1 Remedial Action Wells Sampling and Analysis - Water	FIELD LOGBOOK NO. HNF-N-507-26-72	ACTUAL SAMPLE DEPTH (N/A)	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A	COA 302930C310	BILL OF LADING/AIR BILL NO. N/A		

SPECIAL INSTRUCTIONS
 ** The CACN for all analytical work at WSCF laboratory is 403857.** The 200 Area SARGRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAH.**
 VOA analysis will be conducted with a 24 hour turnaround time on preliminary data. The VOA samples will be placed on a separate COC.** Cr VI holding times MUST BE MET.
 Sample Management Project Coordinator must be contacted immediately if there is a problem.** The laboratory is to report all TICs for Method 8260, TRVL 14 058
 (1) 200.8 MERCURY: COMMON; 200.8 METALS ICPMS: ALUMINUM, BARIUM, CADMIUM, CHROMIUM, COBALT, COPPER, LEAD; 200.8 METALS ICPMS: COMMON (ADD-
 on) (ARSENIC, MANGANESE, NICKEL, STRONTIUM, URANIUM, VANADIUM); 6010_METALS_ICP: COMMON (CALCIUM, IRON, MAGNESIUM);

TRVL-14-058

PRINTED ON 2/7/2014 A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST		PAGE 2 OF 2	
COLLECTOR <i>C. FULTON</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376 6137	PROJECT COORDINATOR TODAK, D	FI4-003-068	PRICE CODE 7H
SAMPLING LOCATION C8070, I-008	PROJECT DESIGNATION F2014 200-ZP-1 Remedial Action Wells Sampling and Analysis - Water	FIELD LOGBOOK NO. HNF-N-507-26-31	SAF NO. FI4-003	AIR QUALITY <input type="checkbox"/>	DATA TURNAROUND 30 Days / 10 Days
ICE CHEST NO. <i>N/A</i>	OFFSITE PROPERTY NO. N/A	ACTUAL SAMPLE DEPTH <i>7'</i>	COA 302938E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Waste Sampling & Characterization					

SPECIAL INSTRUCTIONS
 ** The CACN for all analytical work at WSCC laboratory is 403857. ** The 200 Area S8&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. **
 VOA analysis will be conducted with a 24 hour turnaround time on preliminary data. The VOA samples will be placed on a separate COC. ** Cr VI holding times MUST BE MET.
 Sample Management: Project Coordinator must be contacted immediately if there is a problem. ** The laboratory is to report all TICs for Method 8260. TRVL-14-053
 (1) 200.8 MERCURY: COMMON; 200.8 METALS_ICPMS: COMMON {Aluminum, Barium, Cadmium, Chromium, Cobalt, Copper, Lead}; 200.8 METALS_ICPMS: COMMON (Acid-on) {Arsenic, Manganese, Nickel, Strontium, Uranium, Vanadium}; 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium};

TRVL-14-058

PRINTED ON 2/7/20:4

A-0005-038 (REV 2)

Sample Receipt

Chain of Custody

CH22M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F:4-003-062	PAGE 1 OF 1
COLLECTOR <i>A. Patton</i>	COMPANY CONTACT IOWA, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAC, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30
SAMPLING LOCATION C8020, 1:00 FTB, 4/14/14 ICE CHEST NO. D/A	PROJECT DESIGNATION P2014 200-20-1 Remedial Action Wells Sampling and Analysis - Water	SAF NO. F14-003	AIR QUANTITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A	ACTUAL SAMPLE DEPTH (N/A)	COA 307938F510	BILL OF LADING/AIR BILL NO. N/A	

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	HOLDING TIME	NO. OF CONTAINERS(S)	VOLUME	SPECIAL HANDLING AND/OR STORAGE
BZW2H3	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/JAFA Dangerous Goods Regulations but are not releasable per DOE Order 453.1.	HU or H2504 to PH 14 Days	14 Days	3	40ml	
5						

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	RECEIVED BY/STORED IN	DATE/TIME
5	WATER	4/8/14	0230	<i>[Signature]</i>	4/8/14 1035

TRVL-14-058

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<i>[Signature]</i>	4/8/14 1035	<i>[Signature]</i>	4/8/14 1035
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

LABORATORY SECTION	RECEIVED BY	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

** SPECIAL INSTRUCTIONS **
 The CACN for all analytical work at WSCF laboratory is 403857.
 The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. VOA analysis will be conducted with a 24 hour turnaround time on preliminary data. The VOA samples will be placed on a separate COC. Cr VI holding times MUST BE MET. Sample Management Project Coordinator must be contacted immediately if there is a problem. The laboratory is to report all TICs for Method 8260. TRVL-14 058

Sample Receipt

Chain of Custody

CH2MHill Phtreau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F14 003 208	PAGE 1 OF 1
COLLECTOR <i>C. R. L. T. O. S.</i>	COMPANY CONTACT TODAM, D	TELEPHONE NO. 370-0427	PROJECT COORDINATOR TODAM, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C8070, EXR-3	PROJECT DESIGNATION P2014 200-20-1 Remedial Action Wells Sampling and Analysis - Water	FIELD LOGBOOK NO. HDFD-507-26-V1	ACTUAL SAMPLE DEPTH 214	SAP NO. F14-003	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. DIA	OFFSITE PROPERTY NO. N/A	COA 302938ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	BILL OF LADING/AIR BILL NO. N/A	ORIGINAL
Waste Sampling & Characterization					

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SPECIAL HANDLING AND/OR STORAGE	MATERIALS*	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains radioactive material at concentrations that may or may not be regulated for transportation per 49 CFR/JATRA Dangerous Goods Regulations but are not releasable per DOE Order 158.1.
822/971	WATER	4-8-14	0925	1/4 of 425C4 to 2H 14 Days	14 Days	XGS*	3	40ml		1-Cl 2-Br 3-COMMON 4-CHL 5-CHL	

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>C. R. L. T. O. S.</i>	4/8/14 10:35	<i>[Signature]</i>	RECEIVED BY/STORED IN <i>[Signature]</i>	4/8/14 10:35	RECEIVED BY/STORED IN	4/8/14 10:35	** The CACN for all analytical work at WSCF laboratory is 403857.** The 200 Area S&SHP Characterization and Monitoring Sampling and Analysis GKI applies to this SAFE.** VOA analysis will be conducted with a 24 hour turnaround time on preliminary data. The VOA samples will be placed on a separate COC.** Cr-VI holding times MUST BE MET. Sample Management Project Coordinator must be contacted immediately if there is a problem.** The laboratory is to report all TICs for Method 8250. TRVL-14-058
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	REFERRED BY	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

TRVL-14-058