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

December 26, 2012

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

Dear Scot Fitzgerald,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121561

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 WSCF121561

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

Very truly yours,

Electronically signed by Joseph Hale

For Lab Manager, Dan T. Smith

WSCF Analytical Lab

(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages

Including cover page

WSCF SAF Number Cross Reference

Group # WSCF121561
Data Deliverable Date 12/26/12

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F13-001	B2MTB0	121561001	WATER	12/10/12	12/10/12

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Attachment 2
Narrative
WSCF121561

Introduction

A sample was received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. The sample was 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 SDR13-058 regarding headspace analysis of B2MTB0 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.

Attachment 2
Narrative
WSCF121561

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 other applicable QC controls are within the established limits.

VOA QT – The hold time requirement for this analysis was met. Analytical Note(s):

- All applicable QC controls are within the established limits.

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

Attachment 2
Narrative
WSCF121561

SAMPLE ISSUE RESOLUTION

SIR NUM	SDR13-058
REV NUM	0
DATE INITIATED	12/11/2012

SAMPLE EVENT INFORMATION

SAF NUM(S)	F13-001
OPERABLE UNIT(S)	
PROJECT(S)	200 AREA SGRP
SAMPLE EVENT TITLE(S)	200-ZP-1 Remedial Action Wells
LABORATORY	Waste Sampling & Characterization

SAMPLING INFORMATION

NUMBER OF SAMPLES	1
SAMPLE NUMBERS	B2MTB0
SAMPLE MATRIX	WATER
COLLECTION DATE	12/10/2012 - 12/10/2012
SDG NUM	WSCF121561

ISSUE BACKGROUND

CLASS	General Laboratory Direction
TYPE	Addition of Analyses
DESCRIPTION	Run headspace analysis on sample B2MTB0 for carbon tetrachloride, trichloroethene, chloroform, and tetrachloroethene.

DISPOSITION

DESCRIPTION	PROPOSED DISPOSITION: Request WSCF to run headspace analysis on sample B2MTB0 for carbon tetrachloride, trichloroethene, chloroform, and tetrachloroethene.
JUSTIFICATION	ACCEPTED DISPOSITION: WSCF will add the headspace analysis and report preliminary results on Wednesday 12/12/12 via email. The final results will be reported in the final report due 12/26/12.

SUBMITTED BY: Dave Todak/ CHPRC DATE: 12/11/12
ACCEPTED BY: Heather Medley/WSCF DATE: 12/12/12

A-6003-640 (03/30)

PAGE 1 of 1

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 13 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 # WSCF121561
Report Date December 26, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Heather Medley

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

Batch QC List

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
211645	211646	1	BLANK	86528	BLANK		SW-846 8260B Volatiles
211645	211646	2	LCS	86529	LCS		SW-846 8260B Volatiles
211645	211646	3	MS	86530	B2MTB0(121561001MS)	121561001	SW-846 8260B Volatiles
211645	211646	4	MSD	86531	B2MTB0(121561001MSD	121561001	SW-846 8260B Volatiles
211645	211646	5	SAMPLE	121561001	B2MTB0		SW-846 8260B Volatiles
211645	211646	16	SAMPLE	121561001	B2MTB0		SW-846 8260B Volatiles
211958	211958	1	SAMPLE	121561001	B2MTB0		Headspace Analysis Water Samples for VOA

Method Reference

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

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-423-405	Headspace Analysis of Water Samples for Volatile Organic Compounds		
	EPA SW-846	8000B	Determinative Chromographic Separations
			Chromatography/Flame Ionization Detector (GC/FID)
			Gas Chromatography/Electron Capture Detector (GC/ECD)
	HEIS	VOA_GC_FLD	Volatile Organic Compounds by Gas
			Chromatography (GC/FID or GC/ECD)
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

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

Sample # 121561001
SAF# F13-001
Sample ID B2MTB0

Matrix WATER
Sampled 12/10/12
Received 12/10/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										12/12/12
Headspace Analysis Water Samples for VOA										
Trichloroethene	79-01-6	LA-423-405	U	<5		ug/L	1	5	6	12/12/12
Carbon tetrachloride	56-23-5	LA-423-405		410		ug/L	1	5	6	12/12/12
Chloroform	67-66-3	LA-423-405	U	<5		ug/L	1	5	6	12/12/12
Tetrachloroethene	127-18-4	LA-423-405	U	<5		ug/L	1	5	6	12/12/12
Preparation for 8260B (W)										**12/14/12**
SW-846 8260B Volatiles										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Toluene	108-88-3	LA-523-455	J	1.0		ug/L	1	1	5	12/15/12
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	12/15/12

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 # WSCF121561

Sample # 121561001
SAF# F13-001
Sample ID B2MTB0

Matrix WATER
Sampled 12/10/12
Received 12/10/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Carbon tetrachloride	56-23-5	LA-523-455		540		ug/L	1	10	50	12/14/12
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Chloroform	67-66-3	LA-523-455		6.4		ug/L	1	1	5	12/15/12
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	12/15/12

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 # WSCF121561

Sample # 121561001
SAF# F13-001
Sample ID B2MTB0

Matrix WATER
Sampled 12/10/12
Received 12/10/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	12/15/12
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	12/15/12

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.

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

Analytical Batch 211646 (QC Batch: 211645) **Test** SW-846 8260B Volatiles
Associated Samples 121561001

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #86528**							
1,1-Dichloroethene	75-35-4		<1	ug/L					U	12/14/12
Trichloroethene	79-01-6		<1	ug/L					U	12/14/12
Benzene	71-43-2		<1	ug/L					U	12/14/12
Toluene	108-88-3		<1	ug/L					U	12/14/12
Chlorobenzene	108-90-7		<1	ug/L					U	12/14/12
1,1-Dichloroethane	75-34-3		<1	ug/L					U	12/14/12
Ethylbenzene	100-41-4		<1	ug/L					U	12/14/12
Styrene	100-42-5		<1	ug/L					U	12/14/12
cis-1,3-Dichloropropene	10061-01-5		<1	ug/L					U	12/14/12
trans-1,3-Dichloropropene	10061-02-6		<1	ug/L					U	12/14/12
1,2-Dichloroethane	107-06-2		<1	ug/L					U	12/14/12
Methyl isobutyl ketone	108-10-1		<1	ug/L					U	12/14/12
Dibromochloromethane	124-48-1		<1	ug/L					U	12/14/12
Tetrachloroethene	127-18-4		<1	ug/L					U	12/14/12
Total Xylenes	1330-20-7		<1	ug/L					U	12/14/12

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

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

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	12/14/12
Carbon tetrachloride	56-23-5		<1	ug/L					U	12/14/12
2-Hexanone	591-78-6		<1	ug/L					U	12/14/12
Acetone	67-64-1		<1	ug/L					U	12/14/12
Chloroform	67-66-3		<1	ug/L					U	12/14/12
1,1,1-Trichloroethane	71-55-6		<1	ug/L					U	12/14/12
Bromomethane	74-83-9		<1	ug/L					U	12/14/12
Chloromethane	74-87-3		<1	ug/L					U	12/14/12
Chloroethane	75-00-3		<1	ug/L					U	12/14/12
Vinyl chloride	75-01-4		<1	ug/L					U	12/14/12
Methylene chloride	75-09-2		<1	ug/L					U	12/14/12
Carbon disulfide	75-15-0		<1	ug/L					U	12/14/12
Bromoform	75-25-2		<1	ug/L					U	12/14/12
Bromodichloromethane	75-27-4		<1	ug/L					U	12/14/12
1,2-Dichloropropane	78-87-5		<1	ug/L					U	12/14/12
Methyl ethyl ketone	78-93-3		<1	ug/L					U	12/14/12
1,1,2-Trichloroethane	79-00-5		<1	ug/L					U	12/14/12
1,1,2,2-Tetrachloroethane	79-34-5		<1	ug/L					U	12/14/12
LCS			**QC Sample #86529**							
1,1-Dichloroethene	75-35-4		21	ug/L	82.1	75 - 125				12/14/12
Trichloroethene	79-01-6		21	ug/L	84.5	75 - 125				12/14/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Benzene	71-43-2		22	ug/L	89.1	75 - 125				12/14/12
Toluene	108-88-3		22	ug/L	89	75 - 125				12/14/12
Chlorobenzene	108-90-7		22	ug/L	86.8	75 - 125				12/14/12
1,1-Dichloroethane	75-34-3		20	ug/L	80.4	75 - 125				12/14/12
Ethylbenzene	100-41-4		22	ug/L	89.8	75 - 125				12/14/12
Styrene	100-42-5		23	ug/L	91.8	75 - 125				12/14/12
trans-1,3-Dichloropropene	10061-02-6		22	ug/L	87.8	75 - 125				12/14/12
1,2-Dichloroethane	107-06-2		21	ug/L	82.5	75 - 125				12/14/12
1,1,1-Trichloroethane	71-55-6		22	ug/L	88.6	75 - 125				12/14/12
Dibromochloromethane	124-48-1		22	ug/L	88.1	75 - 125				12/14/12
Carbon disulfide	75-15-0		20	ug/L	81.4	75 - 125				12/14/12
Bromoform	75-25-2		22	ug/L	89.5	75 - 125				12/14/12
Bromodichloromethane	75-27-4		22	ug/L	89.4	75 - 125				12/14/12
1,2-Dichloropropane	78-87-5		22	ug/L	87.7	75 - 125				12/14/12
1,1,2-Trichloroethane	79-00-5		21	ug/L	85.8	75 - 125				12/14/12
1,1,2,2-Tetrachloroethane	79-34-5		21	ug/L	84.4	75 - 125				12/14/12
MS			**QC Sample #86530**							
			Original 121561001							
1,1-Dichloroethene	75-35-4	<1	20	ug/L	79	75 - 125				12/15/12
Trichloroethene	79-01-6	<1	21	ug/L	85.5	75 - 125				12/15/12
Benzene	71-43-2	<1	23	ug/L	90.4	75 - 125				12/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene	108-88-3	1.0	22	ug/L	88.1	75 - 125				12/15/12
Chlorobenzene	108-90-7	<1	22	ug/L	87.5	75 - 125				12/15/12
1,1-Dichloroethane	75-34-3	<1	20	ug/L	79	75 - 125				12/15/12
Ethylbenzene	100-41-4	<1	22	ug/L	88.2	75 - 125				12/15/12
Styrene	100-42-5	<1	23	ug/L	93.4	75 - 125				12/15/12
trans-1,3-Dichloropropene	10061-02-6	<1	21	ug/L	84	75 - 125				12/15/12
1,2-Dichloroethane	107-06-2	<1	22	ug/L	87.8	75 - 125				12/15/12
1,1,1-Trichloroethane	71-55-6	<1	22	ug/L	88.6	75 - 125				12/15/12
Dibromochloromethane	124-48-1	<1	23	ug/L	91.7	75 - 125				12/15/12
Carbon disulfide	75-15-0	<1	19	ug/L	76.2	75 - 125				12/15/12
Bromoform	75-25-2	<1	25	ug/L	98.5	75 - 125				12/15/12
Bromodichloromethane	75-27-4	<1	24	ug/L	95.3	75 - 125				12/15/12
1,2-Dichloropropane	78-87-5	<1	23	ug/L	91.8	75 - 125				12/15/12
1,1,2-Trichloroethane	79-00-5	<1	24	ug/L	94.9	75 - 125				12/15/12
1,1,2,2-Tetrachloroethane	79-34-5	<1	25	ug/L	99.6	75 - 125				12/15/12
MSD			**QC Sample #86531**							
			Original 121561001						**Paired 86530**	
1,1-Dichloroethene	75-35-4	<1	20	ug/L	81.4	75 - 125	3.00	20		12/15/12
Trichloroethene	79-01-6	<1	21	ug/L	83.8	75 - 125	2.10	20		12/15/12
Benzene	71-43-2	<1	22	ug/L	88.1	75 - 125	2.60	20		12/15/12
Toluene	108-88-3	1.0	22	ug/L	86.7	75 - 125	1.60	20		12/15/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chlorobenzene	108-90-7	<1	21	ug/L	85	75 - 125	2.90	20		12/15/12
1,1-Dichloroethane	75-34-3	<1	20	ug/L	79.5	75 - 125	0.60	20		12/15/12
Ethylbenzene	100-41-4	<1	21	ug/L	85.2	75 - 125	3.40	20		12/15/12
Styrene	100-42-5	<1	23	ug/L	90.1	75 - 125	3.60	20		12/15/12
trans-1,3-Dichloropropene	10061-02-6	<1	20	ug/L	81.4	75 - 125	3.10	20		12/15/12
1,2-Dichloroethane	107-06-2	<1	22	ug/L	86.1	75 - 125	2.00	20		12/15/12
1,1,1-Trichloroethane	71-55-6	<1	21	ug/L	83.6	75 - 125	5.80	20		12/15/12
Dibromochloromethane	124-48-1	<1	22	ug/L	89.4	75 - 125	2.50	20		12/15/12
Carbon disulfide	75-15-0	<1	19	ug/L	77.5	75 - 125	1.60	20		12/15/12
Bromoform	75-25-2	<1	24	ug/L	94.6	75 - 125	4.10	20		12/15/12
Bromodichloromethane	75-27-4	<1	23	ug/L	90.8	75 - 125	4.80	20		12/15/12
1,2-Dichloropropane	78-87-5	<1	22	ug/L	89.4	75 - 125	2.60	20		12/15/12
1,1,2-Trichloroethane	79-00-5	<1	23	ug/L	91.8	75 - 125	3.30	20		12/15/12
1,1,2,2-Tetrachloroethane	79-34-5	<1	24	ug/L	97	75 - 125	2.60	20		12/15/12
SAMPLE			**Sample #121561001**							
1,2-Dichloroethane-d4	17060-07-0				96.6	75 - 125				12/15/12
Toluene-d8	2037-26-5				89.1	75 - 125				12/15/12
4-Bromofluorobenzene	460-00-4				96.9	75 - 125				12/15/12
BLANK			**QC Sample #86528**							

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121561

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
1,2-Dichloroethane-d4	17060-07-0				93.2	75 - 125				12/14/12
Toluene-d8	2037-26-5				91.3	75 - 125				12/14/12
4-Bromofluorobenzene	460-00-4				95.8	75 - 125				12/14/12
LCS			**QC Sample #86529**							
1,2-Dichloroethane-d4	17060-07-0				93	75 - 125				12/14/12
Toluene-d8	2037-26-5				91	75 - 125				12/14/12
4-Bromofluorobenzene	460-00-4				91.3	75 - 125				12/14/12
MS			**QC Sample #86530**							
			Original 121561001							
1,2-Dichloroethane-d4	17060-07-0				98.9	75 - 125				12/15/12
Toluene-d8	2037-26-5				90.1	75 - 125				12/15/12
4-Bromofluorobenzene	460-00-4				94.6	75 - 125				12/15/12
MSD			**QC Sample #86531**							
			Original 121561001					**Paired**	**86530**	
1,2-Dichloroethane-d4	17060-07-0				95.9	75 - 125	n/a			12/15/12
Toluene-d8	2037-26-5				91.2	75 - 125	n/a			12/15/12
4-Bromofluorobenzene	460-00-4				95.2	75 - 125	n/a			12/15/12

* - QC result out of range

n/a - Not Applicable

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 3 pages
Including cover page

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

ACKNOWLEDGEMENT OF SAMPLES RECEIVED

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

ATTN: Scot Fitzgerald

Customer Code:	CHPRC
CACN:	403857
Work Order #:	121561
Customer Work ID:	F13-001-005
Due Date:	12/26/2012

The following samples were received from you on 12/10/2012 2:35:00 PM. They have been scheduled for the tests listed below 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
121561001	B2MTB0	WATER	12/10/2012 12:24	12/10/2012 14:35

Procedure	Compound List
Headspace Analysis Water Samples for VOA	TRICLETHENE,CARBONTETRACL,CHLOROFORM,TETRACLETHENE
SW-846 8260B Volatiles	more than 50 compounds...

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F13-001-005	PAGE 1 OF 1
COLLECTOR: Crow Kauer	COMPANY CONTACT: TODAK, D	TELEPHONE NO.: 376-6427	PROJECT COORDINATOR: TODAK, D	PRICE CODE: 7C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: C7030; 1-002	PROJECT DESIGNATION: FY2013 200-ZP-1 Remedial Action Wells Sampling and Analysis - Water		SAF NO.: F13-001	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-26/3	ACTUAL SAMPLE DEPTH: 341 ft	COA: 302938ES10	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*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

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

SPECIAL HANDLING AND/OR STORAGE: 121561

PRESERVATION	HCl or H2SO4 to pH <2/Cool~4C
HOLDING TIME	14 Days
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	8260_VOA_GCM S: COMMON; 8260_VOA_GCM S: CH 01;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2MTB0 1	WATER	12-10-12	1224	✓

Per SDR 13-058, add VOA - QT Headspace for Trichloroethene, chloroform, carbon tetrachloride, and tetrachloroethene dfw 12/12/12

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM: Ed Kauer [signature]	12-10-12 1435	RECEIVED BY/STORED IN: [signature] CJohnson	12-10-12 1435
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
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	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.☐The laboratory is to report all TICs for Method 8260.

TRVL-12- 098

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

PRINTED ON 12/3/2012 A-6003-618 (REV 2)