

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 WSCF121508

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 WSCF121508

- * 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 # WSCF121508
Data Deliverable Date 12/13/12

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F12-025	B2N1V2	121508001	GASEOUS	11/27/12	11/28/12
F12-025	B2N1V4	121508002	GASEOUS	11/27/12	11/28/12
F12-025	B2N1V5	121508003	GASEOUS	11/27/12	11/28/12
F12-025	B2N1V3	121508004	GASEOUS	11/27/12	11/28/12

ATTACHMENT 2

NARRATIVE

Consisting of 3 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.

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.

Organic Comments

Attachment 2
Narrative
WSCF121508

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

- All applicable QC controls are within the established limits.

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

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 12 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 # WSCF121508
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.

Batch QC List

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121508

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
211273	211273	1	BLANK	86075	BLANK		Air Analysis using Summa
211273	211273	2	LCS	86076	LCS		Air Analysis using Summa
211273	211273	3	LCSD	86077	LCSD		Air Analysis using Summa
211273	211273	5	SAMPLE	121508001	B2N1V2		Air Analysis using Summa
211273	211273	6	SAMPLE	121508002	B2N1V4		Air Analysis using Summa
211273	211273	7	SAMPLE	121508003	B2N1V5		Air Analysis using Summa
211273	211273	8	SAMPLE	121508004	B2N1V3		Air Analysis using Summa

Method Reference

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121508

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-523-449	Determination of Volatile Organic Compounds Using Passivated Canister Sampling and GC/MS Analysis		
	EPA TO Methods	TO-15 mod.	Determination Of Volatile Organic Compounds (VOCs) In Ambient Air -Modified-
	HEIS	TO-15_VOA_GAS	VOA TO-15

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 # WSCF121508

Sample # 121508001
 SAF# F12-025
 Sample ID B2N1V2

Matrix GASEOUS
 Sampled 11/27/12
 Received 11/28/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
12/05/12										
Air Analysis using Summa										
1,1-Dichloroethene	75-35-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,2-Dichloroethane	107-06-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Acetone	67-64-1	LA-523-449	U	<13		PPB(V/V)	1	13		12/05/12
Benzene	71-43-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Carbon tetrachloride	56-23-5	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Chloroform	67-66-3	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Methylene chloride	75-09-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Trichloroethene	79-01-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Vinyl chloride	75-01-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,1,1-Trichloroethane	71-55-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12

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

B - Analyte was detected in both the BLANK and SAMPLE
 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 # WSCF121508

Sample # 121508002
 SAF# F12-025
 Sample ID B2N1V4

Matrix GASEOUS
 Sampled 11/27/12
 Received 11/28/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
12/05/12										
Air Analysis using Summa										
1,1-Dichloroethene	75-35-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,2-Dichloroethane	107-06-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Acetone	67-64-1	LA-523-449		17.6		PPB(V/V)	1	13		12/05/12
Benzene	71-43-2	LA-523-449		10.4		PPB(V/V)	1	5.0		12/05/12
Carbon tetrachloride	56-23-5	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Chloroform	67-66-3	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Methylene chloride	75-09-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Trichloroethene	79-01-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Vinyl chloride	75-01-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,1,1-Trichloroethane	71-55-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12

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

B - Analyte was detected in both the BLANK and SAMPLE
 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 # WSCF121508

Sample # 121508003
 SAF# F12-025
 Sample ID B2N1V5

Matrix GASEOUS
 Sampled 11/27/12
 Received 11/28/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
12/05/12										
Air Analysis using Summa										
1,1-Dichloroethene	75-35-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,2-Dichloroethane	107-06-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Acetone	67-64-1	LA-523-449		34.7		PPB(V/V)	1	13		12/05/12
Benzene	71-43-2	LA-523-449		14.5		PPB(V/V)	1	5.0		12/05/12
Carbon tetrachloride	56-23-5	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Chloroform	67-66-3	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Methylene chloride	75-09-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Trichloroethene	79-01-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Vinyl chloride	75-01-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,1,1-Trichloroethane	71-55-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12

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

B - Analyte was detected in both the BLANK and SAMPLE
 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 # WSCF121508

Sample # 121508004
 SAF# F12-025
 Sample ID B2N1V3

Matrix GASEOUS
 Sampled 11/27/12
 Received 11/28/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
12/05/12										
Air Analysis using Summa										
1,1-Dichloroethene	75-35-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,2-Dichloroethane	107-06-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Acetone	67-64-1	LA-523-449	U	<13		PPB(V/V)	1	13		12/05/12
Benzene	71-43-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Carbon tetrachloride	56-23-5	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Chloroform	67-66-3	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Methylene chloride	75-09-2	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Trichloroethene	79-01-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
Vinyl chloride	75-01-4	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12
1,1,1-Trichloroethane	71-55-6	LA-523-449	U	<5.0		PPB(V/V)	1	5.0		12/05/12

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

B - Analyte was detected in both the BLANK and SAMPLE
 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 # WSCF121508

Analytical Batch 211273 (QC Batch: 211273) **Test** Air Analysis using Summa
Associated Samples 121508001, 121508002, 121508003, 121508004

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK		QC Sample #86075								
1,1-Dichloroethene	75-35-4	<5.0		PPB(V/V)					U	12/05/12
1,2-Dichloroethane	107-06-2	<5.0		PPB(V/V)					U	12/05/12
Acetone	67-64-1	<13		PPB(V/V)					U	12/05/12
Benzene	71-43-2	<5.0		PPB(V/V)					U	12/05/12
Carbon tetrachloride	56-23-5	<5.0		PPB(V/V)					U	12/05/12
Chloroform	67-66-3	<5.0		PPB(V/V)					U	12/05/12
Methylene chloride	75-09-2	<5.0		PPB(V/V)					U	12/05/12
Trichloroethene	79-01-6	<5.0		PPB(V/V)					U	12/05/12
Vinyl chloride	75-01-4	<5.0		PPB(V/V)					U	12/05/12
1,1,1-Trichloroethane	71-55-6	<5.0		PPB(V/V)					U	12/05/12
LCS		QC Sample #86076								
1,1-Dichloroethene	75-35-4	39.9		PPB(V/V)	92.8	70 - 130				12/05/12
1,2-Dichloroethane	107-06-2	42.8		PPB(V/V)	104.5	70 - 130				12/05/12
Acetone	67-64-1	100		PPB(V/V)	97.6	70 - 130				12/05/12
Benzene	71-43-2	42.2		PPB(V/V)	103.9	70 - 130				12/05/12
Carbon tetrachloride	56-23-5	42.0		PPB(V/V)	98.5	70 - 130				12/05/12

* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald
 Department Organic, Volatiles

Group # WSCF121508

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chloroform	67-66-3		40.0	PPB(V/V)	98.6	70 - 130				12/05/12
Methylene chloride	75-09-2		36.6	PPB(V/V)	86.7	70 - 130				12/05/12
Trichloroethene	79-01-6		41.8	PPB(V/V)	97.7	70 - 130				12/05/12
Vinyl chloride	75-01-4		40.3	PPB(V/V)	102.8	70 - 130				12/05/12
1,1,1-Trichloroethane	71-55-6		40.8	PPB(V/V)	101.4	70 - 130				12/05/12
LCSD		QC Sample #86077								
		Paired 86076								
1,1-Dichloroethene	75-35-4		41.0	PPB(V/V)	95.3	70 - 130	2.60	25		12/05/12
1,2-Dichloroethane	107-06-2		44.4	PPB(V/V)	108.4	70 - 130	3.70	25		12/05/12
Acetone	67-64-1		106	PPB(V/V)	103.6	70 - 130	5.90	25		12/05/12
Benzene	71-43-2		42.2	PPB(V/V)	104	70 - 130	0.00	25		12/05/12
Carbon tetrachloride	56-23-5		43.0	PPB(V/V)	101	70 - 130	2.50	25		12/05/12
Chloroform	67-66-3		41.1	PPB(V/V)	101.1	70 - 130	2.50	25		12/05/12
Methylene chloride	75-09-2		38.0	PPB(V/V)	90	70 - 130	3.70	25		12/05/12
Trichloroethene	79-01-6		41.8	PPB(V/V)	97.7	70 - 130	0.00	25		12/05/12
Vinyl chloride	75-01-4		42.5	PPB(V/V)	108.3	70 - 130	5.30	25		12/05/12
1,1,1-Trichloroethane	71-55-6		41.6	PPB(V/V)	103.6	70 - 130	2.10	25		12/05/12

* - QC result out of range

n/a - Not Applicable

Tentatively Identified Peak Report

DECEMBER 10, 2012

Attention Scot Fitzgerald
Department Organic, Volatiles

Group # WSCF121508

Peak Name	CAS #	RT	RQ	Result	Units
121508001 TIC-01	B2N1V2		U		PPB(V/V)
121508004 TIC-01	B2N1V3		U		PPB(V/V)
121508002 Benzene, (1-methylethyl)-	B2N1V4 000098-82-8	19.976		13	PPB(V/V)
121508003 Benzene, (1-methylethyl)-	B2N1V5 000098-82-8	19.975		51	PPB(V/V)

Attention: Scot Fitzgerald

Group #

WSCF121508

121508001

B2N1V2

A preliminary report was issued for the samples using expired standards. This final report is a re-analysis using new standards.

121508002

B2N1V4

A preliminary report was issued for the samples using expired standards. This final report is a re-analysis using new standards.

121508003

B2N1V5

A preliminary report was issued for the samples using expired standards. This final report is a re-analysis using new standards.

121508004

B2N1V3

A preliminary report was issued for the samples using expired standards. This final report is a re-analysis using new standards.

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

WSCF Laboratory

PO Box 650 S3-30
 Richland, WA 99352

ATTN: Scot Fitzgerald

Customer Code: CHPRC

PO #: 403315

Work Order #: 121508

Profile #: F12-025-005

Proj. Mgr.:

Phone:

The following samples were received from you on 11/28/2012 10:00:00 AM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
Tests scheduled				
121508001	B2N1V2	GASEOUS	11/27/2012 07:10	11/28/2012 10:00
		SUMMA-VP		
121508002	B2N1V4	GASEOUS	11/27/2012 07:40	11/28/2012 10:00
		SUMMA-VP		
121508003	B2N1V5	GASEOUS	11/27/2012 08:05	11/28/2012 10:00
		SUMMA-VP		
121508004	B2N1V3	GASEOUS	11/27/2012 07:35	11/28/2012 12:10
		SUMMA-VP		

Test Acronym Description

Test Acronym	Description
SUMMA-VP	Summa VOC (VP)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PAGE 1 OF 1	
COLLECTOR <i>Kevin Patterson</i>	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 9B	DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION 289TB, GAC Stack, Valve V12-Y01	PROJECT DESIGNATION 200W Pump & Treat - ETBs and Biotreatment VOC Sampling - Gaseous	FIELD LOGBOOK NO. HNF-N-491 9	SAF NO. F12-025	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH N/A	COA 303110E510	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-Nu DI-Num Islands DS-Num Soids L-Liquid O-Oil S-Soil SF-Sediment T-Tissue V-Vegetation W-Water X-X-Other	POSSIBLE SAMPLE HAZARDS/ REMARKS **Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/LATA Dangerous Goods Regulations but are not radioactive per DOE Order 158.1.**	PRESERVATION None	HOLDING TIME 30 Days
		TYPE OF CONTAINER Sampling Container	
		NO. OF CONTAINER(S) 1	
		VOLUME GL	
SPECIAL HANDLING AND/OR STORAGE <i>30 hour in process sample</i>	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	
SAMPLE NO. B2N1V2 1	MATRIX* GASEOUS	SAMPLE DATE 11/27/12	SAMPLE TIME 0710

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>Kevin Patterson</i>	DATE/TIME 11/28/12 10:00	RECEIVED BY/STORED IN <i>Chad Evans</i>
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
LABORATORY SECTION	RECEIVED BY	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

TRV-12 - 103

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A-6003-618 (REV 2)

Chain of Custody

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-025-007	PAGE 1 OF 1
COLLECTOR <i>Kevin Patterson</i>	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 9B	DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION 2897C, GAC Stack, Valve V12-Y03	PROJECT DESIGNATION 200W Pump & Treat - ETBs and Biotreatment VOC Sampling - Gaseous	FIELD LOGBOOK NO. HNF-10-0719	SAF NO. F12-025	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH N/A	COA 303110E510	BILL OF LADING/AIR BILL NO. N/A	ORIGINAL	
SHIPPED TO Waste Sampling & Characterization					

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	GET ITEM (1) IN SPECIAL INSTRUCTIONS
B2N1V4	GASEOUS	None	30 Days	Summa Canister	1	6L		
SPECIAL HANDLING AND/OR STORAGE <i>34 hr. in process sample</i>								

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	DATE/TIME	DATE/TIME	TITLE	DATE/TIME
RELINQUISHED BY/REMOVED FROM <i>Kevin Patterson</i>	RECEIVED BY/STORED IN <i>Kevin Patterson</i>	<i>11/28/12 10:00</i>	<i>11/28/12</i>		
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				
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD				

SPECIAL INSTRUCTIONS
 ** The CACN for WSCF Analytical is 4033315. ** The 200 Area SRGRIP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** A spectral search for Dibromochloromethane(124-48-1) will be conducted and documented in the data package Case Narrative (1) TO-15_VOA: COMMON {1,1,1-Trichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethane, Acetone, Benzene, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride};

FW-12-103

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A:6003 618 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F12-025-008	PAGE 1 OF 1
COLLECTOR <i>Kevin Patterson</i>	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 98	AIR QUALITY <input type="checkbox"/>	DATA TURNOAROUND 7 Days / 15 Days	
SAMPLING LOCATION 2897E, CAC Stack, Valve V21-Y04	PROJECT DESIGNATION 200W Pump & Treat - ETBs and Biotreatment VOC Sampling - Gaseous	FIELD LOGBOOK NO. HNS-N-4919	SAF NO. F12-025	METHOD OF SHIPMENT GOVERNMENT VEHICLE			
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH N/A	COA 3031105210	BILL OF LADING/AIR BILL NO. N/A				ORIGINAL
SHIPPED TO Waste Sampling & Characterization		OFFSITE PROPERTY NO. N/A					

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	None
A-Air	**Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/ATA	HOLDING TIME	30 days
D1-Drum	Dangerous Goods Regulations but are not releasable per DOT Order 4381.1.**	TYPE OF CONTAINER	Summa Canister
L-Liquid	Statement removed per Bob Evans Mo 11/28/12	NO. OF CONTAINER(S)	1
S-Solid		VOLUME	6L
SE-Sediment		SAMPLE ANALYSIS	SETTLE (1) IN SPECIAL INSTRUCTIONS
T-Tissue			
V-Vegetation			
W-Water			
WI-Wipe			
X-Other			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B21N15	3	NOV 27 2012	0805	✓
SPECIAL HANDLING AND/OR STORAGE <i>94 hr in process sample</i>				

CHAIN OF POSSESSION		SIGN/PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>Kevin Patterson</i>	RECEIVED BY/STORED IN <i>Colin Wilson</i>	DATE/TIME <i>11/27/12</i>	DATE/TIME <i>11/27/12</i>
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
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

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A-5003-618 (REV 2)

Chain of Custody

CH2MHILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
COLLECTOR <i>Kevin Falterson</i>	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	F12-025-006	PAGE 1 OF 1
SAMPLING LOCATION 289TC, GAC Stack, Valve V10-Y02	PROJECT DESIGNATION 200W Pump & Treat - ETBs and Biotreatment VOC Sampling - Gaseous	FIELD LOGBOOK NO. HNE-N-491 9	SAF NO. F12-025	PRICE CODE 98	DATA TURNAROUND 7 Days / 15 Days
ICE CHEST NO. <i>N/A</i>	FIELD LOGBOOK NO. HNE-N-491 9	ACTUAL SAMPLE DEPTH N/A	COA 30310ES10	AIR QUALITY <input type="checkbox"/>	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 **Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/LATA Dangerous Goods Regulations but are not releasable per DOE Order 4381.1**	PRESERVATION None	NO. OF CONTAINER(S) 1	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
A-Air		HOLDING TIME 30 Days	VOLUME 6L	
DI-Drum		TYPE OF CONTAINER Summa Canister		
LI-Liquid				
S-Solid				
SE-Sediment				
T-Tissue				
V-Vegetation				
W-Water				
X-Other				

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B21NV3	LI	NOV 27 2012	0735
SPECIAL HANDLING AND/OR STORAGE <i>24 hr. in process sample</i>			

CHAIN OF POSSESSION	SIGN/PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>Kevin Falterson</i>	RECEIVED BY/STORED IN <i>Kevin Falterson</i>	DATE/TIME NOV 27 2012 0735
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME

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

PRINTED ON 11/20/2012

4-6003-618 (REV 2)

SPECIAL INSTRUCTIONS
 ** The CACN for WSCF Analytical is 403315.□** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.□□** A spectral search for Dibromochloromethane(124-48-1) will be conducted and documented in the data package Case Narrative (1) TO-15_VOA: COMMON {1,1,1-Trichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethane, Acetone, Benzene, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethane, Vinyl chloride};

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