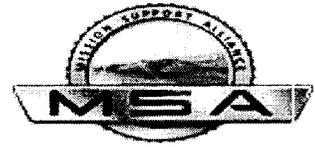


WSCF Laboratory

RECEIVED MARCH 15, 2011

PO Box 650 S3-30
Richland, WA 99352

March 14, 2011

Michael Neely
CH2M-HILL PRC
PO Box 1600
Richland, WA 99352

Dear Michael Neely,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF111697

Reference: (1) SOW, Mod 2, #36587, Release 3
(2) HNF-SD-CD-QAPP-017, current version, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF111697

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

Very truly yours,

Electronically signed by Jenny Filipy

For Lab Manager

WSCF Analytical Lab

(509) 373-7495



Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF111697
Data Deliverable Date 03/18/11

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F10-282	B2C6M9	111697001	WATER	03/03/11	03/03/11

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

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), Modification No. 2 to Agreement 36587, Release 3, "FH 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, D, U and J) 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.
- **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.
- **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

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

- All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF111697

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 8 pages
Including cover page

WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation
PO Box 1600
Richland, WA 99352

Attention: Michael Neely

Contract # MOA-FH-CHPRC-2008
Group # WSCF111697
Report Date March 14, 2011

Analytical: Electronically signed by Jenny Filipy

Client Services: Electronically signed by Richard Barker

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) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Batch QC List

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111697

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
178567	178568	1	BLANK	50739	BLANK		SW-846 8260B Volatiles, separate prep
178567	178568	2	LCS	50740	LCS		SW-846 8260B Volatiles, separate prep
178567	178568	3	MS	50741	B2BLR4(111694001MS)	111694001	SW-846 8260B Volatiles, separate prep
178567	178568	4	MSD	50742	B2BLR4(111694001MSD)	111694001	SW-846 8260B Volatiles, separate prep
178567	178568	7	SAMPLE	111697001	B2C6M9		SW-846 8260B Volatiles, separate prep

Method Reference**Attention Department** Michael Neely
Organic, Volatiles**Group #** WSCF111697

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

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

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

WSCF Analytical Results Report

Group # WSCF111697

Attention Michael Neely
 Department Organic, Volatiles

Sample # 111697001 Matrix WATER
 SAF# F10-282 Sampled 03/03/11
 Sample ID B2C6M9 Received 03/03/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8260 Prep										
SW-846 8260B										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	03/09/11
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	03/09/11
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	03/09/11
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	03/09/11
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	03/09/11
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	03/09/11
Carbon tetrachloride	56-23-5	LA-523-455	J	1.8		ug/L	1	1	5	03/09/11

MDL = Minimum Detection
 RQ = Result Qualifier
 TP Err = Total Propagated
 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 - MS/MSD recovery outside control limits(GC/MS only).
 U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 N - MS and/or MSD recovery outside control limits.
 PQL is equivalent to Estimated Quantitation Limit (EQL)

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles
Group # WSCF111697

QC Batch 178567
Associated Samples 111697001
Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	RPD Limits	RPD	RPD Limit	RQ	Analyzed
BLANK										
QC Sample #50739										
1,1-Dichloroethene	75-35-4	<1	<1	ug/L					U	03/09/11
Trichloroethene	79-01-6	<1	<1	ug/L					U	03/09/11
Benzene	71-43-2	<1	<1	ug/L					U	03/09/11
Toluene	108-88-3	<1	<1	ug/L					U	03/09/11
Chlorobenzene	108-90-7	<1	<1	ug/L					U	03/09/11
Total Xylenes	1330-20-7	<1	<1	ug/L					U	03/09/11
Carbon tetrachloride	56-23-5	<1	<1	ug/L					U	03/09/11
LCS										
QC Sample #50740										
1,1-Dichloroethene	75-35-4	22	22	ug/L	89.6	75 - 125				03/09/11
Trichloroethene	79-01-6	25	25	ug/L	99.9	75 - 125				03/09/11
Benzene	71-43-2	26	26	ug/L	103.2	75 - 125				03/09/11
Toluene	108-88-3	27	27	ug/L	107.9	75 - 125				03/09/11
Chlorobenzene	108-90-7	26	26	ug/L	105.9	75 - 125				03/09/11
MS										
QC Sample #50741										
Original 111694001										
1,1-Dichloroethene	75-35-4	21	21	ug/L	84.3	75 - 125				03/09/11
Trichloroethene	79-01-6	26	26	ug/L	104.6	75 - 125				03/09/11
Benzene	71-43-2	27	27	ug/L	106.2	75 - 125				03/09/11

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles
Group # WSCF111697

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MS										
1,2-Dichloroethane-d4	17060-07-0		QC Sample #50741		105.3	75 - 125				03/09/11
Toluene-d8	2037-26-5		Original 111694001		112.2	75 - 125				03/09/11
4-Bromofluorobenzene	460-00-4				109.3	75 - 125				03/09/11
MSD										
1,2-Dichloroethane-d4	17060-07-0		QC Sample #50742		103.7	75 - 125		1.50	Paired 50741	03/09/11
Toluene-d8	2037-26-5		Original 111694001		112.4	75 - 125		0.20		03/09/11
4-Bromofluorobenzene	460-00-4				106.6	75 - 125		2.50		03/09/11

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 4 pages
Including cover page

Sample Receipt

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: Michael Neely

Customer Code: CHPRC
PO #: 401352/ES20
Work Order #: 111697
Profile #: F10-282-016
Proj. Mgr.:
Phone:

The following samples were received from you on 3/3/2011 2:45:00 PM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
Tests scheduled				
111697001	B2C6M9	WATER	3/3/2011 13:25	3/3/2011 14:45
		8260V-W		

Test Acronym Description

Test Acronym	Description
8260V-W	Volatiles by 8260B (W)

Sample Receipt

PAGE 1 OF 2

F10-282-016

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CH2M Hill Plateau Remediation Company

COMPANY CONTACT
BAUER, HG
TELEPHONE NO.
313 3931

PROJECT COORDINATOR
BAUER, HG
SAR NO.
F10-282

PRICE CODE
7C

DATA TURNOURDIP
15 Days / 15 Days

PROJECT DESIGNATION
ARMA 216-5 19 Pond Conformity Sampling and Analysis - QC Sampling

FIELD LOGBOOK NO.
ANF-N-507-15
ACTUAL SAMPLE DEPTH
N/A

AIR QUALITY
METHOD OF SHIPMENT
GOVERNMENT VEHICLE

ORIGINAL

COA
302222E510

BILL OF LADING/AIR BILL NO.
N/A

OFFSITE PROPERTY NO.
N/A

SHIPPED TO
Waste Sampling & Characterization

MATRIX:
A-Air
D-Solid
L-Liquid
D-DX
S-Sediment
T-Thermal
V-Vegetation
W-Water
W-Miner
K-Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Co-located Radioactive Material at concentrations that may or may not be regulated for transport per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DCE Order 5400.5 (1990/1993)

111697

NO. OF CONTAINER(S)
3

VOLUME
40M

PRESERVATION
NO or 10%MA to pH 2/Good-AC 14 Days

HOLDING TIME
60s

TYPE OF CONTAINER
3

SAMPLE ANALYSIS
BY (BY (U) IN SPEC) INSTRUCTIONS

SAMPLE NO. 1

MATRIX* WATER

SAMPLE DATE 3/3/11

SAMPLE TIME 1325

X

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<i>Chamberlain</i>	3-3-11 1445	<i>K. B. ...</i>	3-3-11 1445
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

TITLE

DISPOSED BY

LABORATORY SECTION

FINAL SAMPLE DISPOSITION

PRINTED ON 3/11/2011

4-6001-618 (REV 2)

Thursday, March 03, 2011 4:53:34 PM

Page 2 of 3

Sample Receipt

Chain of Custody

CH2M HILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PAGE 2 OF 2	
COLLECTOR <i>Chamberlain</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 372-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 7C	DATA TURNAROUND 15 DAYS / 15 Days
SAMPLING LOCATION 216-S-19 PXR 6 (day 6)	PROJECT DESIGNATION AREA 216-S-19 Pond Confirmation, Sampling and Analysis - QC Sampling	SAF NO. P10-292	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HMF-N-507-15</i>	ACTUAL SAMPLE DEPTH <i>N/A</i>	COA 3022222510	BILL OF LADING/AIR BILL NO. N/A	
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A				
<p>SPECIAL INSTRUCTIONS</p> <p>** The CACN for all analytical work at WSCF is 401352E310. ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported. ** Copies of all data will be placed into the folder labeled Geographic Closure Data in IDMS following completion of the data login step of the SMR process.</p> <p>(1) VOA - 8260 (TCL) (Carbon tetrachloride, Xylenes (total));</p>					

A-6000-618 (REV 2)

PRINTED ON 3/1/2011

Thursday, March 03, 2011 4:53:34 PM
Page 3 of 3