

Mission Support Alliance
P.O. Box 650
Richland, Washington 99352



M4W41-SLF-09-321

December 28, 2009

Mr. M. A. Neely, Manager
Analytical Services
CH2M HILL Plateau Remediation Contract
PO Box 1600 MSIN R3-60
Richland, WA 99352

Dear Mike,

FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20091139 – SAF NUMBER F10-025

- References:
- (1) Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, 'FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER'
 - (2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following attachments for sample delivery group WSCF20091139:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Analytical Results (Attachment 3)
- Sample Receipt Information (Attachment 4)
- Sample Record Sheet (Attachment 5)

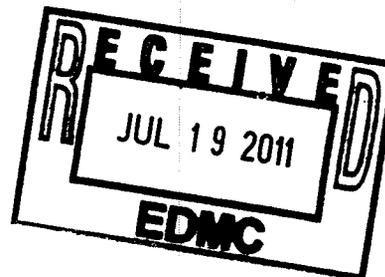
Very truly yours,

S. L. Fitzgerald
WSCF Analytical Lab

SLF/grf

Attachments 5

- cc:
- w/Attachments
 - R. L. Barker S3-30
 - H. K. Meznarich S3-30
 - J. E. Trechter S3-30
 - S. J. Trent R3-50
 - File/LB



M4W41-SLF-09-321

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20091139
Data Deliverable Date: 22-dec-2009
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F10-025	B22V26	W09GR00959	SOIL

M4W41-SLF-09-321

ATTACHMENT 2

NARRATIVE w/P&D

Consisting of 4 pages
Including cover page

P&D Correction – Case Narrative Replaces The Prior Submittal in its Entirety**Introduction**

Two (2) S&GRP samples were received at the WSCF Laboratory on November 9, 2009. 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), 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. Additionally, a copy of the completed P&D # WSCF20091139 is included with this case narrative.

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" so proper preservation is assumed.

The following generic data qualifiers (i.e., B, D, 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 wetchem 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.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 11 through 12, for a complete listing of approved analytical methods.

Organic Comments

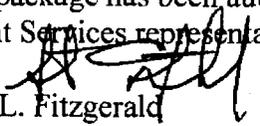
VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 17 through 19 for QC details. Analytical Note(s):

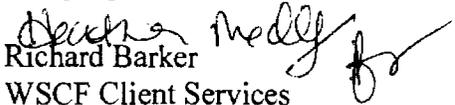
- Batch QC analyzed on sample# W09GR00957 (B22VR2 on work order 20091138)
- Sample concentration corrected for moisture and reported as dry weight basis.

- B22V27 – Analyses of these Methanol Blank samples and their associated high concentration VOA samples were not required.

All 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 the following signatures.


Scot L. Fitzgerald
WSCF Analytical Laboratory Manager


Richard Barker
WSCF Client Services

Problem and Discrepancy Report

WSCF

SDG WSCF20091139

1. The data package has the following issues:

- a) Case narrative, When the Batch QC (Matrix Spike, Matrix Spike Duplicate, and Duplicate) was analyzed on a sample not part of the SDG, please identify the HEIS# and SDG# in the case narrative.

Resolution: *Provide correction.*

Lab Response: **The narrative has been revised to include specific identifications.**

Please correct the issues and resubmit the hard copy data package.

M4W41-SLF-09-321

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 14 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for
Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical:

~~Richard S. Fitzgerald~~ 12/28/09

Client Services:

Richard S. Fitzgerald 12/28/09 Richard Barker

All results are reported on an "as received" basis unless otherwise noted in the comment section.

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Contract#: MOA-FH-CHPRC-2008
Report#: WSCF20091139
Report Date: 28-dec-2009
Report WGPP/ver. 5.2
Groundwater Remediation Program

w13qlog v4.2 28-dec-2009 07:11:27

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20091139

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W09GR00959	Percent Solids

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20091139

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			45358	BLANK		VOA Ground Water Protection
			45358	LCS		VOA Ground Water Protection
			45358	MS	W09GR00957	VOA Ground Water Protection
			45358	MSD	W09GR00957	VOA Ground Water Protection
			45358	SPK-RPD	W09GR00957	VOA Ground Water Protection
			45358	SAMPLE	W09GR00959	VOA Ground Water Protection
			45358	SURR	W09GR00959	VOA Ground Water Protection

WSCF METHOD REFERENCES REPORT

Department: Organic

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 or industry 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 the 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	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846
EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
HEIS 8260_VOA_GC/MS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

REVISION 1

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <http://www2.rl.gov/plumc/as-dol>.

Report Date: 28-dec-2009
Report #: WSCF20091139
Report WGPPM/5.2

Page 1

WSCF METHOD REFERENCES REPORT

Department: Inorganic

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 or industry 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 the 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-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C
EPA-600/4-79-020 160.1	Residual, Filterable
EPA-600/4-79-020 160.3	RESIDUE, TOTAL
HEIS 160.1 TDS	Residual, Filterable
Standard Methods 2540B	Total Solids Dried at 103-105 C

REVISION 1

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <http://www2.rl.gov/phmc/as-doi>.

Report Date: 28-dec-2009
Report #: WSCF20091139
Report WGPPM/5.2

Page 2

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-025
Sample #: W09GR00959
Client ID: B22V26

Group #: WSCF20091139
Department: Inorganic
Sampled: 11/09/09
Received: 11/09/09

Matrix: SOIL
WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total solids	TS	LA-519-412		97.7	Percent			1.00	0.0		11/12/09

REVISION 1

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.(org)

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F10-025

Group #: WSCF20091139
Department: Inorganic

Sample # Client ID Lab Area Test Comment

VALGROUP
Organics: Sample concentration corrected for moisture and reported as dry weight basis. gar

REVISION 1

Lab Areas: VALGROUP - Group Validation VALTEST - Test Validation TESTDATA - Test Data Entry
LOGSAMP - Login for Sample LOGTEST - Login for Tests

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wgppc/5.2 Report#: WSCF20091139 Report Date: 28-dec-2009

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-025
Sample #: W09GR00959
Client ID: B22V26

Group #: WSCF20091139
Department: Organic
Sampled: 11/09/09
Received: 11/09/09

Matrix: SOIL

GPP
WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Trichloroethene	79-01-6	LA-523-455	U	< 0.180	ug/kg			1.00	0.18		11/17/09
Benzene	71-43-2	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Toluene	108-88-3	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Chlorobenzene	108-90-7	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Ethylbenzene	100-41-4	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Styrene	100-42-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Dibromochloromethane	124-48-1	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Tetrachloroethene	127-18-4	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Xylenes (total)	1330-20-7	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Carbon tetrachloride	56-23-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
2-Hexanone	591-78-6	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Acetone	67-64-1	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Chloroform	67-66-3	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Bromomethane	74-83-9	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Chloromethane	74-87-3	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Chloroethane	75-00-3	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.(org)

RQ = Result Qualifier

TP Err = Total Propagated Error

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* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-025
Sample #: W09GR00959
Client ID: B22V26

GPP
WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Methylenechloride	75-09-2	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Carbon disulfide	75-15-0	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Bromoform	75-25-2	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Bromodichloromethane	75-27-4	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
2-Butanone	78-93-3	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
Trichloromonofluoromethane	75-69-4	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 0.890	ug/kg			1.00	0.89		11/17/09

Group #: WSCF20091139
Department: Organic
Sampled: 11/09/09
Received: 11/09/09

Matrix: SOIL

REVISION 1

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.(org)

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20091139**
 Matrix: **SOLID**
 Test: **VOA Ground Water Protection**

Sample Date: **11/09/09**
 Receive Date: **11/09/09**

REVISION 1

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	39.270	116.000	% Recov	63.000	117.000				11/17/09
MS	Benzene	71-43-2	39.930	118.000	% Recov	75.000	129.000				11/17/09
MS	4-Bromofluorobenzene(Surr)	460-00-4	70.520	104.000	% Recov	75.000	125.000				11/17/09
MS	Chlorobenzene	108-90-7	38.700	115.000	% Recov	79.000	119.000				11/17/09
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	80.240	119.000	% Recov	75.000	125.000				11/17/09
MS	Toluene-d8(Surr)	2037-26-5	68.700	102.000	% Recov	75.000	125.000				11/17/09
MS	Toluene	108-88-3	40.180	119.000	% Recov	76.000	120.000				11/17/09
MS	Trichloroethene	79-01-6	38.450	114.000	% Recov	73.000	123.000				11/17/09
MSD	1,1-Dichloroethene	75-35-4	38.460	117.000	% Recov	63.000	117.000				11/17/09
MSD	Benzene	71-43-2	38.270	116.000	% Recov	75.000	129.000				11/17/09
MSD	4-Bromofluorobenzene(Surr)	460-00-4	65.360	99.300	% Recov	75.000	125.000				11/17/09
MSD	Chlorobenzene	108-90-7	38.750	118.000	% Recov	79.000	119.000				11/17/09
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	76.670	117.000	% Recov	75.000	125.000				11/17/09
MSD	Toluene-d8(Surr)	2037-26-5	64.640	98.300	% Recov	75.000	125.000				11/17/09
MSD	Toluene	108-88-3	39.380	120.000	% Recov	76.000	120.000				11/17/09
MSD	Trichloroethene	79-01-6	38.590	117.000	% Recov	73.000	123.000				11/17/09
SPK-RPD	1,1-Dichloroethene	75-35-4	117.000		RPD			0.858	20.000		11/17/09
SPK-RPD	Benzene	71-43-2	116.000		RPD			1.709	20.000		11/17/09
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	99.300		RPD			4.624	20.000		11/17/09
SPK-RPD	Chlorobenzene	108-90-7	118.000		RPD			2.575	20.000		11/17/09
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	117.000		RPD			1.695	20.000		11/17/09
SPK-RPD	Toluene d8(Surr)	2037-26-5	98.300		RPD			3.694	20.000		11/17/09
SPK-RPD	Toluene	108-88-3	120.000		RPD			0.837	20.000		11/17/09
SPK-RPD	Trichloroethene	79-01-6	117.000		RPD			2.597	20.000		11/17/09

Lab ID: **W09GR00957**
 BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091139
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 11/09/09
 Receive Date: 11/09/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00959											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.180	106.000	% Recov	75.000	125.000				11/17/09
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.750	118.000	% Recov	75.000	125.000				11/17/09
SURR	Toluene-d8(Surr)	2037-26-5	45.850	103.000	% Recov	80.000	126.000				11/17/09
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,1-Dichloroethane	75-35-4	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	52.890	106.000	% Recov	75.000	125.000				11/17/09
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/Kg					U	11/17/09

REVISION 1

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091139
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	59.180	118.000	% Recov	75.000	125.000			U	11/17/09
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Toluene-d8(Surr)	2037-26-5	50.920	102.000	% Recov	80.000	126.000			U	11/17/09
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	trans-1,3-Dichloropropane	10061-02-6	< 1.0	n/a	ug/Kg					U	11/17/09
BLANK	Trichloromonofluoromethane	75-69-4	< 1.0	n/a	ug/Kg	0.000	5.000			U	11/17/09
BLANK	Trichloroethene	79-01-6	< 0.20	n/a	ug/Kg					U	11/17/09
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/Kg					U	11/17/09
LCS	1,1-Dichloroethene	75-35-4	27.090	108.000	% Recov	75.000	125.000			U	11/17/09
LCS	Benzene	71-43-2	29.020	116.000	% Recov	75.000	125.000			U	11/17/09
LCS	4-Bromofluorobenzene(Surr)	460-00-4	53.930	108.000	% Recov	75.000	125.000			U	11/17/09
LCS	Chlorobenzene	108-90-7	29.600	118.000	% Recov	75.000	125.000			U	11/17/09
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	59.430	119.000	% Recov	75.000	125.000			U	11/17/09
LCS	Toluene-d8(Surr)	2037-26-5	49.750	99.500	% Recov	80.000	126.000			U	11/17/09
LCS	Toluene	108-88-3	29.880	120.000	% Recov	75.000	125.000			U	11/17/09
LCS	Trichloroethene	79-01-6	27.700	111.000	% Recov	75.000	125.000			U	11/17/09

REVISION 1

WSCF ANALYTICAL COMMENT REPORT

Group #: WSCF20091139
Department: Organic

Attention: Steve Trent
Project Number F10-025

Sample # Client ID Lab Area Test Comment

VALGROUP
Organics: Sample concentration corrected for moisture and reported as dry weight basis. gar

REVISION 1

Lab Areas: VALGROUP - Group Validation VALTEST - Test Validation TESTDATA - Test Data Entry
LOGSAMP - Login for Sample LOGTEST - Login for Tests

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

wgppc/5.2 Report#: WSCF20091139 Report Date: 28-dec-2009

M4W41-SLF-09-321

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 5 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

File

ACKNOWLEDGMENT OF SAMPLES RECEIVED

12/22/09
tel

Groundwater Remediation Program

Richland, WA 99354
 Attn: Steve Trent

Customer Code: GPP
 PO#: 302117/ES10
 Group#: 20091139
 Project#: F10-025
 Proj Mgr: Steve Trent
 Phone: 373-5886

The following samples were received from you on 11/09/09. 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	Tests Scheduled	Matrix	Sample Date
W09GR00959	B22V26	GPP @VOA-GPP PERSOLID	Solid, or handle as if solid	11/09/09
W09GR00960	B22V26	GPP @VOA-GPP	Solid, or handle as if solid	11/09/09

Test Acronym Description

Test Acronym	Description
@VOA-GPP	VOA Ground Water Protection
PERSOLID	Percent Solids

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST F10-025-010		PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
COMPANY CONTACT DYEKMAN, DL	TELEPHONE NO. 373-2530	PROJECT COORDINATOR DYEKMAN, DL	
PROJECT DESIGNATION 200-PW-2 OU Characterization Vadose Zone - Soil ("1" Well)	ACTUAL SAMPLE DEPTH 9.5' to 12.4'	SAF NO. F10-025	AIR QUALITY <input type="checkbox"/>
FIELD LOGBOOK NO. HNF-N-491-5		COA 302117ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE
OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A	

COLLECTOR
 Kroll, Renee
 CH2M Hill Plateau Remediation Company
 C7514 (299-E24-25), I-006
SAMPLING LOCATION
 ICE CHEST NO.

SHIPPED TO
 Waste Sampling & Characterization

SPECIAL INSTRUCTIONS

- ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
- ** All VOA samples will be collected using EPA Method 5035A.
- ** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
- ** The laboratory is to use one of the low level VOA bottles for moisture content determination.
- ** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be include as part of the sample ID reported in the final data packages.
- (1)VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) {Trichloromonofluoromethane, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene}
- (2)VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) {Trichloromonofluoromethane, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene}

ORIGINAL

CH2M Hill Plateau Remediation Company

COLLECTOR *Kyung, Rene*

SAMPLING LOCATION C7514 (299-E24-25); I-005

ICE CHEST NO.

SHIPPED TO Waste Sampling & Characterization

COMPANY CONTACT DYEKMAN, DL
TELEPHONE NO. 373-2530

PROJECT COORDINATOR DYEKMAN, DL

PROJECT DESIGNATION 200-PW-2 OU Characterization Vadose Zone - Soil ("L" Well)

FIELD LOGBOOK NO. 0415
ACTUAL SAMPLE DEPTH / HNF-N- 491.5
9.9. to 12.4

PRICE CODE 8N
AIR QUALITY

PRICE CODE 8N
AIR QUALITY

METHOD OF SHIPMENT GOVERNMENT VEHICLE

SAF NO. F10-025
COA 302117ES10

BILL OF LADING/AIR BILL NO. N/A

F10-025-011 **PAGE 1 OF 1**

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME	DATE/TIME
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	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 5400.5 (1990/1993)	Cool-dc -6Gs*		1	40ml	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	11/09/09	1058	1510
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B22V96								
SAMPLE NO.	MATRIX*								
B22V27	960 SOIL								

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

** All VOA samples will be collected using EPA Method 5035A.

** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.

** The laboratory is to use one of the low level VOA bottles for moisture content determination.

** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

{(1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On)
 {Trichloromonofluoromethane, cis-1,2-Dichloroethene, trans-1,2-Dichloroethylene}

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<i>Ed Kyung</i>	11-9-09 1510	<i>MJ Kessler</i>	11-9-09 1510

LABORATORY SECTION 25
FINAL SAMPLE DISPOSITION 27

TITLE ORIGINAL

DISPOSED BY

DATE/TIME

M4W41-SLF-09-321

ATTACHMENT 5

SAMPLE RECORD SHEET

Consisting of 2 pages
Including cover page

S&GRP Operating Procedure

GRP-FS-04-G-030

VOC Soil and Sediment Sampling

Rev. 0, Chg. F

Page 11 of 11

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: U7514 299-824-25-T-006

Sampler Initials and Date:

Sample Number	Sample Suffix ¹	Tare Weight provided (grams)	Tare Weight prior to sample ² (grams)	Initial Weight ³ (grams)	Total Weight ⁴ (grams)	Soil Weight ⁵ (grams)	Methanol in sample bottle (ml)
B22V26	K	No Methanol		31.3	36.9	5.6	No Methanol
B22V26	L			31.4	36.4	5	
B22V26	M			31.6	38.2	6.6	
B22V26	N			32.9	38.5	5.6	
B22V26	P			30.9	36.7	5.8	
B22V26	W	38.0	37.9	38.2	41.7	3.5	10 mL
B22V26	X	38.8	38.6	38.9	43.2	4.8	10 mL
B22V26	Y	39.0	38.9	39.1	39.25 39.25	6.8	10 mL
B22V27	*	38.7	38.6	39.0	39.0	0	10 mL

¹Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.
Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.
Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

²Tare weight prior to sample must be within +/- 0.2 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

³Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

⁴Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

⁵Soil weight is the vial with sample minus Initial Weight.