RECEIVED MAY 08, 2009

Fluor Hanford
WSCF Analytical Lab
P.O. Box 1000
Richland, Washington 99352
Telephone 373-7495
Telefax 372-0456

FLUOR®

M4W41-SLF-09-163

May 8, 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 WSCF20090297 – SAF NUMBER F09-011

Reference: (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 WSCF20090297:

- 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

T. F. Dale	S3-30	J. E. Trechter	S3-30
A. J. Kopriva	S3-30	S. J. Trent	R3-50
H. K. Meznarich	S3-30	File/LB	
P. D. Mix	S3-30		

M4W41-SLF-09-163

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20090297
Data Deliverable Date: 11-may-2009
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F09-011	B1YNJ3	W09GR00261	SOIL
	B1YNJ6	W09GR00262	SOIL

M4W41-SLF-09-163

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Three S&GRP samples were received at the WSCF Laboratory on March 27, 2009. Two of 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."* Analyses of the high concentration soil VOA sample material and the corresponding Methanol Blank (B1YNJ9) were not required.

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. In addition, copy of the sample record sheet is included as Attachment 5.

It should be noted that the attached chain of custody was stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the transport container.

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 10 through 12, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 18 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1YD14 (SDG# 20090288, SAF# F09-011).

All QC controls are within the established limits.

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

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1YD14 (SDG# 20090288, SAF# F09-011).

- One of the Matrix Spike recoveries was slightly less than established laboratory limits due to possible reducing sample matrix or other matrix affects. The affected sample result in this batch was N flagged.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 20 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1YD14 (SDG# 20090288, SAF# F09-011).

All QC controls are within the established limits.

Percent Solids - Percent solids were performed for organic analyses result correction.

Organic Comments

- Sample results are moisture corrected and reported on dry weight basis.

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 23 through 25 for QC details. Analytical Note(s):

- Analyses of the high concentration soil VOA sample material and the corresponding Methanol Blank (B1YNJ9) were not required.

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1YMM9 (SDG# 20090288, SAF# F09-011).

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 30 for QC details.

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

Pauline D. Mix
WSCF Client Services

M4W41-SLF-09-163

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 23 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald 5/8/09

Client Services: P.D.Mix 5/8/2009

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

Contract#: MOA-FH-CHPRC-2008
Report#: WSCF20090297
Report Date: 7-may-2009
Report WGPP/ver. 5.2
Groundwater Remediation Program

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-265-403	LA-265-403: Hexavalent Chromium analysis by Spectrophotometer	
	EPA SW-846 7196A	HEXAVALENT CHROMIUM
	HEIS 7196_CR6	Hexavalent Chromium
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C	
	EPA-600/4-79-020 160.1	Resisual, 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
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

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_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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-508-481 LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE
HEIS GAMMA_GS Gamma Emmision Spectrometry

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

w13qlog v4.2 07-may-2009 10:35:30

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20090297

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W09GR00262	Percent Solids
39358	1	39781	44345	BLANK		ICP-200.8 MS All possible meta
39358	2	39781	44345	LCS		ICP-200.8 MS All possible meta
39358	4	39781	44345	MS	W09GR00257	ICP-200.8 MS All possible meta
39358	5	39781	44345	MSD	W09GR00257	ICP-200.8 MS All possible meta
39358	5	39781	44345	SPK-RPD	W09GR00257	ICP-200.8 MS All possible meta
39358	6	39781	44345	SAMPLE	W09GR00261	ICP-200.8 MS All possible meta
39383	2	39806	44367	BLNK-PREP		Hexavalent chromium
39383	3	39806	44367	LCS		Hexavalent chromium
39383	5	39806	44367	DUP	W09GR00257	Hexavalent chromium
39383	6	39806	44367	MS	W09GR00257	Hexavalent chromium
39383	7	39806	44367	MSD	W09GR00257	Hexavalent chromium
39383	9	39806	44367	SPK-POST	W09GR00257	Hexavalent chromium
39383	7	39806	44367	SPK-RPD	W09GR00257	Hexavalent chromium
39383	12	39806	44367	SAMPLE	W09GR00261	Hexavalent chromium
39442	2	39864	44444	BLANK		Anions by Ion Chromatography
39442	12	39864	44444	BLANK		Anions by Ion Chromatography
39442	3	39864	44444	LCS		Anions by Ion Chromatography
39442	5	39864	44444	DUP	W09GR00257	Anions by Ion Chromatography
39442	6	39864	44444	MS	W09GR00257	Anions by Ion Chromatography
39442	7	39864	44444	MSD	W09GR00257	Anions by Ion Chromatography
39442	7	39864	44444	SPK-RPD	W09GR00257	Anions by Ion Chromatography
39442	8	39864	44444	SAMPLE	W09GR00261	Anions by Ion Chromatography

w13qlog v4.2 07-may-2009 10:35:30

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20090297

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			44470	BLANK		VOA Ground Water Protection
			44470	LCS		VOA Ground Water Protection
			44470	MS	W09GR00259	VOA Ground Water Protection
			44470	MSD	W09GR00259	VOA Ground Water Protection
			44470	SPK-RPD	W09GR00259	VOA Ground Water Protection
			44470	SAMPLE	W09GR00262	VOA Ground Water Protection
			44470	SURR	W09GR00262	VOA Ground Water Protection

w13qlog v4.2 07-may-2009 10:35:30

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20090297

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
39361	1	39783	44360	BLANK		Gamma Energy Analysis-grd H2O
39361	2	39783	44360	LCS		Gamma Energy Analysis-grd H2O
39361	3	39783	44360	DUP	W09GR00261	Gamma Energy Analysis-grd H2O
39361	4	39783	44360	SAMPLE	W09GR00261	Gamma Energy Analysis-grd H2O

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-011
Sample # W09GR00261
Client ID: B1YNJ3 TRENT WSCF
Matrix: SOIL

Group #: WSCF20090297
Department: Inorganic
Sampled: 03/27/09
Received: 03/27/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											**04/27/09**
Anions by Ion Chromatography											
Nitrogen in Nitrate	NO3-N	LA-533-410		< 1.55	mg/kg			50.00	1.6		04/27/09
Hexavalent Chromium Prep											**04/07/09**
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403	NU	< 0.300	mg/kg			1.00	0.30		04/08/09
ICP-200.8 MS All possible meta Prep											**03/30/09**
ICP-200.8 MS All possible meta											
Chromium	7440-47-3	LA-505-412		22.8	mg/kg			0.99	0.494		03/30/09
Uranium	7440-61-1	LA-505-412		0.660	mg/kg			0.99	0.0494		03/30/09

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-011
Sample # W09GR00262
Client ID: B1YNJ6 TRENT WSCF
Matrix: SOIL

Group #: WSCF20090297
Department: Inorganic
Sampled: 03/27/09
Received: 03/27/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total solids											
Total solids	TS	LA-519-412		97.2	Percent			1.00	0.0		04/28/09

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20090297
Matrix: SOLID
Test: Anions by Ion Chromatography

Sample Date: 03/26/09
Receive Date:03/26/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00257											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Nitrogen in Nitrate	NO3-N	9.0442		RPD			10.427	20.000		04/27/09
MS	Nitrogen in Nitrate	NO3-N	0.403	89.556	% Recov	80.000	120.000				04/27/09
MSD	Nitrogen in Nitrate	NO3-N	0.412	91.556	% Recov	80.000	120.000				04/27/09
SPK-RPD	Nitrogen in Nitrate	NO3-N	91.556		RPD			2.209	20.000		04/27/09
BATCH QC											
BLANK	Nitrogen in Nitrate	NO3-N	<3.1e-2	n/a	mg/L	0.000	0.040			U	04/27/09
BLANK	Nitrogen in Nitrate	NO3-N	<3.1e-2	n/a	mg/L	0.000	0.040			U	04/27/09
LCS	Nitrogen in Nitrate	NO3-N	89.9855	100.095	% Recov	80.000	120.000				04/27/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20090297
Matrix: SOLID
Test: Hexavalent chromium

Sample Date: 03/26/09
Receive Date:03/26/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00257											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	< 0.3		RPD			n/a	15.000	U	04/08/09
MS	Hexavalent chromium	18540-29-9	17.0	89.947	% Recov	75.000	125.000				04/08/09
MS	Hexavalent chromium	18540-29-9	311	73.349	% Recov	75.000	125.000			*	04/08/09
MSD	Hexavalent chromium	18540-29-9	17.3	90.576	% Recov	75.000	125.000				04/08/09
SPK-POST	Hexavalent chromium	18540-29-9	0.0511	95.693	% Recov	75.000	125.000				04/08/09
SPK-RPD	Hexavalent chromium	18540-29-9	90.576		RPD			0.697	20.000		04/08/09
BATCH QC											
BLNK-PREP	Hexavalent chromium	18540-29-9	< 0.3	n/a	ug/g	0.000	2.000			U	04/08/09
LCS	Hexavalent chromium	18540-29-9	18.6	95.876	% Recov	80.000	120.000				04/08/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20090297
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

Sample Date: 03/26/09
Receive Date:03/26/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00257											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Chromium	7440-47-3	194.82	97.410	% Recov	70.000	130.000				03/30/09
MS	Uranium	7440-61-1	196.58	98.290	% Recov	70.000	130.000				03/30/09
MSD	Chromium	7440-47-3	190.12	95.060	% Recov	70.000	130.000				03/30/09
MSD	Uranium	7440-61-1	190.28	95.140	% Recov	70.000	130.000				03/30/09
SPK-RPD	Chromium	7440-47-3	95.060		RPD			2.442	20.000		03/30/09
SPK-RPD	Uranium	7440-61-1	95.140		RPD			3.257	20.000		03/30/09
BATCH QC											
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	03/30/09
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	03/30/09
LCS	Chromium	7440-47-3	75.4	103.429	% Recov	77.000	125.000				03/30/09
LCS	Uranium	7440-61-1	411.9	102.975	% Recov	81.000	125.000				03/30/09

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-011
Sample # W09GR00262
Client ID: B1YNJ6 TRENT WSCF

Matrix: SOIL

Group #: WSCF20090297
Department: Organic
Sampled: 03/27/09
Received: 03/27/09

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	< 0.760	ug/kg			1.00	0.76		04/02/09
Trichloroethene	79-01-6	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Benzene	71-43-2	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Toluene	108-88-3	LA-523-455		8.50	ug/kg			1.00	0.76		04/02/09
Chlorobenzene	108-90-7	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Ethylbenzene	100-41-4	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Styrene	100-42-5	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Dibromochloromethane	124-48-1	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Tetrachloroethene	127-18-4	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Xylenes (total)	1330-20-7	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Carbon tetrachloride	56-23-5	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
2-Hexanone	591-78-6	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Acetone	67-64-1	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Chloroform	67-66-3	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Bromomethane	74-83-9	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Chloromethane	74-87-3	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Chloroethane	75-00-3	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-011
Sample # W09GR00262
Client ID: B1YNJ6 TRENT WSCF
Matrix: SOIL

Group #: WSCF20090297
Department: Organic
Sampled: 03/27/09
Received: 03/27/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Methylenechloride	75-09-2	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Carbon disulfide	75-15-0	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Bromoform	75-25-2	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
Bromodichloromethane	75-27-4	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
2-Butanone	78-93-3	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 0.760	ug/kg			1.00	0.76		04/02/09

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20090297
Matrix: SOLID
Test: VOA Ground Water Protection

Sample Date: 03/26/09
Receive Date:03/26/09

Lab ID: W09GR00259
BATCH QC ASSOCIATED WITH SAMPLE

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	19.900	80.900	% Recov	63.000	117.000				04/02/09
MS	Benzene	71-43-2	21.560	87.600	% Recov	75.000	129.000				04/02/09
MS	4-Bromofluorobenzene(Surr)	460-00-4	49.500	101.000	% Recov	75.000	125.000				04/02/09
MS	Chlorobenzene	108-90-7	25.470	103.000	% Recov	79.000	119.000				04/02/09
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	57.620	117.000	% Recov	75.000	125.000				04/02/09
MS	Toluene-d8(Surr)	2037-26-5	52.140	106.000	% Recov	75.000	125.000				04/02/09
MS	Toluene	108-88-3	24.810	101.000	% Recov	76.000	120.000				04/02/09
MS	Trichloroethene	79-01-6	23.250	94.500	% Recov	73.000	123.000				04/02/09
MSD	1,1-Dichloroethene	75-35-4	21.810	80.800	% Recov	63.000	117.000				04/02/09
MSD	Benzene	71-43-2	24.060	89.200	% Recov	75.000	129.000				04/02/09
MSD	4-Bromofluorobenzene(Surr)	460-00-4	54.220	100.000	% Recov	75.000	125.000				04/02/09
MSD	Chlorobenzene	108-90-7	28.680	106.000	% Recov	79.000	119.000				04/02/09
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	64.210	119.000	% Recov	75.000	125.000				04/02/09
MSD	Toluene-d8(Surr)	2037-26-5	57.180	106.000	% Recov	75.000	125.000				04/02/09
MSD	Toluene	108-88-3	27.910	103.000	% Recov	76.000	120.000				04/02/09
MSD	Trichloroethene	79-01-6	25.770	95.500	% Recov	73.000	123.000				04/02/09
SPK-RPD	1,1-Dichloroethene	75-35-4	80.800		RPD			0.124	20.000		04/02/09
SPK-RPD	Benzene	71-43-2	89.200		RPD			1.810	20.000		04/02/09
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	100.000		RPD			0.995	20.000		04/02/09
SPK-RPD	Chlorobenzene	108-90-7	106.000		RPD			2.871	20.000		04/02/09
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	119.000		RPD			1.695	20.000		04/02/09
SPK-RPD	Toluene-d8(Surr)	2037-26-5	106.000		RPD			0.000	20.000		04/02/09
SPK-RPD	Toluene	108-88-3	103.000		RPD			1.961	20.000		04/02/09
SPK-RPD	Trichloroethene	79-01-6	95.500		RPD			1.053	20.000		04/02/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20090297
Matrix: SOLID
Test: VOA Ground Water Protection

Sample Date: 03/27/09
Receive Date:03/27/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00262											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	37.880	100.000	% Recov	75.000	125.000				04/02/09
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.220	117.000	% Recov	75.000	125.000				04/02/09
SURR	Toluene-d8(Surr)	2037-26-5	40.660	107.000	% Recov	80.000	126.000				04/02/09
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	50.820	102.000	% Recov	75.000	125.000				04/02/09
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	58.070	116.000	% Recov	75.000	125.000				04/02/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20090297
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-Dichloropropane	78-87-5	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Toluene-d8(Surr)	2037-26-5	52.480	105.000	% Recov	80.000	126.000				04/02/09
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/Kg					U	04/02/09
BLANK	Trichloroethene	79-01-6	< 0.20	n/a	ug/Kg					U	04/02/09
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/Kg					U	04/02/09
LCS	1,1-Dichloroethene	75-35-4	20.170	80.700	% Recov	75.000	125.000				04/02/09
LCS	Benzene	71-43-2	24.790	99.200	% Recov	75.000	125.000				04/02/09
LCS	4-Bromofluorobenzene(Surr)	460-00-4	45.270	90.500	% Recov	75.000	125.000				04/02/09
LCS	Chlorobenzene	108-90-7	26.050	104.000	% Recov	75.000	125.000				04/02/09
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	49.190	98.400	% Recov	75.000	125.000				04/02/09
LCS	Toluene-d8(Surr)	2037-26-5	51.400	103.000	% Recov	80.000	126.000				04/02/09
LCS	Toluene	108-88-3	26.280	105.000	% Recov	75.000	125.000				04/02/09
LCS	Trichloroethene	79-01-6	22.830	91.300	% Recov	75.000	125.000				04/02/09

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F09-011

Group #: WSCF20090297
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Results were corrected for moisture MS 5/7/09

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-011
Sample # W09GR00261
Client ID: B1YNJ3 TRENT WSCF
Matrix: SOIL

Group #: WSCF20090297
Department: Radiochemistry
Sampled: 03/27/09
Received: 03/27/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	-2.02e-03	pCi/g	+-4.07e-03	pCi/g	1.00	6.9e-03		04/01/09
Cesium-137	10045-97-3	LA-508-481	U	-2.24e-03	pCi/g	+-4.44e-03	pCi/g	1.00	7.5e-03		04/01/09
Europium-152	14683-23-9	LA-508-481	U	2.70e-03	pCi/g	+-0.0152	pCi/g	1.00	0.023		04/01/09
Europium-154	15585-10-1	LA-508-481	U	0.0131	pCi/g	+-0.0160	pCi/g	1.00	0.025		04/01/09
Europium-155	14391-16-3	LA-508-481	U	0.0223	pCi/g	+-0.0253	pCi/g	1.00	0.034		04/01/09

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-011 :F09-011

Group #: WSCF20090297
Department: Radiochemistry

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.38	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				20	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	AM-243				0.087	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	AM-243 Count Error				24	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.23	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				25	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.37	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				14	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	CD-109				0.89	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	CD-109 Count Error				29	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	K-40				9.4	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	KR-85				3.9	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	KR-85 Count Error				32	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	NP-237				0.27	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	NP-237 Count Error				29	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.42	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				11	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	PB-214				0.28	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error				15	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	RA-224				0.97	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	RA-224 Count Error				26	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	RA-226				0.29	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error				17	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.40	pCi/g

RQ=Result Qualifier

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-011 :F09-011

Group #: WSCF20090297
Department: Radiochemistry

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				18	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	SR-85				0.018	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	SR-85 Count Error				32	%
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.12	pCi/g
W09GR00261	B1YNJ3	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				16	%

RQ=Result Qualifier

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20090297
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

Sample Date: 03/27/09
Receive Date:03/27/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00261											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U-9.224e-4		RPD			n/a	20.000		04/02/09
DUP	Cesium-137	10045-97-3	U-3.055e-3		RPD			n/a	20.000		04/02/09
DUP	Europium-152	14683-23-9	U3.304e-3		RPD			n/a	20.000		04/02/09
DUP	Europium-154	15585-10-1	U-2.534e-3		RPD			n/a	20.000		04/02/09
DUP	Europium-155	14391-16-3	U2.003e-2		RPD			n/a	20.000		04/02/09
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U-2.431e-3	n/a	pCi/g	-10.000	1000.000				04/03/09
BLANK	Cesium-137	10045-97-3	U-1.748e-3	n/a	pCi/g	-10.000	1000.000				04/03/09
BLANK	Europium-152	14683-23-9	U-5.601e-3	n/a	pCi/g	-10.000	1000.000				04/03/09
BLANK	Europium-154	15585-10-1	U-6.372e-3	n/a	pCi/g	-10.000	1000.000				04/03/09
BLANK	Europium-155	14391-16-3	U1.133e-2	n/a	pCi/g	-10.000	1000.000				04/03/09
LCS	Cobalt-60	10198-40-0	10530	105.936	% Recov	80.000	120.000				04/03/09
LCS	Cesium-137	10045-97-3	6274	103.874	% Recov	80.000	120.000				04/03/09

M4W41-SLF-09-163

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

5/11/09

F1E3

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 300194/ES10
Group#: 20090297
Project#: F09-011
Proj Mgr: Steve Trent
Phone: 373-5869

The following samples were received from you on 03/27/09. 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
W09GR00261	B1YNJ3	TRENT @2008 @GEA-GPP @IC-30 CR+6	Solid, or handle as if solid	03/27/0
W09GR00262	B1YNJ6	TRENT @VOA-GPP PERSOLID	Solid, or handle as if solid	03/27/0
~~W09GR00263~~	~~B1YNJ9~~	~~TRENT @VOA-GPP~~ PDL, P.D. Mix 5/8/2009	~~Solid, or handle as if solid~~	~~03/27/0~~

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GEA-GPP	Gamma Energy Analysis-grd H2O
@IC-30	Anions by Ion Chromatography
@VOA-GPP	VOA Ground Water Protection
CR+6	Hexavalent chromium
PERSOLID	Percent Solids

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-011-037 | **PAGE 1 OF 1**

COLLECTOR
PATERSON/HECKEL 5/11

COMPANY CONTACT
WIDRIG, DL

TELEPHONE NO.
376-2858

PROJECT COORDINATOR
WIDRIG, DL

PRICE CODE 8N

DATA TURNAROUND
45 Days / 45 Days

SAMPLING LOCATION
C7021; EW3-011

PROJECT DESIGNATION
200-ZP-1 Remedial Action Wells Sampling and Analysis - Soil

SAF NO.
F09-011

AIR QUALITY ☐

ICE CHEST NO.

FIELD LOGBOOK NO.
HNFN5555-9

ACTUAL SAMPLE DEPTH
251 - 253.5

COA
300194ES10

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

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=Vegitation
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 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B1YNJ0

2009 0297

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
				Cool~4C	G/P	1	250mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
				Cool~4C	G/P	1	~~120mL~~ 125 mL	IC Anions - 300.0 {Nitrogen in Nitrate}
				None	Square Bottle - Poly	1	500mL	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B1YNJ3	SOIL	3/27/09	0930	027494	027006	646785		
WC9GR00261				✓	✓	✓		

ICED

CHAIN OF POSSESSION | **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	3/27/09 1025	[signature]	3/27/09 1025

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)ICP/MS - 200.8 (TAL) {Chromium} ICP/MS - 200.8 (Add-on) {Uranium} Chromium Hex - 7196;
(2)Gamma Spectroscopy {Cesium-~~134~~ 137, Cobalt-60, Europium-152, Europium-154, Europium-155}

DLW 5/19/09

LABORATORY SECTION | **RECEIVED BY** | **TITLE** | **DATE/TIME**

FINAL SAMPLE DISPOSITION | **DISPOSAL METHOD** | **DISPOSED BY** | **DATE/TIME**

33 of 37

A-6003-618(01/06)

CH2MHill Plateau Remediation Company | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | F09-011-038 | PAGE 1 OF 1

COLLECTOR Patterson / Hecnes	**COMPANY CONTACT** WIDRIG, DL	**TELEPHONE NO.** 376-2858	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND**
SAMPLING LOCATION C7021; EW3-011	**PROJECT DESIGNATION** 200-ZP-1 Remedial Action Wells Sampling and Analysis - Soil		**SAF NO.** F09-011	**AIR QUALITY** ☐	45 Days / 45 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N 585-5	**ACTUAL SAMPLE DEPTH** 251'-253.5'	**COA** 300194ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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=Vegitation
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 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B1YNJ0

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~4 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	VOA - 5035/8260 (LOW LEVEL);	VOA - 5035/8260 (HIGH LEVEL);
	7312110	2312110

ICED

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YNJ6	SOIL	3/27/09	0930	✓	✓
262					

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Patterson [signature]	3/27/09 1025	[signature] K Barber	3/27/09 1025
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 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 lo

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-011-039 | PAGE 1 OF 1

COLLECTOR: Patterson / Helms

COMPANY CONTACT: WIDRIG, DL

TELEPHONE NO.: 376-2858

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 8N

DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: C7021; EW3-011

PROJECT DESIGNATION: 200-ZP-1 Remedial Action Wells Sampling and Analysis - Soil

SAF NO.: F09-011

AIR QUALITY: ☐

ICE CHEST NO.:

FIELD LOGBOOK NO.: HNF-N-585-9

ACTUAL SAMPLE DEPTH: 257'-253.5'

COA: 300194ES10

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

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=Vegitation
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 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B1YNJ0

PRESERVATION	Cool~4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	VOA - 5035/8260 (TCL);

ICED

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	Lot # 7312110
B1YNJ9	SOIL	3/27/09	0932	✓

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	3/27/09 1025	[signature]	3/27/09 1025

SPECIAL INSTRUCTIONS

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

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

A-6003-618(01/06)

M4W41-SLF-09-163

ATTACHMENT 5

SAMPLE RECORD SHEET

Consisting of 2 pages
Including cover page

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 7031

Sampler Initials and Date: Field Support Initials and Date:

Sample Number	Sample Suffix[1]	Empty Weight[2] (grams)	Total Weight[3] (grams)	Soil Weight[4] (grams)	Methanol Added (mL)	Methanol Added (grams)	Weight of Methanol and Sample (grams)
B1YNJ6	K	31.4	31.4	36.2	No Methanol Spin Bars only		
B1YNJ6	L	31.6	31.5	38.3			
B1YNJ6	M	31.4	31.4	40.7			
B1YNJ6	N	31.9	31.9	41.4			
B1YNJ6	P	31.9	31.9	36.4			
B1YNJ6	W	38.3	38.2	43.4	N/A	N/A	5.2
B1YNJ6	X	38.3	38.3	45.5			7.2
B1YNJ6	Y	39.1	39.1	44.1			5.0
B1YNJ9	*	30.3	38.7	38.7			0

[1] Sample 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

[2] Empty weight is to include all labels, stickers, bags, and anything else that will be associated with the bottle when it is weighed with the sample.

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

[4] Soil weight is the vial with sample minus Empty Weight.