

RECEIVED AUGUST 21, 2007

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FLUOR**Memorandum**

To: H. Hampt E6-35 Date: M4W41-SLF-07-546
 August 16, 2007

From: S. L. Fitzgerald, Manager *by Julian J. Baird*
 WSCF Analytical Chemistry

cc: w/Attachments

T. F. Dale	S3-30	S. J. Trent	E6-35
H. K. Meznarich	S3-30	D. D. Wright	S3-30
P. D. Mix	S3-30	File/LB	
J. E. Trechter	S3-30		

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071133 – SAF NUMBER F07-033

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20071133:

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

SLF/grf

Attachments 5

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071133
Data Deliverable Date: 16-aug-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F07-033	B1NWH1	W07GR01681	SOIL

M4W41-SLF-07-546

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	WSCF20071133
Sample Matrix	Soil
Data Deliverable	Summary Report

Introduction

One groundwater sample was received at the WSCF Laboratory on July 3, 2007. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

It should be noted that the attached chain of custody was stamped “iced” and initialed by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 13 through 15, for a complete listing of approved analytical methods.

Inorganic Comments

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 per the GRP Letter of Instruction. See page 17 for QC details.

All QC controls are within the established limits

Percent Solids - Percent solids were performed for organic moisture correction.

Organic Comments

TPHD-WA – The hold time requirements for this analysis were met. A Matrix Spike, Blank, Laboratory Control Sample and a Laboratory Control Sample Duplicate 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# B1NFV7 (SDG# 20071134, SAF# F07-032).

All QC controls are within the established limits.

TPHG-WA – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank, Laboratory Control Sample were analyzed with this delivery group. See page 21 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1NFV3 (SDG# 20071134, SAF# F07-032).

All QC controls are within the established limits.

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 per the GRP Letter of Instruction. See pages 22 through 24 for QC details. Analytical Note(s):

- Analysis of the high concentration soil VOA sample (B1NWH1) was not required.
- Trichloroethene – Matrix Spike was less than established laboratory limits and the Spike Relative Percent Difference exceeded established laboratory limits. No flag issued.

All other QC controls are within the established limits.

Radiochemistry Comments

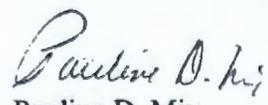
Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 28 through 32 for QC details. Analytical Note(s):

- Gamma Energy Analysis (GEA) – Duplicate QC was analyzed on sample# B1NH20 (SDG# 20071130, SAF# F07-048).
- Uranium-233/234 – Duplicate RPD exceeded established laboratory limits. No flag issued.

All other QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.


for Scot L. Fitzgerald
WSCF Analytical Laboratory Manager


Pauline D. Mix
WSCF Client Services

Abbreviations

Hg – mercury

IC – ion chromatography

ICP – inductively coupled plasma

ICP/AES – ICP/atomic emission spectroscopy

ICP/MS – ICP/mass spectrometry

Total U – total uranium

AT/TB – total alpha/total beta

AEA – Alpha Energy Analysis

WTPH-G – Total Hydrocarbons-Gasoline

Am – americium

Cm - curium

Pu – plutonium

Np – neptunium

GEA – gamma energy analysis

H3 – Tritium

Sr – Strontium 89, 90

WTPH-D – Total Hydrocarbons-Diesel

TSS – Total Suspended Solids

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ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 26 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical:

Judith M Baird WW Baird 8/16/07

Client Services:

EPD P.D. Mize 8/16/2007

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

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Contract#: FH-EIS-2003-MEM-001

Report#: WSCF20071133

Report Date: 15-aug-2007

Report WGPP/ver. 5.2

Groundwater Remediation Program

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071133

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W07GR01681	Percent Solids
32522	1	32913	37464	BLANK		ICP-200.8 MS All possible meta
32522	2	32913	37464	LCS		ICP-200.8 MS All possible meta
32522	4	32913	37464	MS	W07GR01681	ICP-200.8 MS All possible meta
32522	5	32913	37464	MSD	W07GR01681	ICP-200.8 MS All possible meta
32522	3	32913	37464	SAMPLE	W07GR01681	ICP-200.8 MS All possible meta
32522	5	32913	37464	SPK-RPD	W07GR01681	ICP-200.8 MS All possible meta

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071133

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			36975	BLANK		NWTPH-D TPH Diesel Range (Wa)
			36975	LCS		NWTPH-D TPH Diesel Range (Wa)
			36975	SAMPLE	W07GR01681	NWTPH-D TPH Diesel Range (Wa)
			36975	SURR	W07GR01681	NWTPH-D TPH Diesel Range (Wa)
			36975	MS	W07GR01693	NWTPH-D TPH Diesel Range (Wa)
			36975	MSD	W07GR01693	NWTPH-D TPH Diesel Range (Wa)
			36975	SPK-RPD	W07GR01693	NWTPH-D TPH Diesel Range (Wa)
			37309	BLANK		VOA Ground Water Protection
			37309	LCS		VOA Ground Water Protection
			37309	MS	W07GR01681	VOA Ground Water Protection
			37309	MSD	W07GR01681	VOA Ground Water Protection
			37309	SAMPLE	W07GR01681	VOA Ground Water Protection
			37309	SPK-RPD	W07GR01681	VOA Ground Water Protection
			37309	SURR	W07GR01681	VOA Ground Water Protection
32881	1	33278	37349	BLANK		NWTPH-GX TPH Gasoline Range
32881	2	33278	37349	LCS		NWTPH-GX TPH Gasoline Range
32881	3	33278	37349	SAMPLE	W07GR01681	NWTPH-GX TPH Gasoline Range
32881	5	33278	37349	DUP	W07GR01690	NWTPH-GX TPH Gasoline Range
32881	6	33278	37349	MS	W07GR01690	NWTPH-GX TPH Gasoline Range
32881	7	33278	37349	MSD	W07GR01690	NWTPH-GX TPH Gasoline Range
32881	7	33278	37349	SPK-RPD	W07GR01690	NWTPH-GX TPH Gasoline Range

W13q Worklist/Batch/QC Report for Group# WSCF20071133

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
32462	1	32853	36974	BLANK		Gamma Energy Analysis-grd H2O
32462	2	32853	36974	LCS		Gamma Energy Analysis-grd H2O
32462	3	32853	36974	DUP	W07GR01673	Gamma Energy Analysis-grd H2O
32462	6	32853	36974	SAMPLE	W07GR01681	Gamma Energy Analysis-grd H2O
32561	1	32952	37172	BLANK		Strontium 89/90
32561	2	32952	37172	LCS		Strontium 89/90
32561	3	32952	37172	DUP	W07GR01681	Strontium 89/90
32561	4	32952	37172	SAMPLE	W07GR01681	Strontium 89/90
32561	5	32952	37172	SURR	W07GR01681	Strontium 89/90
32830	1	33225	37331	BLANK		Uranium Isotopics by AEA
32830	2	33225	37331	LCS		Uranium Isotopics by AEA
32830	3	33225	37331	DUP	W07GR01681	Uranium Isotopics by AEA
32830	4	33225	37331	SAMPLE	W07GR01681	Uranium Isotopics by AEA
32830	5	33225	37331	SURR	W07GR01681	Uranium Isotopics by AEA
32869	1	33264	37363	BLANK		Plutonium Isotopics by AEA
32869	2	33264	37363	LCS		Plutonium Isotopics by AEA
32869	3	33264	37363	DUP	W07GR01681	Plutonium Isotopics by AEA
32869	4	33264	37363	SAMPLE	W07GR01681	Plutonium Isotopics by AEA
32869	5	33264	37363	SURR	W07GR01681	Plutonium Isotopics by AEA
32870	1	33265	37365	BLANK		Americium by AEA
32870	2	33265	37365	LCS		Americium by AEA
32870	3	33265	37365	DUP	W07GR01681	Americium by AEA
32870	4	33265	37365	SAMPLE	W07GR01681	Americium by AEA
32870	5	33265	37365	SURR	W07GR01681	Americium by AEA

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-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
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

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>.

Report Date: 15-aug-2007
Report #: WSCF20071133
Report WGPPM/5.2

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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-523-443	LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCA
HEIS WTPH_GASOLINE	Total Petroleum Hydrocarbons, Gasoline
WDOE TPH_NWTPH-G	Volatile Petroleum Products Method for Soil and Water
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)
LA-523-493	NWTPH-Diesel and/or Gasoline
HEIS WTPH_DIESEL (HEIS)	Total Petroleum Hydrocarbons in Diesel
WDOE TPHD	Total Petroleum Hydrocarbons in Diesel

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>.

Report Date: 15-aug-2007
Report#: WSCF20071133
Report WGPPM/5.2

Page 1

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-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS
HEIS ALPHA_GPC	GROSS ALPHA GPC
HEIS BETA_GPC	GROSS BETA GPC
HEIS SRTOT_SEP_PRECIP_GPC	Protactinium 89/90
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP
HEIS PUIISO_IE_PRECIP_AEA	Plutonium by Alpha Energy Analysis
HEIS RAISO_AEA	Radium-226
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE
HEIS GAMMA_GS	Gamma Emission 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>.

Report Date: 15-aug-2007
Report#: WSCF20071133
Report WGPPM/5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-033
Sample # W07GR01681
Client ID: BINWH1

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20071133
Department: Inorganic
Sampled: 07/03/07
Received: 07/03/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		0.314	mg/kg			1.00	0.0502		07/12/07
Total solids											
Total solids	TS	LA-519-412		64.9	Percent			1.00	0.0		07/10/07

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

U - Analyzed for but not detected above limiting criteria.(inorg)

U - Analyzed for but not detected above limiting criteria.(org)

* - 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: Inorganic

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	191.5855	95.793	% Recov	70.000	130.000				07/12/07
MSD	Uranium	7440-61-1	192.6855	96.343	% Recov	70.000	130.000				07/12/07
SPK-RPD	Uranium	7440-61-1	96.343		RPD			0.573	20.000		07/12/07
BATCH QC											
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	07/12/07
LCS	Uranium	7440-61-1	435.5	108.875	% Recov	81.000	125.000				07/12/07

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-033
Sample # W07GR01681
Client ID: BINWH1

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20071133
Department: Organic
Sampled: 07/03/07
Received: 07/03/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 4.60e+03	ug/kg			1.00	4.6e+03		07/11/07
Kerosene	TPHKEROSENE	LA-523-493	U	< 4.60e+03	ug/kg			1.00	4.6e+03		07/11/07
NWTPH-GX TPH Gasoline Range Prep											
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 250	ug/kg			1.00	2.5e+02		07/12/07
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Trichloroethene	79-01-6	LA-523-455		17.0	ug/kg			1.00	1.8		07/12/07
Benzene	71-43-2	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Toluene	108-88-3	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Styrene	100-42-5	LA-523-455		13.0	ug/kg			1.00	1.8		07/12/07
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07

MDL = Minimum Detection Limit

U - Analyzed for but not detected above limiting criteria.(inorg)

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 RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-033
Sample # W07GR01681
Client ID: BINWH1

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20071133
Department: Organic
Sampled: 07/03/07
Received: 07/03/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
2-Hexanone	591-78-6	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Acetone	67-64-1	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Chloroform	67-66-3	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Bromomethane	74-83-9	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Chloromethane	74-87-3	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Chloroethane	75-00-3	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Bromoform	75-25-2	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
2-Butanone	78-93-3	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.80	ug/kg			1.00	1.8		07/12/07

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

U - Analyzed for but not detected above limiting criteria.(inorg)

U - Analyzed for but not detected above limiting criteria.(org)

* - 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: WSCF20071133
 Matrix: SOLID
 Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl	Surr	84-15-1	24660	80.200	% Recov	70.000	130.000			07/11/07
Lab ID: W07GR01693											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Kerosene		TPHKEROSENE	98006	90.600	% Recov	70.000	130.000			07/11/07
MS	ortho-Terphenyl	Surr	84-15-1	19097	88.300	% Recov	70.000	130.000			07/11/07
MSD	Kerosene		TPHKEROSENE	95148	88.800	% Recov	70.000	130.000			07/11/07
MSD	ortho-Terphenyl	Surr	84-15-1	17803	83.000	% Recov	70.000	130.000			07/11/07
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	83.000		RPD			6.188	20.000	07/11/07
BATCH QC											
BLANK	Kerosene		TPHKEROSENE	< 3000	n/a	ug/Kg				U	07/11/07
BLANK	ortho-Terphenyl	Surr	84-15-1	16908	84.500	% Recov	70.000	130.000			07/11/07
BLANK	Total Pet. Hydrocarbons Diesel		TPHDIESEL	< 3000	n/a	ug/Kg				U	07/11/07
LCS	ortho-Terphenyl	Surr	84-15-1	20292	101.000	% Recov	70.000	130.000			07/11/07
LCS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	99951	100.000	% Recov	80.000	120.000			07/11/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: NWTPH-GX TPH Gasoline Range

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01690											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250		RPD			n/a	20.000	U	07/12/07
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	5100	85.000	% Recov	50.000	150.000				07/12/07
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	5000	84.746	% Recov	50.000	150.000				07/12/07
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	84.746		RPD			0.299	20.000		07/12/07
BATCH QC											
BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	mg/L	0.000	300.000			U	07/12/07
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	4800	96.000	% Recov	85.000	115.000				07/12/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	24.370	104.000	% Recov	63.000	117.000				07/12/07
MS	Benzene	71-43-2	25.350	108.000	% Recov	75.000	129.000				07/12/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	46.490	99.000	% Recov	84.000	116.000				07/12/07
MS	Chlorobenzene	108-90-7	19.670	83.700	% Recov	79.000	119.000				07/12/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.090	93.900	% Recov	82.000	136.000				07/12/07
MS	Toluene-d8(Surr)	2037-26-5	48.920	104.000	% Recov	89.000	119.000				07/12/07
MS	Toluene	108-88-3	23.940	102.000	% Recov	76.000	120.000				07/12/07
MS	Trichloroethene	79-01-6	11.650	49.600	% Recov	73.000	123.000				07/12/07
MSD	1,1-Dichloroethene	75-35-4	37.970	96.600	% Recov	63.000	117.000				07/12/07
MSD	Benzene	71-43-2	42.210	107.000	% Recov	75.000	129.000				07/12/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	78.230	99.500	% Recov	84.000	116.000				07/12/07
MSD	Chlorobenzene	108-90-7	32.970	83.900	% Recov	79.000	119.000				07/12/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	73.020	92.900	% Recov	82.000	136.000				07/12/07
MSD	Toluene-d8(Surr)	2037-26-5	82.830	105.000	% Recov	89.000	119.000				07/12/07
MSD	Toluene	108-88-3	39.930	102.000	% Recov	76.000	120.000				07/12/07
MSD	Trichloroethene	79-01-6	39.650	101.000	% Recov	73.000	123.000				07/12/07
SPK-RPD	1,1-Dichloroethene	75-35-4	96.600		RPD			7.378	20.000		07/12/07
SPK-RPD	Benzene	71-43-2	107.000		RPD			0.930	20.000		07/12/07
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	99.500		RPD			0.504	20.000		07/12/07
SPK-RPD	Chlorobenzene	108-90-7	83.900		RPD			0.239	20.000		07/12/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	92.900		RPD			1.071	20.000		07/12/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	105.000		RPD			0.957	20.000		07/12/07
SPK-RPD	Toluene	108-88-3	102.000		RPD			0.000	20.000		07/12/07
SPK-RPD	Trichloroethene	79-01-6	101.000		RPD			68.260	20.000		07/12/07
SURR	4-Bromofluorobenzene(Surr)	460-00-4	87.200	99.600	% Recov	71.000	125.000				07/12/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	82.160	93.800	% Recov	80.000	134.000				07/12/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Toluene-d8(Surr)	2037-26-5	93.370	107.000	% Recov	80.000	126.000				07/12/07
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,1-Dichloroethene	75-35-4	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,2-Dichloroethane	107-06-2	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,2-Dichloroethane(Total)	540-59-0	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	2-Hexanone	591-78-6	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Acetone	67-84-1	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Bromodichloromethane	75-27-4	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Benzene	71-43-2	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	4-Bromofluorobenzene(Surr)	480-00-4	97.300	97.300	% Recov	71.000	125.000				07/12/07
BLANK	Bromoform	75-25-2	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Carbon disulfide	75-15-0	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Carbon tetrachloride	56-23-5	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Dibromochloromethane	124-48-1	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Chloroform	67-66-3	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Chlorobenzene	108-90-7	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Chloroethane	75-00-3	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	91.500	91.500	% Recov	80.000	134.000				07/12/07
BLANK	1,2-Dichloropropane	78-87-5	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Ethylbenzene	100-41-4	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Bromomethane	74-83-9	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Chloromethane	74-87-3	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	2-Butanone	78-93-3	< 2.0	n/a	ug/Kg					U	07/12/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071133
 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	Methylenechloride	75-09-2	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Tetrachloroethene	127-18-4	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Styrene	100-42-5	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Xylenes (total)	1330-20-7	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Toluene-d8(Surr)	2037-26-5	103.00	103.000	% Recov	80.000	126.000				07/12/07
BLANK	Toluene	108-88-3	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Trichloroethene	79-01-6	< 2.0	n/a	ug/Kg					U	07/12/07
BLANK	Vinyl chloride	75-01-4	< 2.0	n/a	ug/Kg					U	07/12/07
LCS	1,1-Dichloroethene	75-35-4	51.780	104.000	% Recov	70.000	130.000				07/12/07
LCS	Benzene	71-43-2	54.250	108.000	% Recov	70.000	130.000				07/12/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	96.060	96.100	% Recov	71.000	125.000				07/12/07
LCS	Chlorobenzene	108-90-7	42.550	85.100	% Recov	70.000	130.000				07/12/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	91.790	91.800	% Recov	80.000	134.000				07/12/07
LCS	Toluene-d8(Surr)	2037-26-5	105.20	105.000	% Recov	80.000	126.000				07/12/07
LCS	Toluene	108-88-3	51.560	103.000	% Recov	70.000	130.000				07/12/07
LCS	Trichloroethene	79-01-6	43.570	87.100	% Recov	70.000	130.000				07/12/07

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-033

Group #: WSCF20071133
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>Organics: All results are moisture corrected and reported on a dry weight basis. cgc</p> <p>VOA: Trichloroethene low in MS but good in MSD and LCS. Hence SPK-RPD also out high for this compound. gar</p> <p>W07GR01681,1690,1693/U-234 duplicate is flagged for poor RPD due inhomogeneity. Imh</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-033
Sample # W07GR01681
Client ID: B1NWH1

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20071133
Department: Radiochemistry
Sampled: 07/03/07
Received: 07/03/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471		0.0330	pCi/g	+0.0175	pCi/g	1.00	0.013		08/07/07
Am-243 tracer by AEA	AM243	LA-508-471		3.90	pCi/g			1.00	0.016		08/07/07
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	-2.27e-03	pCi/g	+4.83e-03	pCi/g	1.00	8.2e-03		07/09/07
Cesium-137	10045-97-3	LA-508-481	U	-3.45e-03	pCi/g	+5.57e-03	pCi/g	1.00	8.1e-03		07/09/07
Europium-152	14683-23-9	LA-508-481	U	-2.57e-03	pCi/g	+0.0169	pCi/g	1.00	0.025		07/09/07
Europium-154	15585-10-1	LA-508-481	U	0.0121	pCi/g	+0.0193	pCi/g	1.00	0.029		07/09/07
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	6.00e-03	pCi/g	+0.0389	pCi/g	1.00	0.071		08/07/07
Pu-239/240 by AEA	PU-239/240	LA-508-471		9.00e-03	pCi/g	+0.0106	pCi/g	1.00	8.2e-03		08/07/07
Pu-242 tracer by AEA	PU242	LA-508-471		6.10	pCi/g			1.00	8.1e-03		08/07/07
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-0.830	pCi/g	+0.830	pCi/g	1.00	0.40		07/16/07
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		102	Percent			1.00	0.0		07/16/07
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.120	pCi/g	+0.0444	pCi/g	1.00	0.018		08/03/07
Uranium-235	15117-96-1	LA-508-471	U	4.30e-03	pCi/g	+8.69e-03	pCi/g	1.00	0.016		08/03/07
Uranium-238	U-238	LA-508-471		0.190	pCi/g	+0.0627	pCi/g	1.00	5.3e-03		08/03/07
U-232 tracer by AEA	U232	LA-508-471		4.10	pCi/g			1.00	0.043		08/03/07

MDL=Minimum Detection Limit

U - Analyzed for but not detected above limiting criteria.(inorg)

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

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
 Project Number F07-033 :F07-033

Group #: WSCF20071133
 Department: Radiochemistry

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	AC-228			0.44	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error			19	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	BI-212			0.37	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error			22	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	BI-214			0.42	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error			13	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	K-40			18	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error			13	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	PB-212			0.52	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error			9.3	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	PB-214			0.75	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error			21	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	RA-226			0.31	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error			17	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	RA-228			0.45	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error			18	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	SN-126			0.10	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error			22	%
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	TL-208			0.14	pCi/g
W07GRO1681	B1NWH1	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error			16	%

RQ=Result Qualifier

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Groundwater Remediation Program

WGPE v 5.2 Report#: WSCF20071133

Report Date: 15-aug-2007

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: Americium by AEA

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	3.2e-2		RPD			3.077	20.000		08/07/07
DUP	Am-243 tracer by AEA	AM243	3.857	81.670	% Recov	30.000	105.000				08/07/07
SURR	Am-243 tracer by AEA	AM243	3.932	82.350	% Recov	30.000	105.000				08/07/07
BATCH QC											
BLANK	Americium-241	14596-10-2	3.9e-2	0.039	pCi/g	-10.000	1000.000				08/07/07
BLANK	Am-243 tracer by AEA	AM243	3.995	65.680	% Recov	30.000	105.000				08/07/07
LCS	Americium-241	14596-10-2	12.14	102.447	% Recov	80.000	120.000				08/07/07
LCS	Am-243 tracer by AEA	AM243	11.09	70.800	% Recov	30.000	105.000				08/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: Gamma Energy Analysis-grd H2O

Sample Date: 07/02/07
 Receive Date: 07/02/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01673											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U-1.031e-3		RPD			n/a	20.000		07/06/07
DUP	Europium-152	14683-23-9	U-1.238e-2		RPD			n/a	20.000		07/06/07
DUP	Europium-154	15585-10-1	U3.022e-3		RPD			n/a	20.000		07/06/07
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U-5.039e-4	n/a	pCi/g	-10.000	1000.000				07/06/07
BLANK	Cesium-137	10045-97-3	U-1.447e-3	n/a	pCi/g	-10.000	1000.000				07/06/07
BLANK	Europium-152	14683-23-9	U-4.451e-4	n/a	pCi/g	-10.000	1000.000				07/06/07
BLANK	Europium-154	15585-10-1	U3.624e-4	n/a	pCi/g	-10.000	1000.000				07/06/07
LCS	Cobalt-60	10198-40-0	10420	104.829	% Recov	80.000	120.000				07/11/07
LCS	Cesium-137	10045-97-3	6360	105.298	% Recov	80.000	120.000				07/11/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: Plutonium Isotopics by AEA

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U-1.3e-2		RPD			n/a	20.000		08/07/07
DUP	Pu-239/240 by AEA	PU-239/240	U8.8e-3		RPD			n/a	20.000		08/07/07
DUP	Pu-242 tracer by AEA	PU242	6.017	77.070	% Recov	30.000	105.000				08/07/07
SURR	Pu-242 tracer by AEA	PU242	6.136	55.790	% Recov	30.000	105.000				08/07/07
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U3.8e-3	n/a	pCi/g	-10.000	1000.000				08/07/07
BLANK	Pu-239/240 by AEA	PU-239/240	1.9e-2	0.019	pCi/g	-10.000	1000.000				08/07/07
BLANK	Pu-242 tracer by AEA	PU242	6.234	46.180	% Recov	30.000	105.000				08/07/07
LCS	Pu-239/240 by AEA	PU-239/240	12.8	99.650	% Recov	80.000	120.000				08/07/07
LCS	Pu-242 tracer by AEA	PU242	17.3	69.400	% Recov	30.000	105.000				08/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: Strontium 89/90

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	99.6	99.600	% Recov	30.000	105.000				07/16/07
DUP	Strontium-89/90	SR-RAD	U-8.8E-01		RPD			n/a	20.000		07/16/07
SURR	Sr-85 Tracer by Beta Counting	SR85	101.5	101.500	% Recov	30.000	105.000				07/16/07
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	102.1	102.100	% Recov	30.000	105.000				07/16/07
BLANK	Strontium-89/90	10098-97-2	U-4.6E-01	n/a	pCi/g	-10.000	300.000				07/16/07
LCS	Sr-85 Tracer by Beta Counting	SR85	92.2	92.200	% Recov	30.000	105.000				07/16/07
LCS	Strontium-89/90	10098-97-2	82.7	99.252	% Recov	80.000	120.000				07/16/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071133
 Matrix: SOLID
 Test: Uranium Isotopics by AEA

Sample Date: 07/03/07
 Receive Date: 07/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01681											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	4.021	77.930	% Recov	30.000	105.000				08/03/07
DUP	Uranium-233/234	U-233/234	0.16		RPD			28.571	20.000		08/03/07
DUP	Uranium-235	15117-96-1	U1.2e-2		RPD			n/a	20.000		08/03/07
DUP	Uranium-238	U-238	0.21		RPD			10.000	20.000		08/03/07
SURR	U-232 tracer by AEA	U232	4.1	85.970	% Recov	30.000	105.000				08/03/07
BATCH QC											
BLANK	U-232 tracer by AEA	U232	4.166	83.430	% Recov	30.000	105.000				08/03/07
BLANK	Uranium-233/234	13966-29-5	1.3e-2	0.013	pCi/g	-10.000	1000.000				08/03/07
BLANK	Uranium-235	15117-96-1	U5.3e-7	n/a	pCi/g	-10.000	1000.000				08/03/07
BLANK	Uranium-238	24678-82-8	8.3e-3	0.008	pCi/g	-10.000	1000.000				08/03/07
LCS	U-232 tracer by AEA	U232	11.56	67.500	% Recov	30.000	105.000				08/03/07
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				08/03/07
LCS	Uranium-235	15117-96-1	n/a	n/a	% Recov	75.000	125.000				08/03/07
LCS	Uranium-238	24678-82-8	21.21	111.897	% Recov	80.000	120.000				08/03/07

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-033

Group #: WSCF20071133
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>Organics: All results are moisture corrected and reported on a dry weight basis. cgc</p> <p>VOA: Trichloroethene low in MS but good in MSD and LCS. Hence SPK-RPD also out high for this compound. gar</p> <p>W07GR01681,1690,1693/U-234 duplicate is flagged for poor RPD due inhomogeneity. lnh</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 3 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
08/16/07
TJ

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 122884/ES10
Group#: 20071133
Project#: F07-033
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 07/03/07. 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
W07GR01681	B1NWH1	TRENT @2008 @AEA-30 @SR89_90	Solid, or handle as if solid @AEA-31 @AEA-32 @GEO-GPP @TPHD-WA @TPHG-WA @VOA-GPP	07/03/07

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@GEO-GPP	Gamma Energy Analysis-grd H2O
@SR89_90	Strontium 89/90
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
@VOA-GPP	VOA Ground Water Protection

COLLECTOR PF1ST22 20071133	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION CS575 F-15-07-006	PROJECT DESIGNATION 300-FF-5 Well Drilling - Waste Management	SAF NO. F07-033	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO.	FIELD LOGBOOK NO.	COA 122884ES10	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=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool 4C	Cool <-7C and >-20C	Cool 4C	Cool 4C	Cool 4C	None					
		TYPE OF CONTAINER	aGs*	aGs*	aGs*	aG	aGs*	Square Bottle - Poly					
		NO. OF CONTAINER(S)	3	5	1	1	3	1					
		VOLUME	40mL	40mL	40mL	250mL	40mL	500mL					
SPECIAL HANDLING AND/OR STORAGE Sample depth ~ 85 ft Radioactive tie to B1NWH2		SAMPLE ANALYSIS	VOA - 5035/8260 (HIGH LEVEL);	VOA - 5035/8260 (LOW LEVEL);	VOA - 5035/8260 (TCL); - MB	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	TPH-Gasoline Range - WTPH-G;	SEE ITEM (2) IN SPECIAL INSTRUCTIONS					

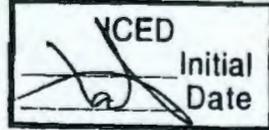
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1NWH1 W07620168	SOIL	7/03/07	0717	✓	✓	✓	✓	✓	✓			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PF1ST22/KMT	7/3/07 1315	TA PRAZIAN	7/3/07 1315
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

(1)TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}

(2)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154} Americium-241; Isotopic Uranium; Isotopic Plutonium; ICP/MS - 200.8 (Add-on) {Uranium} Strontium-89,90 -- Total Sr;



 NCE
 Initial
 Date

36 of 38 LABORATORY SECTION FINAL SAMPLE DISPOSITION	RECEIVED BY	TITLE	DATE/TIME
	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

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ATTACHMENT 5

SAMPLE RECORD SHEET

Consisting of 2 pages
Including cover page

SAMPLE RECORD SHEET

Sample Number	Sample Suffix ¹	Empty Weight ² (g)	Weight with Sample ³ (g)	Weight of Sample ⁴ (g)	Methanol Added (g)	Methanol Added (mL)	Weight of Methanol and Sample
B1NWH1	K	31.1	39.6	8.5	---	---	---
B1NWH1	L	31.2	39.4	8.2	---	---	---
B1NWH1	M	31.4	36.3	4.9	---	---	---
B1NWH1	N	31.0	35.3	4.3	---	---	---
B1NWH1	P	31.5	35.9	4.4	---	---	---
B1NWH2		30.0	30.0	0.0	3.9	5.0	33.9
B1NWH1	W	30.1	34.6	4.5	3.4	4.5	38
B1NWH1	X	30.1	35.2	5.1	4.0	5.1	39.2
B1NWH1	Y	30.2	34.8	4.6	3.4	4.6	38.2

¹Sample suffix of L, K, M, N and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7C and -20C.
Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

²Empty 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.

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

⁴Sample weight is the vial with sample minus the vial empty