

RECEIVED JULY 18, 2008

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FLUOR

Memorandum

M4W41-SLF-08-713

To: H. Hampt E6-35 Date: July 18, 2008

From: S. L. Fitzgerald, Manager
WSCF Analytical Lab *Mark Hampt for SLF*

cc: w/Attachments
T. F. Dale S3-30 J. E. Trechter S3-30
A. J. Kopriva S3-30 S. J. Trent E6-35
H. K. Meznarich S3-30 File/LB
P. D. Mix S3-30

Subject: ADDITIONAL SAMPLE ANALYSES (6010) FOR SAMPLE DELIVERY GROUP
WSCF20080830 – SAF NUMBER F08-066

- Reference:
- (1) Memo, SL Fitzgerald to H Hampt, Final Results for SDG WSCF20080830 (M4W41-SLF-08-611), dated June 6, 2008
 - (2) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002
 - (3) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

Compliant to your request for additional metals, Antimony, Cobalt, Manganese and Thallium data have been included in this submittal for sample delivery group WSCF20080830:

- Analytical Results (Replacement pages 19, 22, 23, 24 and 24a of 60)

If you have any questions, don't hesitate to call on Andy Kopriva, telephone 373-1613, for assistance.

SLF/grf

Attachments
As listed

RECEIVED
FEB 19 2009
EDMC

REVISED
7-18-08
JK

M4W41-SLF-08-611

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20080830
Data Deliverable Date: 05-jun-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F08-066	B1TFD0	W08GR01067	SOIL
	B1TFD2	W08GR01066	SOIL

M4W41-SLF-08-611

ATTACHMENT 2

NARRATIVE

**Consisting of 5 pages
Including cover page**

Introduction

Three S&GRP samples were received at the WSCF Laboratory on April 24, 2008. 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 *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter. Analysis of the high concentration VOA sample and corresponding Methanol Blank (B1TFD1) were not required. Additionally, conductivity (specific conductance) was not performed on sample# B1TFD2.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A copy of Issue Resolution Form (IRF) #08-048, documenting cancellation of the conductivity requirement is included as Attachment 3. A Data Summary Report (Attachment 4) 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 5. Additionally, a copy of the sample record sheet is included as Attachment 6.

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 sample container.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 16 through 18, 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 per GRP Letter of Instruction. See pages 20 through 21 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1V261 (SDG# 20080786, SAF# F08-046).
- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.

All QC controls are within the established limits.

Conductivity – WSCF Laboratory does not perform specific conductance testing on solid matrix samples. A copy of IRF# 08-048 documenting cancellation of the conductivity requirement is included as Attachment 3.

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 22 through 24 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V261 (SDG# 20080786, SAF# F08-046) and B1TTM7 (SDG# 20080787, SAF# F07-026).
- Barium (B1V261) – Spike RPD slightly exceeded established laboratory limits. Sample result was X flagged.

All other QC controls are within the established limits.

pH – A Duplicate was analyzed with this delivery group per the GRP Letter of Instruction. See page 25 for QC details.

All QC controls are within the established limits.

Organic Comments

Due to the sample radiological activity (Category IV), sample results were not moisture corrected and, are therefore reported on an “as received” basis.

PCB – 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 pages 32 through 33 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TDF2 (SDG# 20080801, SAF# F08-043).

All QC controls are within the established limits.

Semi-VOA – 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 GPP Letter of Instruction. See pages 34 through 37 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1V2L5 (SDG# 20080801, SAF# F08-043).

All QC controls are within the established limits.

TPHD-WA – 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 38 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TFC6 (SDG# 20080813, SAF# F08-066).

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 39 through 41 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TFF0 (SDG# 20080847, SAF# F08-066).
- Analysis of the high concentration VOA sample and corresponding Methanol Blank (B1TFD1) were not required.

All QC controls are within the established limits.

Radiochemistry Comments

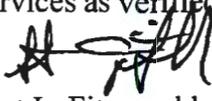
Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 45 through 50 for QC details. Analytical Note(s):

- GEA – Duplicate QC was analyzed on sample# B1TV15 (SDG# 20080801, SAF# F08-043).
- Americium-241 and 243 (tracer) – Duplicate QC was analyzed on sample# B1TFF2 (SDG# 20080847, SAF# F08-066).
- Neptunium-237 – Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TV15 (SDG# 20080801, SAF# F08-043). Matrix Spikes were also analyzed on samples B1TV19 (SDG# 20080801, SAF# F08-043) and B1TFD2 of this SDG.
- Plutonium-238, 239/240, and 242 (tracer) – Duplicate QC was analyzed on sample# B1TFF2 (SDG# 20080847, SAF# F08-066).
- Strontium-89/90 and 85 (tracer) – Duplicate QC was analyzed on sample# B1TV15 (SDG# 20080801, SAF# F08-043).
- Uranium-233/234, 235, 238 and 232 (tracer) – Duplicate QC was analyzed on sample# B1TFF2 (SDG# 20080847, SAF# F08-066). Duplicate Relative Percent Differences (RPD) for Uranium-233/234 and 235 exceeded established laboratory limits. No flags 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.



Scot L. Fitzgerald
WSCF Analytical Laboratory Manager



Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-611

ATTACHMENT 3

ISSUE RESOLUTION FORM

Consisting of 2 pages
Including cover page

ISSUE RESOLUTION FORM

PNNL TRACKING NUMBER: 08-048

Date : SAF No. see below (soil matrix)

SDG: see below

LOGIN No.:

TEST: Conductivity (COND)

Sample No.(s)	B1V2L5 (W08GR01038)	WSCF20080801	F08-043
	B1TFD2 (W08GR01066)	WSCF20080830	F08-066
	B1TFF2 (W08GR01075)	WSCF20080847	F08-066
	B1TFF5 (W08GR01078)	WSCF20080847	F08-066
	B1TFD9 (W08GR01079)	WSCF20080847	F08-066
	B1TFF8 (W08GR01080)	WSCF20080847	F08-066
	B1TFH1 (W08GR01082)	WSCF20080847	F08-066
	B1VB30 (W08GR01097)	WSCF20080850	F08-043

Submitted By: PD Mix

Submitted To: H Hampt

Phone No. 372-1488

Phone No. 376-4319

Fax No. 372-0456

Fax No

ISSUE

Although conductivity has been requested for the GRP samples identified above; the WSCF Laboratory is not able to perform Conductivity testing on soil samples at this time.

PROPOSED RESOLUTION

Proposed resolution is to cancel requests for conductivity on GRP soil samples submitted to the WSCF Laboratory.

GRP COMMENTS

Accept proposed resolution.

Heidi Hampt 4/29/08

Signature and Date

M4W41-SLF-08-611

ATTACHMENT 4

ANALYTICAL RESULTS

Consisting of 41 pages
Including cover page

**WSCF
ANALYTICAL RESULTS REPORT**

for
Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical:

S. Fitzgerald 6/6/08

Client Services:

P. D. Mix 6/6/2008

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#: WSCF20080830
Report Date: 5-jun-2008
Report WGPP/ver. 5.2

Groundwater Remediation Program

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20080830

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			40875	DUP	W08GR01066	pH Soil and Waste Measurement
			40875	SAMPLE	W08GR01066	pH Soil and Waste Measurement
36149	2	36566	40890	BLANK		Anions by Ion Chromatography
36149	17	36566	40890	BLANK		Anions by Ion Chromatography
36149	3	36566	40890	LCS		Anions by Ion Chromatography
36149	5	36566	40890	DUP	W08GR01020	Anions by Ion Chromatography
36149	6	36566	40890	MS	W08GR01020	Anions by Ion Chromatography
36149	7	36566	40890	MSD	W08GR01020	Anions by Ion Chromatography
36149	7	36566	40890	SPK-RPD	W08GR01020	Anions by Ion Chromatography
36149	16	36566	40890	SAMPLE	W08GR01066	Anions by Ion Chromatography
36177	1	36594	40927	BLANK		ICP-200.8 MS All possible meta
36177	2	36594	40927	LCS		ICP-200.8 MS All possible meta
36177	4	36594	40927	MS	W08GR01020	ICP-200.8 MS All possible meta
36177	5	36594	40927	MSD	W08GR01020	ICP-200.8 MS All possible meta
36177	5	36594	40927	SPK-RPD	W08GR01020	ICP-200.8 MS All possible meta
36177	7	36594	40927	MS	W08GR01023	ICP-200.8 MS All possible meta
36177	8	36594	40927	MSD	W08GR01023	ICP-200.8 MS All possible meta
36177	8	36594	40927	SPK-RPD	W08GR01023	ICP-200.8 MS All possible meta
36177	15	36594	40927	SAMPLE	W08GR01066	ICP-200.8 MS All possible meta

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20080830

WL#	S#	Batch	QC#	Tray	Type	Sample#	Test
			40959		BLANK		NWTPH-D TPH Diesel Range (Wa)
			40959		LCS		NWTPH-D TPH Diesel Range (Wa)
			40959		MS	W08GR01053	NWTPH-D TPH Diesel Range (Wa)
			40959		MSD	W08GR01053	NWTPH-D TPH Diesel Range (Wa)
			40959		SPK-RPD	W08GR01053	NWTPH-D TPH Diesel Range (Wa)
			40959		SAMPLE	W08GR01066	NWTPH-D TPH Diesel Range (Wa)
			40959		SURR	W08GR01066	NWTPH-D TPH Diesel Range (Wa)
			40961		BLANK		PCBs complete list
			40961		LCS		PCBs complete list
			40961		MS	W08GR01033	PCBs complete list
			40961		MSD	W08GR01033	PCBs complete list
			40961		SPK-RPD	W08GR01033	PCBs complete list
			40961		SAMPLE	W08GR01066	PCBs complete list
			40961		SURR	W08GR01066	PCBs complete list
			40965		BLANK		SW-846 8270C Semi-Vols
			40965		LCS		SW-846 8270C Semi-Vols
			40965		MS	W08GR01038	SW-846 8270C Semi-Vols
			40965		MSD	W08GR01038	SW-846 8270C Semi-Vols
			40965		SPK-RPD	W08GR01038	SW-846 8270C Semi-Vols
			40965		SAMPLE	W08GR01066	SW-846 8270C Semi-Vols
			40965		SURR	W08GR01066	SW-846 8270C Semi-Vols
			41214		BLANK		VOA Ground Water Protection
			41214		LCS		VOA Ground Water Protection
			41214		SAMPLE	W08GR01067	VOA Ground Water Protection
			41214		SURR	W08GR01067	VOA Ground Water Protection
			41214		MS	W08GR01076	VOA Ground Water Protection
			41214		MSD	W08GR01076	VOA Ground Water Protection
			41214		SPK-RPD	W08GR01076	VOA Ground Water Protection

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20080830

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36166	1	36583	40950	BLANK		Gamma Energy Analysis-grd H2O
36166	2	36583	40950	LCS		Gamma Energy Analysis-grd H2O
36166	3	36583	40950	DUP	W08GR01036	Gamma Energy Analysis-grd H2O
36166	6	36583	40950	SAMPLE	W08GR01066	Gamma Energy Analysis-grd H2O
36188	1	36605	41105	BLANK		Strontium 89/90
36188	2	36605	41105	LCS		Strontium 89/90
36188	3	36605	41105	DUP	W08GR01036	Strontium 89/90
36188	8	36605	41105	SAMPLE	W08GR01066	Strontium 89/90
36188	9	36605	41105	SURR	W08GR01066	Strontium 89/90
36383	1	36798	41156	BLANK		Uranium Isotopics by AEA
36383	2	36798	41156	LCS		Uranium Isotopics by AEA
36383	8	36798	41156	SAMPLE	W08GR01066	Uranium Isotopics by AEA
36383	9	36798	41156	SURR	W08GR01066	Uranium Isotopics by AEA
36383	3	36798	41156	DUP	W08GR01075	Uranium Isotopics by AEA
36402	1	36817	41203	BLANK		Neptunium by AEA
36402	2	36817	41203	LCS		Neptunium by AEA
36402	3	36817	41203	DUP	W08GR01036	Neptunium by AEA
36402	5	36817	41203	MS	W08GR01036	Neptunium by AEA
36402	6	36817	41203	MSD	W08GR01036	Neptunium by AEA
36402	6	36817	41203	SPK-RPD	W08GR01036	Neptunium by AEA
36402	8	36817	41203	MS	W08GR01037	Neptunium by AEA
36402	10	36817	41203	MS	W08GR01066	Neptunium by AEA
36402	9	36817	41203	SAMPLE	W08GR01066	Neptunium by AEA
36381	1	36796	41226	BLANK		Plutonium Isotopics by AEA
36381	2	36796	41226	LCS		Plutonium Isotopics by AEA
36381	8	36796	41226	SAMPLE	W08GR01066	Plutonium Isotopics by AEA
36381	9	36796	41226	SURR	W08GR01066	Plutonium Isotopics by AEA
36381	3	36796	41226	DUP	W08GR01075	Plutonium Isotopics by AEA
36553	1	36985	41332	BLANK		Americium by AEA
36553	2	36985	41332	LCS		Americium by AEA
36553	14	36985	41332	SAMPLE	W08GR01066	Americium by AEA
36553	15	36985	41332	SURR	W08GR01066	Americium by AEA
36553	3	36985	41332	DUP	W08GR01075	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-212-411	Determination of Soil pH Measurement EPA SW-846 9045D SOIL AND WASTE pH HEIS 150.1_PH pH
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-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>.

Report Date: 5-jun-2008
Report#: WSCF20080830
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-523-427	LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY
EPA SW-846 3510C	SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION
EPA SW-846 3545	PRESSURIZED FLUID EXTRACTION (PFE)
EPA SW-846 3665A	SULFURIC ACID/PERMANGANATE CLEANUP
EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
EPA SW-846 8082A	POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY
HEIS 8082_PCB_GC	Polychlorinated Biphenyls (PCBs) by Gas Chromatography
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-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C
EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
HEIS 8270_SVOA_GCMS	Semivolatile 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>.

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 Emmission 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: 5-jun-2008
Report#: WSCF20080830
Report WGPPM/5.2

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR01066
Client ID: B1TFD2

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Inorganic
Sampled: 04/16/08
Received: 04/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											04/29/08
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		04/30/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.500	mg/kg			50.00	0.50		04/30/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	1.53	mg/kg			50.00	0.25		04/30/08
Sulfate	14808-79-8	LA-533-410	BD	3.56	mg/kg			50.00	3.5		04/30/08
ICP-200.8 MS All possible meta Prep											04/30/08
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		288	mg/kg			0.77	0.100		05/01/08
Nickel	7440-02-0	LA-505-412		9.12	mg/kg			0.77	0.154		05/01/08
Silver	7440-22-4	LA-505-412	U	< 0.0772	mg/kg			0.77	0.0772		05/01/08
Antimony	7440-38-0	LA-505-412	U	< 0.300	mg/kg			0.77	0.231		05/01/08
Barium	7440-39-3	LA-505-412	X	85.9	mg/kg			0.77	0.154		05/01/08
Beryllium	7440-41-7	LA-505-412		0.250	mg/kg			0.77	0.0386		05/01/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0772	mg/kg			0.77	0.0772		05/01/08
Chromium	7440-47-3	LA-505-412		9.02	mg/kg			0.77	0.386		05/01/08
Cobalt	7440-48-4	LA-505-412		6.68	mg/kg			0.77	0.0400		05/01/08
Copper	7440-50-8	LA-505-412		10.1	mg/kg			0.77	0.0772		05/01/08
Zinc	7440-66-6	LA-505-412		35.9	mg/kg			0.77	0.617		05/01/08
Lead	7439-92-1	LA-505-412		3.28	mg/kg			0.77	0.0772		05/01/08
Mercury	7439-97-6	LA-505-412	U	< 0.0386	mg/kg			0.77	0.0386		05/01/08
Arsenic	7440-38-2	LA-505-412		1.95	mg/kg			0.77	0.309		05/01/08
Selenium	7782-49-2	LA-505-412		0.280	mg/kg			0.77	0.232		05/01/08
Thallium	7440-28-0	LA-505-412		0.128	mg/kg			0.77	0.0770		05/01/08
pH Measurement											

Handwritten: A. Kopriva 7/17/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

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

Report WGPP/ver. 5.2
Groundwater Remediation Program

REVISED
7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Anions by Ion Chromatography

Sample Date: 04/11/08
 Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01020
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Fluoride	16984-48-8	<0.294		RPD			n/a	20.000	U	04/30/08
DUP	Nitrogen in Nitrite	NO2-N	<0.49		RPD			n/a	20.000	U	04/30/08
DUP	Nitrogen in Nitrate	NO3-N	0.8625		RPD			14.964	20.000		04/30/08
DUP	Sulfate	14808-79-8	74.0417		RPD			0.233	20.000		04/30/08
MS	Fluoride	16984-48-8	0.45807	91.982	% Recov	75.000	125.000				04/30/08
MS	Nitrogen in Nitrite	NO2-N	0.451126	90.770	% Recov	75.000	125.000				04/30/08
MS	Nitrogen in Nitrate	NO3-N	0.447867	99.526	% Recov	75.000	125.000				04/30/08
MS	Sulfate	14808-79-8	1.64835	83.250	% Recov	75.000	125.000				04/30/08
MSD	Fluoride	16984-48-8	0.454836	91.333	% Recov	75.000	125.000				04/30/08
MSD	Nitrogen in Nitrite	NO2-N	0.45113	90.771	% Recov	75.000	125.000				04/30/08
MSD	Nitrogen in Nitrate	NO3-N	0.450613	100.136	% Recov	75.000	125.000				04/30/08
MSD	Sulfate	14808-79-8	1.64534	83.098	% Recov	75.000	125.000				04/30/08
SPK-RPD	Fluoride	16984-48-8	91.333		RPD			0.708	20.000		04/30/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	90.771		RPD			0.001	20.000		04/30/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	100.136		RPD			0.611	20.000		04/30/08
SPK-RPD	Sulfate	14808-79-8	83.098		RPD			0.183	20.000		04/30/08

BATCH QC

BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	04/30/08
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	04/30/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	04/30/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	04/30/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	04/30/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	04/30/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	04/30/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	04/30/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Anions by Ion Chromatography

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Fluoride	16984-48-8	105.3073	105.730	% Recov	80.000	120.000				04/30/08
LCS	Nitrogen in Nitrite	NO2-N	98.4199	99.014	% Recov	80.000	120.000				04/30/08
LCS	Nitrogen in Nitrate	NO3-N	92.8608	103.064	% Recov	80.000	120.000				04/30/08
LCS	Sulfate	14808-79-8	380.1465	95.997	% Recov	80.000	120.000				04/30/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date: 04/11/08
 Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01020											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Silver	7440-22-4	190.8	95.400	% Recov	70.000	130.000				05/01/08
MS	Arsenic	7440-38-2	193.78	96.890	% Recov	70.000	130.000				05/01/08
MS	Barium	7440-39-3	233.79	116.895	% Recov	70.000	130.000				05/01/08
MS	Beryllium	7440-41-7	187.88	93.940	% Recov	70.000	130.000				05/01/08
MS	Cadmium	7440-43-9	191.4	95.700	% Recov	70.000	130.000				05/01/08
MS	Chromium	7440-47-3	190.9	95.450	% Recov	70.000	130.000				05/01/08
MS	Copper	7440-50-8	185.06	92.530	% Recov	70.000	130.000				05/01/08
MS	Mercury	7439-97-6	1.98	99.000	% Recov	70.000	130.000				05/01/08
MS	Nickel	7440-02-0	184.94	92.470	% Recov	70.000	130.000				05/01/08
MS	Lead	7439-92-1	195.21	97.805	% Recov	70.000	130.000				05/01/08
MS	Antimony	7440-36-0	186.8	93.400	% Recov	70.000	130.000				05/01/08
MS	Selenium	7782-49-2	190.3	95.150	% Recov	70.000	130.000				05/01/08
MS	Thallium	7440-28-0	184.2	92.100	% Recov	70.000	130.000				05/01/08
MS	Zinc	7440-66-6	185.26	92.630	% Recov	70.000	130.000				05/01/08
MSD	Silver	7440-22-4	184.4	92.200	% Recov	70.000	130.000				05/01/08
MSD	Arsenic	7440-38-2	186.58	93.290	% Recov	70.000	130.000				05/01/08
MSD	Barium	7440-39-3	180.09	90.045	% Recov	70.000	130.000				05/01/08
MSD	Beryllium	7440-41-7	181.78	90.890	% Recov	70.000	130.000				05/01/08
MSD	Cadmium	7440-43-9	185.4	92.700	% Recov	70.000	130.000				05/01/08
MSD	Chromium	7440-47-3	181.3	90.850	% Recov	70.000	130.000				05/01/08
MSD	Copper	7440-50-8	178.56	89.280	% Recov	70.000	130.000				05/01/08
MSD	Mercury	7439-97-6	1.91	95.500	% Recov	70.000	130.000				05/01/08
MSD	Nickel	7440-02-0	181.94	90.970	% Recov	70.000	130.000				05/01/08
MSD	Lead	7439-92-1	188.81	94.405	% Recov	70.000	130.000				05/01/08
MSD	Antimony	7440-36-0	179.2	89.800	% Recov	70.000	130.000				05/01/08
MSD	Selenium	7782-49-2	184.6	92.300	% Recov	70.000	130.000				05/01/08

REVISED
7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date: 04/11/08
 Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Thallium	7440-28-0	179.5	89.750	% Recov	70.000	130.000				05/01/08
MSD	Zinc	7440-66-6	177.96	88.980	% Recov	70.000	130.000				05/01/08
SPK-RPD	Silver	7440-22-4	92.200		RPD			3.412	20.000		05/01/08
SPK-RPD	Arsenic	7440-38-2	93.290		RPD			3.786	20.000		05/01/08
SPK-RPD	Barium	7440-39-3	90.045		RPD			25.950	20.000		05/01/08
SPK-RPD	Beryllium	7440-41-7	90.890		RPD			3.300	20.000		05/01/08
SPK-RPD	Cadmium	7440-43-9	92.700		RPD			3.185	20.000		05/01/08
SPK-RPD	Chromium	7440-47-3	90.650		RPD			5.159	20.000		05/01/08
SPK-RPD	Copper	7440-50-8	89.280		RPD			3.575	20.000		05/01/08
SPK-RPD	Mercury	7439-97-6	95.500		RPD			3.599	20.000		05/01/08
SPK-RPD	Nickel	7440-02-0	90.970		RPD			1.635	20.000		05/01/08
SPK-RPD	Lead	7439-92-1	94.405		RPD			3.333	20.000		05/01/08
SPK-RPD	Antimony	7440-36-0	89.600		RPD			4.153	20.000		05/01/08
SPK-RPD	Selenium	7782-49-2	92.300		RPD			3.041	20.000		05/01/08
SPK-RPD	Thallium	7440-28-0	89.750		RPD			2.585	20.000		05/01/08
SPK-RPD	Zinc	7440-66-6	88.980		RPD			4.020	20.000		05/01/08

Lab ID: W08GR01023
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	185	92.500	% Recov	70.000	130.000				05/01/08
MS	Arsenic	7440-38-2	183	91.500	% Recov	70.000	130.000				05/01/08
MS	Cadmium	7440-43-9	185.5	92.750	% Recov	70.000	130.000				05/01/08
MS	Cobalt	7440-48-4	183	91.500	% Recov	70.000	130.000				05/01/08
MS	Chromium	7440-47-3	172.37	86.185	% Recov	70.000	130.000				05/01/08
MS	Manganese	7439-96-5	220.6	110.300	% Recov	70.000	130.000				05/01/08
MS	Lead	7439-92-1	188.94	94.470	% Recov	70.000	130.000				05/01/08
MS	Antimony	7440-36-0	189	94.500	% Recov	70.000	130.000				05/01/08
MS	Thallium	7440-28-0	186	93.000	% Recov	70.000	130.000				05/01/08
MSD	Silver	7440-22-4	187.5	93.750	% Recov	70.000	130.000				05/01/08
MSD	Arsenic	7440-38-2	185.9	92.950	% Recov	70.000	130.000				05/01/08

REVISED
 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date: 04/11/08
 Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Cadmium	7440-43-9	188.1	94.050	% Recov	70.000	130.000				05/01/08
MSD	Chromium	7440-47-3	179.47	89.735	% Recov	70.000	130.000				05/01/08
MSD	Manganese	7439-96-5	201.4	100.700	% Recov	70.000	130.000				05/01/08
MSD	Lead	7439-92-1	191.84	95.920	% Recov	70.000	130.000				05/01/08
MSD	Antimony	7440-36-0	183	91.500	% Recov	75.000	125.000				05/01/08
MSD	Thallium	7440-28-0	183	91.500	% Recov	75.000	125.000				05/01/08
SPK-RPD	Silver	7440-22-4	93.750		RPD			1.342	20.000		05/01/08
SPK-RPD	Arsenic	7440-38-2	92.950		RPD			1.572	20.000		05/01/08
SPK-RPD	Cadmium	7440-43-9	94.050		RPD			1.392	20.000		05/01/08
SPK-RPD	Chromium	7440-47-3	89.735		RPD			4.038	20.000		05/01/08
SPK-RPD	Manganese	7439-96-5	100.700		RPD			9.100	20.000		05/01/08
SPK-RPD	Lead	7439-92-1	95.920		RPD			1.523	20.000		05/01/08
SPK-RPD	Antimony	7440-36-0	91.5		RPD			3.226	20.000		05/01/08
SPK-RPD	Thallium	7440-28-0	91.5		RPD			1.626	20.000		05/01/08

BATCH QC

BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	05/01/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	05/01/08
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	05/01/08
BLANK	Beryllium	7440-41-7	<5e-2	n/a	ug/L					U	05/01/08
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	05/01/08
BLANK	Cobalt	7440-48-4	<5e-2	n/a	ug/L					U	05/01/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	05/01/08
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	05/01/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	05/01/08
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	05/01/08
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	05/01/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	05/01/08
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	05/01/08
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L					U	05/01/08

REVISED
7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	05/01/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	05/01/08
LCS	Silver	7440-22-4	109.2	108.119	% Recov	98.000	134.000				05/01/08
LCS	Arsenic	7440-38-2	134.4	101.818	% Recov	75.000	134.000				05/01/08
LCS	Barium	7440-39-3	318.1	99.718	% Recov	87.000	121.000				05/01/08
LCS	Beryllium	7440-41-7	87.87	98.179	% Recov	70.000	153.000				05/01/08
LCS	Cadmium	7440-43-9	66.13	99.444	% Recov	95.000	124.000				05/01/08
LCS	Cobalt	7440-48-4	73.61	100.898	% Recov	88.000	119.000				05/01/08
LCS	Chromium	7440-47-3	88.72	94.266	% Recov	77.000	125.000				05/01/08
LCS	Copper	7440-50-8	67.33	98.292	% Recov	84.000	122.000				05/01/08
LCS	Mercury	7439-97-6	7.73	93.357	% Recov	71.000	132.000				05/01/08
LCS	Manganese	7439-96-5	458.4	101.192	% Recov	83.000	118.000				05/01/08
LCS	Nickel	7440-02-0	55.74	100.252	% Recov	90.000	121.000				05/01/08
LCS	Lead	7439-92-1	133.7	102.846	% Recov	92.000	123.000				05/01/08
LCS	Antimony	7440-36-0	140.4	155.654	% Recov	114.000	260.000				05/01/08
LCS	Selenium	7782-49-2	172.5	107.143	% Recov	52.000	157.000				05/01/08
LCS	Thallium	7440-28-0	126.2	94.887	% Recov	92.000	123.000				05/01/08
LCS	Zinc	7440-66-6	184.5	104.237	% Recov	85.000	130.000				05/01/08

REVISED
 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080830
Matrix: SOLID
Test: pH Soil and Waste Measurement

Sample Date: 04/16/08
Receive Date: 04/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01066
BATCH QC ASSOCIATED WITH SAMPLE

DUP	pH Soil and Waste Measurement	PH	8.76		RPD			0.342	3.000		04/30/08
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WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-066

Group #: WSCF20080830
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Barium spike RPD over 20% but still pass. X-flag Organics: Since sample B1TFD2 is CAT IV rad., it was not analyzed for moisture and is reported on an "as received" basis. cgc W08GR01066/U-235 batch dup is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. lmh U-234 batch dup is flagged for poor RPD due to the inhomogeneity of the sample. lmh

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: F08-066
Sample # W08GR01066
Client ID: BITFD2

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Organic
Sampled: 04/16/08
Received: 04/24/08

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	< 7.20e +03	ug/kg			1.00	7.2e +03		05/05/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 7.20e +03	ug/kg			1.00	7.2e +03		05/05/08
PCBs complete list Prep											
PCBs complete list											
Aroclor-1016	12674-11-2	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1221	11104-28-2	LA-523-427	U	< 20.0	ug/kg			1.00	20		05/06/08
Aroclor-1232	11141-16-5	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1242	53469-21-9	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1248	12672-29-6	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1254	11097-69-1	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1260	11096-82-5	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1262	37324-23-5	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1268	11100-14-4	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
SW-846 8270C Semi-Vols Prep											
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 480	ug/kg			1.00	4.8e +02		05/06/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 570	ug/kg			1.00	5.7e +02		05/06/08
Phenol	108-95-2	LA-523-456	U	< 330	ug/kg			1.00	3.3e +02		05/06/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 330	ug/kg			1.00	3.3e +02		05/06/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 330	ug/kg			1.00	3.3e +02		05/06/08
Pyrene	129-00-0	LA-523-456	U	< 330	ug/kg			1.00	3.3e +02		05/06/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 330	ug/kg			1.00	3.3e +02		05/06/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 330	ug/kg			1.00	3.3e +02		05/06/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

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

D - Analyte was identified at a secondary dilution factor.(inorg)

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative.(inorg)

- 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: F08-066
Sample # W08GR01066
Client ID: B1TFD2

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Organic
Sampled: 04/16/08
Received: 04/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthene	83-32-9	LA-523-456	U	< 330	ug/kg			1.00	3.3e + 02		05/06/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 480	ug/kg			1.00	4.8e + 02		05/06/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 330	ug/kg			1.00	3.3e + 02		05/06/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 330	ug/kg			1.00	3.3e + 02		05/06/08
1,2,4-Trimethylbenzene	95-63-6	LA-523-456	U	< 430	ug/kg			1.00	4.3e + 02		05/06/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

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

D - Analyte was identified at a secondary dilution factor.(inorg)

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative.(inorg)

- 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: F08-066
Sample # W08GR01067
Client ID: BITFD0

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Organic
Sampled: 04/16/08
Received: 04/24/08

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	< 1.00	ug/kg			1.00	1.0		04/30/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Styrene	100-42-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
2-Hexanone	591-78-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Bromomethane	74-83-9	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Chloromethane	74-87-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
 U - Analyzed for but not detected above limiting criteria(inorg)
 U - Analyzed for but not detected above limiting criteria.(org)

D - Analyte was identified at a secondary dilution factor(inorg)
 U - Analyzed for but not detected above limiting criteria.
 X - Other flags/notes described in the comments/narrative(inorg)

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

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR01067
Client ID: BITFD0

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Organic
Sampled: 04/16/08
Received: 04/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Hexane	110-54-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/kg			1.00	2.0		04/30/08
Acetonitrile	75-05-8	LA-523-455	U	< 2.00	ug/kg			1.00	2.0		04/30/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
 U - Analyzed for but not detected above limiting criteria.(inorg)
 U - Analyzed for but not detected above limiting criteria.(org)

D - Analyte was identified at a secondary dilution factor(inorg)
 U - Analyzed for but not detected above limiting criteria.
 X - Other flags/notes described in the comments/narrative(inorg)

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number: F08-066 :F08-066

Group #: WSCF20080830
Department: Organic

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR01066	B1TFD2 TRENT	SW-846 8270C Semi-Vols	SMP 13.485 Di-n-butylphthalate	84-74-2	13.48521		4.4e + 02	ug/kg

RQ=Result Qualifier

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Groundwater Remediation Program

WGPPE v 5.2 Report#: WSCF20080830 Report Date: 5-jun-2008

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: PCBs complete list

Sample Date: 03/31/08
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01033											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Aroclor-1260	11096-82-5	214.74	103.000	% Recov	75.000	125.000				05/06/08
MS	Decachlorobiphenyl	2051-24-3	204.34	98.100	% Recov	50.000	150.000				05/06/08
MS	Tetrachloro-m-xylene	877-09-8	195.45	93.800	% Recov	50.000	150.000				05/06/08
MSD	Aroclor-1260	11096-82-5	213.48	106.000	% Recov	75.000	125.000				05/06/08
MSD	Decachlorobiphenyl	2051-24-3	201.16	100.000	% Recov	50.000	150.000				05/06/08
MSD	Tetrachloro-m-xylene	877-09-8	193.50	96.400	% Recov	50.000	150.000				05/06/08
SPK-RPD	Aroclor-1260	11096-82-5	106.000		RPD			2.871	25.000		05/06/08
SPK-RPD	Decachlorobiphenyl	2051-24-3	100.000		RPD			1.918	20.000		05/06/08
SPK-RPD	Tetrachloro-m-xylene	877-09-8	96.400		RPD			2.734	20.000		05/06/08

Lab ID: W08GR01066
BATCH QC ASSOCIATED WITH SAMPLE

SURR	Decachlorobiphenyl	2051-24-3	197.97	99.000	% Recov	50.000	150.000				05/06/08
SURR	Tetrachloro-m-xylene	877-09-8	191.11	95.600	% Recov	50.000	150.000				05/06/08

BATCH QC

BLANK	Aroclor-1016	12674-11-2	< 10	n/a	UGKG					U	05/06/08
BLANK	Aroclor-1221	11104-28-2	< 20	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1232	11141-16-5	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1242	53469-21-9	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1248	12672-29-6	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1254	11097-69-1	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1260	11096-82-5	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1262	37324-23-5	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Aroclor-1268	11100-14-4	< 10	n/a	ug/Kg					U	05/06/08
BLANK	Decachlorobiphenyl	2051-24-3	191.10	95.600	% Recov	50.000	150.000				05/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080830

Matrix: SOLID

Test: PCBs complete list

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Tetrachloro-m-xylene	877-09-8	185.59	92.800	% Recov	50.000	150.000				05/06/08
LCS	Aroclor-1260	11096-82-5	205.86	103.000	% Recov	70.000	130.000				05/06/08
LCS	Decachlorobiphenyl	2051-24-3	198.16	99.100	% Recov	50.000	150.000				05/06/08
LCS	Tetrachloro-m-xylene	877-09-8	185.66	92.800	% Recov	50.000	150.000				05/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date: 03/26/08
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01038											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,2,4-Trichlorobenzene	120-82-1	4855.4	109.000	% Recov	75.000	121.000				05/06/08
MS	1,4-Dichlorobenzene	106-46-7	4834.2	109.000	% Recov	68.000	121.000				05/06/08
MS	2,4-Dinitrotoluene	121-14-2	4628.0	104.000	% Recov	66.000	113.000				05/06/08
MS	2-Fluorophenol(Surr)	367-12-4	4428.8	99.900	% Recov	72.000	120.000				05/06/08
MS	Acenaphthene	83-32-9	5009.1	113.000	% Recov	69.000	125.000				05/06/08
MS	4-Chloro-3-methylphenol	59-50-7	7004.0	105.000	% Recov	68.000	116.000				05/06/08
MS	2-Chlorophenol	95-57-8	6983.5	105.000	% Recov	65.000	124.000				05/06/08
MS	N-Nitrosodi-n-dipropylamine	621-64-7	4919.2	111.000	% Recov	69.000	127.000				05/06/08
MS	2-Fluorobiphenyl(Surr)	321-60-8	4763.2	107.000	% Recov	66.000	122.000				05/06/08
MS	Phenol	108-95-2	7009.8	105.000	% Recov	71.000	122.000				05/06/08
MS	Nitrobenzene-d5(Surr)	4165-60-0	4747.5	107.000	% Recov	63.000	125.000				05/06/08
MS	4-Nitrophenol	100-02-7	5908.3	88.800	% Recov	55.000	113.000				05/06/08
MS	Pentachlorophenol	87-86-5	5767.6	86.700	% Recov	50.000	113.000				05/06/08
MS	Phenol-d5(Surr)	4165-62-2	4699.5	106.000	% Recov	66.000	124.000				05/06/08
MS	Pyrene	129-00-0	5508.6	124.000	% Recov	67.000	125.000				05/06/08
MS	2,4,6-Tribromophenol(Surr)	118-79-6	4594.5	104.000	% Recov	49.000	120.000				05/06/08
MS	Terphenyl-d14(Surr)	98904-43-9	5356.6	121.000	% Recov	58.000	128.000				05/06/08
MSD	1,2,4-Trichlorobenzene	120-82-1	4965.4	112.000	% Recov	75.000	121.000				05/06/08
MSD	1,4-Dichlorobenzene	106-46-7	4770.4	108.000	% Recov	68.000	121.000				05/06/08
MSD	2,4-Dinitrotoluene	121-14-2	4720.4	107.000	% Recov	66.000	113.000				05/06/08
MSD	2-Fluorophenol(Surr)	367-12-4	4652.6	105.000	% Recov	72.000	120.000				05/06/08
MSD	Acenaphthene	83-32-9	5116.2	116.000	% Recov	69.000	125.000				05/06/08
MSD	4-Chloro-3-methylphenol	59-50-7	7395.4	111.000	% Recov	68.000	116.000				05/06/08
MSD	2-Chlorophenol	95-57-8	7185.2	108.000	% Recov	65.000	124.000				05/06/08
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	5172.5	117.000	% Recov	69.000	127.000				05/06/08
MSD	2-Fluorobiphenyl(Surr)	321-60-8	4923.2	111.000	% Recov	66.000	122.000				05/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date: 03/26/08
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Phenol	108-95-2	7386.0	111.000	% Recov	71.000	122.000				05/06/08
MSD	Nitrobenzene-d5(Surr)	4165-60-0	4904.8	111.000	% Recov	63.000	125.000				05/06/08
MSD	4-Nitrophenol	100-02-7	6615.4	99.700	% Recov	55.000	113.000				05/06/08
MSD	Pentachlorophenol	87-86-5	6594.1	99.300	% Recov	50.000	113.000				05/06/08
MSD	Phenol-d5(Surr)	4165-62-2	4740.8	107.000	% Recov	66.000	124.000				05/06/08
MSD	Pyrene	129-00-0	5471.2	124.000	% Recov	67.000	125.000				05/06/08
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	4730.5	107.000	% Recov	49.000	120.000				05/06/08
MSD	Terphenyl-d14(Surr)	98904-43-9	5552.1	125.000	% Recov	58.000	128.000				05/06/08
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	112.000		RPD			2.715	20.000		05/06/08
SPK-RPD	1,4-Dichlorobenzene	106-46-7	108.000		RPD			0.922	20.000		05/06/08
SPK-RPD	2,4-Dinitrotoluene	121-14-2	107.000		RPD			2.844	20.000		05/06/08
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	105.000		RPD			4.978	20.000		05/06/08
SPK-RPD	Acenaphthene	83-32-9	116.000		RPD			2.620	20.000		05/06/08
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	111.000		RPD			5.556	20.000		05/06/08
SPK-RPD	2-Chlorophenol	95-57-8	108.000		RPD			2.817	20.000		05/06/08
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	117.000		RPD			5.263	20.000		05/06/08
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	111.000		RPD			3.670	20.000		05/06/08
SPK-RPD	Phenol	108-95-2	111.000		RPD			5.556	20.000		05/06/08
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	111.000		RPD			3.670	20.000		05/06/08
SPK-RPD	4-Nitrophenol	100-02-7	99.700		RPD			11.565	20.000		05/06/08
SPK-RPD	Pentachlorophenol	87-86-5	99.300		RPD			13.548	20.000		05/06/08
SPK-RPD	Phenol-d5(Surr)	4165-62-2	107.000		RPD			0.939	20.000		05/06/08
SPK-RPD	Pyrene	129-00-0	124.000		RPD			0.000	20.000		05/06/08
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	107.000		RPD			2.844	20.000		05/06/08
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	125.000		RPD			3.252	20.000		05/06/08

Lab ID: **W08GR01066**
BATCH QC ASSOCIATED WITH SAMPLE

SURR	2-Fluorophenol(Surr)	367-12-4	9529.8	99.600	% Recov	72.000	120.000				05/06/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	9804.9	102.000	% Recov	66.000	122.000				05/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date: 04/16/08
 Receive Date: 04/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Nitrobenzene-d5(Surr)	4165-80-0	10050	105.000	% Recov	63.000	125.000				05/06/08
SURR	Phenol-d5(Surr)	4165-82-2	9854.1	103.000	% Recov	66.000	124.000				05/06/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	8492.5	88.700	% Recov	49.000	120.000				05/06/08
SURR	Terphenyl-d14(Surr)	98904-43-9	10629	111.000	% Recov	58.000	128.000				05/06/08
BATCH QC											
BLANK	1,2,4-Trimethylbenzene	95-63-6	< 180	n/a	ug/Kg					U	05/06/08
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 140	n/a	ug/Kg					U	05/06/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 240	n/a	ug/Kg					U	05/06/08
BLANK	2,4-Dinitrotoluene	121-14-2	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2-Fluorophenol(Surr)	367-12-4	3245.6	81.100	% Recov	72.000	120.000				05/06/08
BLANK	Acenaphthene	83-32-9	< 140	n/a	ug/Kg					U	05/06/08
BLANK	4-Chloro-3-methylphenol	59-50-7	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2-Chlorophenol	95-57-8	< 140	n/a	ug/Kg					U	05/06/08
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2-Fluorobiphenyl(Surr)	321-80-8	3223.3	80.600	% Recov	66.000	122.000				05/06/08
BLANK	Phenol	108-95-2	< 140	n/a	ug/Kg					U	05/06/08
BLANK	Nitrobenzene-d5(Surr)	4165-80-0	3268.5	81.700	% Recov	63.000	125.000				05/06/08
BLANK	4-Nitrophenol	100-02-7	< 200	n/a	ug/Kg					U	05/06/08
BLANK	Pentachlorophenol	87-86-5	< 200	n/a	ug/Kg					U	05/06/08
BLANK	Phenol-d5(Surr)	4165-82-2	3227.2	80.700	% Recov	66.000	124.000				05/06/08
BLANK	Pyrene	129-00-0	< 140	n/a	ug/Kg					U	05/06/08
BLANK	Tributyl phosphate	126-73-8	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	2693.6	67.300	% Recov	49.000	120.000				05/06/08
BLANK	Terphenyl-d14(Surr)	98904-43-9	3511.7	87.800	% Recov	58.000	128.000				05/06/08
LCS	1,2,4-Trichlorobenzene	120-82-1	4451.0	111.000	% Recov	76.000	118.000				05/06/08
LCS	1,4-Dichlorobenzene	106-46-7	4474.7	112.000	% Recov	68.000	121.000				05/06/08
LCS	2,4-Dinitrotoluene	121-14-2	4243.3	106.000	% Recov	68.000	112.000				05/06/08
LCS	2-Fluorophenol(Surr)	367-12-4	4399.7	110.000	% Recov	50.000	110.000				05/06/08
LCS	Acenaphthene	83-32-9	4541.2	114.000	% Recov	75.000	121.000				05/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	4-Chloro-3-methylphenol	59-50-7	8574.7	110.000	% Recov	68.000	117.000				05/06/08
LCS	2-Chlorophenol	95-57-8	6755.2	113.000	% Recov	84.000	114.000				05/06/08
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	4533.2	113.000	% Recov	76.000	119.000				05/06/08
LCS	2-Fluorobiphenyl(Surr)	321-60-8	4304.0	107.600	% Recov	58.000	109.000				05/06/08
LCS	Phenol	108-95-2	6775.8	112.930	% Recov	80.000	113.000				05/06/08
LCS	Nitrobenzene-d5(Surr)	4185-60-0	4479.7	112.000	% Recov	60.000	118.000				05/08/08
LCS	4-Nitrophenol	100-02-7	5440.8	90.700	% Recov	42.000	123.000				05/06/08
LCS	Pentachlorophenol	87-86-5	5921.1	98.700	% Recov	55.000	120.000				05/06/08
LCS	Phenol-d5(Surr)	4185-62-2	4489.2	112.000	% Recov	59.000	116.000				05/06/08
LCS	Pyrene	129-00-0	4837.4	120.935	% Recov	67.000	122.000				05/06/08
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	4078.1	102.000	% Recov	60.000	120.000				05/06/08
LCS	Terphenyl-d14(Surr)	98904-43-9	4723.9	118.097	% Recov	60.000	120.000				05/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 04/10/08
 Receive Date: 04/16/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01053
BATCH QC ASSOCIATED WITH SAMPLE

MS	ortho-Terphenyl	Surr	84-15-1	20280	101.000	% Recov	70.000	130.000			05/05/08
MS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	111020	110.000	% Recov	75.000	125.000			05/05/08
MSD	ortho-Terphenyl	Surr	84-15-1	19493	97.700	% Recov	70.000	130.000			05/05/08
MSD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	107400	108.000	% Recov	75.000	125.000			05/05/08
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	97.700		RPD			3.322	20.000	05/05/08
SPK-RPD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	108.000		RPD			1.835	20.000	05/05/08

Lab ID: W08GR01066
BATCH QC ASSOCIATED WITH SAMPLE

SURR	ortho-Terphenyl	Surr	84-15-1	47161	98.100	% Recov	70.000	130.000			05/05/08
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BATCH QC

BLANK	Kerosene		TPHKEROSENE	< 3000	n/a	ug/Kg				U	05/05/08
BLANK	ortho-Terphenyl	Surr	84-15-1	16572	82.900	% Recov	70.000	130.000			05/05/08
BLANK	Total Pet. Hydrocarbons Diesel		TPHDIESEL	< 3000	n/a	ug/Kg				U	05/05/08
LCS	ortho-Terphenyl	Surr	84-15-1	19214	96.100	% Recov	70.000	130.000			05/05/08
LCS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	98085	98.100	% Recov	80.000	120.000			05/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 04/16/08
 Receive Date: 04/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01067											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	40.580	81.200	% Recov	75.000	125.000				04/30/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.450	107.000	% Recov	75.000	125.000				04/30/08
SURR	Toluene-d8(Surr)	2037-26-5	45.280	90.600	% Recov	80.000	126.000				04/30/08
Lab ID: W08GR01076											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	24.260	96.200	% Recov	63.000	117.000				04/30/08
MS	Benzene	71-43-2	25.130	99.700	% Recov	75.000	129.000				04/30/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	52.210	104.000	% Recov	75.000	125.000				04/30/08
MS	Chlorobenzene	108-90-7	25.890	103.000	% Recov	79.000	119.000				04/30/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.080	105.000	% Recov	75.000	125.000				04/30/08
MS	Toluene-d8(Surr)	2037-26-5	50.470	100.000	% Recov	75.000	125.000				04/30/08
MS	Toluene	108-88-3	25.700	102.000	% Recov	76.000	120.000				04/30/08
MS	Trichloroethene	79-01-6	22.510	89.300	% Recov	73.000	123.000				04/30/08
MSD	1,1-Dichloroethene	75-35-4	24.250	104.000	% Recov	63.000	117.000				04/30/08
MSD	Benzene	71-43-2	22.360	95.600	% Recov	75.000	129.000				04/30/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	49.240	105.000	% Recov	75.000	125.000				04/30/08
MSD	Chlorobenzene	108-90-7	23.340	99.800	% Recov	79.000	119.000				04/30/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	49.840	107.000	% Recov	75.000	125.000				04/30/08
MSD	Toluene-d8(Surr)	2037-26-5	46.670	99.800	% Recov	75.000	125.000				04/30/08
MSD	Toluene	108-88-3	22.930	98.100	% Recov	76.000	120.000				04/30/08
MSD	Trichloroethene	79-01-6	20.320	86.900	% Recov	73.000	123.000				04/30/08
SPK-RPD	1,1-Dichloroethene	75-35-4	104.000		RPD			7.792	20.000		04/30/08
SPK-RPD	Benzene	71-43-2	95.600		RPD			4.199	20.000		04/30/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	105.000		RPD			0.957	20.000		04/30/08
SPK-RPD	Chlorobenzene	108-90-7	99.800		RPD			3.156	20.000		04/30/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 04/17/08
 Receive Date: 04/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	107.000		RPD			1.887	20.000		04/30/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	99.800		RPD			0.200	20.000		04/30/08
SPK-RPD	Toluene	108-88-3	98.100		RPD			3.898	20.000		04/30/08
SPK-RPD	Trichloroethene	79-01-6	86.900		RPD			2.724	20.000		04/30/08

BATCH QC

BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	52.180	104.000	% Recov	75.000	125.000				04/30/08
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.460	101.000	% Recov	75.000	125.000				04/30/08
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/Kg					U	04/30/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080830
 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	Hexane	110-54-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/Kg					U	04/30/08
BLANK	Toluene-d8(Surr)	2037-26-5	49.650	99.300	% Recov	80.000	126.000				04/30/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/Kg					U	04/30/08
LCS	1,1-Dichloroethene	75-35-4	22.470	89.900	% Recov	75.000	125.000				04/30/08
LCS	Benzene	71-43-2	24.120	96.500	% Recov	75.000	125.000				04/30/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	52.080	104.000	% Recov	75.000	125.000				04/30/08
LCS	Chlorobenzene	108-90-7	25.410	102.000	% Recov	75.000	125.000				04/30/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.500	101.000	% Recov	75.000	125.000				04/30/08
LCS	Toluene-d8(Surr)	2037-26-5	50.480	101.000	% Recov	80.000	126.000				04/30/08
LCS	Toluene	108-88-3	25.030	100.000	% Recov	75.000	125.000				04/30/08
LCS	Trichloroethene	79-01-6	21.580	86.300	% Recov	75.000	125.000				04/30/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-066

Group #: WSCF20080830
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Barium spike RPD over 20% but still pass. X-flag Organics: Since sample B1TFD2 is CAT IV rad., it was not analyzed for moisture and is reported on an "as received" basis. cgc W08GR01066/U-235 batch dup is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. lmh U-234 batch dup is flagged for poor RPD due to the inhomogeneity of the sample. lmh

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: F08-066
Sample # W08GR01066
Client ID: BITFD2

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Radiochemistry
Sampled: 04/16/08
Received: 04/24/08

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	U	2.90	pCi/g	+2.84	pCi/g	1.00	3.5		06/04/08
Am-243 tracer by AEA	AM243	LA-508-471		910	pCi/g			1.00	3.6		06/04/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	-0.901	pCi/g	+1.18	pCi/g	1.00	1.9		05/02/08
Cesium-137	10045-97-3	LA-508-481	U	0.441	pCi/g	+1.25	pCi/g	1.00	2.2		05/02/08
Europium-152	14683-23-9	LA-508-481	U	-1.38	pCi/g	+4.08	pCi/g	1.00	7.0		05/02/08
Europium-154	15585-10-1	LA-508-481	U	-0.192	pCi/g	+1.92	pCi/g	1.00	5.5		05/02/08
Europium-155	14391-16-3	LA-508-481	U	-1.61	pCi/g	+8.72	pCi/g	1.00	14		05/02/08
Niobium-94	14681-63-1	LA-508-481	U	-0.0452	pCi/g	+0.452	pCi/g	1.00	2.1		05/02/08
Radium-226	13982-63-3	LA-508-481	U	0.757	pCi/g	+3.35	pCi/g	1.00	5.6		05/02/08
Radium-228	15262-20-1	LA-508-481	U	2.32	pCi/g	+4.63	pCi/g	1.00	8.0		05/02/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471		0.580	pCi/g	+0.342	pCi/g	1.00	0.36		05/21/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.430	pCi/g	+4.30	pCi/g	1.00	13		05/20/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.400	pCi/g	+4.00	pCi/g	1.00	4.0		05/20/08
Pu-242 tracer by AEA	PU242	LA-508-471		1.40e+03	pCi/g			1.00	4.0		05/20/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		6.60e+03	pCi/g	+858	pCi/g	1.00	2.7		05/05/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		90.1	Percent			1.00	0.0		05/05/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471	U	5.10	pCi/g	+4.03	pCi/g	1.00	5.1		05/20/08
Uranium-235	15117-96-1	LA-508-471		1.40	pCi/g	+1.65	pCi/g	1.00	1.3		05/20/08
Uranium-238	U-238	LA-508-471		2.60	pCi/g	+2.24	pCi/g	1.00	1.2		05/20/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

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

D - Analyte was identified at a secondary dilution factor(inorg)

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative(inorg)

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR01066
Client ID: BITFD2

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20080830
Department: Radiochemistry
Sampled: 04/16/08
Received: 04/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
U-232 tracer by AEA	U232	LA-508-471		930	pCi/g			1.00	4.0		05/20/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

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

D - Analyte was identified at a secondary dilution factor(inorg)

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative(inorg)

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

Report WGPP/ver. 5.2

Groundwater Remediation Program

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Gamma Energy Analysis-grd H2O

Sample Date: 03/11/08
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01036											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U1.277		RPD			n/a	20.000		05/02/08
DUP	Cesium-137	10045-97-3	U0.7428		RPD			n/a	20.000		05/02/08
DUP	Europium-152	14683-23-9	U-2.867		RPD			n/a	20.000		05/02/08
DUP	Europium-154	15585-10-1	U3.22		RPD			n/a	20.000		05/02/08
DUP	Europium-155	14391-16-3	U0.9608		RPD			n/a	20.000		05/02/08
DUP	Niobium-94	14681-63-1	U-0.7178		RPD			n/a	20.000		05/02/08
DUP	Radium-226	13982-63-3	U1.562		RPD			n/a	20.000		05/02/08
DUP	Radium-228	15262-20-1	U-8.608		RPD			n/a	20.000		05/02/08
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U4.928e-3	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Cesium-137	10045-97-3	U2.82e-3	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Europium-152	14683-23-9	U-3.039e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Europium-154	15585-10-1	U-9.85e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Europium-155	14391-16-3	U0.1019	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Niobium-94	14681-63-1	U2.433e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Radium-226	13982-63-3	U0.1861	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Radium-228	15262-20-1	U4.876e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
LCS	Cobalt-60	10198-40-0	10400	104.628	% Recov	80.000	120.000				05/02/08
LCS	Cesium-137	10045-97-3	6203	102.699	% Recov	80.000	120.000				05/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Americium by AEA

Sample Date: 04/16/08
 Receive Date: 04/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01066 BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	909.7	82.590	% Recov	30.000	105.000				06/04/08
Lab ID: W08GR01075 BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	U2e-2		RPD			n/a	20.000		06/04/08
DUP	Am-243 tracer by AEA	AM243	3.995	99.790	% Recov	30.000	105.000				06/04/08
BATCH QC											
BLANK	Americium-241	14596-10-2	U6.1e-3	n/a	pCi/g	-10.000	1000.000				06/04/08
BLANK	Am-243 tracer by AEA	AM243	4.003	79.940	% Recov	30.000	105.000				06/04/08
LCS	Americium-241	14596-10-2	13	109.705	% Recov	80.000	120.000				06/04/08
LCS	Am-243 tracer by AEA	AM243	11.11	87.630	% Recov	30.000	105.000				06/04/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Neptunium by AEA

Sample Date: 03/11/08
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01036
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Neptunium-237	13994-20-2	0.46		RPD			n/a	25.000		05/21/08
MS	Neptunium-237	13994-20-2	96.6	96.600	% Recov	75.000	125.000				05/21/08
MSD	Neptunium-237	13994-20-2	98.96	98.960	% Recov	75.000	125.000				05/21/08
SPK-RPD	Neptunium-237	13994-20-2	98.960		% RPD			2.414	20.000		05/21/08

Lab ID: W08GR01037
BATCH QC ASSOCIATED WITH SAMPLE

MS	Neptunium-237	13994-20-2	98.4	98.400	% Recov	75.000	125.000				05/21/08
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Lab ID: W08GR01066
BATCH QC ASSOCIATED WITH SAMPLE

MS	Neptunium-237	13994-20-2	106.12	106.120	% Recov	75.000	125.000				05/21/08
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BATCH QC

BLANK	Neptunium-237	13994-20-2	U-0.12	n/a	pCi/G	-10.000	1000.000				05/21/08
LCS	Neptunium-237	13994-20-2	11.99	94.076	% Recov	80.000	120.000				05/21/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Plutonium Isotopics by AEA

Sample Date: 04/16/08
 Receive Date: 04/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01066
BATCH QC ASSOCIATED WITH SAMPLE

SURR	Pu-242 tracer by AEA	PU242	1408	92.710	% Recov	30.000	105.000				05/20/08
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Lab ID: W08GR01075
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Plutonium-238	13981-16-3	U3.4e-3		RPD			n/a	20.000		05/20/08
DUP	Pu-239/240 by AEA	PU-239/240	3.9e-2		RPD			0.000	20.000		05/20/08
DUP	Pu-242 tracer by AEA	PU242	6.184	91.650	% Recov	30.000	105.000				05/20/08

BATCH QC

BLANK	Plutonium-238	13981-16-3	U7.9e-3	n/a	pCi/g	-10.000	1000.000				05/20/08
BLANK	Pu-239/240 by AEA	PU-239/240	U-2e-3	n/a	pCi/g	-10.000	1000.000				05/20/08
BLANK	Pu-242 tracer by AEA	PU242	6.196	84.750	% Recov	30.000	105.000				05/20/08
LCS	Pu-239/240 by AEA	PU-239/240	13.61	105.956	% Recov	80.000	120.000				05/20/08
LCS	Pu-242 tracer by AEA	PU242	17.19	91.900	% Recov	30.000	105.000				05/20/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Strontium 89/90

Sample Date: 03/11/08
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01036
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Sr-85 Tracer by Beta Counting	SR85	98.1	98.100	% Recov	30.000	105.000				05/05/08
DUP	Strontium-89/90	SR-RAD	1.1E+04		RPD			12.560	20.000		05/05/08

Lab ID: W08GR01066
BATCH QC ASSOCIATED WITH SAMPLE

SURR	Sr-85 Tracer by Beta Counting	SR85	90.1	90.100	% Recov	30.000	105.000				05/05/08
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BATCH QC

BLANK	Sr-85 Tracer by Beta Counting	SR85	85.4	85.400	% Recov	30.000	105.000				05/05/08
BLANK	Strontium-89/90	10098-97-2	U9.8E-01	n/a	pCi/g	-10.000	300.000				05/05/08
LCS	Sr-85 Tracer by Beta Counting	SR85	84.4	84.400	% Recov	30.000	105.000				05/05/08
LCS	Strontium-89/90	10098-97-2	73.0	104.100	% Recov	80.000	120.000				05/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080830
 Matrix: SOLID
 Test: Uranium Isotopics by AEA

Sample Date: 04/16/08
 Receive Date: 04/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W08GR01066
 BATCH QC ASSOCIATED WITH SAMPLE

SURR	U-232 tracer by AEA	U232	934.9	93.400	% Recov	30.000	105.000				05/20/08
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Lab ID: W08GR01075
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	U-232 tracer by AEA	U232	4.105	91.700	% Recov	30.000	105.000				05/20/08
DUP	Uranium-233/234	U-233/234	1.1		RPD			23.350	20.000 *		05/20/08
DUP	Uranium-235	15117-96-1	0.1		RPD			56.410	20.000 *		05/20/08
DUP	Uranium-238	U-238	0.9		RPD			16.867	20.000		05/20/08

BATCH QC

BLANK	U-232 tracer by AEA	U232	4.113	83.880	% Recov	30.000	105.000				05/20/08
BLANK	Uranium-233/234	13966-29-5	2.5e-2	0.025	pCi/g	-10.000	1000.000				05/20/08
BLANK	Uranium-235	15117-96-1	1.1e-2	0.011	pCi/g	-10.000	1000.000				05/20/08
BLANK	Uranium-238	24678-82-8	9.7e-3	0.010	pCi/g	-10.000	1000.000				05/20/08
LCS	U-232 tracer by AEA	U232	11.41	78.920	% Recov	30.000	105.000				05/20/08
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				05/20/08
LCS	Uranium-235	15117-96-1	n/a	n/a	% Recov	75.000	125.000				05/20/08
LCS	Uranium-238	24678-82-8	20.08	105.935	% Recov	80.000	120.000				05/20/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-066

Group #: WSCF20080830
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Barium spike RPD over 20% but still pass. X-flag Organics: Since sample B1TFD2 is CAT IV rad., it was not analyzed for moisture and is reported on an "as received" basis. cgc W08GR01066/U-235 batch dup is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. lmh U-234 batch dup is flagged for poor RPD due to the inhomogeneity of the sample. lmh

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

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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M4W41-SLF-08-611

ATTACHMENT 5

SAMPLE RECEIPT INFORMATION

Consisting of 7 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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 123210/ES20
Group#: 20080830
Project#: F08-066
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 04/24/08. 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
W08GR01066	B1TFD2	TRENT @2008 @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @IC-30 @PCBGPP @SR89_90 @SVOCGPP @TPHD PH-30	Solid, or handle as if solid	04/16/08
W08GR01067	B1TFD0	TRENT @VOA-GPP	Solid, or handle as if solid	04/16/08
W08GR01068	B1TFD1	TRENT	Solid, or handle as if solid	04/16/08

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
@AEA-33	Neptunium by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@IC-30	Anions by Ion Chromatography
@PCBGPP	PCBs complete list
@SR89_90	Strontium 89/90
@SVOCGPP	SW-846 8270C Semi-Vols
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
PH-30	pH Soil and Waste Measurement

COLLECTOR
NCO Sampler *Cannily, RESANE*

46107100

COMPANY CONTACT
TRENT, SJ

TELEPHONE NO.
373-5869

PROJECT COORDINATOR
WIDRIG, DL

PRICE CODE 8N

DATA
TURNAROUND
45 Days / 45
Days

SAMPLING LOCATION

C6174, I-004

PROJECT DESIGNATION

216-S-6 Crib Sampling - Soil

SAF NO.
F08-066

AIR QUALITY

ICE CHEST NO.

FIELD LOGBOOK NO.

ACTUAL SAMPLE DEPTH

HWF-N-585-5 p926 22.7 25.2

COA
123210ES20

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

SHIPPED TO

Waste Sampling & Characterization

20080830

OFFSITE PROPERTY NO.

N/A

BILL OF LADING/AIR BILL NO.

N/A

MATRIX*

A=Air
DL=Drum
L=Liquid
DS=Drum
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)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1TFB2

PRESERVATION

Cool-4C

Cool-4C

Cool-4C

Cool-4C

Cool-4C

Cool-4C

None

TYPE OF CONTAINER

G/P

aG

aG

aG

G/P

G/P

Square
Bottle - Poly

NO. OF CONTAINER(S)

1

1

1

1

1

1

1

VOLUME

120ml

120ml

120ml

120ml

120ml

120ml

500ml

SAMPLE ANALYSIS

SEE ITEM (1) IN
SPECIAL
INSTRUCTIONS

SEE ITEM (2) IN
SPECIAL
INSTRUCTIONS

SEE ITEM (3) IN
SPECIAL
INSTRUCTIONS

PCBs - 8082;

SEE ITEM (4) IN
SPECIAL
INSTRUCTIONS

SEE ITEM (5) IN
SPECIAL
INSTRUCTIONS

SEE ITEM (6) IN
SPECIAL
INSTRUCTIONS

pH

SVOA

TPHD

2.0%

1.0

*30-23
Sc 90*

SAMPLE NO.

MATRIX*

SAMPLE DATE

SAMPLE TIME

B1TFD2
W08GRO1066

SOIL

4-16-08 0955

<input checked="" type="checkbox"/>							
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021875

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM DATE/TIME

Kenny Resane / Kenny Resane 4-16-08 / 1100

RELINQUISHED BY/REMOVED FROM DATE/TIME

ON Site Ref 4-24-08 14:00

RELINQUISHED BY/REMOVED FROM DATE/TIME

Ed K... / ... 4-24-08 1450

RELINQUISHED BY/REMOVED FROM DATE/TIME

RELINQUISHED BY/REMOVED FROM DATE/TIME

RELINQUISHED BY/REMOVED FROM DATE/TIME

RELINQUISHED BY/REMOVED FROM DATE/TIME

RECEIVED BY/STORED IN DATE/TIME

ON Site Ref 4-16-08 / 1100

RECEIVED BY/STORED IN DATE/TIME

Ed K... / ... 4-24-08 14:00

RECEIVED BY/STORED IN DATE/TIME

TAPAZIA / ... 4-24-08 1450

RECEIVED BY/STORED IN DATE/TIME

RECEIVED BY/STORED IN DATE/TIME

RECEIVED BY/STORED IN DATE/TIME

RECEIVED BY/STORED IN DATE/TIME

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

54 of 60
LABORATORY SECTION

RECEIVED BY

TITLE

DATE/TIME

FINAL SAMPLE DISPOSITION

DISPOSAL METHOD

DISPOSED BY

DATE/TIME

COLLECTOR NCO Sampler	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C6174, I-004	PROJECT DESIGNATION 216-S-6 Crib Sampling - Soil		SAF NO. F08-066	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 123210ES20	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

SPECIAL INSTRUCTIONS

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

** Analytical batch QC must be run on a sample associated with this SAF.

- (1) Conductivity - 9050 {Specific Conductance} pH (Soil) - 9045 {pH Measurement}
- (2) Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
- (3) TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
- (4) ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8_HG - ICPMS;
- (5) IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
- (6) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94, Radium-228} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}

ICED

COLLECTOR *Connolly Rosave*
NCO Sampler

COMPANY CONTACT
TRENT, SJ

TELEPHONE NO.
373-5869

PROJECT COORDINATOR
WIDRIG, DL

PRICE CODE 8N

DATA TURNAROUND
45 Days / 45 Days

SAMPLING LOCATION
C6174, I-004

PROJECT DESIGNATION
216-S-6 Crib Sampling - Soil

SAF NO.
F08-066

AIR QUALITY

ICE CHEST NO.

FIELD LOGBOOK NO.
HNF-N-585-5 p 26

ACTUAL SAMPLE DEPTH
22.9' - 25.2'

COA
123210ES20

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)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1TFB2

PRESERVATION Cool <-7C and MEQH/Cool=4
>-20C C

TYPE OF CONTAINER aGs* aGs*

NO. OF CONTAINER(S) 5 3

VOLUME 40ml 40ml

SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1TFD0 1067	SOIL	4-16-08	0855	✓	✓				

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM
Larry Rosave / Jimmy Rosave 4-16-08/1100

RELINQUISHED BY/REMOVED FROM
ON site REF 4-24-08 14:00

RELINQUISHED BY/REMOVED FROM
Ed Kavazian / Elum Khan 4-24-08 1450

RELINQUISHED BY/REMOVED FROM

RELINQUISHED BY/REMOVED FROM

RELINQUISHED BY/REMOVED FROM

RELINQUISHED BY/REMOVED FROM

SIGN/ PRINT NAMES

RECEIVED BY/STORED IN
ON Site REF 4-16-08/1100

RECEIVED BY/STORED IN
Ed Kavazian / Elum Khan 4-24-08/14:00

RECEIVED BY/STORED IN
TAFHAZIAN / Jovan Jzi 4-24-08 1450

RECEIVED BY/STORED IN

RECEIVED BY/STORED IN

RECEIVED BY/STORED IN

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

56 of 101

LABORATORY SECTION RECEIVED BY TITLE DATE/TIME

FINAL SAMPLE DISPOSITION DISPOSAL METHOD DISPOSED BY DATE/TIME

COLLECTOR NCO Sampler	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C6174, I-004	PROJECT DESIGNATION 216-S-6 Crib Sampling - Soil		SAF NO. F08-066	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 123210ES20	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A			

SPECIAL INSTRUCTIONS

- ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
- ** Analytical batch QC must be run on a sample associated with 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) {Acetonitrile, Hexane, Tetrahydrofuran}
- (2)VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}

ICED

COLLECTOR *Connolly ROSANE*
NCO Sampler

COMPANY CONTACT
TRENT, SJ

TELEPHONE NO.
373-5869

PROJECT COORDINATOR
WIDRIG, DL

PRICE CODE 8N

DATA
TURNAROUND

SAMPLING LOCATION
C6174, I-004

PROJECT DESIGNATION
216-5-6 Crib Sampling - Soil

SAF NO.
F08-066

AIR QUALITY

45 Days / 45
Days

ICE CHEST NO.

FIELD LOGBOOK NO.

ACTUAL SAMPLE DEPTH

COA

METHOD OF SHIPMENT

HNF-N-585-5 0926 22.7'-25.2'

123210ES20

GOVERNMENT VEHICLE

SHIPPED TO
Waste Sampling & Characterization

OFFSITE PROPERTY NO.
N/A

BILL OF LADING/AIR BILL NO.
N/A

MATRIX* **POSSIBLE SAMPLE HAZARDS/ REMARKS**
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 are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION Cool-4C

TYPE OF CONTAINER aGs*

NO. OF CONTAINER(S) 1

VOLUME 40ml

SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1TFB2

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1TFD1 1068	SOIL	4-16-08	0855

7312110

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<i>Larry Rosane / Jerry Rosane</i>	4-16-08 / 11:00	<i>ON Site Ref</i>	4-16-08 / 11:00
<i>ON Site Ref</i>	4-24-08 14:00	<i>Ed Kauer / Ed Kauer</i>	4-24-08 14:00
<i>Ed Kauer / Ed Kauer</i>	4-24-08 14:50	<i>TA P. BAZIN / TA P. BAZIN</i>	4-24-08 14:50

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
** Analytical batch QC must be run on a sample associated with this SAF.
** All VOA samples will be collected using EPA Method 5035A.
(1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On) (Acetonitrile, Hexane, Tetrahydrofuran)

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

ICED

58 of 60
LABORATORY SECTION
FINAL SAMPLE DISPOSITION

RECEIVED BY

TITLE

DATE/TIME

DISPOSAL METHOD

DISPOSED BY

DATE/TIME

M4W41-SLF-08-611

ATTACHMENT 6

SAMPLE RECORD SHEET

Consisting of 2 pages
Including cover page

4/16/08

0-0

E0174

Depth = 2217 - 23.2 m

I-064

Sample Time: 0858

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
BITEDD	K	31.9	36.9	5.0	---	---	---
↓	L	31.6	36.5	4.9	---	---	---
	M	31.8	37.0	5.2	---	---	---
	N	31.3	36.3	5.0	---	---	---
↓	P	31.7	36.7	5.0	---	---	---
BITEDD		30.2	30.2	0	4.0	5.0	34.2
BITEDD	W	30.5	35.5	5.0	3.8	5.0	39.3
↓	X	30.9	35.8	4.9	4.0	5.0	39.8
↓	Y	31.2	36.4	5.2	4.0	5.0	40.4

¹ Sample 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.

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 Sample weight is the vial with sample minus the vial empty