

Fluor Hanford  
WSCF Analytical Chemistry  
P.O. Box 1000  
Richland, WA 99354  
Telephone 373-7495  
Telefax 372-0456

0064246

# FLUOR

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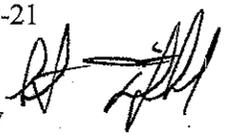
## Memorandum

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M8141-SLF-04-280

To: S. J. Trent A0-21 Date: October 11, 2004

From: S. L. Fitzgerald, Manager  
WSCF Analytical Chemistry



cc:	w/Attachments		w/o Attachments	
	T. F. Dale	S3-28	D. J. Hart	S3-30
	H. K. Meznarich	S3-30	M. A. Neely	S3-30
	P. D. Mix	S3-30	H. S. Rich	S3-28
	J. E. Trechter	S3-30	L. C. Swanson	E6-35
			File/LB	

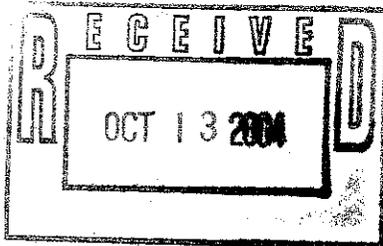
Subject: FINAL RESULTS FOR 200-LW-1/LW-2 CHARACTERIZATION - SOIL - SAMPLE DELIVERY GROUP WSCF20041555 - SAF NUMBER F03-025

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002  
(2) HNF-SD-CD-QAPP-017, Rev. 6, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20041555, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3



M8141-SLF-04-280

ATTACHMENT 1

**NARRATIVE**

Consisting of 7 pages  
Including cover page

<b>Sample Delivery Group</b>	<b>WSCF20041555</b>
<b>Sample Matrix</b>	<b>Soil</b>
<b>Sample Visual</b>	<b>N/A</b>
<b>SAF Number</b>	<b>F03-025</b>
<b>Data Deliverable</b>	<b>Summary Report</b>

### Introduction

One (1) 200-LW-1/LW-2 Characterization – Soil, GRP sample (B191F8) was received at the WSCF Laboratory on September 7, 2004. The 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 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the chain of custody and Request for Sample Analysis forms are included as Attachment 3.

### Analytical Methodology for Requested Analyses

#### **Inorganic**

- Ammonia by EPA Method 300.7. Analytical work was performed with no deviations to the approved method.
- Anions by EPA Method 300. Analytical work was performed with no deviations to the approved method.
- Cyanide by EPA Method 335.2. Analytical work was performed with no deviations to the approved method.
- ICP-AES Metals by EPA Method 6010. Analytical work was performed with no deviations to the approved method.
- ICP-MS Metals by EPA Method 200.8. Analytical work was performed with no deviations to the approved method.
- Percent Solids by EPA Method 160.3. Analytical work was performed with no deviations to the approved method.
- pH by EPA Method 150.1. Analytical work was performed with no deviations to the approved method.

## Organic

- Alcohols/Glycols by EPA Method 8015. Analytical work was performed with no deviations to the approved method.
- PCBs by EPA Method 8082. Analytical work was performed with no deviations to the approved method.
- Semi-VOA by EPA Method 8270. Analytical work was performed with no deviations to the approved method.
- TPH Diesel Range by WDOE Method NWTPH-Dx/Gx. Analytical work was performed with no deviations to the approved method.
- TPH Gas Range by WDOE Method NWTPH-Dx/Gx. Analytical work was performed with no deviations to the approved method.
- VOA by EPA Method 8260A. Analytical work was performed with no deviations to the approved method.

## Radiochemistry

- All RadChem analyses (AEA (Plutonium, Americium, Uranium and Neptunium) and GEA) were run by internal WDOE accredited WSCF procedures. Analytical work was performed with no deviations to the approved method.

## Inorganic Comments

**Anions** - The hold time for this analysis was met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See pages 12 through 13 for QC details. Analytical Notes:

- Nitrate - The Duplicate Relative Percent Difference exceeded the established laboratory limit for the GRP sample# B191H0, (SDG#20041599, SAF# F03-025). The result was less than the reporting detection limit, but greater than the method detection limit. The sample result was B flagged.
- Sulfate - The result was less than the reporting detection limit, but greater than the method detection limit. The sample result was B flagged.

All other QC controls are within the established limits.

**Ammonia** - The hold time for this analysis was met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 11 for QC details. Analytical Note:

- The result was less than the reporting detection limit, but greater than the method detection limit. The sample result was B flagged.

All other QC controls are within the established limits.

**Cyanide** - The hold time for this analysis was met. A Blank, Preparation Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 14 for QC details. All QC controls are within the established limits.

**ICP-AES Metals (Bismuth only)** – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 15 for QC details. All QC controls are within the established limits.

**ICP-MS Metals** – The hold time for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 16 through 18 for QC details. Analytical Note:

- Mercury – the Laboratory Control Sample exceeded established laboratory limits. All other QC controls were within limits, sample result was not flagged.

All other QC controls are within the established limits.

**Percent Solids** – analyzed for organic moisture correction only.

**pH** – The hold time for this analysis was met. All laboratory QC controls were within the established limits.

### Organic Comments

**General Organic Comment:** All organic sample results are moisture corrected and reported on dry weight basis.

**Alcohol/Glycols** - The hold time for this analysis were met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 22 for QC details. All QC controls are within the established limits

**PCB** – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 23 through 24 for QC details. Analytical Note:

- QC sample controls were analyzed on GRP sample# B191H0, (SDG#20041599, SAF# F03-025).

All QC controls are within the established limits.

**Semi-VOA** – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 25 through 30 for QC details. Analytical Note:

- QC sample controls were analyzed on GRP sample# B191H0, (SDG#20041599, SAF# F03-025).

All QC controls are within the established limits.

**TPHD-WA** - The hold time for this analysis were met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See pages 31 through 32 for QC details. Analytical Note:

- QC sample controls were analyzed on GRP sample# B191H0, (SDG#20041599, SAF# F03-025).

All QC controls are within the established limits.

**TPHG-WA** - The hold time for this analysis were met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 33 for QC details. All QC controls are within the established limits.

**VOA** – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 34 through 36 for QC details. Analytical Note:

- Toluene – Laboratory Control Sample recovery exceeded established laboratory limit which was attributed to carry-over from sample W04DC00159 (included in the instrument batch). All other QC controls were within established limits and the sample result was not flagged.

All other QC controls are within the established limits.

### Radiochemistry Comments

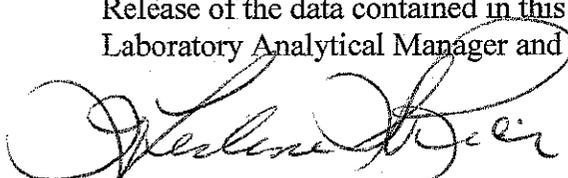
**RadChem** – There are no hold times associated with these WDOE accredited methods. A Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 38 through 42 for QC details. Analytical Notes:

- Americium-241, Uranium, Neptunium-237 and Plutonium 239/240 - Duplicates were analyzed on B191F6, (SDG# 20041511, SAF# F03-025).
- Plutonium-239/240, Americium-241 and Europium-155 - The Duplicate Relative Percent Difference exceeded established laboratory limits. The RPD criterion does not apply for low level sample activity with greater than 25% counting error.
- Neptunium-237 - Duplicate Relative Percent Difference was below established laboratory limits. The RPD is not applicable to low level samples with high counting error. Laboratory Control Sample recovery was below established laboratory limits.

All other QC controls are within the established limits.

Radiochemical Tracer Percent Recovery			
Sample Number	Lab Sample ID	Isotope	Tracer Recovery (Percent)
BLANK		Pu-242	68.5
LCS		Pu-242	75.7
B191F6	W040001547	Pu-242	66.8
DUPLICATE	W040001547	Pu-242	76.5
B191F8	W040001570	Pu-242	74.8
BLANK		Am-243	80.3
LCS		Am-243	89.1
B191F6	W040001547	Am-243	91.0
DUPLICATE	W040001547	Am-243	92.2
B191F8	W040001570	Am-243	89.1
BLANK		U-232	76.7
LCS		U-232	67.7
B191F6	W040001547	U-232	80.3
DUPLICATE	W040001547	U-232	81.7
B191F8	W040001570	U-232	73.9

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.



Merlene S. Rich  
WSCF Production Control

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

M8141-SLF-04-280

ATTACHMENT 2

**ANALYTICAL RESULTS**

Consisting of 44 pages  
Including cover page

**WSCF  
ANALYTICAL RESULTS REPORT**

**for**

**Groundwater Remediation Program**

**Richland, WA 99354**

**Attention: Steve Trent**

Analytical: \_\_\_\_\_

Client Services: \_\_\_\_\_

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

Confidentiality Notice: The information contained in this report is privileged and confidential information intended only for the use of the addressee. If the reader of this report is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone at (509) 373-7020.

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

Report#: WSCF20041555

Report Date: 7-oct-2004

Report WGPP/ver. 1

Groundwater Remediation Program

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**Project:** F03-025: F03-025

**Group #:** WSCF20041555

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive	
<b>Inorganic</b>														
W040001570	B191F8	GRP	TRENT	57-12-5	Cyanide	SOIL	LA-695-402	U	<	0.200	mg/kg	1.00	0.20	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	NH4-N	Nitrogen in ammonium	SOIL	LA-503-401	B		0.292	mg/kg	50.00	0.20	09/13/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	TS	Total solids	SOIL	LA-519-412			84.7	%	1.00	0.0	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	PH	pH Measurement	SOIL	LA-212-411			8.85	pH	1.00	0.010	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	16984-48-8	Fluoride	SOIL	LA-533-410	U	<	1.15	mg/kg	50.00	1.2	09/16/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	16887-00-6	Chloride	SOIL	LA-533-410			8.97	mg/kg	50.00	2.6	09/16/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	NO2-N	Nitrogen in Nitrite	SOIL	LA-533-410	U	<	0.950	mg/kg	50.00	0.95	09/16/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	NO3-N	Nitrogen in Nitrate	SOIL	LA-533-410	B		3.89	mg/kg	50.00	0.65	09/16/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	14265-44-2	Phosphate	SOIL	LA-533-410	U	<	2.70	mg/kg	50.00	2.7	09/16/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	14868-79-8	Sulfate	SOIL	LA-533-410	B		26.4	mg/kg	50.00	5.0	09/16/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-69-9	Bismuth	SOIL	LA-505-411	U	<	2.20	mg/kg	1.00	2.2	09/20/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412			18.0	mg/kg	10.00	0.21	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	<	0.0100	mg/kg	10.00	0.010	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	<	7.14	mg/kg	10.00	7.1	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412			87.9	mg/kg	10.00	0.92	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-41-7	Beryllium	SOIL	LA-505-412			0.244	mg/kg	10.00	0.020	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	<	0.0200	mg/kg	10.00	0.020	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412			13.7	mg/kg	10.00	3.4	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412			19.2	mg/kg	10.00	0.64	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412			6.62	mg/kg	10.00	0.26	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412			0.293	mg/kg	10.00	0.010	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412			0.476	mg/kg	10.00	0.16	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412			5.66	mg/kg	10.00	2.4	09/15/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	<	0.730	mg/kg	10.00	0.73	09/15/04 09/07/04 09/07/04

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

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

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

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

Report WGPP/ver. 1

Groundwater Remediation Program

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Ammonia (N) by IC

SAF Number: F03-025  
 Sample Date: 08/31/04  
 Receive Date: 08/31/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001547  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Ammonia (N) by IC	7664-41-7	2.61e-01	10.526	RPD	09/13/04	0.000	20.000	
MS	Ammonia (N) by IC	7664-41-7	3.89e-01	94.417	% Recov	09/13/04	75.000	125.000	
MSD	Ammonia (N) by IC	7664-41-7	4.14e-01	100.485	% Recov	09/13/04	75.000	125.000	

**BATCH QC**

BLANK	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	mg/L	09/13/04	0.000	30.000	U
BLANK	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	mg/L	09/13/04	0.000	30.000	U
LCS	Ammonia (N) by IC	7664-41-7	8.70e+01	105.839	% Recov	09/13/04	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: F03-025  
 Sample Date: 09/13/04  
 Receive Date: 09/13/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001618  
**BATCH QC ASSOCIATED WITH SAMPLE**

DUP	Chloride	16887-00-6	<2.60e0	n/a	RPD	09/16/04	0.000	20.000	U
DUP	Fluoride	16984-48-8	<1.15e0	n/a	RPD	09/16/04	0.000	20.000	U
DUP	Nitrogen in Nitrite	NO2-N	<9.50e-1	n/a	RPD	09/16/04	0.000	20.000	U
DUP	Nitrogen in Nitrate	NO3-N	2.20e+00	53.602	RPD	09/16/04	0.000	20.000	U
DUP	Phosphate	14265-44-2	<2.70e0	n/a	RPD	09/16/04	0.000	20.000	U
DUP	Sulfate	14808-79-8	<5.00e0	n/a	RPD	09/16/04	0.000	20.000	U
MS	Chloride	16887-00-6	9.92e-01	99.200	% Recov	09/16/04	75.000	125.000	
MS	Fluoride	16984-48-8	4.64e-01	93.927	% Recov	09/16/04	75.000	125.000	
MS	Nitrogen in Nitrite	NO2-N	4.85e-01	97.000	% Recov	09/16/04	75.000	125.000	
MS	Nitrogen in Nitrate	NO3-N	4.44e-01	98.448	% Recov	09/16/04	75.000	125.000	
MS	Phosphate	14265-44-2	7.85e-01	81.011	% Recov	09/16/04	75.000	125.000	
MS	Sulfate	14808-79-8	1.82e+00	91.000	% Recov	09/16/04	75.000	125.000	
MSD	Chloride	16887-00-6	9.68e-01	96.800	% Recov	09/16/04	75.000	125.000	
MSD	Fluoride	16984-48-8	4.69e-01	94.939	% Recov	09/16/04	75.000	125.000	
MSD	Nitrogen in Nitrite	NO2-N	4.83e-01	96.600	% Recov	09/16/04	75.000	125.000	
MSD	Nitrogen in Nitrate	NO3-N	4.51e-01	100.000	% Recov	09/16/04	75.000	125.000	
MSD	Phosphate	14265-44-2	8.36e-01	86.275	% Recov	09/16/04	75.000	125.000	
MSD	Sulfate	14808-79-8	1.86e+00	93.000	% Recov	09/16/04	75.000	125.000	

**BATCH QC**

BLANK	Chloride	16887-00-6	<5.20e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Chloride	16887-00-6	<5.20e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<2.30e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<2.30e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<1.90e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<1.90e-2	n/a	mg/L	09/16/04	0.000	300.000	U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: F03-025  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Nitrogen in Nitrate	NO3-N	<1.30e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Nitrogen in Nitrate	NO3-N	<1.30e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Phosphate	14265-44-2	<5.40e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Phosphate	14265-44-2	<5.40e-2	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<1.00e-1	n/a	mg/L	09/16/04	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<1.00e-1	n/a	mg/L	09/16/04	0.000	300.000	U
LCS	Chloride	16887-00-6	1.98e+02	99.000	% Recov	09/16/04	80.000	120.000	
LCS	Fluoride	16984-48-8	9.05e+01	91.692	% Recov	09/16/04	80.000	120.000	
LCS	Nitrogen in Nitrite	NO2-N	9.79e+01	97.900	% Recov	09/16/04	80.000	120.000	
LCS	Nitrogen in Nitrate	NO3-N	8.53e+01	94.673	% Recov	09/16/04	80.000	120.000	
LCS	Phosphate	14265-44-2	1.88e+02	97.007	% Recov	09/16/04	80.000	120.000	
LCS	Sulfate	14808-79-8	3.71e+02	92.982	% Recov	09/16/04	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Cyanide by Midi/Spectrophotom

SAF Number: F03-025  
 Sample Date: 08/31/04  
 Receive Date: 08/31/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001547  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Cyanide by Midi/Spectrophotom	57-12-5	88.8	88.800	% Recov	09/15/04	75.000	125.000	
MSD	Cyanide by Midi/Spectrophotom	57-12-5	93.5	93.500	% Recov	09/15/04	75.000	125.000	
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	93.500	5.156	RPD	09/15/04	0.000	20.000	

### BATCH QC

BLANK	Cyanide by Midi/Spectrophotom	57-12-5	1	1.000	ug/L	09/15/04	-4.000	4.000	
BLNK-PREP	Cyanide by Midi/Spectrophotom	57-12-5	1	1.000	ug/L	09/15/04	-4.000	4.000	
LCS	Cyanide by Midi/Spectrophotom	57-12-5	86.4	86.400	% Recov	09/15/04	85.000	115.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: ICP-Metals Analysis, Grd H2O P

SAF Number: F03-025  
 Sample Date: 08/25/04  
 Receive Date: 08/25/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001540  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Bismuth	7440-69-9	195	100.000	% Recov	09/20/04	75.000	125.000	
MSD	Bismuth	7440-69-9	198	101.538	% Recov	09/20/04	75.000	125.000	
SPK-RPD	Bismuth	7440-69-9	101.538	1.526	RPD	09/20/04	0.000	20.000	

**BATCH QC**

BLANK	Bismuth	7440-69-9	<5	n/a	ug/L	09/20/04	-1.000	0.068	U
LCS	Bismuth	7440-69-9	202	103.590	% Recov	09/20/04	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-025  
 Sample Date: 09/08/04  
 Receive Date: 09/08/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W040001605 BATCH QC ASSOCIATED WITH SAMPLE									
MS	Silver	7440-22-4	332.6	83.150	% Recov	09/15/04	70.000	130.000	
MS	Arsenic	7440-38-2	425.2	106.300	% Recov	09/15/04	70.000	130.000	
MS	Barium	7440-39-3	407.35	101.838	% Recov	09/15/04	70.000	130.000	
MS	Beryllium	7440-41-7	414.5	103.625	% Recov	09/15/04	70.000	130.000	
MS	Cadmium	7440-43-9	423	105.750	% Recov	09/15/04	70.000	130.000	
MS	Chromium	7440-47-3	410.438	102.609	% Recov	09/15/04	70.000	130.000	
MS	Copper	7440-50-8	408.838	102.209	% Recov	09/15/04	70.000	130.000	
MS	Mercury	7439-97-6	20.5963	102.981	% Recov	09/15/04	70.000	130.000	
MS	Nickel	7440-02-0	408.333	102.083	% Recov	09/15/04	70.000	130.000	
MS	Lead	7439-92-1	403.1401	100.785	% Recov	09/15/04	70.000	130.000	
MS	Antimony	7440-36-0	422.1	105.525	% Recov	09/15/04	70.000	130.000	
MS	Selenium	7782-49-2	441.1	110.275	% Recov	09/15/04	70.000	130.000	
MS	Uranium	7440-61-1	401.6	100.400	% Recov	09/15/04	70.000	130.000	
MSD	Silver	7440-22-4	384.4	96.100	% Recov	09/15/04	70.000	130.000	
MSD	Arsenic	7440-38-2	438.8	109.700	% Recov	09/15/04	70.000	130.000	
MSD	Barium	7440-39-3	419.55	104.888	% Recov	09/15/04	70.000	130.000	
MSD	Beryllium	7440-41-7	429	107.250	% Recov	09/15/04	70.000	130.000	
MSD	Cadmium	7440-43-9	433.7	108.425	% Recov	09/15/04	70.000	130.000	
MSD	Chromium	7440-47-3	423.638	105.909	% Recov	09/15/04	70.000	130.000	
MSD	Copper	7440-50-8	427.138	106.784	% Recov	09/15/04	70.000	130.000	
MSD	Mercury	7439-97-6	21.4563	107.281	% Recov	09/15/04	70.000	130.000	
MSD	Nickel	7440-02-0	419.433	104.858	% Recov	09/15/04	70.000	130.000	
MSD	Lead	7439-92-1	417.0401	104.260	% Recov	09/15/04	70.000	130.000	
MSD	Antimony	7440-36-0	433.3	108.325	% Recov	09/15/04	70.000	130.000	
MSD	Selenium	7782-49-2	449.1	112.275	% Recov	09/15/04	70.000	130.000	
MSD	Uranium	7440-61-1	419.4	104.850	% Recov	09/15/04	70.000	130.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-025  
 Sample Date: 09/08/04  
 Receive Date: 09/08/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Silver	7440-22-4	96.100	14.449	RPD	09/15/04	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	109.700	3.148	RPD	09/15/04	0.000	20.000	
SPK-RPD	Barium	7440-39-3	104.888	2.951	RPD	09/15/04	0.000	20.000	
SPK-RPD	Beryllium	7440-41-7	107.250	3.438	RPD	09/15/04	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	108.425	2.498	RPD	09/15/04	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	105.909	3.165	RPD	09/15/04	0.000	20.000	
SPK-RPD	Copper	7440-50-8	106.784	4.378	RPD	09/15/04	0.000	20.000	
SPK-RPD	Mercury	7439-97-6	107.281	4.090	RPD	09/15/04	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	104.858	2.682	RPD	09/15/04	0.000	20.000	
SPK-RPD	Lead	7439-92-1	104.260	3.389	RPD	09/15/04	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	108.325	2.619	RPD	09/15/04	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	112.275	1.797	RPD	09/15/04	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	104.850	4.336	RPD	09/15/04	0.000	20.000	

## BATCH QC

BLANK	Silver	7440-22-4	1.486e-2	0.015	ug/L	09/15/04	-0.440	0.440	
BLANK	Arsenic	7440-38-2	<0.24	n/a	ug/L	09/15/04	0.660	0.660	U
BLANK	Barium	7440-39-3	<9.2e-2	n/a	ug/L	09/15/04	-0.440	0.440	U
BLANK	Beryllium	7440-41-7	1.561e-2	0.016	ug/L	09/15/04	-0.660	0.660	
BLANK	Cadmium	7440-43-9	<2e-3	n/a	ug/L	09/15/04	-0.220	0.220	U
BLANK	Chromium	7440-47-3	<0.336	n/a	ug/L	09/15/04	-0.660	0.660	U
BLANK	Copper	7440-50-8	<6.4e-2	n/a	ug/L	09/15/04	-1.100	1.100	U
BLANK	Mercury	7439-97-6	5.994e-2	0.060	ug/L	09/15/04	-0.220	0.220	
BLANK	Nickel	7440-02-0	8.521e-2	0.085	ug/L	09/15/04	-1.100	1.100	
BLANK	Lead	7439-92-1	<2.6e-2	n/a	ug/L	09/15/04	-2.640	2.640	U
BLANK	Antimony	7440-36-0	<0.714	n/a	ug/L	09/15/04	-1.100	1.100	U
BLANK	Selenium	7782-49-2	<7.3e-2	n/a	ug/L	09/15/04	-0.660	0.660	U
BLANK	Uranium	7440-61-1	1.882e-2	0.019	ug/L	09/15/04	-0.220	0.220	
LCS	Silver	7440-22-4	168.1	141.261	% Recov	09/15/04	110.000	170.000	
LCS	Arsenic	7440-38-2	206.7	106.000	% Recov	09/15/04	82.000	142.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: F03-025  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Barium	7440-39-3	388.4	99.082	% Recov	09/15/04	78.000	123.000	
LCS	Beryllium	7440-41-7	82.69	109.814	% Recov	09/15/04	82.000	128.000	
LCS	Cadmium	7440-43-9	77.29	112.668	% Recov	09/15/04	88.000	127.000	
LCS	Chromium	7440-47-3	82.89	95.595	% Recov	09/15/04	50.000	126.000	
LCS	Copper	7440-50-8	141.7	111.575	% Recov	09/15/04	61.000	134.000	
LCS	Mercury	7439-97-6	11.92	126.674	% Recov	09/15/04	75.000	114.000	
LCS	Nickel	7440-02-0	93.02	111.268	% Recov	09/15/04	84.000	125.000	
LCS	Lead	7439-92-1	97.02	102.667	% Recov	09/15/04	87.000	120.000	
LCS	Antimony	7440-36-0	140.7	101.957	% Recov	09/15/04	61.000	135.000	
LCS	Selenium	7782-49-2	129.8	113.860	% Recov	09/15/04	83.000	145.000	
LCS	Uranium	7440-61-1	413.5	103.375	% Recov	09/15/04	89.000	107.000	

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**Project:** F03-025: F03-025

**Group #:** WSCF20041555

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
<b>Organic</b>													
W040001570	B191F8	107-21-1	Ethylene glycol	SOIL	Organics	U	< 5.00e+03	ug/kg	1.00	5.0e+03	09/20/04	09/07/04	09/07/04
W040001570	B191F8	TPHGASOLINE	Total Pet. Hydrocarbons Gas	SOIL	LA-523-443	U	< 250	ug/kg	1.00	2.5e+02	09/16/04	09/07/04	09/07/04
W040001570	B191F8	12674-11-2	Aroclor-1016	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	11104-28-2	Aroclor-1221	SOIL	LA-523-427	U	< 110	ug/kg	1.00	1.1e+02	09/22/04	09/07/04	09/07/04
W040001570	B191F8	11141-16-5	Aroclor-1232	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	53469-21-9	Aroclor-1242	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	12672-29-6	Aroclor-1248	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	11097-69-1	Aroclor-1254	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	11096-82-5	Aroclor-1260	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	37324-23-5	Aroclor-1262	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	11100-14-4	Aroclor-1268	SOIL	LA-523-427	U	< 57.0	ug/kg	1.00	57	09/22/04	09/07/04	09/07/04
W040001570	B191F8	100-02-7	4-Nitrophenol	SOIL	LA-523-456	U	< 760	ug/kg	1.00	7.6e+02	09/21/04	09/07/04	09/07/04
W040001570	B191F8	106-46-7	1,4-Dichlorobenzene	SOIL	LA-523-456	U	< 370	ug/kg	1.00	3.7e+02	09/21/04	09/07/04	09/07/04
W040001570	B191F8	108-95-2	Phenol	SOIL	LA-523-456	U	< 120	ug/kg	1.00	1.2e+02	09/21/04	09/07/04	09/07/04
W040001570	B191F8	120-82-1	1,2,4-Trichlorobenzene	SOIL	LA-523-456	U	< 350	ug/kg	1.00	3.5e+02	09/21/04	09/07/04	09/07/04
W040001570	B191F8	121-14-2	2,4-Dinitrotoluene	SOIL	LA-523-456	U	< 78.0	ug/kg	1.00	78	09/21/04	09/07/04	09/07/04
W040001570	B191F8	129-00-0	Pyrene	SOIL	LA-523-456	U	< 78.0	ug/kg	1.00	78	09/21/04	09/07/04	09/07/04
W040001570	B191F8	59-50-7	4-Chloro-3-methylphenol	SOIL	LA-523-456	U	< 78.0	ug/kg	1.00	78	09/21/04	09/07/04	09/07/04
W040001570	B191F8	621-64-7	N-Nitrosodi-n-dipropylamine	SOIL	LA-523-456	U	< 78.0	ug/kg	1.00	78	09/21/04	09/07/04	09/07/04
W040001570	B191F8	83-32-9	Acenaphthene	SOIL	LA-523-456	U	< 78.0	ug/kg	1.00	78	09/21/04	09/07/04	09/07/04
W040001570	B191F8	87-86-5	Pentachlorophenol	SOIL	LA-523-456	U	< 350	ug/kg	1.00	3.5e+02	09/21/04	09/07/04	09/07/04
W040001570	B191F8	95-57-8	2-Chlorophenol	SOIL	LA-523-456	U	< 170	ug/kg	1.00	1.7e+02	09/21/04	09/07/04	09/07/04
W040001570	B191F8	126-73-8	Tributyl phosphate	SOIL	LA-523-456	U	< 78.0	ug/kg	1.00	78	09/21/04	09/07/04	09/07/04
W040001570	B191F8	75-35-4	1,1-Dichloroethene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	79-01-6	Trichloroethene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	71-43-2	Benzene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04

**MDL = Minimum Detection Limit**

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

U - Analyzed for but not detected above limiting criteria.

**RQ = Result Qualifier**

**DF = Dilution Factor**

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

Report WGPP/ver. 1

Groundwater Remediation Program

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**Project:** F03-025: F03-025

**Group #:** WSCF20041555

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W040001570	B191F8	108-88-3	Toluene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	108-90-7	Chlorobenzene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-34-3	1,1-Dichloroethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	100-41-4	Ethylbenzene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	100-42-5	Styrene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	10061-01-5	cis-1,3-Dichloropropene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	10061-02-6	trans-1,3-Dichloropropene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	107-06-2	1,2-Dichloroethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	108-10-1	4-Methyl-2-Pentanone	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	124-48-1	Dibromochloromethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	127-18-4	Tetrachloroethene	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	1330-20-7	Xylenes (total)	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	540-59-0	1,2-Dichloroethene(Total)	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	56-23-5	Carbon tetrachloride	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	591-78-6	2-Hexanone	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	67-64-1	Acetone	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	67-66-3	Chloroform	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	71-55-6	1,1,1-Trichloroethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	74-83-9	Bromomethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	74-87-3	Chloromethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-00-3	Chloroethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-01-4	Vinyl chloride	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-09-2	Methylenechloride	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-15-0	Carbon disulfide	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-25-2	Bromoform	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	75-27-4	Bromodichloromethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	78-87-5	1,2-Dichloropropane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

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

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

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

Report WGPP/ver. 1

Groundwater Remediation Program

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**Project:** F03-025: F03-025

**Group #:** WSCF20041555

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W040001570	B191F8	78-93-3	2-Butanone	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	79-00-5	1,1,2-Trichloroethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	79-34-5	1,1,2,2-Tetrachloroethane	SOIL	LA-523-455	U	< 2.40	ug/kg	1.00	2.4	09/16/04	09/07/04	09/07/04
W040001570	B191F8	71-36-3	1-Butanol	SOIL	LA-523-455	U	< 47.0	ug/kg	1.00	47	09/16/04	09/07/04	09/07/04
W040001570	B191F8	TPHDIESEL	Total Pet. Hydrocarbons Diesel	SOIL	NWTPH	U	< 4.40e+03	ug/kg	1.00	4.4e+03	09/20/04	09/07/04	09/07/04
W040001570	B191F8	TPHKEROSENE	Kerosene	SOIL	NWTPH	U	< 4.40e+03	ug/kg	1.00	4.4e+03	09/20/04	09/07/04	09/07/04

**MDL=Minimum Detection Limit**  
**RQ=Result Qualifier**

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

U - Analyzed for but not detected above limiting criteria.

**DF=Dilution Factor**

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

Report WGPP/ver. 1

Groundwater Remediation Program

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Alcohols, Glycols - 8015

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001570  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	2-Bromoethanol	540-51-2	11000	9.524	ppd	09/20/04	0.000	25.000	
DUP	Ethylene glycol	107-21-1	<5000	n/a	RPD	09/20/04	0.000	25.000	U
MS	2-Bromoethanol	540-51-2	12000	120.000	% Recov	09/20/04	70.000	125.000	
MS	Ethylene glycol	107-21-1	11000	110.000	% Recov	09/20/04	75.000	125.000	
MSD	2-Bromoethanol	540-51-2	12000	120.000	% Recov	09/20/04	70.000	125.000	
MSD	Ethylene glycol	107-21-1	10000	100.000	% Recov	09/20/04	75.000	125.000	
SPK-RPD	2-Bromoethanol	540-51-2	120.000	0.000	RPD	09/20/04	0.000	20.000	
SPK-RPD	Ethylene glycol	107-21-1	100.000	9.524	RPD	09/20/04	0.000	20.000	

## BATCH QC

BLANK	2-Bromoethanol	540-51-2	10000	1.000	ug/Kg	09/20/04	0.000	10.000	
BLANK	Ethylene glycol	107-21-1	<5000	n/a	ug/Kg	09/20/04	0.000	5.000	U
LCS	2-Bromoethanol	540-51-2	11000	110.000	% Recov	09/20/04	70.000	130.000	
LCS	Ethylene glycol	107-21-1	9400	94.000	% Recov	09/20/04	70.000	130.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: PCBs complete list

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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**Lab ID: W040001570**  
**BATCH QC ASSOCIATED WITH SAMPLE**

SURR	Decachlorobiphenyl	2051-24-3	951.77	83.200	% Recov	09/22/04	50.000	150.000	
SURR	Tetrachloro-m-xylene	877-09-8	928.66	81.200	% Recov	09/22/04	50.000	150.000	

**Lab ID: W040001612**  
**BATCH QC ASSOCIATED WITH SAMPLE**

MS	Aroclor-1260	11096-82-5	494.55	89.800	% Recov	09/22/04	75.000	125.000	
MS	Decachlorobiphenyl	2051-24-3	1104.0	100.000	% Recov	09/22/04	50.000	150.000	
MS	Tetrachloro-m-xylene	877-09-8	758.19	68.800	% Recov	09/22/04	50.000	150.000	
MSD	Aroclor-1260	11096-82-5	519.26	95.000	% Recov	09/22/04	75.000	125.000	
MSD	Decachlorobiphenyl	2051-24-3	1205.4	110.000	% Recov	09/22/04	50.000	150.000	
MSD	Tetrachloro-m-xylene	877-09-8	1023.4	93.700	% Recov	09/22/04	50.000	150.000	

**Lab ID: W040001618**  
**BATCH QC ASSOCIATED WITH SAMPLE**

MS	Aroclor-1260	11096-82-5	419.27	81.900	% Recov	09/22/04	75.000	125.000	
MS	Decachlorobiphenyl	2051-24-3	837.44	81.800	% Recov	09/22/04	50.000	150.000	
MS	Tetrachloro-m-xylene	877-09-8	965.68	94.300	% Recov	09/22/04	50.000	150.000	
MSD	Aroclor-1260	11096-82-5	253.20	100.000	% Recov	09/22/04	75.000	125.000	
MSD	Decachlorobiphenyl	2051-24-3	963.66	95.200	% Recov	09/22/04	50.000	150.000	
MSD	Tetrachloro-m-xylene	877-09-8	934.00	92.200	% Recov	09/22/04	50.000	150.000	
SPK-RPD	Aroclor-1260	11096-82-5	100.000	19.901	RPD	09/22/04	0.000	25.000	
SPK-RPD	Decachlorobiphenyl	2051-24-3	95.200	15.141	RPD	09/22/04	0.000	20.000	
SPK-RPD	Tetrachloro-m-xylene	877-09-8	92.200	2.252	RPD	09/22/04	0.000	20.000	

**BATCH QC**

BLANK	Aroclor-1016	12674-11-2	< 50	n/a	UGKG	09/22/04			U
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# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: PCBs complete list

SAF Number: F03-025  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Aroclor-1221	11104-28-2	< 100	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1232	11141-16-5	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1242	53469-21-9	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1248	12672-29-6	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1254	11097-69-1	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1260	11096-82-5	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1262	37324-23-5	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Aroclor-1268	11100-14-4	< 50	n/a	ug/Kg	09/22/04			U
BLANK	Decachlorobiphenyl	2051-24-3	827.23	82.700	% Recov	09/22/04	50.000	150.000	
BLANK	Tetrachloro-m-xylene	877-09-8	676.78	67.700	% Recov	09/22/04	50.000	150.000	
LCS	Aroclor-1260	11096-82-5	476.43	95.300	% Recov	09/22/04	70.000	130.000	
LCS	Decachlorobiphenyl	2051-24-3	742.18	74.200	% Recov	09/22/04	50.000	150.000	
LCS	Tetrachloro-m-xylene	877-09-8	826.48	82.600	% Recov	09/22/04	50.000	150.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001570  
 BATCH QC ASSOCIATED WITH SAMPLE

SURR	2-Fluorophenol	367-12-4	3457.8	88.200	% Recov	09/21/04	42.000	105.000	
SURR	2-Fluorobiphenyl	321-60-8	3193.8	81.400	% Recov	09/21/04	56.000	122.000	
SURR	Nitrobenzene-d5	4165-60-0	3241.8	82.600	% Recov	09/21/04	64.000	111.000	
SURR	Phenol-d5	4165-62-2	3227.2	82.300	% Recov	09/21/04	54.000	120.000	
SURR	2,4,6-Tribromophenol	118-79-6	2945.3	75.100	% Recov	09/21/04	24.000	122.000	
SURR	Terphenyl-d14 (7Cl)	98904-43-9	3599.7	91.800	% Recov	09/21/04	35.000	150.000	

Lab ID: W040001605  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	1,2,4-Trichlorobenzene	120-82-1	3690.2	89.700	% Recov	09/21/04	46.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	3675.1	89.300	% Recov	09/21/04	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	3324.2	80.800	% Recov	09/21/04	59.000	106.000	
MS	2-Fluorophenol	367-12-4	4144.6	101.000	% Recov	09/21/04	42.000	105.000	
MS	Acenaphthene	83-32-9	3565.6	86.700	% Recov	09/21/04	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	5439.8	88.200	% Recov	09/21/04	61.000	106.000	
MS	2-Chlorophenol	95-57-8	6195.3	100.000	% Recov	09/21/04	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	3727.8	90.600	% Recov	09/21/04	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	3658.6	88.900	% Recov	09/21/04	56.000	122.000	
MS	Phenol	108-95-2	5988.8	97.100	% Recov	09/21/04	42.000	111.000	
MS	Nitrobenzene-d5	4165-60-0	3706.5	90.100	% Recov	09/21/04	64.000	111.000	
MS	4-Nitrophenol	100-02-7	4572.5	74.100	% Recov	09/21/04	32.000	118.000	
MS	Pentachlorophenol	87-86-5	5687.6	92.200	% Recov	09/21/04	62.000	114.000	
MS	Phenol-d5	4165-62-2	3961.2	96.300	% Recov	09/21/04	54.000	120.000	
MS	Pyrene	129-00-0	3817.8	92.800	% Recov	09/21/04	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	3827.7	93.100	% Recov	09/21/04	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	3859.0	93.800	% Recov	09/21/04	35.000	150.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025  
 Sample Date: 09/08/04  
 Receive Date: 09/08/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	1,2,4-Trichlorobenzene	120-82-1	3519.8	85.600	% Recov	09/21/04	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	3519.4	85.600	% Recov	09/21/04	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	3291.0	80.100	% Recov	09/21/04	59.000	106.000	
MSD	2-Fluorophenol	367-12-4	3839.6	93.400	% Recov	09/21/04	42.000	105.000	
MSD	Acenaphthene	83-32-9	3450.6	84.000	% Recov	09/21/04	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	5501.6	89.200	% Recov	09/21/04	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	5960.5	96.700	% Recov	09/21/04	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	3680.6	89.100	% Recov	09/21/04	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	3434.9	83.600	% Recov	09/21/04	56.000	122.000	
MSD	Phenol	108-95-2	6016.3	97.600	% Recov	09/21/04	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	3549.6	86.400	% Recov	09/21/04	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	4396.6	71.300	% Recov	09/21/04	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	4582.6	74.300	% Recov	09/21/04	62.000	114.000	
MSD	Phenol-d5	4165-62-2	3741.9	91.000	% Recov	09/21/04	54.000	120.000	
MSD	Pyrene	129-00-0	3910.9	95.200	% Recov	09/21/04	66.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	3540.5	88.100	% Recov	09/21/04	24.000	122.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	3959.7	96.300	% Recov	09/21/04	35.000	150.000	

Lab ID: W040001612  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	1,2,4-Trichlorobenzene	120-82-1	4448.0	83.700	% Recov	09/22/04	46.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	4505.0	84.700	% Recov	09/22/04	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	3837.3	72.200	% Recov	09/22/04	59.000	106.000	
MS	2-Fluorophenol	367-12-4	4301.3	80.900	% Recov	09/22/04	42.000	105.000	
MS	Acenaphthene	83-32-9	4258.6	80.100	% Recov	09/22/04	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	6626.6	83.100	% Recov	09/22/04	61.000	106.000	
MS	2-Chlorophenol	95-57-8	7426.2	93.100	% Recov	09/22/04	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	4598.6	86.500	% Recov	09/22/04	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	4033.4	75.900	% Recov	09/22/04	56.000	122.000	
MS	Phenol	108-95-2	7125.2	89.300	% Recov	09/22/04	42.000	111.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025  
 Sample Date: 09/09/04  
 Receive Date: 09/09/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	Nitrobenzene-d5	4165-60-0	3911.4	73.600	% Recov	09/22/04	64.000	111.000	
MS	4-Nitrophenol	100-02-7	4586.8	57.500	% Recov	09/22/04	32.000	118.000	
MS	Pentachlorophenol	87-86-5	6042.6	75.800	% Recov	09/22/04	62.000	114.000	
MS	Phenol-d5	4165-62-2	4264.7	80.200	% Recov	09/22/04	54.000	120.000	
MS	Pyrene	129-00-0	4834.4	90.900	% Recov	09/22/04	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	3684.0	68.900	% Recov	09/22/04	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	4316.3	81.200	% Recov	09/22/04	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	4363.8	83.500	% Recov	09/22/04	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	4418.4	84.600	% Recov	09/22/04	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	3758.6	72.000	% Recov	09/22/04	59.000	106.000	
MSD	2-Fluorophenol	367-12-4	4760.4	91.100	% Recov	09/22/04	42.000	105.000	
MSD	Acenaphthene	83-32-9	4202.4	80.500	% Recov	09/22/04	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	6557.5	83.700	% Recov	09/22/04	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	7249.9	92.500	% Recov	09/22/04	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	4393.9	84.100	% Recov	09/22/04	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	4338.5	83.100	% Recov	09/22/04	56.000	122.000	
MSD	Phenol	108-95-2	7258.4	92.600	% Recov	09/22/04	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	4230.3	81.000	% Recov	09/22/04	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	4738.2	60.500	% Recov	09/22/04	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	6412.2	81.800	% Recov	09/22/04	62.000	114.000	
MSD	Phenol-d5	4165-62-2	4700.1	80.000	% Recov	09/22/04	54.000	120.000	
MSD	Pyrene	129-00-0	4830.2	92.500	% Recov	09/22/04	66.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	3990.4	76.400	% Recov	09/22/04	24.000	122.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	4748.0	90.900	% Recov	09/22/04	35.000	150.000	

Lab ID: W040001618  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	1,2,4-Trichlorobenzene	120-82-1	2946.2	85.800	% Recov	09/21/04	46.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	2981.4	86.800	% Recov	09/21/04	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	2579.7	75.100	% Recov	09/21/04	59.000	106.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025  
 Sample Date: 09/13/04  
 Receive Date: 09/13/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	2-Fluorophenol	367-12-4	2966.7	86.400	% Recov	09/21/04	42.000	105.000	
MS	Acenaphthene	83-32-9	2787.1	81.100	% Recov	09/21/04	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	4468.2	86.700	% Recov	09/21/04	61.000	106.000	
MS	2-Chlorophenol	95-57-8	4813.2	93.400	% Recov	09/21/04	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	2976.5	86.600	% Recov	09/21/04	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	2857.3	83.200	% Recov	09/21/04	56.000	122.000	
MS	Phenol	108-95-2	4829.8	93.700	% Recov	09/21/04	42.000	111.000	
MS	Nitrobenzene-d5	4165-60-0	2887.2	84.000	% Recov	09/21/04	64.000	111.000	
MS	4-Nitrophenol	100-02-7	3747.6	72.700	% Recov	09/21/04	32.000	118.000	
MS	Pentachlorophenol	87-86-5	4656.8	90.400	% Recov	09/21/04	62.000	114.000	
MS	Phenol-d5	4165-62-2	2999.7	87.300	% Recov	09/21/04	54.000	120.000	
MS	Pyrene	129-00-0	3140.9	91.400	% Recov	09/21/04	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	2817.4	82.000	% Recov	09/21/04	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	3207.9	93.400	% Recov	09/21/04	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	2910.7	84.900	% Recov	09/21/04	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	2884.7	84.100	% Recov	09/21/04	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	2753.2	80.300	% Recov	09/21/04	59.000	100.000	
MSD	2-Fluorophenol	367-12-4	2932.1	85.500	% Recov	09/21/04	42.000	105.000	
MSD	Acenaphthene	83-32-9	2880.0	84.000	% Recov	09/21/04	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	4359.5	84.800	% Recov	09/21/04	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	4640.1	90.200	% Recov	09/21/04	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	2949.1	86.000	% Recov	09/21/04	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	2931.1	85.500	% Recov	09/21/04	56.000	122.000	
MSD	Phenol	108-95-2	4712.1	91.600	% Recov	09/21/04	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	2927.7	85.400	% Recov	09/21/04	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	3817.7	74.200	% Recov	09/21/04	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	4712.2	91.000	% Recov	09/21/04	62.000	114.000	
MSD	Phenol-d5	4165-62-2	2996.2	87.400	% Recov	09/21/04	54.000	120.000	
MSD	Pyrene	129-00-0	3235.0	94.400	% Recov	09/21/04	66.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	2781.3	81.100	% Recov	09/21/04	24.000	122.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025  
 Sample Date: 09/13/04  
 Receive Date: 09/13/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Terphenyl-d14 (7Cl)	98904-43-9	3234.2	94.300	% Recov	09/21/04	35.000	150.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	84.900	1.054	RPD	09/21/04	0.000	20.000	
SPK-RPD	1,4-Dichlorobenzene	106-46-7	84.100	3.160	RPD	09/21/04	0.000	20.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	80.300	6.692	RPD	09/21/04	0.000	20.000	
SPK-RPD	2-Fluorophenol	367-12-4	85.500	1.047	RPD	09/21/04	0.000	20.000	
SPK-RPD	Acenaphthene	83-32-9	84.000	3.513	RPD	09/21/04	0.000	20.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	84.800	2.216	RPD	09/21/04	0.000	20.000	
SPK-RPD	2-Chlorophenol	95-57-8	90.200	3.486	RPD	09/21/04	0.000	20.000	
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-84-7	86.000	0.695	RPD	09/21/04	0.000	20.000	
SPK-RPD	2-Fluorobiphenyl	321-60-8	85.500	2.727	RPD	09/21/04	0.000	20.000	
SPK-RPD	Phenol	108-95-2	91.600	2.267	RPD	09/21/04	0.000	20.000	
SPK-RPD	Nitrobenzene-d5	4165-60-0	85.400	1.653	RPD	09/21/04	0.000	20.000	
SPK-RPD	4-Nitrophenol	100-02-7	74.200	2.042	RPD	09/21/04	0.000	20.000	
SPK-RPD	Pentachlorophenol	87-86-5	91.600	1.319	RPD	09/21/04	0.000	20.000	
SPK-RPD	Phenol-d5	4165-62-2	87.400	0.114	RPD	09/21/04	0.000	20.000	
SPK-RPD	Pyrene	129-00-0	94.400	3.229	RPD	09/21/04	0.000	20.000	
SPK-RPD	2,4,6-Tribromophenol	118-79-6	81.100	1.104	RPD	09/21/04	0.000	20.000	
SPK-RPD	Terphenyl-d14 (7Cl)	98904-43-9	94.300	0.959	RPD	09/21/04	0.000	20.000	

## BATCH QC

BLANK	1,2,4-Trichlorobenzene	120-82-1	< 290	n/a	ug/Kg	09/21/04			U
BLANK	1,4-Dichlorobenzene	106-46-7	< 310	n/a	ug/Kg	09/21/04			U
BLANK	2,4-Dinitrotoluene	121-14-2	< 67	n/a	ug/Kg	09/21/04			U
BLANK	2-Fluorophenol	367-12-4	2982.3	88.900	% Recov	09/21/04	42.000	105.000	
BLANK	Acenaphthene	83-32-9	< 67	n/a	ug/Kg	09/21/04			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 67	n/a	ug/Kg	09/21/04			U
BLANK	2-Chlorophenol	95-57-8	< 150	n/a	ug/Kg	09/21/04			U
BLANK	N-Nitrosodi-n-dipropylamine	621-84-7	< 67	n/a	ug/Kg	09/21/04			U
BLANK	2-Fluorobiphenyl	321-60-8	2715.9	81.500	% Recov	09/21/04	56.000	122.000	
BLANK	Phenol	108-95-2	< 100	n/a	ug/Kg	09/21/04			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F03-025  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Nitrobenzene-d5	4165-60-0	2833.1	85.000	% Recov	09/21/04	64.000	111.000	
BLANK	4-Nitrophenol	100-02-7	< 650	n/a	ug/Kg	09/21/04			U
BLANK	Pentachlorophenol	87-86-5	< 300	n/a	ug/Kg	09/21/04			U
BLANK	Phenol-d5	4165-62-2	2838.9	85.200	% Recov	09/21/04	54.000	120.000	
BLANK	Pyrene	129-00-0	< 67	n/a	ug/Kg	09/21/04			U
BLANK	Tributyl phosphate	126-73-8	< 67	n/a	ug/Kg	09/21/04			U
BLANK	2,4,6-Tribromophenol	118-79-6	2510.8	75.300	% Recov	09/21/04	24.000	122.000	
BLANK	Terphenyl-d14 (7Cl)	98904-43-9	3191.0	95.700	% Recov	09/21/04	35.000	150.000	
LCS	1,2,4-Trichlorobenzene	120-82-1	2835.9	85.100	% Recov	09/21/04	46.000	107.000	
LCS	1,4-Dichlorobenzene	106-46-7	2869.5	86.100	% Recov	09/21/04	42.000	111.000	
LCS	2,4-Dinitrotoluene	121-14-2	2827.1	78.800	% Recov	09/21/04	59.000	106.000	
LCS	2-Fluorophenol	367-12-4	3290.5	98.700	% Recov	09/21/04	50.000	110.000	
LCS	Acenaphthene	83-32-9	2767.6	83.000	% Recov	09/21/04	61.000	116.000	
LCS	4-Chloro-3-methylphenol	59-50-7	4409.6	88.200	% Recov	09/21/04	61.000	106.000	
LCS	2-Chlorophenol	95-57-8	4795.9	95.900	% Recov	09/21/04	66.000	106.000	
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	2903.8	87.100	% Recov	09/21/04	71.000	114.000	
LCS	2-Fluorobiphenyl	321-60-8	2942.6	88.300	% Recov	09/21/04	58.000	109.000	
LCS	Phenol	108-95-2	4657.1	93.100	% Recov	09/21/04	67.000	105.000	
LCS	Nitrobenzene-d5	4165-60-0	2938.4	88.200	% Recov	09/21/04	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	3511.4	70.200	% Recov	09/21/04	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	4035.7	80.700	% Recov	09/21/04	62.000	114.000	
LCS	Phenol-d5	4165-62-2	3085.2	92.600	% Recov	09/21/04	59.000	116.000	
LCS	Pyrene	129-00-0	3115.4	93.500	% Recov	09/21/04	66.000	118.000	
LCS	2,4,6-Tribromophenol	118-79-6	3015.2	90.500	% Recov	09/21/04	60.000	120.000	
LCS	Terphenyl-d14 (7Cl)	98904-43-9	3213.0	96.400	% Recov	09/21/04	60.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001570  
 BATCH QC ASSOCIATED WITH SAMPLE

SURR	ortho-Terphenyl	Surr	84-15-1	28046	95.100	% Recov	09/20/04	70.000	130.000
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Lab ID: W040001605  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Kerosene		TPHKEROSENE	20044	100.000	% Recov	09/21/04	70.000	130.000
MS	ortho-Terphenyl	Surr	84-15-1	1068.2	102.000	% Recov	09/21/04	70.000	130.000
MSD	Kerosene		TPHKEROSENE	32074	101.000	% Recov	09/21/04	70.000	130.000
MSD	ortho-Terphenyl	Surr	84-15-1	1649.0	100.000	% Recov	09/21/04	70.000	130.000

Lab ID: W040001612  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Kerosene		TPHKEROSENE	63395	94.100	% Recov	09/21/04	70.000	130.000
MS	ortho-Terphenyl	Surr	84-15-1	3024.3	101.000	% Recov	09/21/04	70.000	130.000
MSD	Kerosene		TPHKEROSENE	47875	96.200	% Recov	09/21/04	70.000	130.000
MSD	ortho-Terphenyl	Surr	84-15-1	3763.7	108.000	% Recov	09/21/04	70.000	130.000

Lab ID: W040001618  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Kerosene		TPHKEROSENE	117850	94.500	% Recov	09/20/04	70.000	130.000
MS	ortho-Terphenyl	Surr	84-15-1	25924	104.000	% Recov	09/20/04	70.000	130.000
MSD	Kerosene		TPHKEROSENE	105870	85.000	% Recov	09/20/04	70.000	130.000
MSD	ortho-Terphenyl	Surr	84-15-1	22677	91.100	% Recov	09/20/04	70.000	130.000
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	91.100	13.224	RPD	09/20/04	0.000	20.000

## BATCH QC

BLANK	Kerosene		TPHKEROSENE	< 3800	n/a	ug/Kg	09/20/04		U
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# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
Matrix: SOLID  
Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F03-025  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	ortho-Terphenyl Surr	84-15-1	28089	112.000	% Recov	09/20/04	70.000	130.000	
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 3800	n/a	ug/Kg	09/20/04			U
LCS	ortho-Terphenyl Surr	84-15-1	26731	107.000	% Recov	09/20/04	70.000	130.000	
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	115680	92.500	% Recov	09/20/04	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: NWTPH-GX TPH Gasoline Range

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001570  
**BATCH QC ASSOCIATED WITH SAMPLE**

DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	< 250	n/a	RPD	09/16/04	0.000	20.000	U
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	8400	103.704	% Recov	09/16/04	50.000	150.000	
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	8200	101.235	% Recov	09/16/04	50.000	150.000	
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	101.235	2.409	RPD	09/16/04	0.000	20.000	

**BATCH QC**

BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	< 250	n/a	mg/L	09/16/04	0.000	300.000	U
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3900	113.043	% Recov	09/16/04	85.000	115.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001570  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	1,1-Dichloroethene	75-35-4	24.020	96.100	% Recov	09/16/04	63.000	117.000	
MS	Benzene	71-43-2	27.660	111.000	% Recov	09/16/04	75.000	129.000	
MS	4-Bromofluorobenzene	460-00-4	49.760	99.500	% Recov	09/16/04	84.000	116.000	
MS	Chlorobenzene	108-90-7	27.140	109.000	% Recov	09/16/04	79.000	119.000	
MS	1,2-Dichloroethane-d4	17060-07-0	58.150	116.000	% Recov	09/16/04	82.000	136.000	
MS	Toluene-d8	2037-26-5	54.290	109.000	% Recov	09/16/04	89.000	119.000	
MS	Toluene	108-88-3	27.180	109.000	% Recov	09/16/04	76.000	120.000	
MS	Trichloroethene	79-01-6	26.660	107.000	% Recov	09/16/04	73.000	123.000	
MSD	1,1-Dichloroethene	75-35-4	23.930	95.700	% Recov	09/16/04	63.000	117.000	
MSD	Benzene	71-43-2	27.610	110.000	% Recov	09/16/04	75.000	129.000	
MSD	4-Bromofluorobenzene	460-00-4	49.670	99.300	% Recov	09/16/04	84.000	116.000	
MSD	Chlorobenzene	108-90-7	27.770	111.000	% Recov	09/16/04	79.000	119.000	
MSD	1,2-Dichloroethane-d4	17060-07-0	59.350	119.000	% Recov	09/16/04	82.000	136.000	
MSD	Toluene-d8	2037-26-5	54.750	110.000	% Recov	09/16/04	89.000	119.000	
MSD	Toluene	108-88-3	27.520	110.000	% Recov	09/16/04	76.000	120.000	
MSD	Trichloroethene	79-01-6	26.670	107.000	% Recov	09/16/04	73.000	123.000	
SPK-RPD	1,1-Dichloroethene	75-35-4	95.700	0.417	RPD	09/16/04	0.000	25.000	
SPK-RPD	Benzene	71-43-2	110.000	0.905	RPD	09/16/04	0.000	25.000	
SPK-RPD	4-Bromofluorobenzene	460-00-4	99.300	0.201	RPD	09/16/04	0.000	25.000	
SPK-RPD	Chlorobenzene	108-90-7	111.000	1.818	RPD	09/16/04	0.000	25.000	
SPK-RPD	1,2-Dichloroethane-d4	17060-07-0	119.000	2.553	RPD	09/16/04	0.000	25.000	
SPK-RPD	Toluene-d8	2037-26-5	110.000	0.913	RPD	09/16/04	0.000	25.000	
SPK-RPD	Toluene	108-88-3	110.000	0.913	RPD	09/16/04	0.000	25.000	
SPK-RPD	Trichloroethene	79-01-6	107.000	0.000	RPD	09/16/04	0.000	25.000	
SURR	4-Bromofluorobenzene	460-00-4	49.010	98.000	% Recov	09/16/04	71.000	125.000	
SURR	1,2-Dichloroethane-d4	17060-07-0	59.470	119.000	% Recov	09/16/04	80.000	134.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Toluene-d8	2037-26-5	54.060	108.000	% Recov	09/16/04	80.000	126.000	
<b>BATCH QC</b>									
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1-Butanol	71-36-3	< 20	n/a	ug/Kg	09/16/04			U
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	4-Bromofluorobenzene	480-00-4	49.340	98.700	% Recov	09/16/04	71.000	125.000	
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	1,2-Dichloroethane-d4	17060-07-0	60.160	120.000	% Recov	09/16/04	80.000	134.000	
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/Kg	09/16/04			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: F03-025  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Toluene-d8	2037-26-5	54.630	109.000	% Recov	09/16/04	80.000	126.000	
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/Kg	09/16/04			U
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/Kg	09/16/04			U
LCS	1,1-Dichloroethene	75-35-4	53.950	108.000	% Recov	09/16/04	70.000	130.000	
LCS	Benzene	71-43-2	54.930	110.000	% Recov	09/16/04	70.000	130.000	
LCS	4-Bromofluorobenzene	480-00-4	112.90	113.000	% Recov	09/16/04	71.000	125.000	
LCS	Chlorobenzene	108-90-7	54.970	110.000	% Recov	09/16/04	70.000	130.000	
LCS	1,2-Dichloroethane-d4	17060-07-0	115.00	115.000	% Recov	09/16/04	80.000	134.000	
LCS	Toluene-d8	2037-26-5	111.00	111.000	% Recov	09/16/04	80.000	126.000	
LCS	Toluene	108-88-3	2100.0	4320.000	% Recov	09/16/04	70.000	130.000	
LCS	Trichloroethene	79-01-6	51.150	102.000	% Recov	09/16/04	70.000	130.000	

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: Steve Trent  
 Project: F03-025: F03-025

Group #: WSCF20041555

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive	
<b>Radiochemistry</b>														
W040001570	B191F8	GRP	TRENT	14596-10-2	Americium-241	SOIL	LA-508-471	U		0.0130	pCi/g	1.00	0.029	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Am-241 by AEA Total Cntg Error	SOIL	LA-508-471	+		0.018	pCi/g	1.00	0.0	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	10198-40-0	Cobalt-60	SOIL	LA-508-481	U		0.0100	pCi/g	1.00	0.019	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Co-60 Rel. Count Error (GEA)	SOIL	LA-508-481	+		0.011	pCi/g	1.00	0.0	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	10045-97-3	Cesium-137	SOIL	LA-508-481	U		8.26e-03	pCi/g	1.00	0.019	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Cs-137 Rel. Count Error (GEA)	SOIL	LA-508-481	+		0.013	pCi/g	1.00	0.0	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	14683-23-9	Europium-152	SOIL	LA-508-481	U		-0.0158	pCi/g	1.00	0.048	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Eu-152 Rel. Count Error (GEA)	SOIL	LA-508-481	+		0.049	pCi/g	1.00	0.0	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	15585-10-1	Europium-154	SOIL	LA-508-481	U		-0.0440	pCi/g	1.00	0.056	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Eu-154 Rel. Count Error (GEA)	SOIL	LA-508-481	+		0.044	pCi/g	1.00	0.0	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	14391-16-3	Europium-155	SOIL	LA-508-481			0.144	pCi/g	1.00	0.068	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Eu-155 Rel. Count Error (GEA)	SOIL	LA-508-481	+		0.060	pCi/g	1.00	0.0	09/17/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	13994-20-2	Neptunium-237	SOIL	LA-508-471	U		1.80e-03	pCi/g	1.00	8.5e-03	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Np-237 by AEA Total Cntg Error	SOIL	LA-508-471	+		1.8e-03	pCi/g	1.00	0.0	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	13981-16-3	Plutonium-238	SOIL	LA-508-471	U		-0.0140	pCi/g	1.00	0.066	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Pu-238 by AEA Total Cntg Error	SOIL	LA-508-471	+		0.014	pCi/g	1.00	0.0	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	PU-239/240	Pu-239/240 by AEA	SOIL	LA-508-471	U		2.30e-03	pCi/g	1.00	0.017	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	Pu-239/240 AEA Total Cntg Err	SOIL	LA-508-471	+		2.3e-03	pCi/g	1.00	0.0	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	U-233/234	Uranium-233/234	SOIL	LA-508-471			0.220	pCi/g	1.00	0.020	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	U-233/234 AEA Total Cntg Error	SOIL	LA-508-471	+		0.070	pCi/g	1.00	0.0	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	15117-96-1	Uranium-235	SOIL	LA-508-471			0.0100	pCi/g	1.00	5.6e-03	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	U-235 by AEA Total Cntg Error	SOIL	LA-508-471	+		9.3e-03	pCi/g	1.00	0.0	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	U-238	Uranium-238	SOIL	LA-508-471			0.240	pCi/g	1.00	5.1e-03	09/29/04 09/07/04 09/07/04
W040001570	B191F8	GRP	TRENT	E.T.C	U-238 by AEA Total Cntg Error	SOIL	LA-508-471	+		0.074	pCi/g	1.00	0.10	09/29/04 09/07/04 09/07/04

MDL=Minimum Detection Limit  
 RQ=Result Qualifier

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

U - Analyzed for but not detected above limiting criteria.

DF=Dilution Factor

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

Report WGPP/ver. 1  
 Groundwater Remediation Program

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
Matrix: SOLID  
Test: Plutonium Isotopics by AEA

SAF Number: F03-025  
Sample Date: 08/31/04  
Receive Date: 08/31/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001547  
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Pu-239/240 by AEA	PU-239/240	6.6e-03	37.838	RPD	09/29/04	0.000	20.000	*
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## BATCH QC

BLANK	Pu-239/240 by AEA	PU-239/240	4.7e-03	0.005	pCi/g	09/29/04	-10.000	1000.000	
LCS	Pu-239/240 by AEA	PU-239/240	55.5	112.805	% Recov	09/29/04	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Americium by AEA

SAF Number: F03-025  
 Sample Date: 08/31/04  
 Receive Date: 08/31/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001547  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Americium-241	14596-10-2	1.2e-02	28.571	RPD	09/29/04	0.000	20.000	*
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**BATCH QC**

BLANK	Americium-241	14596-10-2	2.8e-02	0.028	pCi/g	09/29/04	-10.000	1000.000	
LCS	Americium-241	14596-10-2	43.55	82.795	% Recov	09/29/04	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
Matrix: SOLID  
Test: Uranium Isotopics by AEA

SAF Number: F03-025  
Sample Date: 08/31/04  
Receive Date: 08/31/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001547  
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Uranium-238	U-238	2.5e-01	17.391	RPD	09/29/04	0.000	20.000	
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## BATCH QC

BLANK	Uranium-238	24678-82-8	1.5e-02	0.015	pCi/g	09/29/04	-10.000	1000.000	
LCS	Uranium-238	24678-82-8	8.4e+01	110.789	% Recov	09/29/04	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Neptunium by AEA

SAF Number: F03-025  
 Sample Date: 08/31/04  
 Receive Date: 08/31/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001547  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Neptunium-237	13994-20-2	1.9e-3	7400.000	RPD	09/29/04	0.000	25.000	*
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**BATCH QC**

BLANK	Neptunium-237	13994-20-2	1.5e-03	0.002	pCi/g	09/29/04	-10.000	1000.000	
ICS	Neptunium-237	13994-20-2	6.0e+01	60.000	% Recov	09/30/04	75.000	125.000	*

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20041555  
 Matrix: SOLID  
 Test: Gamma Energy Analysis-grd H2O

SAF Number: F03-025  
 Sample Date: 09/07/04  
 Receive Date: 09/07/04

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W040001570  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Cobalt-60	10198-40-0	U7.59e-03	n/a	RPD	09/20/04	0.000	20.000	
DUP	Cesium-137	10045-97-3	U-5.80e-4	n/a	RPD	09/20/04	0.000	20.000	
DUP	Europium-152	14683-23-9	U3.17e-03	n/a	RPD	09/20/04	0.000	20.000	
DUP	Europium-154	15585-10-1	U-1.90e-2	n/a	RPD	09/20/04	0.000	20.000	
DUP	Europium-155	14391-16-3	1.01e-01	35.102	RPD	09/20/04	0.000	20.000	*

### BATCH QC

BLANK	Cobalt-60	10198-40-0	U-1.4e-3	n/a	pCi/g	09/21/04	-10.000	1000.000	
BLANK	Cesium-137	10045-97-3	U9.23e-4	n/a	pCi/g	09/21/04	-10.000	1000.000	
BLANK	Europium-152	14683-23-9	U-6.4e-3	n/a	pCi/g	09/21/04	-10.000	1000.000	
BLANK	Europium-154	15585-10-1	U3.95e-3	n/a	pCi/g	09/21/04	-10.000	1000.000	
BLANK	Europium-155	14391-16-3	U2.07e-3	n/a	pCi/g	09/21/04	-10.000	1000.000	
LCS	Cobalt-60	10198-40-0	4.25e+03	101.432	% Recov	09/20/04	80.000	120.000	
LCS	Cesium-137	10045-97-3	3.81e+03	106.425	% Recov	09/20/04	80.000	120.000	

# WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent  
Project Number F03-025

Group #: WSCF20041555

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		SVOA/PCB/TPH-D: Sample concentrations have been corrected for moisture and are reported on a dry weight basis. den/gar

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

## TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent  
 Project Number F03-025 :F03-025

Group #: WSCF20041555

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error			13	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error			13	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error			14	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error			16	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error			16	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error			16	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error			16	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error			18	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error			19	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	TH-234 Count Error			22	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	U-235 Count Error			22	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error			23	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error			29	%
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	CS-134			0.070	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	U-235			0.15	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	SN-126			0.37	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	TL-208			0.40	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	BI-212			0.75	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	BI-214			0.92	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	RA-226			0.92	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	PB-214			1.0	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	AC-228			1.2	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	RA-228			1.2	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	PB-212			1.3	pCi/g
W040001570	B191F8	GRP TRENT	Gamma Energy Analysis-grd H2O	TH-234			1.8	pCi/g

RQ=Result Qualifier

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**Groundwater Remediation Program**

WGPE v 1 Report#: 20041555

Report Date: 7-oct-2004

Page 1

# WSCF

## TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent  
Project Number F03-025 :F03-025

Group #: WSCF20041555

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W040001570	B191F8 GRP	TRENT	Gamma Energy Analysis-grd H2O	K-40			21	pCi/g
W040001570	B191F8 GRP	TRENT	SW-846 8270B Semi-Vols	SMF 14.949 Di-n-butylphthalate	84-74-2	14.94913	1.7e+02	ug/kg

RQ=Result Qualifier

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*Groundwater Remediation Program*

WGPPE v 1 Report#: 20041555

Report Date: 7-oct-2004

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# WSCF

## METHOD REFERENCES REPORT

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.

<b>LA-212-411</b>	<b>Determination of Soil pH Measurement</b> EPA SW-846 9045C	<b>SOIL AND WASTE pH</b>
<b>LA-503-401</b>	<b>LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY</b> EPA-600/4-86-024 300.7	<b>Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical</b>
<b>LA-505-411</b>	<b>LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE</b> EPA SW-846 6010B	<b>INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY</b>
<b>LA-505-412</b>	<b>LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY</b> EPA-600/R-94-111 200.8	<b>DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS</b>
<b>LA-508-471</b>	<b>LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP</b> None	<b>No reference to any industry method.</b>
<b>LA-508-481</b>	<b>LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE</b> None	<b>No reference to any industry method.</b>
<b>LA-519-412</b>	<b>LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C</b> EPA-600/4-79-020 160.3 Standard Methods 2540B	<b>RESIDUE, TOTAL</b> <b>Total Solids Dried at 103-105 C</b>
<b>LA-523-427</b>	<b>LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY</b> EPA SW-846 3510C EPA SW-846 3545	<b>SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION</b> <b>PRESSURIZED FLUID EXTRACTION (PFE)</b>

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <\\ap006\asppdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf>. This document includes on-line links to full-text versions of the procedures and methods, where available.

# WSCF

## METHOD REFERENCES REPORT

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	EPA SW-846 3665A	SULFURIC ACID/PERMANGANATE CLEANUP
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8082	POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY
LA-523-443	LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCA 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)
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)
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
NWTPH	NWTPH-Diesel and/or Gasoline	
	WDOE NWTPH-Dx/Gx	Total Petroleum Hydrocarbons - Diesel/Gasoline
Organics	Organics - Alcohols, Glycols	

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf>. This document includes on-line links to full-text versions of the procedures and methods, where available.

Report Date: 7-oct-2004

Report#: WSCF20041555

Report WGPPM/O

# WSCF

## METHOD REFERENCES REPORT

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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.

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EPA SW-846 8015B

Nonhalogenated Organics Using GC/FID

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Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf>. This document includes on-line links to full-text versions of the procedures and methods, where available.

Report Date: 7-oct-2004

Report#: WSCF20041555

Report WGPPM/0

W13q Worklist/Batch/QC Report for Group# WSCF20041555

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W040001570	Percent Solids
				SAMPLE	W040001570	pH Soil and Waste Measurement
23229	2	23596	26796	BLANK		Ammonia (N) by IC
23229	12	23596	26796	BLANK		Ammonia (N) by IC
23229	3	23596	26796	LCS		Ammonia (N) by IC
23229	5	23596	26796	DUP	W040001547	Ammonia (N) by IC
23229	6	23596	26796	MS	W040001547	Ammonia (N) by IC
23229	7	23596	26796	MSD	W040001547	Ammonia (N) by IC
23229	9	23596	26796	SAMPLE	W040001570	Ammonia (N) by IC
23245	1	23613	26817	BLANK		ICP-2008 MS All possible metal
23245	2	23613	26817	LCS		ICP-2008 MS All possible metal
23245	10	23613	26817	SAMPLE	W040001570	ICP-2008 MS All possible metal
23245	4	23613	26817	MS	W040001605	ICP-2008 MS All possible metal
23245	5	23613	26817	MSD	W040001605	ICP-2008 MS All possible metal
23245	0	23613	26817	SPK-RPD	W040001605	ICP-2008 MS All possible metal
			26828	BLANK		Cyanide by Midi/Spectrophotom
			26828	BLNK-PREP		Cyanide by Midi/Spectrophotom
			26828	LCS		Cyanide by Midi/Spectrophotom
			26828	MS	W040001547	Cyanide by Midi/Spectrophotom
			26828	MSD	W040001547	Cyanide by Midi/Spectrophotom
			26828	SPK-RPD	W040001547	Cyanide by Midi/Spectrophotom
			26828	SAMPLE	W040001570	Cyanide by Midi/Spectrophotom
23269	2	23637	26837	BLANK		Anions by Ion Chromatography
23269	10	23637	26837	BLANK		Anions by Ion Chromatography
23269	3	23637	26837	LCS		Anions by Ion Chromatography
23269	8	23637	26837	SAMPLE	W040001570	Anions by Ion Chromatography
23269	5	23637	26837	DUP	W040001618	Anions by Ion Chromatography
23269	6	23637	26837	MS	W040001618	Anions by Ion Chromatography
23269	7	23637	26837	MSD	W040001618	Anions by Ion Chromatography
23251	1	23619	26841	BLANK		ICP Metals Analysis, Grd H20 P
23251	2	23619	26841	LCS		ICP Metals Analysis, Grd H20 P
23251	4	23619	26841	MS	W040001540	ICP Metals Analysis, Grd H20 P
23251	5	23619	26841	MSD	W040001540	ICP Metals Analysis, Grd H20 P
23251	0	23619	26841	SPK-RPD	W040001540	ICP Metals Analysis, Grd H20 P
23251	8	23619	26841	SAMPLE	W040001570	ICP Metals Analysis, Grd H20 P
			26916	BLANK		PCBs complete list
			26916	LCS		PCBs complete list
			26916	SAMPLE	W040001570	PCBs complete list
			26916	SURR	W040001570	PCBs complete list
			26916	MS	W040001612	PCBs complete list
			26916	MSD	W040001612	PCBs complete list
			26916	MS	W040001618	PCBs complete list
			26916	MSD	W040001618	PCBs complete list
			26916	SPK-RPD	W040001618	PCBs complete list
			26917	BLANK		WTPH-D TPH Diesel Range (Wa)
			26917	LCS		WTPH-D TPH Diesel Range (Wa)
			26917	SAMPLE	W040001570	WTPH-D TPH Diesel Range (Wa)

26917			SURR	W040001570	WTPH-D TPH Diesel Range (Wa)
26917			MS	W040001605	WTPH-D TPH Diesel Range (Wa)
26917			MSD	W040001605	WTPH-D TPH Diesel Range (Wa)
26917			MS	W040001612	WTPH-D TPH Diesel Range (Wa)
26917			MSD	W040001612	WTPH-D TPH Diesel Range (Wa)
26917			MS	W040001618	WTPH-D TPH Diesel Range (Wa)
26917			MSD	W040001618	WTPH-D TPH Diesel Range (Wa)
26917			SPK-RPD	W040001618	WTPH-D TPH Diesel Range (Wa)
26919			BLANK		SW-846 8270B Semi-Vols
26919			LCS		SW-846 8270B Semi-Vols
26919			SAMPLE	W040001570	SW-846 8270B Semi-Vols
26919			SURR	W040001570	SW-846 8270B Semi-Vols
26919			MS	W040001605	SW-846 8270B Semi-Vols
26919			MSD	W040001605	SW-846 8270B Semi-Vols
26919			MS	W040001612	SW-846 8270B Semi-Vols
26919			MSD	W040001612	SW-846 8270B Semi-Vols
26919			MS	W040001618	SW-846 8270B Semi-Vols
26919			MSD	W040001618	SW-846 8270B Semi-Vols
26919			SPK-RPD	W040001618	SW-846 8270B Semi-Vols
23416	1	23784	27005	BLANK	Plutonium Isotopics by AEA
23416	2	23784	27005	LCS	Plutonium Isotopics by AEA
23416	3	23784	27005	DUP	W040001547 Plutonium Isotopics by AEA
23416	6	23784	27005	SAMPLE	W040001570 Plutonium Isotopics by AEA
23417	1	23783	27006	BLANK	Americium by AEA
23417	2	23783	27006	LCS	Americium by AEA
23417	3	23783	27006	DUP	W040001547 Americium by AEA
23417	6	23783	27006	SAMPLE	W040001570 Americium by AEA
23418	1	23785	27007	BLANK	Uranium Isotopics by AEA
23418	2	23785	27007	LCS	Uranium Isotopics by AEA
23418	3	23785	27007	DUP	W040001547 Uranium Isotopics by AEA
23418	6	23785	27007	SAMPLE	W040001570 Uranium Isotopics by AEA
23415	1	23782	27029	BLANK	Neptunium by AEA
23415	2	23782	27029	LCS	Neptunium by AEA
23415	3	23782	27029	DUP	W040001547 Neptunium by AEA
23415	6	23782	27029	SAMPLE	W040001570 Neptunium by AEA
23259	1	23625	27048	BLANK	Gamma Energy Analysis-grd H2O
23259	2	23625	27048	LCS	Gamma Energy Analysis-grd H2O
23259	3	23625	27048	DUP	W040001570 Gamma Energy Analysis-grd H2O
23259	4	23625	27048	SAMPLE	W040001570 Gamma Energy Analysis-grd H2O
23534	1	23898	27114	BLANK	NWTPH-GX TPH Gasoline Range
23534	2	23898	27114	LCS	NWTPH-GX TPH Gasoline Range
23534	4	23898	27114	DUP	W040001570 NWTPH-GX TPH Gasoline Range
23534	5	23898	27114	MS	W040001570 NWTPH-GX TPH Gasoline Range
23534	6	23898	27114	MSD	W040001570 NWTPH-GX TPH Gasoline Range
23534	3	23898	27114	SAMPLE	W040001570 NWTPH-GX TPH Gasoline Range
23534	6	23898	27114	SPK-RPD	W040001570 NWTPH-GX TPH Gasoline Range
23537	1	23901	27116	BLANK	Alcohols, Glycols - 8015
23537	2	23901	27116	LCS	Alcohols, Glycols - 8015
23537	4	23901	27116	DUP	W040001570 Alcohols, Glycols - 8015
23537	5	23901	27116	MS	W040001570 Alcohols, Glycols - 8015
23537	6	23901	27116	MSD	W040001570 Alcohols, Glycols - 8015
23537	3	23901	27116	SAMPLE	W040001570 Alcohols, Glycols - 8015

23537	6	23901	27116	SPK-RPD	W040001570	Alcohols, Glycols - 8015
			27123	BLANK		VOA Ground Water Protection
			27123	LCS		VOA Ground Water Protection
			27123	MS	W040001570	VOA Ground Water Protection
			27123	MSD	W040001570	VOA Ground Water Protection
			27123	SAMPLE	W040001570	VOA Ground Water Protection
			27123	SPK-RPD	W040001570	VOA Ground Water Protection
			27123	SURR	W040001570	VOA Ground Water Protection

M8141-SLF-04-280

ATTACHMENT 3

**SAMPLE RECEIPT INFORMATION**

Consisting of 4 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  
13  
10/7/04

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354  
Attn: Steve Trent

Customer Code: GPP  
PO#: 119143/ES20  
Group#: 20041555  
Project#: F03-025  
Proj Mgr: Steve Trent  
Phone: 373-5869

A0-21

The following samples were received from you on 09/07/04. 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
W040001570	B191F8	GRP	TRENT Solid, or handle as if solid	09/07/04
		@2008	@8015GPP @AEA-30 @AEA-31 @AEA-32	
		@AEA-33	@GEA-GPP @GPP6010 @IC-30 @PCBGPP @SVOC	
		@TPHD-WA @TPHG-WA @VOA-GPP CN-02 NH4-IC PERSO		
		PH-30		

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@8015GPP	Alcohols, Glycols - 8015
@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
@GPP6010	ICP Metals Analysis, Grd H2O P
@IC-30	Anions by Ion Chromatography
@PCBGPP	PCBs complete list
@SVOCGPP	SW-846 8270B Semi-Vols
@TPHD-WA	WTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
@VOA-GPP	VOA Ground Water Protection
CN-02	Cyanide by Midi/Spectrophotom
NH4-IC	Ammonia (N) by IC
PERSOLID	Percent Solids
PH-30	pH Soil and Waste Measurement

10/7/04

FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F03-025-100		PAGE 1 OF 2				
COLLECTOR Pope/Pfister/Wiberg/Tyra		COMPANY CONTACT TRENT, STEVE		TELEPHONE NO. 373-5689		PROJECT COORDINATOR TRENT, SJ		PRICE CODE 8N		DATA TURNAROUND 45 Days / 45 Days				
SAMPLING LOCATION 216-S-20, 450ft 100.5ft 151.5' - 154' 4-7-04		PROJECT DESIGNATION 200-LW-1/LW-2 Characterization - Soil				SAF NO. F03-025		AIR QUALITY <input type="checkbox"/>						
ICE CHEST NO.		FIELD LOGBOOK NO. HNF-N-356 1		COA 119143ES10		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 N/A		PRESERVATION		Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
			TYPE OF CONTAINER		Gs*	aG	aG	Gs*	P	aG	aG			
			NO. OF CONTAINER(S)		3	1	1	3	1	1	1			
			VOLUME		40mL	120mL	120mL	40mL	500mL	250mL	120mL			
SPECIAL HANDLING AND/OR STORAGE N/A 20041555		SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	SEE ITEM (6) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.		MATRIX*		SAMPLE DATE		SAMPLE TIME								
B191F8		SOIL W040001570		9-7-04		0705		X	X	X	X	X	X	
CHAIN OF POSSESSION				SIGN/ PRINT NAMES				SPECIAL INSTRUCTIONS						
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME		SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS						
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME								
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME								
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME								
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME								
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME								
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME								
LABORATORY SECTION		RECEIVED BY				TITLE				DATE/TIME				
FINAL SAMPLE DISPOSITION		DISPOSAL METHOD				DISPOSED BY				DATE/TIME				

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FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-025-100	PAGE 2 OF 2
<b>COLLECTOR</b> Pope/Pfister/Wiberg/Tyra	<b>COMPANY CONTACT</b> TRENT, STEVE	<b>TELEPHONE NO.</b> 373-5689	<b>PROJECT COORDINATOR</b> TRENT, SJ	<b>PRICE CODE</b> 8N	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> 216-S-20; <del>158R-160.5R</del> 15/5'-154 28 7.9-14	<b>PROJECT DESIGNATION</b> 200-LW-1/LW-2 Characterization - Soil		<b>SAF NO.</b> F03-025	<b>AIR QUALITY</b> <input type="checkbox"/>	45 Days
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> HNF-N-356 1	<b>COA</b> 119143E510	<b>METHOD OF SHIPMENT</b> Government Vehicle		
<b>SHIPPED TO</b> Waste Sampling & Characterization	<b>OFFSITE PROPERTY NO.</b> N/A		<b>BILL OF LADING/AIR BILL NO.</b> N/A		

**SPECIAL INSTRUCTIONS**

The lab is to analyze pH within 24 hours of sample receipt. The lab is to report kerosene range organics from the WTPH-D analysis. FH acknowledges that the analytical holding time for Nitrate, Nitrite and Phosphate by EPA Method 300.0 will not be met.

- (1)VOA - 8260A (TCL); VOA - 8260A (Add-On) {1-Butanol}
- (2)Semi-VOA - 8270A (TCL) {Phenol} Semi-VOA -- 8270A (Add-On) {Tributyl phosphate} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range} TPH-Gasoline Range - WTPH-G;
- (3)Alcohols, Glycols, & Ketones - 8015 {Ethylene glycol}
- (4)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Gamma Spec - Add-on <sup>mt 8-4-01</sup> {Antimony-125, Cesium-134} Isotopic Plutonium; Isotopic Uranium; Neptunium-237; Americium-241;
- (5)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Copper, Nickel, Silver} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Mercury, Selenium, Uranium} ICP Metals - 6010A (Add-on) {Bismuth}
- (6)IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate} Cations (IC) - 300.7 {Nitrogen in ammonium} Cyanide (Total) - 335.2; pH (Soil) - 9045;