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FLUOR

Memorandum

M8141-SLF-05-193

To:	S. J. Trent	A0-21	Date:	April 25, 2005
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 WSCF20050656 - 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 WSCF20050656, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

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M8141-SLF-05-193

ATTACHMENT 1

NARRATIVE

Consisting of 8 pages
Including cover page

Sample Delivery Group	**WSCF20050656**
Sample Matrix	**Soil**
Sample Visual	**N/A**
SAF Number	**F03-025**
Data Deliverable	**Summary Report**

Introduction

One (1) 200-LW-1/LW-2 Characterization (216-Z-7 [215' – 217.5']), sample (B19412) was received at the WSCF Laboratory on March 23, 2005. 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 sample receipt 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 6010B. 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 8082B. Analytical work was performed with no deviations to the approved method.
- Semi-VOA by EPA Method 8270C. Analytical work was performed with no deviations to the approved method.
- TPH Diesel Range by WDOE Method NWTPH-Dx. Analytical work was performed with no deviations to the approved method.
- TPH Gas Range by WDOE Method NWTPH-Gx. Analytical work was performed with no deviations to the approved method.
- VOA by EPA Method 8260B. Analytical work was performed with no deviations to the approved method.

Radiochemistry

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

Inorganic Comments

Ammonia - The hold time for this analysis was met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 13 for QC details. Analytical Note:

- Duplicate, Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19411 (SDG# 20050622, SAF# F03-025).

All QC controls are within the established limits.

Anions - The hold times for Nitrite and Nitrate analysis were not 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 14 through 15 for QC details. Analytical Notes:

- Preparation Date: 14-apr-2005.
- Chloride – The Duplicate Relative Percent Difference exceeded established laboratory limits, however, the Matrix Spike and Matrix Spike Duplicate analytical results were acceptable.

- Sulfate - Sample result was B-flagged; the analyte was less than the reportable detection limits, but greater than or equal to the method detection limit.

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 16 for QC details.

All QC controls are within the established limits.

ICP-AES Metals (Boron and 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 17 for QC details. Analytical Notes:

- Preparation Date: 30-mar-2005.
- Boron and Bismuth - The analytes detected in the associated preparation Blank sample were evaluated and there was no significant effect on the sample results.

All other 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 18 through 20 for QC details. Analytical Notes:

- Preparation Date: 30-mar-2005.
- Antimony – The Laboratory Control Sample recovery exceeded established laboratory limits, but was within manufacturer's limits.

All other QC controls are within the established limits.

Percent Solids – analyzed for organic moisture correction.

pH - The hold time for this analysis was met. All laboratory QC controls are within the established limits. See page 21 for QC details.

Organic Comments

- 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 25 for QC details. Analytical Notes:

- Preparation Date: 01-apr-2005.

- Duplicate, Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19411 (SDG# 20050622, SAF# F03-025).

- Ethylene glycol – The Spike Relative Percent Difference slightly exceeded established laboratory limits, however, the Matrix Spike and Matrix Spike Duplicate QC recoveries were within established laboratory limits. Sample result was below the detection limit and U-flagged.

All other QC controls are within the established limits.

PCBs – 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 26 through 27 for QC details. Analytical Notes:

- Preparation Date: 23-mar-2005.

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19411 (SDG# 20050622, 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 28 through 31 for QC details. Analytical Note:

- Preparation Date: 31-mar-2005.

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 page 32 for QC details. Analytical Note:

- Preparation Date: 23-mar-2005.

All QC controls are within the established limits.

TPHG-WA - The hold time for this analysis were met. A Blank, Laboratory Control Sample, Duplicate, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 33 for QC details. Analytical Notes:

- Preparation Date: 31-mar-2005.

- Duplicate, Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19411 (SDG# 20050622, SAF# F03-025).

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:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19411 (SDG# 20050622, SAF# F03-025).

All QC controls are within the established limits.

Radiochemistry Comments

RadChem – There are no hold times associated with WSCF's radiochemical methods. A Blank, Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 38 through 41 for QC details. Analytical Notes:

- Neptunium-237 –Laboratory control sample (LCS) recovery was below established limits and not reported. The low LCS recovery may be attributed to a slight excess of ascorbic acid which occurs due to low iron levels in the matrix and causes retention of the Neptunium during separation. Analytical method is under review.

- Uranium-238 - Duplicate QC was flagged due to poor Relative Percent Difference (RPD). However, since all of the other QC checks were within established limits, the analytical results were accepted.

- Uranium-234, Urananium-235 and Plutonium-238 - Additional Batch QC Data are summarized below:

Additional Batch QC Data (Results)

Sample Number	Lab Sample ID	Isotope	QC	
			Results (pCi/gram)	RPD %
Uranium-234/ Uranium-235				
BLANK		U-234	6.266E-02	
BLANK		U-235	2.073E-02	
B19412	W050001051	U-234	1.256E-01	
DUPLICATE	W050001051	U-234	1.099E-01	13.3
B19412	W050001051	U-235	9.519E-03	
DUPLICATE	W050001051	U-235	1.108E-02	15.2

Additional Batch QC Data (Results)				
Sample Number	Lab Sample ID	Isotope	QC	
			Results (pCi/gram)	RPD %
Plutonium-238				
BLANK		Pu-238	-1.462E-02	
B19412	W050001051	Pu-238	1.687E-03	
DUPLICATE	W050001051	Pu-238	-7.881E-03	308.9

- Plutonium-242, Americium-243 and Uranium-232 – Radiochemical Tracer Recovery Data are summarized below:

Radiochemical Tracer Recovery			
Sample Number	Lab Sample ID	Isotope	Tracer Recovery (Percent)
Plutonium-242			
BLANK		Pu-242	71.9
LCS		Pu-242	86.7
B19412	W050001051	Pu-242	85.8
DUPLICATE	W050001051	Pu-242	101.9
Americium-243			
BLANK		Am-243	64.8
LCS		Am-243	78.5
B19412	W050001051	Am-243	92.5
DUPLICATE	W050001051	Am-243	94.3
Uranium-232			
BLANK		U-232	84.5

Radiochemical Tracer Recovery			
Sample Number	Lab Sample ID	Isotope	Tracer Recovery (Percent)
LCS		U-232	102.8
B19412	W050001051	U-232	86.5
DUPLICATE	W050001051	U-232	99.9

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.

Pauline D. Mix
WSCF Client Services

Abbreviations
Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline
Am – americium
Cm - curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

M8141-SLF-05-193

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 40 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.O. Mix 4/22/2005

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#: WSCF20050656
Report Date: 21-apr-2005
Report WGPP/ver. 1.1
Groundwater Remediation Program

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050656

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Inorganic															
W050001051	B19412	GRP	TRENT	57-12-5	Cyanide	SOIL	LA-695-402	U	< 0.200	mg/kg	1.00	0.20	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	NH4-N	Nitrogen in ammonium	SOIL	LA-503-401		0.290	mg/kg	50.00	0.20	03/24/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	TS	Total solids	SOIL	LA-519-412		96.6	%	1.00	0.0	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	PH	pH Measurement	SOIL	LA-212-411		8.77	pH	1.00	0.010	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	16984-48-8	Fluoride	SOIL	LA-533-410	U	< 1.13	mg/kg	49.00	1.1	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	16887-00-6	Chloride	SOIL	LA-533-410		5.04	mg/kg	49.00	2.5	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	NO2-N	Nitrogen in Nitrite	SOIL	LA-533-410	U	< 0.931	mg/kg	49.00	0.93	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	NO3-N	Nitrogen in Nitrate	SOIL	LA-533-410	U	< 0.637	mg/kg	49.00	0.64	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	PO4-P	Phosphate (P) by IC	SOIL	LA-533-410	U	< 2.65	mg/kg	49.00	2.6	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	14808-79-8	Sulfate	SOIL	LA-533-410	B	5.62	mg/kg	49.00	4.9	04/14/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-42-8	Boron	SOIL	LA-505-411	U	< 2.59	mg/kg	99.70	2.6	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-69-9	Bismuth	SOIL	LA-505-411	U	< 2.19	mg/kg	99.70	2.2	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		21.0	mg/kg	9.78	0.20	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412		0.163	mg/kg	9.78	9.8e-03	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 6.98	mg/kg	9.78	7.0	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		32.2	mg/kg	9.78	0.90	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-41-7	Beryllium	SOIL	LA-505-412		0.194	mg/kg	9.78	0.020	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0196	mg/kg	9.78	0.020	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		35.8	mg/kg	9.78	3.3	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		7.88	mg/kg	9.78	0.63	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		1.96	mg/kg	9.78	0.25	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412		0.677	mg/kg	9.78	9.8e-03	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.208	mg/kg	9.78	0.16	03/30/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412	U	< 2.35	mg/kg	9.78	2.4	04/06/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	< 0.714	mg/kg	9.78	0.71	04/06/05	03/23/05	03/23/05

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

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Ammonia (N) by IC

SAF Number: F03-025
Sample Date: 03/18/05
Receive Date:03/18/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001015									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Ammonia (N) by IC	7664-41-7	4.68e-01	7.407	RPD	03/24/05	0.000	20.000	
MS	Ammonia (N) by IC	7664-41-7	3.80e-01	92.233	% Recov	03/24/05	75.000	125.000	
MSD	Ammonia (N) by IC	7664-41-7	3.88e-01	94.175	% Recov	03/24/05	75.000	125.000	
BATCH QC									
BLANK	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	mg/L	03/24/05	0.000	30.000	U
BLANK	Ammonia (N) by IC	7664-41-7	<4.00e-3	n/a	mg/L	03/24/05	0.000	30.000	U
LCS	Ammonia (N) by IC	7664-41-7	7.44e+01	90.291	% Recov	03/24/05	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Anions by Ion Chromatography

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Chloride	16887-00-6	3.71e+00	30.400	RPD	04/14/05	0.000	20.000	
DUP	Fluoride	16984-48-8	<1.13e0	n/a	RPD	04/14/05	0.000	20.000	U
DUP	Nitrogen in Nitrite	NO2-N	<9.31e-1	n/a	RPD	04/14/05	0.000	20.000	U
DUP	Nitrogen in Nitrate	NO3-N	1.27e+00	n/a	RPD	04/14/05	0.000	20.000	
DUP	Phosphate (P) by IC	PO4-P	<2.65e0	n/a	RPD	04/14/05	0.000	20.000	U
DUP	Sulfate	14808-79-8	<4.90e0	n/a	RPD	04/14/05	0.000	20.000	U
MS	Chloride	16887-00-6	9.40e-01	94.000	% Recov	04/14/05	75.000	125.000	
MS	Fluoride	16984-48-8	4.71e-01	95.344	% Recov	04/14/05	75.000	125.000	
MS	Nitrogen in Nitrite	NO2-N	4.81e-01	96.200	% Recov	04/14/05	75.000	125.000	
MS	Nitrogen in Nitrate	NO3-N	4.44e-01	98.448	% Recov	04/14/05	75.000	125.000	
MS	Phosphate (P) by IC	PO4-P	7.65e-01	78.947	% Recov	04/14/05	75.000	125.000	
MS	Sulfate	14808-79-8	1.91e+00	95.500	% Recov	04/14/05	75.000	125.000	
MSD	Chloride	16887-00-6	9.33e-01	93.300	% Recov	04/14/05	75.000	125.000	
MSD	Fluoride	16984-48-8	4.74e-01	95.951	% Recov	04/14/05	75.000	125.000	
MSD	Nitrogen in Nitrite	NO2-N	4.77e-01	95.400	% Recov	04/14/05	75.000	125.000	
MSD	Nitrogen in Nitrate	NO3-N	4.53e-01	100.443	% Recov	04/14/05	75.000	125.000	
MSD	Phosphate (P) by IC	PO4-P	8.05e-01	83.075	% Recov	04/14/05	75.000	125.000	
MSD	Sulfate	14808-79-8	1.90e+00	95.000	% Recov	04/14/05	75.000	125.000	
BATCH QC									
BLANK	Chloride	16887-00-6	<5.20e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Chloride	16887-00-6	<5.20e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<2.30e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<2.30e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<1.90e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<1.90e-2	n/a	mg/L	04/14/05	0.000	300.000	U

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
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	04/14/05	0.000	300.000	U
BLANK	Nitrogen in Nitrate	NO3-N	<1.30e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<5.40e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<5.40e-2	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<1.00e-1	n/a	mg/L	04/14/05	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<1.00e-1	n/a	mg/L	04/14/05	0.000	300.000	U
LCS	Chloride	16887-00-6	1.91e+02	95.500	% Recov	04/14/05	80.000	120.000	
LCS	Fluoride	16984-48-8	9.62e+01	96.200	% Recov	04/14/05	80.000	120.000	
LCS	Nitrogen in Nitrite	NO2-N	9.33e+01	93.300	% Recov	04/14/05	80.000	120.000	
LCS	Nitrogen in Nitrate	NO3-N	8.16e+01	89.868	% Recov	04/14/05	80.000	120.000	
LCS	Phosphate (P) by IC	PO4-P	1.98e+02	102.167	% Recov	04/14/05	80.000	120.000	
LCS	Sulfate	14808-79-8	3.84e+02	96.241	% Recov	04/14/05	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Cyanide by Midi/Spectrophotom

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Cyanide by Midi/Spectrophotom	57-12-5	78.6	78.600	% Recov	04/01/05	75.000	125.000	
MSD	Cyanide by Midi/Spectrophotom	57-12-5	94.3	94.300	% Recov	04/01/05	75.000	125.000	
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	94.300	18.161	RPD	04/01/05	0.000	20.000	
BATCH QC									
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	<4	n/a	ug/L	04/01/05	-4.000	4.000	U
BLNK-PREP	Cyanide by Midi/Spectrophotom	57-12-5	<0.2	n/a	ug/L	04/01/05	-4.000	4.000	U
LCS	Cyanide by Midi/Spectrophotom	57-12-5	99.9	99.900	% Recov	04/01/05	85.000	115.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: ICP Metals Analysis, Grd H20 P

SAF Number: F03-025
Sample Date: 03/18/05
Receive Date:03/22/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001016									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Boron	7440-42-8	177	91.237	% Recov	03/30/05	75.000	125.000	
MSD	Boron	7440-42-8	184	92.929	% Recov	03/30/05	75.000	125.000	
SPK-RPD	Boron	7440-42-8	92.929	1.837	RPD	03/30/05	0.000	20.000	
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Boron	7440-42-8	187	95.897	% Recov	03/30/05	75.000	125.000	
MS	Bismuth	7440-69-9	182	93.333	% Recov	03/30/05	75.000	125.000	
MSD	Boron	7440-42-8	189	94.975	% Recov	03/30/05	75.000	125.000	
MSD	Bismuth	7440-69-9	184	92.462	% Recov	03/30/05	75.000	125.000	
SPK-RPD	Boron	7440-42-8	94.975	0.966	RPD	03/30/05	0.000	20.000	
SPK-RPD	Bismuth	7440-69-9	92.462	0.938	RPD	03/30/05	0.000	20.000	
BATCH QC									
BLANK	Boron	7440-42-8	1.3	1.300	ug/L	03/30/05			
BLANK	Bismuth	7440-69-9	2.2e-2	0.022	ug/L	03/30/05			
LCS	Boron	7440-42-8	279	94.576	% Recov	03/30/05	45.000	156.000	
LCS	Bismuth	7440-69-9	182	91.919	% Recov	03/30/05	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

Lab ID: W050001051
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	Silver	7440-22-4	380.8373	95.209	% Recov	03/30/05	70.000	130.000	
MS	Arsenic	7440-38-2	406	101.500	% Recov	04/06/05	70.000	130.000	
MS	Barium	7440-39-3	417.49	104.373	% Recov	03/30/05	70.000	130.000	
MS	Beryllium	7440-41-7	383.5065	95.877	% Recov	03/30/05	70.000	130.000	
MS	Cadmium	7440-43-9	411	102.750	% Recov	03/30/05	70.000	130.000	
MS	Chromium	7440-47-3	415.9	103.975	% Recov	03/30/05	70.000	130.000	
MS	Copper	7440-50-8	399.916	99.979	% Recov	03/30/05	70.000	130.000	
MS	Mercury	7439-97-6	19.9128	99.564	% Recov	03/30/05	70.000	130.000	
MS	Nickel	7440-02-0	412.37	103.093	% Recov	03/30/05	70.000	130.000	
MS	Lead	7439-92-1	400.635	100.159	% Recov	03/30/05	70.000	130.000	
MS	Antimony	7440-36-0	422.9	105.725	% Recov	03/30/05	70.000	130.000	
MS	Selenium	7782-49-2	417	104.250	% Recov	04/06/05	70.000	130.000	
MS	Uranium	7440-61-1	396.0917	99.023	% Recov	03/30/05	70.000	130.000	
MSD	Silver	7440-22-4	378.8373	94.709	% Recov	03/30/05	70.000	130.000	
MSD	Arsenic	7440-38-2	399	99.750	% Recov	04/06/05	70.000	130.000	
MSD	Barium	7440-39-3	426.19	106.547	% Recov	03/30/05	70.000	130.000	
MSD	Beryllium	7440-41-7	379.7065	94.927	% Recov	03/30/05	70.000	130.000	
MSD	Cadmium	7440-43-9	411.2	102.800	% Recov	03/30/05	70.000	130.000	
MSD	Chromium	7440-47-3	415.2	103.800	% Recov	03/30/05	70.000	130.000	
MSD	Copper	7440-50-8	416.216	104.054	% Recov	03/30/05	70.000	130.000	
MSD	Mercury	7439-97-6	20.6828	103.414	% Recov	03/30/05	70.000	130.000	
MSD	Nickel	7440-02-0	415.67	103.917	% Recov	03/30/05	70.000	130.000	
MSD	Lead	7439-92-1	409.335	102.334	% Recov	03/30/05	70.000	130.000	
MSD	Antimony	7440-36-0	422.9	105.725	% Recov	03/30/05	70.000	130.000	
MSD	Selenium	7782-49-2	409	102.250	% Recov	04/06/05	70.000	130.000	
MSD	Uranium	7440-61-1	412.0917	103.023	% Recov	03/30/05	70.000	130.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Silver	7440-22-4	94.709	0.527	RPD	03/30/05	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	107.750	3.302	RPD	04/06/05	0.000	20.000	
SPK-RPD	Barium	7440-39-3	106.547	2.061	RPD	03/30/05	0.000	20.000	
SPK-RPD	Beryllium	7440-41-7	94.927	0.996	RPD	03/30/05	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	102.800	0.049	RPD	03/30/05	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	103.800	0.168	RPD	03/30/05	0.000	20.000	
SPK-RPD	Copper	7440-50-8	104.054	3.994	RPD	03/30/05	0.000	20.000	
SPK-RPD	Mercury	7439-97-6	103.414	3.794	RPD	03/30/05	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	103.917	0.796	RPD	03/30/05	0.000	20.000	
SPK-RPD	Lead	7439-92-1	102.334	2.148	RPD	03/30/05	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	105.725	0.000	RPD	03/30/05	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	109.750	5.140	RPD	04/06/05	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	103.023	3.959	RPD	03/30/05	0.000	20.000	
BATCH QC									
BLANK	Silver	7440-22-4	<0.1	n/a	ug/L	03/30/05			U
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L	04/06/05			U
BLANK	Barium	7440-39-3	<3.5	n/a	ug/L	03/30/05			U
BLANK	Beryllium	7440-41-7	<0.1	n/a	ug/L	03/30/05			U
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L	03/30/05			U
BLANK	Chromium	7440-47-3	<3.3	n/a	ug/L	03/30/05			U
BLANK	Copper	7440-50-8	<1.3	n/a	ug/L	03/30/05			U
BLANK	Mercury	7439-97-6	<0.1	n/a	ug/L	03/30/05			U
BLANK	Nickel	7440-02-0	<0.1	n/a	ug/L	03/30/06			U
BLANK	Lead	7439-92-1	<0.2	n/a	ug/L	03/30/05			U
BLANK	Antimony	7440-36-0	<1.1	n/a	ug/L	03/30/05			U
BLANK	Selenium	7782-49-2	<0.4	n/a	ug/L	04/06/05			U
BLANK	Uranium	7440-61-1	<0.1	n/a	ug/L	03/30/05			U
LCS	Silver	7440-22-4	145.2	111.692	% Recov	03/30/05	110.000	170.000	
LCS	Arsenic	7440-38-2	177	109.938	% Recov	04/06/05	82.000	142.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
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	257.4	102.143	% Recov	03/30/05	79.000	123.000	
LCS	Beryllium	7440-41-7	99.56	105.466	% Recov	03/30/05	82.000	128.000	
LCS	Cadmium	7440-43-9	139.1	108.672	% Recov	03/30/05	88.000	127.000	
LCS	Chromium	7440-47-3	69.16	99.511	% Recov	03/30/05	50.000	126.000	
LCS	Copper	7440-50-8	154.2	104.189	% Recov	03/30/05	61.000	134.000	
LCS	Mercury	7439-97-6	17.83	105.503	% Recov	03/30/05	75.000	114.000	
LCS	Nickel	7440-02-0	157.9	107.415	% Recov	03/30/05	84.000	125.000	
LCS	Lead	7439-92-1	158.2	111.408	% Recov	03/30/05	87.000	120.000	
LCS	Antimony	7440-36-0	110.3	181.117	% Recov	03/30/05	61.000	135.000	*
LCS	Selenium	7782-49-2	71.6	111.526	% Recov	04/06/05	83.000	145.000	
LCS	Uranium	7440-61-1	397.3	99.325	% Recov	03/30/05	89.000	107.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: pH Soil and Waste Measurement

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	pH Soil and Waste Measurement	PH	8.799	0.319	RPD	03/30/05	0.000	3.000	

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050656

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Organic													
W050001051	B19412 GRP TRENT	107-21-1	Ethylene glycol	SOIL	Organics	U	< 5.00e+03	ug/kg	1.00	5.0e+03	04/01/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	TPHGASOLINE	Total Pet. Hydrocarbons Gas	SOIL	LA-523-443	U	< 250	ug/kg	1.00	2.5e+02	03/31/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	12674-11-2	Aroclor-1016	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	11104-28-2	Aroclor-1221	SOIL	LA-523-427	U	< 100	ug/kg	1.00	1.0e+02	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	11141-16-5	Aroclor-1232	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	53469-21-9	Aroclor-1242	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	12672-29-6	Aroclor-1248	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	11097-69-1	Aroclor-1254	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	11096-82-5	Aroclor-1260	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	37324-23-5	Aroclor-1262	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	11100-14-4	Aroclor-1268	SOIL	LA-523-427	U	< 51.0	ug/kg	1.00	51	03/29/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	100-02-7	4-Nitrophenol	SOIL	LA-523-456	U	< 160	ug/kg	1.00	1.6e+02	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	106-46-7	1,4-Dichlorobenzene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	108-95-2	Phenol	SOIL	LA-523-456	U	< 87.0	ug/kg	1.00	87	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	120-82-1	1,2,4-Trichlorobenzene	SOIL	LA-523-456	U	< 84.0	ug/kg	1.00	84	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	121-14-2	2,4-Dinitrotoluene	SOIL	LA-523-456	U	< 63.0	ug/kg	1.00	63	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	129-00-0	Pyrene	SOIL	LA-523-456	U	< 50.0	ug/kg	1.00	50	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	59-50-7	4-Chloro-3-methylphenol	SOIL	LA-523-456	U	< 76.0	ug/kg	1.00	76	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	621-64-7	N-Nitrosodi-n-dipropylamine	SOIL	LA-523-456	U	< 73.0	ug/kg	1.00	73	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	83-32-9	Acenaphthene	SOIL	LA-523-456	U	< 56.0	ug/kg	1.00	56	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	87-86-5	Pentachlorophenol	SOIL	LA-523-456	U	< 74.0	ug/kg	1.00	74	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	95-57-8	2-Chlorophenol	SOIL	LA-523-456	U	< 130	ug/kg	1.00	1.3e+02	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	95-48-7	2-Methylphenol (cresol, o-)	SOIL	LA-523-456	U	< 89.0	ug/kg	1.00	89	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	65794-96-9	3 & 4 Methylphenol Total	SOIL	LA-523-456	U	< 160	ug/kg	1.00	1.6e+02	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	126-73-8	Tributyl phosphate	SOIL	LA-523-456	U	< 33.0	ug/kg	1.00	33	04/06/05	03/23/05	03/23/05
W050001051	B19412 GRP TRENT	75-35-4	1,1-Dichloroethene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05

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

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050656

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050001051	B19412	GRP	TRENT	79-01-6	Trichloroethene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	71-43-2	Benzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	108-88-3	Toluene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	108-90-7	Chlorobenzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	75-34-3	1,1-Dichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	100-41-4	Ethylbenzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	100-42-5	Styrene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	10061-01-5	cis-1,3-Dichloropropene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	10061-02-6	trans-1,3-Dichloropropene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	107-06-2	1,2-Dichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	108-10-1	4-Methyl-2-Pentanone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	124-48-1	Dibromochloromethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	127-18-4	Tetrachloroethene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	1330-20-7	Xylenes (total)	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	540-59-0	1,2-Dichloroethene(Total)	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	56-23-5	Carbon tetrachloride	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	591-78-6	2-Hexanone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	67-64-1	Acetone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	67-66-3	Chloroform	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	71-55-6	1,1,1-Trichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	74-83-9	Bromomethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	74-87-3	Chloromethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	75-00-3	Chloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	75-01-4	Vinyl chloride	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	75-09-2	Methylenechloride	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	75-15-0	Carbon disulfide	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	75-25-2	Bromoform	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05

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

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050656

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050001051	B19412	GRP	TRENT	75-27-4	Bromodichloromethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	78-87-5	1,2-Dichloropropane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	78-93-3	2-Butanone	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	79-00-5	1,1,2-Trichloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	79-34-5	1,1,2,2-Tetrachloroethane	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	71-36-3	1-Butanol	SOIL	LA-523-455	U	< 41.0	ug/kg	1.00	41	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	104-51-8	n-Butylbenzene	SOIL	LA-523-455	U	< 2.10	ug/kg	1.00	2.1	04/01/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	TPHDIESEL	Total Pet. Hydrocarbons Diesel	SOIL	NWTPH	U	< 3.90e+03	ug/kg	1.00	3.9e+03	04/04/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	TPHKEROSENE	Kerosene	SOIL	NWTPH	U	< 3.90e+03	ug/kg	1.00	3.9e+03	04/04/05	03/23/05	03/23/05

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

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Alcohols, Glycols - 8015

SAF Number: F03-025
Sample Date: 03/18/05
Receive Date:03/18/05

Lab ID: W050001015

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit		RQ
DUP	2-Bromoethanol	540-51-2	12100	25.899	rpd	04/01/05	0.000	25.000	*	
DUP	Ethylene glycol	107-21-1	<5000	n/a	RPD	04/01/05	0.000	25.000		U
MS	2-Bromoethanol	540-51-2	12500	79.618	% Recov	04/01/05	70.000	125.000		
MS	Ethylene glycol	107-21-1	12500	79.618	% Recov	04/01/05	75.000	125.000		
MSD	2-Bromoethanol	540-51-2	13400	85.350	% Recov	04/01/05	70.000	125.000		
MSD	Ethylene glycol	107-21-1	19000	121.019	% Recov	04/01/05	75.000	125.000		
SPK-RPD	2-Bromoethanol	540-51-2	85.350	6.949	RPD	04/01/05	0.000	20.000		
SPK-RPD	Ethylene glycol	107-21-1	121.019	41.270	RPD	04/01/05	0.000	20.000	*	

BATCH QC

BLANK	2-Bromoethanol	540-51-2	14200	0.887	ug/Kg	04/01/05	0.000	10.000		
BLANK	Ethylene glycol	107-21-1	<5000	n/a	ug/Kg	04/01/05	0.000	5.000		U
LCS	2-Bromoethanol	540-51-2	17000	106.250	% Recov	04/01/05	70.000	130.000		
LCS	Ethylene glycol	107-21-1	15000	93.750	% Recov	04/01/05	70.000	130.000		

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: PCBs complete list

SAF Number: F03-025
Sample Date: 03/18/05
Receive Date:03/18/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001015									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Aroclor-1260	11096-82-5	1004.3	98.700	% Recov	03/28/05	75.000	125.000	
MS	Decachlorobiphenyl	2051-24-3	951.74	93.500	% Recov	03/28/05	50.000	150.000	
MS	Tetrachloro-m-xylene	877-09-8	938.16	92.200	% Recov	03/28/05	50.000	150.000	
MSD	Aroclor-1260	11096-82-5	1094.1	108.000	% Recov	03/28/05	75.000	125.000	
MSD	Decachlorobiphenyl	2051-24-3	1030.0	102.000	% Recov	03/28/05	50.000	150.000	
MSD	Tetrachloro-m-xylene	877-09-8	996.01	98.500	% Recov	03/28/05	50.000	150.000	
SPK-RPD	Aroclor-1260	11096-82-5	108.000	8.999	RPD	03/28/05	0.000	25.000	
SPK-RPD	Decachlorobiphenyl	2051-24-3	102.000	8.696	RPD	03/28/05	0.000	20.000	
SPK-RPD	Tetrachloro-m-xylene	877-09-8	98.500	6.607	RPD	03/28/05	0.000	20.000	
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
SURR	Decachlorobiphenyl	2051-24-3	1122.8	110.000	% Recov	03/29/05	50.000	150.000	
SURR	Tetrachloro-m-xylene	877-09-8	1118.5	109.000	% Recov	03/29/05	50.000	150.000	
BATCH QC									
BLANK	Aroclor-1016	12674-11-2	< 50	n/a	UGKG	03/24/05			U
BLANK	Aroclor-1221	11104-28-2	< 100	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1232	11141-16-5	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1242	53469-21-9	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1248	12672-29-6	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1254	11097-69-1	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1260	11096-82-5	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1262	37324-23-5	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Aroclor-1268	11100-14-4	< 50	n/a	ug/Kg	03/24/05			U
BLANK	Decachlorobiphenyl	2051-24-3	1005.2	101.000	% Recov	03/24/05	50.000	150.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
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	Tetrachloro-m-xylene	877-09-8	1026.2	103.000	% Recov	03/24/05	50.000	150.000	
LCS	Aroclor-1260	11096-82-5	1086.1	109.000	% Recov	03/24/05	70.000	130.000	
LCS	Decachlorobiphenyl	2051-24-3	1021.9	102.000	% Recov	03/24/05	50.000	150.000	
LCS	Tetrachloro-m-xylene	877-09-8	985.13	98.500	% Recov	03/24/05	50.000	150.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

Lab ID: W050001051
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	1,2,4-Trichlorobenzene	120-82-1	1114.8	81.000	% Recov	04/06/05	46.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	1103.1	80.200	% Recov	04/06/05	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	1108.9	80.600	% Recov	04/06/05	59.000	106.000	
MS	2-Fluorophenol	367-12-4	1178.6	85.600	% Recov	04/06/05	42.000	105.000	
MS	Acenaphthene	83-32-9	1072.2	77.900	% Recov	04/06/05	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	1942.0	94.100	% Recov	04/06/05	61.000	106.000	
MS	2-Chlorophenol	95-57-8	1586.1	76.800	% Recov	04/06/05	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	1215.8	88.300	% Recov	04/06/05	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	1145.4	83.200	% Recov	04/06/05	56.000	122.000	
MS	Phenol	108-95-2	1720.2	83.300	% Recov	04/06/05	42.000	111.000	
MS	Nitrobenzene-d5	4165-60-0	1134.9	82.500	% Recov	04/06/05	64.000	111.000	
MS	4-Nitrophenol	100-02-7	1639.4	79.400	% Recov	04/06/05	32.000	118.000	
MS	Pentachlorophenol	87-86-5	1576.9	76.400	% Recov	04/06/05	62.000	114.000	
MS	Phenol-d5	4165-62-2	1140.4	82.900	% Recov	04/06/05	54.000	120.000	
MS	Pyrene	129-00-0	1022.4	74.300	% Recov	04/06/05	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	1187.1	86.300	% Recov	04/06/05	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	937.38	68.100	% Recov	04/06/05	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	1105.6	80.400	% Recov	04/06/05	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	1052.3	76.500	% Recov	04/06/05	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	1004.7	73.000	% Recov	04/06/05	59.000	106.000	
MSD	2-Fluorophenol	367-12-4	1130.5	82.200	% Recov	04/06/05	42.000	105.000	
MSD	Acenaphthene	83-32-9	1065.0	77.400	% Recov	04/06/05	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	1917.2	92.900	% Recov	04/06/05	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	1568.1	76.000	% Recov	04/06/05	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	1190.2	86.500	% Recov	04/06/05	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	1103.4	80.200	% Recov	04/06/05	56.000	122.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Phenol	108-95-2	1688.9	81.900	% Recov	04/06/05	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	1062.8	77.300	% Recov	04/06/05	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	1510.5	73.200	% Recov	04/06/05	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	1502.2	72.800	% Recov	04/06/05	62.000	114.000	
MSD	Phenol-d5	4165-62-2	1072.4	78.000	% Recov	04/06/05	54.000	120.000	
MSD	Pyrene	129-00-0	1009.6	73.400	% Recov	04/06/05	66.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	1191.6	86.600	% Recov	04/06/05	24.000	122.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	923.28	67.100	% Recov	04/06/05	35.000	150.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	80.400	0.743	RPD	04/06/05	0.000	20.000	
SPK-RPD	1,4-Dichlorobenzene	106-46-7	76.500	4.722	RPD	04/06/05	0.000	20.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	73.000	9.896	RPD	04/06/05	0.000	20.000	
SPK-RPD	2-Fluorophenol	367-12-4	82.200	4.052	RPD	04/06/05	0.000	20.000	
SPK-RPD	Acenaphthene	83-32-9	77.400	0.644	RPD	04/06/05	0.000	20.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	92.900	1.283	RPD	04/06/05	0.000	20.000	
SPK-RPD	2-Chlorophenol	95-57-8	76.000	1.047	RPD	04/06/05	0.000	20.000	
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	86.500	2.059	RPD	04/06/05	0.000	20.000	
SPK-RPD	2-Fluorobiphenyl	321-60-8	80.200	3.672	RPD	04/06/05	0.000	20.000	
SPK-RPD	Phenol	108-95-2	81.900	1.695	RPD	04/06/05	0.000	20.000	
SPK-RPD	Nitrobenzene-d5	4165-60-0	77.300	6.508	RPD	04/06/05	0.000	20.000	
SPK-RPD	4-Nitrophenol	100-02-7	73.200	8.126	RPD	04/06/05	0.000	20.000	
SPK-RPD	Pentachlorophenol	87-86-5	72.800	4.826	RPD	04/06/05	0.000	20.000	
SPK-RPD	Phenol-d5	4165-62-2	78.000	6.091	RPD	04/06/05	0.000	20.000	
SPK-RPD	Pyrene	129-00-0	73.400	1.219	RPD	04/06/05	0.000	20.000	
SPK-RPD	2,4,6-Tribromophenol	118-79-6	86.600	0.347	RPD	04/06/05	0.000	20.000	
SPK-RPD	Terphenyl-d14 (7Cl)	98904-43-9	67.100	1.479	RPD	04/06/05	0.000	20.000	
SURR	2-Fluorophenol	367-12-4	1128.8	82.000	% Recov	04/06/05	42.000	105.000	
SURR	2-Fluorobiphenyl	321-60-8	1136.4	82.600	% Recov	04/06/05	58.000	122.000	
SURR	Nitrobenzene-d5	4165-60-0	1112.3	80.800	% Recov	04/06/05	64.000	111.000	
SURR	Phenol-d5	4165-62-2	1159.5	84.200	% Recov	04/06/05	54.000	120.000	
SURR	2,4,6-Tribromophenol	118-79-6	1110.1	80.700	% Recov	04/06/05	24.000	122.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Terphenyl-d14 (7Cl)	98904-43-9	943.38	68.500	% Recov	04/06/05	35.000	150.000	
BATCH QC									
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 81	n/a	ug/Kg	04/06/05			U
BLANK	1,4-Dichlorobenzene	106-46-7	< 140	n/a	ug/Kg	04/06/05			U
BLANK	2,4-Dinitrotoluene	121-14-2	< 61	n/a	ug/Kg	04/06/05			U
BLANK	2-Fluorophenol	367-12-4	1042.2	78.200	% Recov	04/06/05	42.000	105.000	
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 86	n/a	ug/Kg	04/06/05			U
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 160	n/a	ug/Kg	04/06/05			U
BLANK	Acenaphthene	83-32-9	< 54	n/a	ug/Kg	04/06/05			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 73	n/a	ug/Kg	04/06/05			U
BLANK	2-Chlorophenol	95-57-8	< 120	n/a	ug/Kg	04/06/05			U
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 71	n/a	ug/Kg	04/06/05			U
BLANK	2-Fluorobiphenyl	321-60-8	1110.8	83.300	% Recov	04/06/05	56.000	122.000	
BLANK	Phenol	108-95-2	< 85	n/a	ug/Kg	04/06/05			U
BLANK	Nitrobenzene-d5	4165-60-0	1067.3	80.000	% Recov	04/06/05	64.000	111.000	
BLANK	4-Nitrophenol	100-02-7	< 150	n/a	ug/Kg	04/06/05			U
BLANK	Pentachlorophenol	87-86-5	< 72	n/a	ug/Kg	04/06/05			U
BLANK	Phenol-d5	4165-62-2	1087.1	81.500	% Recov	04/06/05	54.000	120.000	
BLANK	Pyrene	129-00-0	< 49	n/a	ug/Kg	04/06/05			U
BLANK	Tributyl phosphate	126-73-8	< 32	n/a	ug/Kg	04/06/05			U
BLANK	2,4,6-Tribromophenol	118-79-6	884.34	66.300	% Recov	04/06/05	24.000	122.000	
BLANK	Terphenyl-d14 (7Cl)	98904-43-9	912.63	68.400	% Recov	04/06/05	35.000	150.000	
LCS	1,2,4-Trichlorobenzene	120-82-1	1040.9	78.100	% Recov	04/06/05	46.000	107.000	
LCS	1,4-Dichlorobenzene	106-46-7	1031.4	77.400	% Recov	04/06/05	42.000	111.000	
LCS	2,4-Dinitrotoluene	121-14-2	996.52	74.700	% Recov	04/06/05	59.000	106.000	
LCS	2-Fluorophenol	367-12-4	1066.3	80.000	% Recov	04/06/05	50.000	110.000	
LCS	Acenaphthene	83-32-9	1000.8	75.100	% Recov	04/06/05	61.000	116.000	
LCS	4-Chloro-3-methylphenol	59-50-7	1737.5	86.900	% Recov	04/06/05	61.000	106.000	
LCS	2-Chlorophenol	95-57-8	1475.9	73.800	% Recov	04/06/05	66.000	106.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
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
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	1102.6	82.700	% Recov	04/06/05	71.000	114.000	
LCS	2-Fluorobiphenyl	321-60-8	1058.5	79.400	% Recov	04/06/05	56.000	109.000	
LCS	Phenol	108-95-2	1592.4	79.600	% Recov	04/06/05	67.000	105.000	
LCS	Nitrobenzene-d5	4165-60-0	1047.2	78.500	% Recov	04/06/05	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	1520.5	76.000	% Recov	04/06/05	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	1322.0	66.100	% Recov	04/06/05	62.000	114.000	
LCS	Phenol-d5	4165-62-2	1068.7	80.200	% Recov	04/06/05	59.000	116.000	
LCS	Pyrene	129-00-0	899.00	67.400	% Recov	04/06/05	66.000	118.000	
LCS	2,4,6-Tribromophenol	118-79-6	1037.9	77.800	% Recov	04/06/05	60.000	120.000	
LCS	Terphenyl-d14 (7Cl)	98904-43-9	836.59	62.700	% Recov	04/06/05	60.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Kerosene	TPHKEROSENE	118390	91.600	% Recov	04/04/05	70.000	130.000	
MS	ortho-Terphenyl Surr	84-15-1	23623	91.300	% Recov	04/04/05	70.000	130.000	
MSD	Kerosene	TPHKEROSENE	115770	89.600	% Recov	04/04/05	70.000	130.000	
MSD	ortho-Terphenyl Surr	84-15-1	23200	89.800	% Recov	04/04/05	70.000	130.000	
SPK-RPD	ortho-Terphenyl Surr	84-15-1	89.800	1.657	RPD	04/04/05	0.000	20.000	
SURR	ortho-Terphenyl Surr	84-15-1	20435	79.000	% Recov	04/04/05	70.000	130.000	
BATCH QC									
BLANK	Kerosene	TPHKEROSENE	< 3800	n/a	ug/Kg	04/04/05			U
BLANK	ortho-Terphenyl Surr	84-15-1	21440	85.800	% Recov	04/04/05	70.000	130.000	
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 3800	n/a	ug/Kg	04/04/05			U
LCS	ortho-Terphenyl Surr	84-15-1	22336	89.300	% Recov	04/04/05	70.000	130.000	
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	108070	86.500	% Recov	04/04/05	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: NWTPH-GX TPH Gasoline Range

SAF Number: F03-025
Sample Date: 03/18/05
Receive Date:03/18/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001015									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	RPD	03/31/05	0.000	20.000	U
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3600	102.857	% Recov	03/31/05	50.000	150.000	
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3300	94.286	% Recov	03/31/05	50.000	150.000	
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	94.286	8.695	RPD	03/31/05	0.000	20.000	
BATCH QC									
BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	mg/L	03/31/05	0.000	300.000	U
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	3900	113.043	% Recov	03/31/05	85.000	115.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: VOA Ground Water Protection

SAF Number: F03-025
Sample Date: 03/18/05
Receive Date:03/18/05

Lab ID: W050001015
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	1,1-Dichloroethene	75-35-4	24.820	99.300	% Recov	04/01/05	63.000	117.000	
MS	Benzene	71-43-2	22.650	90.600	% Recov	04/01/05	75.000	129.000	
MS	4-Bromofluorobenzene	460-00-4	52.380	105.000	% Recov	04/01/05	84.000	116.000	
MS	Chlorobenzene	108-90-7	24.740	99.000	% Recov	04/01/05	79.000	119.000	
MS	1,2-Dichloroethane-d4	17060-07-0	48.860	97.700	% Recov	04/01/05	82.000	136.000	
MS	Toluene-d8	2037-26-5	51.680	103.000	% Recov	04/01/05	89.000	119.000	
MS	Toluene	108-88-3	24.450	97.800	% Recov	04/01/05	76.000	120.000	
MS	Trichloroethene	79-01-6	23.450	93.800	% Recov	04/01/05	73.000	123.000	
MSD	1,1-Dichloroethene	75-35-4	25.720	103.000	% Recov	04/01/05	63.000	117.000	
MSD	Benzene	71-43-2	23.720	94.900	% Recov	04/01/05	75.000	129.000	
MSD	4-Bromofluorobenzene	460-00-4	51.730	103.000	% Recov	04/01/05	84.000	116.000	
MSD	Chlorobenzene	108-90-7	24.830	99.300	% Recov	04/01/05	79.000	119.000	
MSD	1,2-Dichloroethane-d4	17060-07-0	49.800	99.600	% Recov	04/01/05	82.000	136.000	
MSD	Toluene-d8	2037-26-5	52.290	105.000	% Recov	04/01/05	89.000	119.000	
MSD	Toluene	108-88-3	25.400	102.000	% Recov	04/01/05	76.000	120.000	
MSD	Trichloroethene	79-01-6	24.130	96.500	% Recov	04/01/05	73.000	123.000	
SPK-RPD	1,1-Dichloroethene	75-35-4	103.000	3.658	RPD	04/01/05	0.000	25.000	
SPK-RPD	Benzene	71-43-2	94.900	4.636	RPD	04/01/05	0.000	25.000	
SPK-RPD	4-Bromofluorobenzene	460-00-4	103.000	1.923	RPD	04/01/05	0.000	25.000	
SPK-RPD	Chlorobenzene	108-90-7	99.300	0.303	RPD	04/01/05	0.000	25.000	
SPK-RPD	1,2-Dichloroethane-d4	17060-07-0	99.600	1.926	RPD	04/01/05	0.000	25.000	
SPK-RPD	Toluene-d8	2037-26-5	105.000	1.923	RPD	04/01/05	0.000	25.000	
SPK-RPD	Toluene	108-88-3	102.000	4.204	RPD	04/01/05	0.000	25.000	
SPK-RPD	Trichloroethene	79-01-6	96.500	2.838	RPD	04/01/05	0.000	25.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: VOA Ground Water Protection

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

Lab ID: W050001051

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	4-Bromofluorobenzene	460-00-4	51.540	103.000	% Recov	04/01/05	71.000	125.000	
SURR	1,2-Dichloroethane-d4	17060-07-0	51.750	104.000	% Recov	04/01/05	80.000	134.000	
SURR	Toluene-d8	2037-26-5	52.620	105.000	% Recov	04/01/05	80.000	128.000	

BATCH QC

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	1,1-Dichloroethane	75-34-3	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,1,1-Trichloroethane	71-55-6	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,1,2-Trichloroethane	79-00-5	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,1-Dichloroethene	75-35-4	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,2-Dichloroethane	107-06-2	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1-Butanol	71-36-3	< 40	n/a	ug/Kg	04/01/05			U
BLANK	2-Hexanone	591-78-6	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	4-Methyl-2-Pentanone	108-10-1	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Acetone	67-64-1	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Bromodichloromethane	75-27-4	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Benzene	71-43-2	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	4-Bromofluorobenzene	460-00-4	51.710	103.000	% Recov	04/01/05	71.000	125.000	
BLANK	Bromoform	75-25-2	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	n-Butylbenzene	104-51-8	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Carbon disulfide	75-15-0	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Carbon tetrachloride	56-23-5	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Dibromochloromethane	124-48-1	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Chloroform	67-66-3	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Chlorobenzene	108-90-7	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 2.0	n/a	ug/Kg	04/01/05			U

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
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	Chloroethane	75-00-3	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	1,2-Dichloroethane-d4	17060-07-0	48.770	97.500	% Recov	04/01/05	80.000	134.000	
BLANK	1,2-Dichloropropane	78-87-5	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Ethylbenzene	100-41-4	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Bromomethane	74-83-9	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Chloromethane	74-87-3	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	2-Butanone	78-93-3	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Methylenechloride	75-09-2	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Tetrachloroethene	127-18-4	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Styrene	100-42-5	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Xylenes (total)	1330-20-7	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Toluene-d8	2037-26-5	51.320	103.000	% Recov	04/01/05	80.000	126.000	
BLANK	Toluene	108-88-3	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Trichloroethene	79-01-6	< 2.0	n/a	ug/Kg	04/01/05			U
BLANK	Vinyl chloride	75-01-4	< 2.0	n/a	ug/Kg	04/01/05			U
LCS	1,1-Dichloroethene	75-35-4	22.180	88.700	% Recov	04/01/05	70.000	130.000	
LCS	Benzene	71-43-2	24.390	97.600	% Recov	04/01/05	70.000	130.000	
LCS	4-Bromofluorobenzene	460-00-4	52.920	106.000	% Recov	04/01/05	71.000	125.000	
LCS	Chlorobenzene	108-90-7	24.500	98.000	% Recov	04/01/05	70.000	130.000	
LCS	1,2-Dichloroethane-d4	17060-07-0	50.770	102.000	% Recov	04/01/05	80.000	134.000	
LCS	Toluene-d8	2037-26-5	53.420	107.000	% Recov	04/01/05	80.000	126.000	
LCS	Toluene	108-88-3	25.260	101.000	% Recov	04/01/05	70.000	130.000	
LCS	Trichloroethene	79-01-6	23.710	94.800	% Recov	04/01/05	70.000	130.000	

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050656

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Radiochemistry															
W050001051	B19412	GRP	TRENT	14596-10-2	Americium-241	SOIL	LA-508-471		0.100	pCi/g	1.00	0.049	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Am-241 by AEA Total Cntg Error	SOIL	LA-508-471		+- 0.044	pCi/g	1.00	0.0	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	10198-40-0	Cobalt-60	SOIL	LA-508-481		0.0161	pCi/g	1.00	8.9e-03	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Co-60 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.010	pCi/g	1.00	0.0	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	10045-97-3	Cesium-137	SOIL	LA-508-481	U	-6.34e-03	pCi/g	1.00	8.5e-03	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Cs-137 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 6.3e-03	pCi/g	1.00	0.0	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	14683-23-9	Europium-152	SOIL	LA-508-481	U	-3.03e-03	pCi/g	1.00	0.027	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Eu-152 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.017	pCi/g	1.00	0.0	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	15585-10-1	Europium-154	SOIL	LA-508-481		0.0462	pCi/g	1.00	0.028	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Eu-154 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.033	pCi/g	1.00	0.0	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	14391-16-3	Europium-155	SOIL	LA-508-481		0.0419	pCi/g	1.00	0.037	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Eu-155 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.032	pCi/g	1.00	0.0	03/23/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	13981-16-3	Plutonium-238	SOIL	LA-508-471	U	1.70e-03	pCi/g	1.00	0.057	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Pu-238 by AEA Total Cntg Error	SOIL	LA-508-471		+- 0.017	pCi/g	1.00	0.0	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	PU-239/240	Pu-239/240 by AEA	SOIL	LA-508-471		0.0220	pCi/g	1.00	0.012	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	Pu-239/240 AEA Total Cntg Err	SOIL	LA-508-471		+- 0.014	pCi/g	1.00	0.0	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	U-233/234	Uranium-233/234	SOIL	LA-508-471		0.130	pCi/g	1.00	0.016	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	U-233/234 AEA Total Cntg Error	SOIL	LA-508-471		+- 0.046	pCi/g	1.00	0.0	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	15117-96-1	Uranium-235	SOIL	LA-508-471		9.50e-03	pCi/g	1.00	5.2e-03	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	U-235 by AEA Total Cntg Error	SOIL	LA-508-471		+- 8.8e-03	pCi/g	1.00	0.0	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	U-238	Uranium-238	SOIL	LA-508-471		0.140	pCi/g	1.00	4.7e-03	04/11/05	03/23/05	03/23/05
W050001051	B19412	GRP	TRENT	E,T,C	U-238 by AEA Total Cntg Error	SOIL	LA-508-471		+- 0.048	pCi/g	1.00	0.10	04/11/05	03/23/05	03/23/05

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

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Cobalt-60	10198-40-0	1.76e-02	8.902	RPD	03/24/05	0.000	20.000	
DUP	Cesium-137	10045-97-3	U1.52e-03	n/a	RPD	03/24/05	0.000	20.000	
DUP	Europium-152	14683-23-9	U9.30e-03	n/a	RPD	03/24/05	0.000	20.000	
DUP	Europium-154	15585-10-1	U2.31e-02	n/a	RPD	03/24/05	0.000	20.000	
DUP	Europium-155	14391-16-3	4.17e-02	0.478	RPD	03/24/05	0.000	20.000	
BATCH QC									
BLANK	Cobalt-60	10198-40-0	U3.43e-3	n/a	pCi/g	03/24/05	-10.000	1000.000	
BLANK	Cesium-137	10045-97-3	U-8.6e-4	n/a	pCi/g	03/24/05	-10.000	1000.000	
BLANK	Europium-152	14683-23-9	U-4.9e-3	n/a	pCi/g	03/24/05	-10.000	1000.000	
BLANK	Europium-154	15585-10-1	U-5.2e-3	n/a	pCi/g	03/24/05	-10.000	1000.000	
BLANK	Europium-155	14391-16-3	U8.32e-3	n/a	pCi/g	03/24/05	-10.000	1000.000	
LCS	Cobalt-60	10198-40-0	4.48e+03	106.921	% Recov	03/24/05	80.000	120.000	
LCS	Cesium-137	10045-97-3	3.88e+03	108.380	% Recov	03/24/05	80.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Americium by AEA

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Americium-241	14596-10-2	1.1e-01	9.524	RPD	04/11/05	0.000	20.000	
BATCH QC									
BLANK	Americium-241	14596-10-2	U3.1e-02	n/a	pCi/g	04/11/05	-10.000	1000.000	
LCS	Americium-241	14596-10-2	45.16	93.888	% Recov	04/11/05	75.000	125.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Plutonium Isotopics by AEA

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Pu-239/240 by AEA	PU-239/240	U4.7e-03	n/a	RPD	04/11/05	0.000	20.000	
BATCH QC									
BLANK	Pu-239/240 by AEA	PU-239/240	6.3e-03	0.006	pCi/g	04/11/05	-10.000	1000.000	
LCS	Pu-239/240 by AEA	PU-239/240	49.06	99.715	% Recov	04/11/05	75.000	125.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050656
Matrix: SOLID
Test: Uranium Isotopics by AEA

SAF Number: F03-025
Sample Date: 03/23/05
Receive Date:03/23/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001051									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Uranium-238	U-238	1.0e-01	33.333	RPD	04/11/05	0.000	20.000	+
BATCH QC									
BLANK	Uranium-238	24678-82-8	3.0e-02	0.030	pCi/g	04/11/05	-10.000	1000.000	
LCS	Uranium-238	24678-82-8	9.0e+01	118.702	% Recov	04/11/05	75.000	125.000	

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F03-025

Group #: WSCF20050656

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Preparation blank units are in ug/L (ppb). Sb LCS recoveries are within mfg. specifications; no flags issued. IC Anions: Chloride DUP does not meet establish RPD criteria; however, MS/MSD acceptable. No flag W050001051/U ISO duplicate is flagged because the RPD is poor. Since all other QC checks came out fine, this batch has been accepted. lmh Organics: Sample concentrations have been corrected for moisture and are reported on a dry weight basis. den 8015: SPK-RPD Ethylyene Glycol out high because the MS/MSD Recovery was 79.6/121 %, respectively. The Surrogate spike RPD was also a little high for sample vs Duplicate. But the data shows there was no analyte in the sample and is valid. 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 #: WSCF20050656

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W050001051	B19412	GRP	TRENT	SW-846 8270B Semi-Vols	SMP 12.886 Diethylphthalate	84-66-2	12.8865		4.6e+02	ug/kg
W050001051	B19412	GRP	TRENT	SW-846 8270B Semi-Vols	SMP 26.359 Unknown Hydrocarbon	Unknown	26.35965	J	1.9e+03	ug/kg

RQ=Result Qualifier J - Analyte is an estimate, has potentially larger errors

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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.

LA-212-411	Determination of Soil pH Measurement	
	EPA SW-846 9045C	SOIL AND WASTE pH
LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY	
	EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	EPA SW-846 6010B	INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY
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
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP	
	None	No reference to any industry method.
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE	
	None	No reference to any industry method.
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C	
	EPA-600/4-79-020 160.3	RESIDUE, TOTAL
	Standard Methods 2540B	Total Solids Dried at 103-105 C
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)

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.

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	

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WSCF
METHOD REFERENCES REPORT

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EPA SW-846 8015B	Nonhalogenated Organics Using GC/FID

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.

w13qlog v1 21-apr-2005 10:50:03

W13q Worklist/Batch/QC Report for Group# WSCF20050656

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W050001051	Percent Solids
25507	2	25874	29301	BLANK		Ammonia (N) by IC
25507	9	25874	29301	BLANK		Ammonia (N) by IC
25507	3	25874	29301	LCS		Ammonia (N) by IC
25507	5	25874	29301	DUP	W050001015	Ammonia (N) by IC
25507	6	25874	29301	MS	W050001015	Ammonia (N) by IC
25507	7	25874	29301	MSD	W050001015	Ammonia (N) by IC
25507	8	25874	29301	SAMPLE	W050001051	Ammonia (N) by IC
25478	1	25843	29307	BLANK		Gamma Energy Analysis-grd H2O
25478	2	25843	29307	LCS		Gamma Energy Analysis-grd H2O
25478	3	25843	29307	DUP	W050001051	Gamma Energy Analysis-grd H2O
25478	4	25843	29307	SAMPLE	W050001051	Gamma Energy Analysis-grd H2O
			29334	DUP	W050001051	pH Soil and Waste Measurement
			29334	SAMPLE	W050001051	pH Soil and Waste Measurement
25551	26	25918	29336	BLANK		ICP-2008 MS All possible metal
25551	27	25918	29336	LCS		ICP-2008 MS All possible metal
25551	29	25918	29336	MS	W050001051	ICP-2008 MS All possible metal
25551	30	25918	29336	MSD	W050001051	ICP-2008 MS All possible metal
25551	28	25918	29336	SAMPLE	W050001051	ICP-2008 MS All possible metal
25551	30	25918	29336	SPK-RPD	W050001051	ICP-2008 MS All possible metal
25539	1	25904	29386	BLANK		ICP Metals Analysis, Grd H20 P
25539	2	25904	29386	LCS		ICP Metals Analysis, Grd H20 P
25539	4	25904	29386	MS	W050001016	ICP Metals Analysis, Grd H20 P
25539	5	25904	29386	MSD	W050001016	ICP Metals Analysis, Grd H20 P
25539	5	25904	29386	SPK-RPD	W050001016	ICP Metals Analysis, Grd H20 P
25539	22	25904	29386	MS	W050001051	ICP Metals Analysis, Grd H20 P
25539	23	25904	29386	MSD	W050001051	ICP Metals Analysis, Grd H20 P
25539	21	25904	29386	SAMPLE	W050001051	ICP Metals Analysis, Grd H20 P
25539	23	25904	29386	SPK-RPD	W050001051	ICP Metals Analysis, Grd H20 P
			29405	BLANK		Cyanide by Midi/Spectrophotom
			29405	BLNK-PREP		Cyanide by Midi/Spectrophotom
			29405	LCS		Cyanide by Midi/Spectrophotom
			29405	MS	W050001051	Cyanide by Midi/Spectrophotom
			29405	MSD	W050001051	Cyanide by Midi/Spectrophotom
			29405	SAMPLE	W050001051	Cyanide by Midi/Spectrophotom
			29405	SPK-RPD	W050001051	Cyanide by Midi/Spectrophotom
			29431	BLANK		PCBs complete list
			29431	LCS		PCBs complete list
			29431	MS	W050001015	PCBs complete list
			29431	MSD	W050001015	PCBs complete list
			29431	SPK-RPD	W050001015	PCBs complete list
			29431	SAMPLE	W050001051	PCBs complete list
			29431	SURR	W050001051	PCBs complete list
25640	1	26009	29485	BLANK		Americium by AEA
25640	2	26009	29485	LCS		Americium by AEA
25640	3	26009	29485	DUP	W050001051	Americium by AEA

25640	4	26009	29485	SAMPLE	W050001051	Americium by AEA
25641	1	26008	29486	BLANK		Plutonium Isotopics by AEA
25641	2	26008	29486	LCS		Plutonium Isotopics by AEA
25641	3	26008	29486	DUP	W050001051	Plutonium Isotopics by AEA
25641	4	26008	29486	SAMPLE	W050001051	Plutonium Isotopics by AEA
25620	1	25988	29488	BLANK		Uranium Isotopics by AEA
25620	2	25988	29488	LCS		Uranium Isotopics by AEA
25620	3	25988	29488	DUP	W050001051	Uranium Isotopics by AEA
25620	4	25988	29488	SAMPLE	W050001051	Uranium Isotopics by AEA
			29512	BLANK		WTPH-D TPH Diesel Range (Wa)
			29512	LCS		WTPH-D TPH Diesel Range (Wa)
			29512	MS	W050001051	WTPH-D TPH Diesel Range (Wa)
			29512	MSD	W050001051	WTPH-D TPH Diesel Range (Wa)
			29512	SAMPLE	W050001051	WTPH-D TPH Diesel Range (Wa)
			29512	SPK-RPD	W050001051	WTPH-D TPH Diesel Range (Wa)
			29512	SURR	W050001051	WTPH-D TPH Diesel Range (Wa)
			29515	BLANK		SW-846 8270B Semi-Vols
			29515	LCS		SW-846 8270B Semi-Vols
			29515	MS	W050001051	SW-846 8270B Semi-Vols
			29515	MSD	W050001051	SW-846 8270B Semi-Vols
			29515	SAMPLE	W050001051	SW-846 8270B Semi-Vols
			29515	SPK-RPD	W050001051	SW-846 8270B Semi-Vols
			29515	SURR	W050001051	SW-846 8270B Semi-Vols
25708	2	26076	29525	BLANK		Anions by Ion Chromatography
25708	8	26076	29525	BLANK		Anions by Ion Chromatography
25708	3	26076	29525	LCS		Anions by Ion Chromatography
25708	5	26076	29525	DUP	W050001051	Anions by Ion Chromatography
25708	6	26076	29525	MS	W050001051	Anions by Ion Chromatography
25708	7	26076	29525	MSD	W050001051	Anions by Ion Chromatography
25708	4	26076	29525	SAMPLE	W050001051	Anions by Ion Chromatography
25715	1	26083	29548	BLANK		Alcohols, Glycols - 8015
25715	2	26083	29548	LCS		Alcohols, Glycols - 8015
25715	4	26083	29548	DUP	W050001015	Alcohols, Glycols - 8015
25715	5	26083	29548	MS	W050001015	Alcohols, Glycols - 8015
25715	6	26083	29548	MSD	W050001015	Alcohols, Glycols - 8015
25715	6	26083	29548	SPK-RPD	W050001015	Alcohols, Glycols - 8015
25715	7	26083	29548	SAMPLE	W050001051	Alcohols, Glycols - 8015
25717	1	26085	29552	BLANK		NWTPH-GX TPH Gasoline Range
25717	2	26085	29552	LCS		NWTPH-GX TPH Gasoline Range
25717	4	26085	29552	DUP	W050001015	NWTPH-GX TPH Gasoline Range
25717	5	26085	29552	MS	W050001015	NWTPH-GX TPH Gasoline Range
25717	6	26085	29552	MSD	W050001015	NWTPH-GX TPH Gasoline Range
25717	6	26085	29552	SPK-RPD	W050001015	NWTPH-GX TPH Gasoline Range
25717	7	26085	29552	SAMPLE	W050001051	NWTPH-GX TPH Gasoline Range
			29554	BLANK		VOA Ground Water Protection
			29554	LCS		VOA Ground Water Protection
			29554	MS	W050001015	VOA Ground Water Protection
			29554	MSD	W050001015	VOA Ground Water Protection
			29554	SPK-RPD	W050001015	VOA Ground Water Protection
			29554	SAMPLE	W050001051	VOA Ground Water Protection
			29554	SURR	W050001051	VOA Ground Water Protection

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#: 119143/ES10
Group#: 20050656
Project#: F03-025
Proj Mgr: Steve Trent
Phone: 373-5869

A0-21

Distrib NP Hex Per R. Mink KB 4/21/05

The following samples were received from you on 03/23/05. 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	Matrix	Sample Date
W050001051	B19412	TRENT Solid, or handle as if solid	03/23/05

Tests Scheduled

GRP	@2008	@8015GPP	@AEA-30	@AEA-31
@AEA-32	@GEA-GPP	@GPP6010	@IC-30	@PCBGPP
@SVOCGPP	@TPHD	@TPHG-WA	@VOA-GPP	CN-02
NH4-IC	PERSOLID	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
@GEA-GPP	Gamma Energy Analysis-grd H2O
@GPP6010	ICP Metals Analysis, Grd H20 P
@IC-30	Anions by Ion Chromatography
@PCBGPP	PCBs complete list
@SVOCGPP	SW-846 8270B Semi-Vole
@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

M8141-SLF-05-193

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
4/21/05

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 119143/ES10
Group#: 20050656
Project#: F03-025
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

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Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W050001051	B19412	GRP	TRENT Solid, or handle as if solid	03/23/05
		@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 H20 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

4/21/05

FLUOR Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-025-135	PAGE 1 OF 2

COLLECTOR: Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT: TRENT, STEVE	TELEPHONE NO.: 373-5689	PROJECT COORDINATOR: TRENT, SJ
PRICE CODE: 8N	AIR QUALITY: ☐	DATA TURNAROUND: 45 Days / 45 Days	
SAMPLING LOCATION: 216-Z-7; 215ft-217.5ft	PROJECT DESIGNATION: 200-LW-1/LW-2 Characterization - Soil	SAF NO.: F03-025	
ICE CHEST NO.: ERC-96-034	FIELD LOGBOOK NO.: HNF-N-356 1	COA: 119143ES10	METHOD OF SHIPMENT: Governement Vehicle
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: NA		BILL OF LADING/AIR BILL NO.: NA

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

20050656

SPECIAL HANDLING AND/OR STORAGE: Radioactive Tie TO: B19422

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			
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									
B19412 W0500105	SOIL	3/23/5	0830	X	X	X	X	X	X	X		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME 0:3	RECEIVED BY/STORED IN	DATE/TIME
Kevin D Hughes	3-23-05	Victor Bin	3/23/05 1055
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

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

5205

FLUOR Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F03-025-135	PAGE 2 OF 2
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT TRENT, STEVE	TELEPHONE NO. 373-5689	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N AIR QUALITY ☐	DATA TURNAROUND 45 Days
SAMPLING LOCATION 216-Z-7; 215ft-217.5ft	PROJECT DESIGNATION 200-LW-1/LW-2 Characterization - Soil		SAF NO. F03-025		
ICE CHEST NO. ERC-96-034	FIELD LOGBOOK NO. HNF-N-356 1	COA 119143ES10	METHOD OF SHIPMENT Governement Vehicle		
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. NA		BILL OF LADING/AIR BILL NO. NA		

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} n-butylbenzene PDM 8/24/2005
(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; 2-methylphenol, 3+4-methylphenol PDM 8/24/2005
(3)Alcohols, Glycols, & Ketones - 8015 {Ethylene glycol} P.D. Mix
(4)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Gamma Spec - ~~Add-on {Antimony-125, Cesium-134}~~ Isotopic Plutonium; Isotopic Uranium; ~~Neptunium-237~~; Americium-241; PDM P.D. Mix 4/21/2005
(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} Boron PDM 8/24/2005 P.D. Mix
(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;

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A-6003-618(03/03)