

August 23, 2011

1214257

## Reader Advisory

Request for Data Review (RDR) numbers R7071 and R7073 were issued for re-analyses of samples from Sample Delivery Group# WSCF20060935. The original copies of RDRs are in IDMS. Please contact Sample Data Management for assistance if you need copies.



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WSCF Analytical Chemistry  
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# FLUOR

## Memorandum

M8141-SLF-06-242

To: D. L. Klages H8-40 Date: September 1, 2006

From: S. L. Fitzgerald, Manager  
WSCF Analytical Chemistry *[Signature]*

cc: S. J. Trent A0-21  
T. F. Dale S3-30  
H. K. Meznarich S3-30  
P. D. Mix S3-30  
J. E. Trechter S3-30  
File/LB  
(Above w/attachments)



Subject: REISSUED CORRECTION PAGES OF FINAL RESULTS FOR 200-UW-1 OPERABLE UNIT TRENCH – SAMPLE DELIVERY GROUP WSCF20060935 – SAF NUMBER R06-013

- Reference:
- (1) Memo, SL Fitzgerald to DL Klages, same subject (M8141-SLF-06-234), dated August 29, 2006
  - (2) Memo, SL Fitzgerald to DL Klages, same subject (M8141-SLF-06-230), dated August 24, 2006
  - (3) 200-UW-1 Operable Unit Support Activities Sampling – Letter of Instruction, D&D-27876, Rev. 0, dated December 14, 2005
  - (4) HNF-SD-CD-QAPP-017, Rev. 7, Waste Sampling & Characterization Facility Quality Assurance Plan

Pages 9-11, 21-25 and 37-39 in the Reference 1 data report listed an incorrect sample matrix. This letter contains the replacement pages with the correct sample matrix listed. No analytical results were impacted as a result of this change. Please replace the above referenced pages in their entirety.

If you have any questions, please call John Trechter, telephone 373-7046, for assistance.

SLF/grf

Attachments  
As listed

**REVISED**  
*Dynes*  
9/5/06

M8141-SLF-06-234

ATTACHMENT 1

**NARRATIVE**

Consisting of 6 pages  
Including cover page

<b>Sample Delivery Group</b>	<b>WSCF20060935</b>
<b>Sample Matrix</b>	<b>SOLID</b>
<b>Sample Visual</b>	<b>N/A</b>
<b>SAF Number</b>	<b>R06-013</b>
<b>Data Deliverable</b>	<b>Summary Report</b>

**Introduction**

One (1) 200-UW-1 Operable Unit soil sample (B1KB52) from the trench between 216-U-8 and 216-U-12 were received at the WSCF Laboratory on August 17, 2006. The samples were received in a cool condition with ice present in the coolers. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *200-UW-1 Operable Unit 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, 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**

Refer to *WSCF Method References Report*, pages 52 through 53 , for a complete listing of approved analytical methods used.

**Inorganic Comments**

**Anions** - The hold time requirements were met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with this delivery group. See pages 12 through 13 for QC details. Analytical Notes:

- Preparation Date: 21-aug-2006.
- Duplicate, Matrix Spike and Matrix Spike Duplicate QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Phosphate – Matrix Spike and Matrix Spike Duplicate recoveries were below established laboratory limits. Sample result was less than detection limit and U flagged.

All other QC controls are within the established limits.

**ICP-AES Metals** – The holding time for this analysis was met. A Blank, Laboratory Control Sample (LCS), Matrix Spike and Matrix Spike Duplicate were analyzed with this delivery group of less than 20 samples. See pages 14 through 16 for QC details. Analytical Notes:

- Preparation Date: 21-aug-2006.

- Matrix Spike and Matrix Spike Duplicate QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Aluminum, Calcium, Iron, Magnesium and Titanium – insufficient spike concentrations. Sample concentrations were greater than four times the spike concentration.
- Calcium – The Laboratory Control Sample recoveries exceeded established laboratory limits. Calcium result was E flagged. Lithium result was less than the method detection limit and U flagged.
- Silicon – Matrix Spike, Matrix Spike Duplicate and Laboratory Control Sample recoveries were outside established laboratory limits. Sample result was E flagged.
- Aluminum – Analyte detected in the associated preparation Blank sample was evaluated and sample result was C flagged.

All other QC controls are within the established limits.

**ICP-MS Metals** – The holding time for this analysis was met, with the exception of mercury. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with this deliver group of less than 20 samples. See pages 17 through 20 for QC details Analytical Notes:

- Preparation Date: 21-aug-2006.
- Matrix Spike and Matrix Spike Duplicate QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Thorium results listed in the report represent Th-232 exclusively.
- Zinc – Analyte detected in the associated preparation Blank sample was evaluated and sample B1KB51 was C flagged.
- Manganese (sample B1KB52), Thorium (sample B1KB52) and Uranium (sample B1KB52) – Negative preparation blank results may have potential affect on sample results. Sample results were X flagged.

All other QC controls are within the established limits.

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

#### **Organic Comments**

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

**Semi-VOA** – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with this delivery group. See pages 26 through 31 for QC details. Analytical Notes:

- Preparation Date: 17-aug-2006.
- Diethylphthalate - sample B1KB52 result was J flagged; result was less than the lowest calibration standard but greater than the detection limit.

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 this delivery group. See page 32 for QC details. Analytical Note:

- Preparation Date: 17-aug-2006.

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 this delivery group. See pages 33 through 36 for QC details. Analytical Notes:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1KB77 (SDG# 20060934, SAF# R06-013).
- 4-Bromofluorobenzene – Matrix Spike and Matrix Spike Duplicate QC exceeded established laboratory limits.

All other QC controls are within the established limits.

### Radiochemistry Comments

**RadChem** – There are no hold times associated with WSCF radiochemical methods. A Blank, Laboratory Control Sample, Matrix Spike (Technetium only), and Duplicate were analyzed with this delivery group. See pages 40 through 48 for QC details. Analytical Notes:

- Actinium-228 and Radium-228 Gamma Energy Analysis (GEA) – Duplicate QC Relative Percent Difference (RPD) exceeded established laboratory limits due to sample homogeneity issues.
- Americium-241, Neptunium-237, Plutonium Isotopic (238 and 239/240), Strontium-90, Technetium-99 and Uranium Isotopic (233/234, 235 and 238) – Applicable QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Pu-239/240 – Duplicate QC RPD exceeded established laboratory limits due to low sample activity.
- Strontium-90 – Duplicate QC RPD exceeded established laboratory limits due to sample homogeneity issues.

- Technetium-99 – Duplicate QC RPD exceeded established laboratory limits due to low sample activity.
- Uranium Isotopic (233/234, 235 and 238) – Duplicate QC RPD exceeded established laboratory limits due to sample homogeneity issues.

All other QC controls are within the established limits.

Americium-243, Plutonium-242, Strontium-85 and Uranium-232 – Radiochemical Tracer Recovery Data are summarized below:

<b>Radiochemical Tracer Percent Recovery</b>			
<b>Sample Number</b>	<b>Lab Sample ID</b>	<b>Isotope</b>	<b>Tracer Recovery (Percent)</b>
<b><u>Americium-243</u></b>			
BLANK		Am-243	79.9%
LCS		Am-243	93.0%
B1KB49	W060002493	Am-243	85.8%
DUPLICATE	W060002493	Am-243	89.2%
B1KB52	W060002500	Am-243	87.6%
<b><u>Plutonium-242</u></b>			
BLANK		Pu-242	84.0%
LCS		Pu-242	85.0%
B1KB49	W060002493	Pu-242	81.8%
DUPLICATE	W060002493	Pu-242	86.7%
B1KB52	W060002500	Pu-242	88.5%
<b><u>Strontium-85</u></b>			
BLANK		Sr-85	98.9%
LCS		Sr-85	83.4%
B1KB49	W060002493	Sr-85	86.0%
DUPLICATE	W060002493	Sr-85	88.2%
B1KB52	W060002500	Sr-85	89.1%
<b><u>Uranium-232</u></b>			
BLANK		U-232	79.8%
LCS		U-232	75.6%
B1KB49	W060002493	U-232	121.6%

Radiochemical Tracer Percent Recovery			
Sample Number	Lab Sample ID	Isotope	Tracer Recovery (Percent)
DUPLICATE	W060002493	U-232	93.0%
B1KB52	W060002500	U-232	88.7%

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*  
 Pauline D. Mix  
 WSCF Client Services

Abbreviations

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

M8141-SLF-06-234

ATTACHMENT 2

**ANALYTICAL RESULTS**

Consisting of 48 pages  
Including cover page

**WSCF**  
**ANALYTICAL RESULTS REPORT**

for

**PROJECT HANFORD MANAGEMENT COMPANY**  
**RICHLAND, WA 99354**

**Attention: D.L. Klages H8-40**

Analytical: *William J Baird WW Baird 9/1/2006*

Client Services: *John Trechter John Trechter*

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

CONTROLLED USE INFORMATION: The recipient of this report has the responsibility to protect and safeguard the requested information from unauthorized disclosure or misuse. This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. WSCF will not identify analytical reports as Official Use Only (OUO) or Sensitive. This classification must be determined by the owner of the report

Report#: 20060935  
Report Date: 1-sep-2006  
Report WGPP/ver. 1.3  
PROJECT HANFORD MANAGEMENT COMPANY

**REVISED**  
*D. Klages*  
*1/5/06*

Page 1

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
<b>Inorganic</b>													
W060002500	B1KB52	KLAGES TS	Total solids	SOIL	LA-519-412		>99.5	%	1.00	0.0	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 16984-48-8	Fluoride	SOIL	LA-533-410	U	< 2.00	mg/kg	50.00	2.0	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 16887-00-6	Chloride	SOIL	LA-533-410	U	< 1.70	mg/kg	50.00	1.7	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES NO2-N	Nitrogen in Nitrite	SOIL	LA-533-410	U	< 0.490	mg/kg	50.00	0.49	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 24959-67-9	Bromide	SOIL	LA-533-410	U	< 4.65	mg/kg	50.00	4.6	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES NO3-N	Nitrogen in Nitrate	SOIL	LA-533-410	U	< 0.900	mg/kg	50.00	0.90	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES PO4-P	Phosphate (P) by IC	SOIL	LA-533-410	U	< 3.90	mg/kg	50.00	3.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14808-79-8	Sulfate	SOIL	LA-533-410	U	< 6.50	mg/kg	50.00	6.5	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7429-90-5	Aluminum	SOIL	LA-505-411	C	51.1	mg/kg	94.08	3.5	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-89-6	Iron	SOIL	LA-505-411		525	mg/kg	94.08	3.1	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-95-4	Magnesium	SOIL	LA-505-411		21.5	mg/kg	94.08	1.4	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-09-7	Potassium	SOIL	LA-505-411	U	< 20.7	mg/kg	94.08	21	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-23-5	Sodium	SOIL	LA-505-411	U	< 10.8	mg/kg	94.08	11	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-70-2	Calcium	SOIL	LA-505-411	E	73.1	mg/kg	94.08	2.9	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-93-2	Lithium	SOIL	LA-505-411	U	< 0.565	mg/kg	94.08	0.56	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-32-6	Titanium	SOIL	LA-505-411		0.776	mg/kg	94.08	0.38	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-42-8	Boron	SOIL	LA-505-411	U	< 1.98	mg/kg	94.08	2.0	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-69-9	Bismuth	SOIL	LA-505-411	U	< 4.99	mg/kg	94.08	5.0	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-21-3	Silicon	SOIL	LA-505-411	E	26.2	mg/kg	94.08	7.1	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-96-5	Manganese	SOIL	LA-505-412	X	0.548	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-02-0	Nickel	SOIL	LA-505-412		0.0863	mg/kg	0.95	0.0572	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-22-4	Silver	SOIL	LA-505-412	U	< 0.0381	mg/kg	0.95	0.0381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-36-0	Antimony	SOIL	LA-505-412	U	< 0.286	mg/kg	0.95	0.286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-39-3	Barium	SOIL	LA-505-412		0.206	mg/kg	0.95	0.191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-41-7	Beryllium	SOIL	LA-505-412	U	< 0.0191	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0381	mg/kg	0.95	0.0381	08/22/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

RQ=Result Qualifier

DF=Dilution Factor

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

Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

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REVISED

*R. Klages*

9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W060002500	B1KB52	KLAGES 7440-47-3	Chromium	SOIL	LA-505-412	U	< 0.668	mg/kg	0.95	0.668	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-48-4	Cobalt	SOIL	LA-505-412	U	< 0.0191	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-50-8	Copper	SOIL	LA-505-412		0.579	mg/kg	0.95	0.191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-62-2	Vanadium	SOIL	LA-505-412	U	< 0.477	mg/kg	0.95	0.477	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-66-6	Zinc	SOIL	LA-505-412	C	1.77	mg/kg	0.95	0.286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-92-1	Lead	SOIL	LA-505-412		0.130	mg/kg	0.95	0.0477	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-97-6	Mercury	SOIL	LA-505-412	U	< 0.0381	mg/kg	0.95	0.0381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-98-7	Molybdenum	SOIL	LA-505-412	U	< 0.0954	mg/kg	0.95	0.0954	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-29-1	Thorium	SOIL	LA-505-412	X	0.284	mg/kg	0.95	0.0477	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-61-1	Uranium	SOIL	LA-505-412	X	0.0282	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-38-2	Arsenic	SOIL	LA-505-412	U	< 0.954	mg/kg	0.95	0.954	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7782-49-2	Selenium	SOIL	LA-505-412	U	< 0.381	mg/kg	0.95	0.381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-28-0	Thallium	SOIL	LA-505-412	U	< 0.0300	mg/kg	0.95	0.0286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-24-6	Strontium	SOIL	LA-505-412		0.154	mg/kg	0.95	0.0286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-31-5	Tin	SOIL	LA-505-412	U	< 0.0477	mg/kg	0.95	0.0477	08/22/06	08/16/06	08/17/06

**MDL=Minimum Detection Limit**

**RQ=Result Qualifier**

**DF=Dilution Factor**

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

Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

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**REVISED**  
*Wagner*  
9/5/06

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W060002493</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
DUP	Bromide	24959-67-9	<4.65	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Chloride	16887-00-6	7.5314	9.110	RPD	08/21/06	0.000	20.000	
DUP	Fluoride	16984-48-8	<2	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Nitrogen in Nitrite	NO2-N	<0.49	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Nitrogen in Nitrate	NO3-N	13.4643	2.025	RPD	08/21/06	0.000	20.000	
DUP	Phosphate (P) by IC	PO4-P	<3.9	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Sulfate	14808-79-8	29.0249	2.346	RPD	08/21/06	0.000	20.000	
MS	Bromide	24959-67-9	1.69307	84.654	% Recov	08/21/06	75.000	125.000	
MS	Chloride	16887-00-6	0.894452	91.271	% Recov	08/21/06	75.000	125.000	
MS	Fluoride	16984-48-8	0.42702	85.404	% Recov	08/21/06	75.000	125.000	
MS	Nitrogen in Nitrite	NO2-N	0.44588	89.534	% Recov	08/21/06	75.000	125.000	
MS	Nitrogen in Nitrate	NO3-N	0.407006	92.501	% Recov	08/21/06	75.000	125.000	
MS	Phosphate (P) by IC	PO4-P	0.55435	57.625	% Recov	08/21/06	75.000	125.000	
MS	Sulfate	14808-79-8	1.775156	88.758	% Recov	08/21/06	75.000	125.000	
MSD	Bromide	24959-67-9	1.694338	84.717	% Recov	08/21/06	75.000	125.000	
MSD	Chloride	16887-00-6	0.90542	92.390	% Recov	08/21/06	75.000	125.000	
MSD	Fluoride	16984-48-8	0.434964	86.993	% Recov	08/21/06	75.000	125.000	
MSD	Nitrogen in Nitrite	NO2-N	0.438152	87.982	% Recov	08/21/06	75.000	125.000	
MSD	Nitrogen in Nitrate	NO3-N	0.425402	96.682	% Recov	08/21/06	75.000	125.000	
MSD	Phosphate (P) by IC	PO4-P	0.578926	60.179	% Recov	08/21/06	75.000	125.000	
MSD	Sulfate	14808-79-8	1.764856	88.243	% Recov	08/21/06	75.000	125.000	
<b>BATCH QC</b>									
BLANK	Bromide	24959-67-9	<9.3e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Bromide	24959-67-9	<9.3e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Chloride	16887-00-6	<3.4e-2	n/a	mg/L	08/21/06	0.000	300.000	U

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Chloride	16887-00-6	<3.4e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<4e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Fluoride	16984-48-8	<4e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<9.8e-3	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrogen in Nitrite	NO2-N	<9.8e-3	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrogen in Nitrate	NO3-N	<1.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrogen in Nitrate	NO3-N	<1.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<7.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<7.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<0.13	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Sulfate	14808-79-8	<0.13	n/a	mg/L	08/21/06	0.000	300.000	U
LCS	Bromide	24959-67-9	390.9538	97.738	% Recov	08/21/06	80.000	120.000	
LCS	Chloride	16887-00-6	203.9548	104.059	% Recov	08/21/06	80.000	120.000	
LCS	Fluoride	16984-48-8	92.1569	92.157	% Recov	08/21/06	80.000	120.000	
LCS	Nitrogen in Nitrite	NO2-N	99.6832	100.084	% Recov	08/21/06	80.000	120.000	
LCS	Nitrogen in Nitrate	NO3-N	87.9705	100.080	% Recov	08/21/06	80.000	120.000	
LCS	Phosphate (P) by IC	PO4-P	189.4201	98.400	% Recov	08/21/06	80.000	120.000	
LCS	Sulfate	14808-79-8	388.5084	97.127	% Recov	08/21/06	80.000	120.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H2O P

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Aluminum	7429-90-5	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Boron	7440-42-8	212	109.845	% Recov	08/22/06	75.000	125.000	
MS	Bismuth	7440-69-9	213	110.363	% Recov	08/22/06	75.000	125.000	
MS	Calcium	7440-70-2	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Iron	7439-89-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Potassium	7440-09-7	2088	108.187	% Recov	08/22/06	75.000	125.000	
MS	Lithium	7439-93-2	106.675	110.544	% Recov	08/22/06	70.000	130.000	
MS	Magnesium	7439-95-4	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Sodium	7440-23-5	193.9	100.466	% Recov	08/22/06	75.000	125.000	
MS	Silicon	7440-21-3	729.7	378.083	% Recov	08/22/06	70.000	130.000	
MS	Titanium	7440-32-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Aluminum	7429-90-5	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Boron	7440-42-8	214.3	108.782	% Recov	08/22/06	75.000	125.000	
MSD	Bismuth	7440-69-9	225	114.213	% Recov	08/22/06	75.000	125.000	
MSD	Calcium	7440-70-2	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Iron	7439-89-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Potassium	7440-09-7	2087	105.939	% Recov	08/22/06	75.000	125.000	
MSD	Lithium	7439-93-2	108.475	110.127	% Recov	08/22/06	75.000	125.000	
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Sodium	7440-23-5	194.1	98.528	% Recov	08/22/06	75.000	125.000	
MSD	Silicon	7440-21-3	785.2	398.579	% Recov	08/22/06	75.000	125.000	
MSD	Titanium	7440-32-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
SPK-RPD	Aluminum	7429-90-5		n/a	RPD	08/22/06	0.000	20.000	
SPK-RPD	Boron	7440-42-8	108.782	0.972	RPD	08/22/06	0.000	20.000	
SPK-RPD	Bismuth	7440-69-9	114.213	3.429	RPD	08/22/06	0.000	20.000	
SPK-RPD	Calcium	7440-70-2		n/a	RPD	08/22/06	0.000	20.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H20 P

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Iron	7439-89-6		n/a	RPD	08/22/06	0.000	20.000	
SPK-RPD	Potassium	7440-09-7	105.939	2.100	RPD	08/22/06	0.000	20.000	
SPK-RPD	Lithium	7439-93-2	110.127	0.378	RPD	08/22/06	0.000	20.000	
SPK-RPD	Magnesium	7439-95-4		n/a	RPD	08/22/06	0.000	20.000	
SPK-RPD	Sodium	7440-23-5	98.528	1.948	RPD	08/22/06	0.000	20.000	
SPK-RPD	Silicon	7440-21-3	398.579	5.278	RPD	08/22/06	0.000	20.000	
SPK-RPD	Titanium	7440-32-6		n/a	RPD	08/22/06	0.000	20.000	

### BATCH QC

BLANK	Aluminum	7429-90-5	6.02e-2	0.080	ug/mL	08/22/06			
BLANK	Boron	7440-42-8	<2.1e-2	n/a	ug/mL	08/22/06			U
BLANK	Bismuth	7440-69-9	<5.3e-2	n/a	ug/mL	08/22/06			U
BLANK	Calcium	7440-70-2	<3.1e-2	n/a	ug/mL	08/22/06			U
BLANK	Iron	7439-89-6	<3.3e-2	n/a	ug/mL	08/22/06			U
BLANK	Potassium	7440-09-7	<0.22	n/a	ug/mL	08/22/06			U
BLANK	Lithium	7439-93-2	<6e-3	n/a	ug/mL	08/22/06			U
BLANK	Magnesium	7439-95-4	<1.5e-2	n/a	ug/mL	08/22/06			U
BLANK	Sodium	7440-23-5	<0.115	n/a	ug/mL	08/22/06			U
BLANK	Silicon	7440-21-3	<7.5e-2	n/a	ug/mL	08/22/06			U
BLANK	Titanium	7440-32-6	<4e-3	n/a	ug/mL	08/22/06			U
LCS	Aluminum	7429-90-5	7143	113.022	% Recov	08/22/06	44.000	157.000	
LCS	Boron	7440-42-8	107.4	110.267	% Recov	08/22/06	45.000	156.000	
LCS	Bismuth	7440-69-9	236.2	119.052	% Recov	08/22/06	80.000	120.000	
LCS	Calcium	7440-70-2	4197	126.418	% Recov	08/22/06	78.000	124.000	
LCS	Iron	7439-89-6	12920	115.357	% Recov	08/22/06	47.000	152.000	
LCS	Potassium	7440-09-7	2176	113.333	% Recov	08/22/06	64.000	136.000	
LCS	Lithium	7439-93-2	7.524	126.242	% Recov	08/22/06	80.000	120.000	
LCS	Magnesium	7439-95-4	2348	115.098	% Recov	08/22/06	71.000	129.000	
LCS	Sodium	7440-23-5	509.5	114.494	% Recov	08/22/06	51.000	149.000	
LCS	Silicon	7440-21-3	189.2	23.210	% Recov	08/22/06	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
Matrix: SOLID  
Test: ICP Metals Analysis, Grd H20 P

SAF Number: R06-013  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Titanium	7440-32-6	291.4	94.000	% Recov	08/22/06	9.000	191.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Silver	7440-22-4	195.1	97.550	% Recov	08/22/06	70.000	130.000	
MS	Arsenic	7440-38-2	188.39	84.195	% Recov	08/22/06	70.000	130.000	
MS	Barium	7440-39-3	195.42	97.710	% Recov	08/22/06	70.000	130.000	
MS	Beryllium	7440-41-7	200.5175	100.259	% Recov	08/22/06	70.000	130.000	
MS	Cadmium	7440-43-9	207.60505	103.803	% Recov	08/22/06	70.000	130.000	
MS	Cobalt	7440-48-4	187.382	93.891	% Recov	08/22/06	70.000	130.000	
MS	Chromium	7440-47-3	192.848	96.424	% Recov	08/22/06	70.000	130.000	
MS	Copper	7440-50-8	184	92.000	% Recov	08/22/06	70.000	130.000	
MS	Mercury	7439-97-6	2.1878	109.390	% Recov	08/22/06	70.000	130.000	
MS	Manganese	7439-96-5	163.4	81.700	% Recov	08/22/06	70.000	130.000	
MS	Molybdenum	7439-98-7	173.7549	86.877	% Recov	08/22/06	70.000	130.000	
MS	Nickel	7440-02-0	189.91	94.955	% Recov	08/22/06	70.000	130.000	
MS	Lead	7439-92-1	203.126	101.563	% Recov	08/22/06	70.000	130.000	
MS	Antimony	7440-36-0	190.8	95.400	% Recov	08/22/06	70.000	130.000	
MS	Selenium	7782-49-2	188	84.000	% Recov	08/22/06	70.000	130.000	
MS	Tin	7440-31-5	204.54	102.270	% Recov	08/22/06	70.000	130.000	
MS	Strontium	7440-24-6	165.13	82.565	% Recov	08/22/06	70.000	130.000	
MS	Thorium	7440-29-1	197.993	98.996	% Recov	08/22/06	70.000	130.000	
MS	Thallium	7440-28-0	198.93748	99.489	% Recov	08/22/06	70.000	130.000	
MS	Uranium	7440-61-1	201.272	100.638	% Recov	08/22/06	70.000	130.000	
MS	Vanadium	7440-62-2	173.2	86.600	% Recov	08/22/06	70.000	130.000	
MS	Zinc	7440-66-6	186.34	93.170	% Recov	08/22/06	70.000	130.000	
MSD	Silver	7440-22-4	188.4	93.200	% Recov	08/22/06	70.000	130.000	
MSD	Arsenic	7440-38-2	158.89	79.445	% Recov	08/22/06	70.000	130.000	
MSD	Barium	7440-39-3	186.22	93.110	% Recov	08/22/06	70.000	130.000	
MSD	Beryllium	7440-41-7	192.2175	96.109	% Recov	08/22/06	70.000	130.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Cadmium	7440-43-9	195.10505	97.553	% Recov	08/22/06	70.000	130.000	
MSD	Cobalt	7440-48-4	175.782	87.891	% Recov	08/22/06	70.000	130.000	
MSD	Chromium	7440-47-3	184.048	92.024	% Recov	08/22/06	70.000	130.000	
MSD	Copper	7440-50-8	179.1	89.550	% Recov	08/22/06	70.000	130.000	
MSD	Mercury	7439-97-8	2.0908	104.540	% Recov	08/22/06	70.000	130.000	
MSD	Manganese	7439-96-5	152.4	76.200	% Recov	08/22/06	70.000	130.000	
MSD	Molybdenum	7439-98-7	159.7549	79.877	% Recov	08/22/06	70.000	130.000	
MSD	Nickel	7440-02-0	179.71	89.855	% Recov	08/22/06	70.000	130.000	
MSD	Lead	7439-92-1	198.526	99.263	% Recov	08/22/06	70.000	130.000	
MSD	Antimony	7440-36-0	185.1	92.550	% Recov	08/22/06	70.000	130.000	
MSD	Selenium	7782-49-2	155.4	77.700	% Recov	08/22/06	70.000	130.000	
MSD	Tin	7440-31-5	195.54	97.770	% Recov	08/22/06	70.000	130.000	
MSD	Strontium	7440-24-6	156.53	78.265	% Recov	08/22/06	70.000	130.000	
MSD	Thorium	7440-29-1	188.393	94.197	% Recov	08/22/06	70.000	130.000	
MSD	Thallium	7440-28-0	193.53748	96.769	% Recov	08/22/06	70.000	130.000	
MSD	Uranium	7440-61-1	189.472	94.736	% Recov	08/22/06	70.000	130.000	
MSD	Vanadium	7440-62-2	165.7	82.850	% Recov	08/22/06	70.000	130.000	
MSD	Zinc	7440-66-8	179.64	89.820	% Recov	08/22/06	70.000	130.000	
SPK-RPD	Silver	7440-22-4	93.200	4.561	RPD	08/22/06	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	79.445	5.805	RPD	08/22/06	0.000	20.000	
SPK-RPD	Barium	7440-39-3	93.110	4.821	RPD	08/22/06	0.000	20.000	
SPK-RPD	Beryllium	7440-41-7	96.109	4.227	RPD	08/22/06	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	97.553	6.208	RPD	08/22/06	0.000	20.000	
SPK-RPD	Cobalt	7440-48-4	87.891	6.388	RPD	08/22/06	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	92.024	4.670	RPD	08/22/06	0.000	20.000	
SPK-RPD	Copper	7440-50-8	89.550	2.699	RPD	08/22/06	0.000	20.000	
SPK-RPD	Mercury	7439-97-8	104.540	4.534	RPD	08/22/06	0.000	20.000	
SPK-RPD	Manganese	7439-96-5	76.200	6.966	RPD	08/22/06	0.000	20.000	
SPK-RPD	Molybdenum	7439-98-7	79.877	8.396	RPD	08/22/06	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	89.855	5.519	RPD	08/22/06	0.000	20.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Lead	7439-92-1	99.263	2.291	RPD	08/22/06	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	92.550	3.033	RPD	08/22/06	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	77.700	7.792	RPD	08/22/06	0.000	20.000	
SPK-RPD	Tin	7440-31-5	97.770	4.499	RPD	08/22/06	0.000	20.000	
SPK-RPD	Strontium	7440-24-6	78.265	5.347	RPD	08/22/06	0.000	20.000	
SPK-RPD	Thorium	7440-29-1	94.197	4.968	RPD	08/22/06	0.000	20.000	
SPK-RPD	Thallium	7440-28-0	96.769	2.752	RPD	08/22/06	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	94.736	6.040	RPD	08/22/06	0.000	20.000	
SPK-RPD	Vanadium	7440-62-2	82.850	4.426	RPD	08/22/06	0.000	20.000	
SPK-RPD	Zinc	7440-66-6	89.820	3.661	RPD	08/22/06	0.000	20.000	

### BATCH QC

BLANK	Silver	7440-22-4	<4e-2	n/a	ug/L	08/22/06			U
BLANK	Arsenic	7440-38-2	<1	n/a	ug/L	08/22/06			U
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L	08/22/06			U
BLANK	Beryllium	7440-41-7	<2e-2	n/a	ug/L	08/22/06			U
BLANK	Cadmium	7440-43-9	<4e-2	n/a	ug/L	08/22/06			U
BLANK	Cobalt	7440-48-4	<2e-2	n/a	ug/L	08/22/06			U
BLANK	Chromium	7440-47-3	<0.7	n/a	ug/L	08/22/06			U
BLANK	Copper	7440-50-8	<0.2	n/a	ug/L	08/22/06			U
BLANK	Mercury	7439-97-6	<4e-2	n/a	ug/L	08/22/06			U
BLANK	Manganese	7439-96-5	<2e-2	n/a	ug/L	08/22/06			U
BLANK	Molybdenum	7439-98-7	<0.1	n/a	ug/L	08/22/06			U
BLANK	Nickel	7440-02-0	<6e-2	n/a	ug/L	08/22/06			U
BLANK	Lead	7439-92-1	<5e-2	n/a	ug/L	08/22/06			U
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L	08/22/06			U
BLANK	Selenium	7782-49-2	<0.4	n/a	ug/L	08/22/06			U
BLANK	Tin	7440-31-5	<5e-2	n/a	ug/L	08/22/06			U
BLANK	Strontium	7440-24-6	<3e-2	n/a	ug/L	08/22/06			U
BLANK	Thorium	7440-29-1	<5e-2	n/a	ug/L	08/22/06			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Thallium	7440-28-0	<3e-2	n/a	ug/L	08/22/06			U
BLANK	Uranium	7440-61-1	<2e-2	n/a	ug/L	08/22/06			U
BLANK	Vanadium	7440-62-2	<0.5	n/a	ug/L	08/22/06			U
BLANK	Zinc	7440-66-8	0.3413	0.341	ug/L	08/22/06			
LCS	Silver	7440-22-4	145.6	112.000	% Recov	08/22/06	98.000	134.000	
LCS	Arsenic	7440-38-2	160.3	99.565	% Recov	08/22/06	75.000	134.000	
LCS	Barium	7440-39-3	253.6	100.635	% Recov	08/22/06	87.000	121.000	
LCS	Beryllium	7440-41-7	98.22	104.047	% Recov	08/22/06	70.000	153.000	
LCS	Cadmium	7440-43-9	128.3	100.234	% Recov	08/22/06	95.000	124.000	
LCS	Cobalt	7440-48-4	36.52	103.750	% Recov	08/22/06	88.000	119.000	
LCS	Chromium	7440-47-3	70.03	100.763	% Recov	08/22/06	77.000	125.000	
LCS	Copper	7440-50-8	151.1	102.095	% Recov	08/22/06	84.000	122.000	
LCS	Mercury	7439-97-8	16.93	100.178	% Recov	08/22/06	71.000	132.000	
LCS	Manganese	7439-96-5	424.9	104.142	% Recov	08/22/06	83.000	118.000	
LCS	Molybdenum	7439-98-7	88.47	105.196	% Recov	08/22/06	71.000	130.000	
LCS	Nickel	7440-02-0	155.8	105.986	% Recov	08/22/06	90.000	121.000	
LCS	Lead	7439-92-1	149.6	105.352	% Recov	08/22/06	92.000	123.000	
LCS	Antimony	7440-36-0	100.7	165.353	% Recov	08/22/06	114.000	260.000	
LCS	Selenium	7782-49-2	68.67	106.963	% Recov	08/22/06	52.000	157.000	
LCS	Tin	7440-31-5	61.44	100.721	% Recov	08/22/06	86.000	123.000	
LCS	Strontium	7440-24-6	84.12	100.143	% Recov	08/22/06	68.000	123.000	
LCS	Thorium	7440-29-1	378.1	94.525	% Recov	08/22/06	77.000	121.000	
LCS	Thallium	7440-28-0	86.99	103.560	% Recov	08/22/06	92.000	123.000	
LCS	Uranium	7440-61-1	390.4	97.600	% Recov	08/22/06	81.000	125.000	
LCS	Vanadium	7440-62-2	102.6	105.447	% Recov	08/22/06	81.000	122.000	
LCS	Zinc	7440-66-6	175.7	106.485	% Recov	08/22/06	85.000	130.000	

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Organic													
W060002500	B1KB52	KLAGES 100-02-7	4-Nitrophenol	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 106-46-7	1,4-Dichlorobenzene	SOIL	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-95-2	Phenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 120-82-1	1,2,4-Trichlorobenzene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 121-14-2	2,4-Dinitrotoluene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 129-00-0	Pyrene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 59-50-7	4-Chloro-3-methylphenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 621-64-7	N Nitrosodi-n-dipropylamine	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 83-32-9	Acenaphthene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 87-86-5	Pentachlorophenol	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-57-8	2-Chlorophenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 100-01-6	4-Nitroaniline	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 101-55-3	4-Bromophenylphenyl ether	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 105-67-9	2,4-Dimethylphenol	SOIL	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 106-47-8	4-Chloroaniline	SOIL	LA-523-456	U	< 330	ug/kg	1.00	3.3e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-60-1	Bis(2-chloro-1-methylethyl)eth	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 111-44-4	Bis(2-chloroethyl) ether	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 111-91-1	Bis(2-Chloroethoxy)methane	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 117-81-7	Bis(2-ethylhexyl) phthalate	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 117-84-0	Di-n-octylphthalate	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 118-74-1	Hexachlorobenzene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 120-12-7	Anthracene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 120-83-2	2,4-Dichlorophenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 131-11-3	Dimethyl phthalate	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 132-64-9	Dibenzofuran	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 191-24-2	Benzo(ghi)perylene	SOIL	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06

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PROJECT HANFORD MANAGEMENT COMPANY

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**REVISED**  
*Klages*  
9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
W060002500	B1KB52	KLAGES 193-39-5	Indeno(1,2,3-cd)pyrene	SOIL	LA-523-456	U	< 280	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 205-99-2	Benzo(b)fluoranthene	SOIL	LA-523-456	U	< 190	ug/kg	1.00	1.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 206-44-0	Fluoranthene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 207-08-9	Benzo(k)fluoranthene	SOIL	LA-523-456	U	< 190	ug/kg	1.00	1.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 208-96-8	Acenaphthylene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 218-01-9	Chrysene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 50-32-8	Benzo(a)pyrene	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 51-28-5	2,4-Dinitrophenol	SOIL	LA-523-456	U	< 660	ug/kg	1.00	6.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 53-70-3	Dibenz[a,h]anthracene	SOIL	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 534-52-1	4,6-Dinitro-2-methylphenol	SOIL	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 541-73-1	1,3-Dichlorobenzene	SOIL	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 56-55-3	Benzo(a)anthracene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 606-20-2	2,6-Dinitrotoluene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7005-72-3	4-Chlorophenylphenyl ether	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 77-47-4	Hexachlorocyclopentadiene	SOIL	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 78-59-1	Isophorone	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 84-66-2	Diethylphthalate	SOIL	LA-523-456	J	300	ug/kg	1.00	2.3e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 84-74-2	Di-n-butylphthalate	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 85-01-8	Phenanthrene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 85-68-7	Butylbenzylphthalate	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 86-30-6	N-Nitrosodiphenylamine	SOIL	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 86-73-7	Fluorene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 86-74-8	Carbazole	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 87-68-3	Hexachlorobutadiene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 88-74-4	2-Nitroaniline	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 88-75-5	2-Nitrophenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-20-3	Naphthalene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06

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RQ=Result Qualifier

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Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

**REVISED**  
*D. Klages*  
9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
W060002500	B1KB52	KLAGES 91-57-6	2-Methylnaphthalene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-58-7	2-Chloronaphthalene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-94-1	3,3'-Dichlorobenzidine	SOIL	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-48-7	2-Methylphenol (cresol, o-)	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-50-1	1,2-Dichlorobenzene	SOIL	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-95-4	2,4,5-Trichlorophenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 98-95-3	Nitrobenzene	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 99-09-2	3-Nitroaniline	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 65794-96-9	3 & 4 Methylphenol Total	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 67-72-1	Hexachloroethane	SOIL	LA-523-456	U	< 250	ug/kg	1.00	2.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 88-06-2	2,4,6-Trichlorophenol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 124-18-5	Decane	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 112-40-3	Dodecane	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 100-51-6	Benzyl alcohol	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 111-76-2	2-Butoxyethanol	SOIL	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 126-73-8	Tributyl phosphate	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-59-8	2-Naphthylamine	SOIL	LA-523-456	U	< 420	ug/kg	1.00	4.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-94-1	Cyclohexanone	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 110-86-1	Pyridine	SOIL	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-63-6	1,2,4-Trimethylbenzene	SOIL	LA-523-456	U	< 200	ug/kg	1.00	2.0e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 65-85-0	Benzoic acid	SOIL	LA-523-456	U	< 440	ug/kg	1.00	440	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 78-46-6	Dibutyl butylphosphonate	SOIL	LA-523-456	U	< 1.5e+02	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-35-4	1,1-Dichloroethene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 79-01-6	Trichloroethene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 71-43-2	Benzene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-88-3	Toluene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-90-7	Chlorobenzene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06

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Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

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**REVISED**  
*D. Klages*  
9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive			
					Method	RQ								
W060002500	B1KB52	KLAGES	75-34-3	1,1-Dichloroethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	100-41-4	Ethylbenzene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	100-42-5	Styrene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	10061-01-5	cis-1,3-Dichloropropene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	10061-02-6	trans-1,3-Dichloropropene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	107-06-2	1,2-Dichloroethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	108-10-1	4-Methyl-2-Pentanone	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	124-48-1	Dibromochloromethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	127-18-4	Tetrachloroethene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	1330-20-7	Xylenes (total)	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	540-59-0	1,2-Dichloroethene(Total)	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	56-23-5	Carbon tetrachloride	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	591-78-6	2-Hexanone	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	67-64-1	Acetone	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	67-66-3	Chloroform	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	71-55-6	1,1,1-Trichloroethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	74-83-9	Bromomethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	74-87-3	Chloromethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	75-00-3	Chloroethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	75-01-4	Vinyl chloride	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	75-09-2	Methylenechloride	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	75-15-0	Carbon disulfide	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	75-25-2	Bromoform	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	75-27-4	Bromodichloromethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	78-87-5	1,2-Dichloropropane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	78-93-3	2-Butanone	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	79-00-5	1,1,2-Trichloroethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

RQ=Result Qualifier

DF=Dilution Factor

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

Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

**REVISED**  
*Klages*  
9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W060002500	B1KB52	KLAGES 79-34-5	1,1,2,2-Tetrachloroethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 71-36-3	1-Butanol	SOIL	LA-523-455	U	< 19.0	ug/kg	1.00	19	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 107-87-9	2-Pentanone	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 110-82-7	Cyclohexane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 110-54-3	Hexane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 109-99-9	Tetrahydrofuran	SOIL	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-69-4	Trichloromonofluoromethane	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 104-51-8	n-Butylbenzene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 156-60-5	trans-1,2-Dichloroethylene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-05-8	Acetonitrile	SOIL	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 156-59-2	cis-1,2-Dichloroethylene	SOIL	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES TPHDIESEL	Total Pet. Hydrocarbons Diesel	SOIL	NWTPH	U	< 3.20e+03	ug/kg	1.00	3.2e+03	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES TPHKEROSENE	Kerosene	SOIL	NWTPH	U	< 3.20e+03	ug/kg	1.00	3.2e+03	08/21/06	08/16/06	08/17/06

MDL=Minimum Detection Limit  
RQ=Result Qualifier

C - The Analyte was found in the Associated Blank.  
J - Analyte is an estimate, has potentially larger errors  
X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors  
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. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

**REVISED**  
*D. Klages*  
9/5/06

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W060002500  
 BATCH QC ASSOCIATED WITH SAMPLE

MS	1,2,4-Trichlorobenzene	120-82-1	4404.7	103.000	% Recov	08/21/06	48.000	107.000	
MS	1,4-Dichlorobenzene	106-46-7	4014.8	93.858	% Recov	08/21/06	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	3733.3	87.300	% Recov	08/21/06	59.000	108.000	
MS	2-Fluorophenol	387-12-4	4453.4	104.000	% Recov	08/21/06	42.000	105.000	
MS	Acenaphthene	83-32-9	4359.8	102.000	% Recov	08/21/06	61.000	118.000	
MS	4-Chloro-3-methylphenol	59-50-7	6341.9	98.800	% Recov	08/21/06	61.000	106.000	
MS	2-Chlorophenol	95-57-8	6448.0	100.000	% Recov	08/21/06	66.000	106.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	4481.8	105.000	% Recov	08/21/06	71.000	114.000	
MS	2-Fluorobiphenyl	321-60-8	4550.1	106.000	% Recov	08/21/06	56.000	122.000	
MS	Phenol	108-95-2	6463.4	101.000	% Recov	08/21/06	42.000	111.000	
MS	Nitrobenzene-d5	4185-60-0	4364.3	102.000	% Recov	08/21/06	64.000	111.000	
MS	4-Nitrophenol	100-02-7	5579.1	87.000	% Recov	08/21/06	32.000	118.000	
MS	Pentachlorophenol	87-86-5	6387.4	99.500	% Recov	08/21/06	62.000	114.000	
MS	Phenol-d5	4185-62-2	4429.3	104.000	% Recov	08/21/06	54.000	120.000	
MS	Pyrene	129-00-0	4261.2	99.600	% Recov	08/21/06	66.000	118.000	
MS	2,4,6-Tribromophenol	118-79-6	3898.6	91.100	% Recov	08/21/06	24.000	122.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	4521.8	106.000	% Recov	08/21/06	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	4850.6	105.000	% Recov	08/21/06	46.000	107.000	
MSD	1,4-Dichlorobenzene	106-46-7	4326.5	93.846	% Recov	08/21/06	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	4605.5	99.900	% Recov	08/21/06	59.000	108.000	
MSD	2-Fluorophenol	387-12-4	4690.8	102.000	% Recov	08/21/06	42.000	105.000	
MSD	Acenaphthene	83-32-9	4697.2	102.000	% Recov	08/21/06	61.000	118.000	
MSD	4-Chloro-3-methylphenol	59-50-7	6635.5	96.000	% Recov	08/21/06	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	6930.1	100.000	% Recov	08/21/06	66.000	106.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	4638.9	101.000	% Recov	08/21/06	71.000	114.000	
MSD	2-Fluorobiphenyl	321-60-8	5014.2	109.000	% Recov	08/21/06	56.000	122.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Phenol	108-95-2	7065.7	102.000	% Recov	08/21/06	42.000	111.000	
MSD	Nitrobenzene-d5	4165-60-0	4825.2	105.000	% Recov	08/21/06	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	6511.2	94.200	% Recov	08/21/06	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	6792.8	98.200	% Recov	08/21/06	62.000	114.000	
MSD	Phenol-d5	4165-62-2	5000.9	108.000	% Recov	08/21/06	54.000	120.000	
MSD	Pyrene	129-00-0	4771.2	103.000	% Recov	08/21/06	68.000	118.000	
MSD	2,4,6-Tribromophenol	118-79-6	4447.6	96.500	% Recov	08/21/06	24.000	122.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	4998.6	108.000	% Recov	08/21/06	35.000	150.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	105.000	1.923	RPD	08/18/08	0.000	20.000	
SPK-RPD	1,4-Dichlorobenzene	106-46-7	93.846	0.013	RPD	08/21/06	0.000	20.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	99.900	13.462	RPD	08/18/08	0.000	20.000	
SPK-RPD	2-Fluorophenol	367-12-4	102.000	1.942	RPD	08/18/08	0.000	20.000	
SPK-RPD	Acenaphthene	83-32-9	102.000	0.000	RPD	08/18/06	0.000	20.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	96.000	2.875	RPD	08/18/08	0.000	20.000	
SPK-RPD	2-Chlorophenol	95-57-8	100.000	0.000	RPD	08/18/08	0.000	20.000	
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	101.000	3.883	RPD	08/18/08	0.000	20.000	
SPK-RPD	2-Fluorobiphenyl	321-60-8	109.000	2.791	RPD	08/18/06	0.000	20.000	
SPK-RPD	Phenol	108-95-2	102.000	0.985	RPD	08/18/06	0.000	20.000	
SPK-RPD	Nitrobenzene-d5	4165-60-0	105.000	2.899	RPD	08/18/08	0.000	20.000	
SPK-RPD	4-Nitrophenol	100-02-7	94.200	7.947	RPD	08/18/08	0.000	20.000	
SPK-RPD	Pentachlorophenol	87-86-5	98.200	1.315	RPD	08/18/08	0.000	20.000	
SPK-RPD	Phenol-d5	4165-62-2	108.000	3.774	RPD	08/18/06	0.000	20.000	
SPK-RPD	Pyrene	129-00-0	103.000	3.356	RPD	08/18/06	0.000	20.000	
SPK-RPD	2,4,6-Tribromophenol	118-79-6	96.500	5.757	RPD	08/18/06	0.000	20.000	
SPK-RPD	Terphenyl-d14 (7Cl)	98904-43-9	108.000	1.869	RPD	08/18/08	0.000	20.000	
SURR	2-Fluorophenol	367-12-4	4431.2	101.000	% Recov	08/18/06	42.000	105.000	
SURR	2-Fluorobiphenyl	321-60-8	4680.8	106.000	% Recov	08/18/06	58.000	122.000	
SURR	Nitrobenzene-d5	4165-60-0	4427.0	101.000	% Recov	08/18/06	64.000	111.000	
SURR	Phenol-d5	4165-62-2	4500.6	102.000	% Recov	08/18/06	54.000	120.000	
SURR	2,4,6-Tribromophenol	118-79-6	3907.0	88.800	% Recov	08/18/06	24.000	122.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Terphenyl-d14 (7CI)	98904-43-9	4643.6	106.000	% Recov	08/18/06	35.000	150.000	
<b>BATCH QC</b>									
BLANK	1,2-Dichlorobenzene	95-50-1	< 240	n/a	ug/Kg	08/18/06			U
BLANK	1,2,4-Trimethylbenzene	95-83-6	< 180	n/a	ug/Kg	08/18/06			U
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	1,3-Dichlorobenzene	541-73-1	< 260	n/a	ug/Kg	08/18/06			U
BLANK	1,4-Dichlorobenzene	106-46-7	< 240	n/a	ug/Kg	08/18/06			U
BLANK	2-Naphthylamine	91-59-8	< 380	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dichlorophenol	120-83-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dinitrotoluene	121-14-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4,5-Trichlorophenol	95-95-4	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4,6-Trichlorophenol	88-06-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dimethylphenol	105-67-9	< 220	n/a	ug/Kg	08/18/06			U
BLANK	2,6-Dinitrotoluene	606-20-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Butoxyethanol	111-76-2	< 200	n/a	ug/Kg	08/18/06			U
BLANK	2-Chloronaphthalene	91-58-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Fluorophenol	367-12-4	4129.6	103.240	% Recov	08/18/06	42.000	105.000	
BLANK	2-Methylnaphthalene	91-57-6	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Nitroaniline	88-74-4	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Nitrophenol	88-75-5	< 140	n/a	ug/Kg	08/18/06			U
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	3-Nitroaniline	99-09-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4,6-Dinitro-2-methylphenol	534-52-1	< 220	n/a	ug/Kg	08/18/06			U
BLANK	4-Bromophenylphenyl ether	101-55-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4-Chlorophenylphenyl ether	7005-72-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Acenaphthene	83-32-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Acenaphthylene	208-96-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Anthracene	120-12-7	< 140	n/a	ug/Kg	08/18/06			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Bis(2-chloroethyl) ether	111-44-4	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(a)anthracene	56-55-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(b)fluoranthene	205-99-2	< 170	n/a	ug/Kg	08/18/06			U
BLANK	Benzoic acid	65-85-0	< 400	n/a	ug/Kg	08/18/06	0.000		U
BLANK	Benzo(ghi)perylene	191-24-2	< 220	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(a)pyrene	50-32-8	< 200	n/a	ug/Kg	08/18/06			U
BLANK	Bis(2-Chloroethoxy)methane	111-91-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Bis(2-chloro-1-methylethyl)eth	108-60-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzyl alcohol	100-51-6	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(k)fluoranthene	207-08-9	< 170	n/a	ug/Kg	08/18/06			U
BLANK	Butylbenzylphthalate	85-68-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Carbazole	86-74-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4-Chloroaniline	106-47-8	< 300	n/a	ug/Kg	08/18/06			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Chlorophenol	95-57-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Chrysene	218-01-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Cyclohexanone	108-94-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 280	n/a	ug/Kg	08/18/06			U
BLANK	Decane	124-18-5	< 200	n/a	ug/Kg	08/18/06			U
BLANK	Dibenz(a,h)anthracene	53-70-3	< 260	n/a	ug/Kg	08/18/06			U
BLANK	Dibutyl butylphosphonate	78-46-6	< 140	n/a	ug/kg	08/18/06			U
BLANK	Dibenzofuran	132-64-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Di-n-butylphthalate	84-74-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Diethylphthalate	84-66-2	< 210	n/a	ug/Kg	08/18/06			U
BLANK	Dimethyl phthalate	131-11-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dinitrophenol	51-28-5	< 600	n/a	ug/Kg	08/18/06			U
BLANK	Di-n-octylphthalate	117-84-0	< 200	n/a	ug/Kg	08/18/06			U
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Dodecane	112-40-3	< 140	n/a	ug/Kg	08/18/06	-999.000	999.000	U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	2-Fluorobiphenyl	321-60-8	4053.9	101.000	% Recov	08/18/06	56.000	122.000	
BLANK	Fluorene	86-73-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Fluoranthene	206-44-0	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Hexachlorobenzene	118-74-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Hexachlorobutadiene	87-68-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Hexachlorocyclopentadiene	77-47-4	< 160	n/a	ug/Kg	08/18/06			U
BLANK	Hexachloroethane	67-72-1	< 230	n/a	ug/Kg	08/18/06			U
BLANK	Indeno(1,2,3-cd)pyrene	193-39-5	< 240	n/a	ug/Kg	08/18/06			U
BLANK	Isophorone	78-59-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Phenol	108-95-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Naphthalene	91-20-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Nitrobenzene-d5	4165-60-0	4151.5	104.000	% Recov	08/18/06	64.000	111.000	
BLANK	Nitrobenzene	98-95-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4-Nitrophenol	100-02-7	< 200	n/a	ug/Kg	08/18/06			U
BLANK	4-Nitroaniline	100-01-6	< 200	n/a	ug/Kg	08/18/06			U
BLANK	N-Nitrosodiphenylamine	86-30-6	< 160	n/a	ug/Kg	08/18/06			U
BLANK	Pentachlorophenol	87-86-5	< 200	n/a	ug/Kg	08/18/06			U
BLANK	Phenanthrene	85-01-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Phenol-d5	4165-62-2	4267.2	107.000	% Recov	08/18/06	54.000	120.000	
BLANK	Pyrene	129-00-0	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Pyridine	110-86-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Tributyl phosphate	126-73-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4,6-Tribromophenol	118-79-6	3877.3	96.900	% Recov	08/18/06	24.000	122.000	
BLANK	Terphenyl-d14 (7Cl)	98904-43-9	4111.2	103.000	% Recov	08/18/06	35.000	150.000	
LCS	1,2,4-Trichlorobenzene	120-82-1	4238.8	106.000	% Recov	08/21/06	46.000	107.000	
LCS	1,4-Dichlorobenzene	106-46-7	4369.5	109.000	% Recov	08/21/06	42.000	111.000	
LCS	2,4-Dinitrotoluene	121-14-2	3906.3	97.700	% Recov	08/21/06	59.000	106.000	
LCS	2-Fluorophenol	367-12-4	4113.2	103.000	% Recov	08/21/06	50.000	110.000	
LCS	Acanaphthene	83-32-9	4378.9	109.000	% Recov	08/21/06	61.000	118.000	
LCS	4-Chloro-3-methylphenol	59-50-7	4107.6	68.500	% Recov	08/21/06	61.000	106.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	2-Chlorophenol	95-57-8	6161.8	103.000	% Recov	08/21/06	66.000	106.000	
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	4123.0	103.000	% Recov	08/21/06	71.000	114.000	
LCS	2-Fluorobiphenyl	321-60-8	4201.5	105.000	% Recov	08/21/06	58.000	109.000	
LCS	Phenol	108-95-2	6060.9	101.000	% Recov	08/21/06	67.000	105.000	
LCS	Nitrobenzene-d5	4165-60-0	4528.6	113.000	% Recov	08/21/06	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	5813.3	96.900	% Recov	08/21/06	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	5785.1	96.400	% Recov	08/21/06	62.000	114.000	
LCS	Phenol-d5	4165-62-2	4162.6	104.000	% Recov	08/21/06	59.000	116.000	
LCS	Pyrene	129-00-0	4349.8	109.000	% Recov	08/21/06	66.000	118.000	
LCS	2,4,6-Tribromophenol	118-79-6	3900.2	97.500	% Recov	08/21/06	60.000	120.000	
LCS	Terphenyl-d14 (7Cl)	98904-43-9	4349.9	109.000	% Recov	08/21/06	60.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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**Lab ID: W060002500**  
**BATCH QC ASSOCIATED WITH SAMPLE**

MS	ortho-Terphenyl	Surr	84-15-1	21567	101.000	% Recov	08/21/06	70.000	130.000
MS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	107450	101.000	% Recov	08/21/06	75.000	125.000
MSD	ortho-Terphenyl	Surr	84-15-1	22027	91.800	% Recov	08/21/06	70.000	130.000
MSD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	109000	90.900	% Recov	08/21/06	75.000	125.000
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	91.800	9.544	RPD	08/21/06	0.000	20.000
SPK-RPD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	90.900	10.526	RPD	08/21/06	0.000	20.000
SURR	ortho-Terphenyl	Surr	84-15-1	19022	89.200	% Recov	08/21/06	70.000	130.000

**BATCH QC**

BLANK	Kerosene		TPHKEROSENE	< 3000	n/a	ug/Kg	08/21/06			U
BLANK	ortho-Terphenyl	Surr	84-15-1	18525	92.600	% Recov	08/21/06	70.000	130.000	
BLANK	Total Pet. Hydrocarbons Diesel		TPHDIESEL	< 3000	n/a	ug/Kg	08/21/06			U
LCS	ortho-Terphenyl	Surr	84-15-1	20009	100.000	% Recov	08/21/06	70.000	130.000	
LCS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	100020	100.000	% Recov	08/21/06	80.000	120.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002498									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	1,1-Dichloroethene	75-35-4	27.420	110.000	% Recov	08/21/06	63.000	117.000	
MS	Benzene	71-43-2	26.880	107.000	% Recov	08/21/06	75.000	129.000	
MS	4-Bromofluorobenzene	460-00-4	58.700	117.000	% Recov	08/21/06	84.000	116.000	
MS	Chlorobenzene	108-90-7	27.180	109.000	% Recov	08/21/06	79.000	119.000	
MS	1,2-Dichloroethane-d4	17060-07-0	53.080	106.000	% Recov	08/21/06	82.000	136.000	
MS	Toluene-d8	2037-26-5	54.510	109.000	% Recov	08/21/06	89.000	119.000	
MS	Toluene	108-88-3	27.430	110.000	% Recov	08/21/06	78.000	120.000	
MS	Trichloroethene	79-01-6	25.840	103.000	% Recov	08/21/06	73.000	123.000	
MSD	1,1-Dichloroethene	75-35-4	25.390	101.000	% Recov	08/21/06	63.000	117.000	
MSD	Benzene	71-43-2	26.690	107.000	% Recov	08/21/06	75.000	129.000	
MSD	4-Bromofluorobenzene	460-00-4	58.640	117.000	% Recov	08/21/06	84.000	116.000	
MSD	Chlorobenzene	108-90-7	26.730	107.000	% Recov	08/21/06	79.000	119.000	
MSD	1,2-Dichloroethane-d4	17060-07-0	52.590	105.000	% Recov	08/21/06	82.000	136.000	
MSD	Toluene-d8	2037-26-5	54.540	109.000	% Recov	08/21/06	89.000	119.000	
MSD	Toluene	108-88-3	27.670	110.000	% Recov	08/21/06	78.000	120.000	
MSD	Trichloroethene	79-01-6	25.810	102.000	% Recov	08/21/06	73.000	123.000	
SPK-RPD	1,1-Dichloroethene	75-35-4	101.000	8.531	RPD	08/21/06	0.000	20.000	
SPK-RPD	Benzene	71-43-2	107.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	4-Bromofluorobenzene	460-00-4	117.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	Chlorobenzene	108-90-7	107.000	1.852	RPD	08/21/06	0.000	20.000	
SPK-RPD	1,2-Dichloroethane-d4	17060-07-0	105.000	0.948	RPD	08/21/06	0.000	20.000	
SPK-RPD	Toluene-d8	2037-26-5	109.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	Toluene	108-88-3	110.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	Trichloroethene	79-01-6	102.000	0.978	RPD	08/21/06	0.000	20.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W060002500</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
SURR	4-Bromofluorobenzene	460-00-4	54.690	116.000	% Recov	08/21/06	71.000	125.000	
SURR	1,2-Dichloroethane-d4	17080-07-0	50.010	106.000	% Recov	08/21/06	80.000	134.000	
SURR	Toluene-d8	2037-26-5	51.670	110.000	% Recov	08/21/06	80.000	126.000	
<b>BATCH QC</b>									
BLANK	1,1-Dichloroethane	75-34-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1,1-Trichloroethane	71-55-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1,2-Trichloroethane	79-00-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1-Dichloroethene	75-35-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloroethane	107-06-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1-Butanol	71-36-3	< 40	n/a	ug/Kg	08/21/06			U
BLANK	2-Hexanone	591-78-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	2-Pentanone	107-87-9	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	4-Methyl-2-Pentanone	108-10-1	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Acetone	67-64-1	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Bromodichloromethane	75-27-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Benzene	71-43-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	4-Bromofluorobenzene	460-00-4	117.00	117.000	% Recov	08/21/06	71.000	125.000	
BLANK	Bromoform	75-25-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	n-Butylbenzene	104-51-8	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Carbon disulfide	75-15-0	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Carbon tetrachloride	56-23-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Dibromochloromethane	124-48-1	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Cyclohexane	110-82-7	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Chloroform	67-66-3	< 2.0	n/a	ug/Kg	08/21/06			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Chlorobenzene	108-90-7	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Chloroethane	75-00-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloroethane-d4	17060-07-0	108.60	109.000	% Recov	08/21/06	80.000	134.000	
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloropropane	78-87-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Ethylbenzene	100-41-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Hexane	110-54-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Bromomethane	74-83-9	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Chloromethane	74-87-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	2-Butanone	78-93-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Methylenechloride	75-09-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Tetrachloroethene	127-18-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Styrene	100-42-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Xylenes (total)	1330-20-7	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Tetrahydrofuran	109-99-9	< 4.0	n/a	ug/Kg	08/21/06			U
BLANK	Toluene-d8	2037-26-5	108.70	109.000	% Recov	08/21/06	80.000	126.000	
BLANK	Toluene	108-88-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Trichloromonofluoromethane	75-69-4	< 2.0	n/a	ug/Kg	08/21/06	0.000	5.000	U
BLANK	Trichloroethene	79-01-8	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Vinyl chloride	75-01-4	< 2.0	n/a	ug/Kg	08/21/06			U
LCS	1,1-Dichloroethene	75-35-4	50.210	100.000	% Recov	08/21/06	70.000	130.000	
LCS	Benzene	71-43-2	51.860	104.000	% Recov	08/21/06	70.000	130.000	
LCS	4-Bromofluorobenzene	460-00-4	115.20	115.000	% Recov	08/21/06	71.000	125.000	
LCS	Chlorobenzene	108-90-7	52.470	105.000	% Recov	08/21/06	70.000	130.000	
LCS	1,2-Dichloroethane-d4	17060-07-0	108.20	108.000	% Recov	08/21/06	80.000	134.000	
LCS	Toluene-d8	2037-26-5	108.50	108.000	% Recov	08/21/06	80.000	126.000	
LCS	Toluene	108-88-3	52.930	106.000	% Recov	08/21/06	70.000	130.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
Matrix: SOLID  
Test: VOA Ground Water Protection

SAF Number: R06-013  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Trichloroethene	79-01-8	49.350	98.700	% Recov	08/21/06	70.000	130.000	

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive	
<b>Radiochemistry</b>														
W060002500	B1KB52	KLAGES	14596-10-2	Americium-241	SOIL	LA-508-471	U	-0.0130	pCi/g	1.00	0.047	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Am-241 by AEA Total Cntg Error	SOIL	LA-508-471	+ -	0.023	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14596-10-2	Americium-241	SOIL	LA-508-481	U	0.103	pCi/g	1.00	0.17	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Am-241 Rel Count Error (GEA)	SOIL	LA-508-481	+ -	0.11	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14234-35-6	Antimony-125	SOIL	LA-508-481	U	0.0181	pCi/g	1.00	0.067	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Sb-125 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.039	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13981-41-4	Ba-133 by GEA	SOIL	LA-508-481	U	5.11e-03	pCi/g	1.00	0.030	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Ba-133 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.020	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14762-78-8	Cerium-144	SOIL	LA-508-481	U	-0.0281	pCi/g	1.00	0.17	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Ce-144 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.10	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	CE/PR-144	Cerium/Praseodymium-144	SOIL	LA-508-481	U	-0.0562	pCi/g	1.00	0.35	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	CePr-144 Rel. Count Error	SOIL	LA-508-481	+ -	0.21	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	10198-40-0	Cobalt-60	SOIL	LA-508-481	U	2.74e-04	pCi/g	1.00	0.025	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Co-60 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	2.7e-03	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13967-70-9	Cesium-134	SOIL	LA-508-481	U	8.94e-03	pCi/g	1.00	0.027	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Cs-134 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.015	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	10045-97-3	Cesium-137	SOIL	LA-508-481	U	9.55e-03	pCi/g	1.00	0.027	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Cs-137 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.016	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14683-23-9	Europium-152	SOIL	LA-508-481	U	0.0178	pCi/g	1.00	0.072	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Eu-152 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.054	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	15585-10-1	Europium-154	SOIL	LA-508-481	U	1.63e-03	pCi/g	1.00	0.069	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Eu-154 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.016	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14391-16-3	Europium-155	SOIL	LA-508-481	U	0.0384	pCi/g	1.00	0.095	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Eu-155 Rel. Count Error (GEA)	SOIL	LA-508-481	+ -	0.055	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13966-00-2	Potassium-40	SOIL	LA-508-481	U	1.53	pCi/g	1.00	0.23	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	K-40 Rel.% Count Error (GEA)	SOIL	LA-508-481	+ -	0.44	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

RQ=Result Qualifier

DF=Dilution Factor

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

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C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

**REVISED**  
*D. Klages*

9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
W060002500	B1KB52	KLAGES	14681-63-1 Niobium-94	SOIL	LA-508-481	U	-1.05e-03	pCi/g	1.00	0.023	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Nb-94 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.010	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13982-63-3 Radium-226	SOIL	LA-508-481		0.360	pCi/g	1.00	0.051	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Ra-226 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.099	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	15262-20-1 Radium-228	SOIL	LA-508-481		0.470	pCi/g	1.00	0.076	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Ra-228 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.13	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13967-48-1 Ruthenium-106	SOIL	LA-508-481	U	-0.0670	pCi/g	1.00	0.21	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Ru-106 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.13	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	15832-50-5 Tin-126	SOIL	LA-508-481	U	-9.12e-03	pCi/g	1.00	0.078	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Sn-126 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.050	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	15117-96-1 Uranium-235	SOIL	LA-508-481	U	0.0494	pCi/g	1.00	0.19	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C U-235 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.040	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13982-39-3 Zinc-65	SOIL	LA-508-481	U	-5.08e-03	pCi/g	1.00	0.051	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Zn-65 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.035	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14331-83-0 Actinium-228	SOIL	LA-508-481		0.470	pCi/g	1.00	0.076	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Ac-228 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.13	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13968-53-1 Ruthenium-103	SOIL	LA-508-481	U	-6.25e-04	pCi/g	1.00	0.023	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Ru-103 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 6.2e-03	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13966 06-8 Tin-113	SOIL	LA-508-481	U	0.0124	pCi/g	1.00	0.031	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Sn-113 Rel. Count Error (GEA)	SOIL	LA-508-481		+ - 0.018	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	12587-46-1 Gross alpha	SOIL	LA-508-415		0.140	pCi/g	1.00	0.027	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Gross Alpha Method Error	SOIL	LA-508-415		+ - 0.042	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	12587-47-2 Gross beta	SOIL	LA-508-415		0.100	pCi/g	1.00	0.056	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Gross Beta Method Error	SOIL	LA-508-415		+ - 0.040	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13994-20-2 Neptunium-237	SOIL	LA-508-471	U	0.0210	pCi/g	1.00	0.023	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C Np-237 by AEA Total Ctnng Error	SOIL	LA-508-471		+ - 0.017	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	13981-16-3 Plutonium-238	SOIL	LA-508-471	U	1.90e-03	pCi/g	1.00	0.020	08/18/06	08/16/06	08/17/06

MDL=Minimum Detection Limit  
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X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors  
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

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PROJECT HANFORD MANAGEMENT COMPANY

**REVISED**  
*D. Klages*  
9/5/06

# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive			
					Method	RQ								
W060002500	B1KB52	KLAGES	E,T,C	Pu-238 by AEA Total Cntg Error	SOIL	LA-508-471	+ -	1.9e-03	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	PU-239/240	Pu-239/240 by AEA	SOIL	LA-508-471		0.0450	pCi/g	1.00	5.1e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Pu-239/240 AEA Total Cntg Err	SOIL	LA-508-471	+ -	0.021	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	SR-RAD	Strontium-89/90	SOIL	LA-508-415		0.180	pCi/g	1.00	0.097	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Sr-89/90 Rel. Count Error	SOIL	LA-508-415	+ -	0.11	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14133-76-7	Technetium-99	SOIL	LA-508-421	U	-0.290	pCi/g	1.00	0.29	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Tc-99 Counting Error	SOIL	LA-508-421	+ -	0.29	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	U-233/234	Uranium-233/234	SOIL	LA-508-471		0.0320	pCi/g	1.00	0.015	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	U-233/234 AEA Total Cntg Error	SOIL	LA-508-471	+ -	0.019	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	15117-96-1	Uranium-235	SOIL	LA-508-471	U	2.20e-03	pCi/g	1.00	5.9e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	U-235 by AEA Total Cntg Error	SOIL	LA-508-471	+ -	4.4e-03	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	U-238	Uranium-238	SOIL	LA-508-471		0.0240	pCi/g	1.00	5.4e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	U-238 by AEA Total Cntg Error	SOIL	LA-508-471	+ -	0.015	pCi/g	1.00	0.10	08/18/06	08/16/06	08/17/06

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

C - The Analyte was found in the Associated Blank.  
J - Analyte is an estimate, has potentially larger errors  
X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors  
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**DF=Dilution Factor**

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Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

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*D. Klages*

9/5/06

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Gross Alpha/Gross Beta (AB32)

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
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Lab ID: W060002500  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Gross alpha	12587-46-1	1.44E-01	0.692	RPD	08/18/06	0.000	20.000	
DUP	Gross beta	12587-47-2	1.2E-01	18.182	RPD	08/18/06	0.000	20.000	

**BATCH QC**

BLANK	Gross alpha	12587-46-1	7.0E-03	0.007	pCi/g	08/18/06	-10.000	10.000	
BLANK	Gross beta	12587-47-2	1.1E-02	0.011	pCi/g	08/18/06	-10.000	10.000	
LCS	Gross alpha	12587-46-1	7.02	105.405	%rec	08/18/06	75.000	125.000	
LCS	Gross beta	12587-47-2	24.1	117.581	%rec	08/18/06	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Gamma Energy Analysis-grd H2O

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W060002500</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
DUP	Actinium-228	14331-83-0	3.06e-01	42.268	RPD	08/21/06	0.000	20.000	•
DUP	Americium-241	14596-10-2	U-2.6e-1	n/a	RPD	08/21/06	0.000	20.000	
DUP	Ba-133 by GEA	13981-41-4	U-9.7e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cerium-144	14762-78-8	U-3.0e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cerium/Praseodymium-144	CE/PR-144	U-6.0e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cobalt-60	10198-40-0	U3.58e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cesium-134	13967-70-9	U8.17e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cesium-137	10045-97-3	U-8.5e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Europium-152	14683-23-9	U4.64e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Europium-154	15585-10-1	U-5.2e-4	n/a	RPD	08/21/06	0.000	20.000	
DUP	Europium-155	14391-16-3	U-4.5e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Potassium-40	13966-00-2	1.47e+00	4.000	RPD	08/21/06	0.000	20.000	
DUP	Niobium-94	14681-63-1	U7.80e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Radium-226	13982-63-3	3.40e-01	5.714	RPD	08/21/06	0.000	20.000	
DUP	Radium-228	15262-20-1	3.06e-01	42.268	RPD	08/21/06	0.000	20.000	•
DUP	Ruthenium-103	13968-53-1	U-4.2e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Ruthenium-106	13967-48-1	U4.06e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Antimony-125	14234-35-6	U5.08e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Tin-113	13966-06-8	U-2.2e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Tin-126	15832-50-5	U7.45e-02	n/a	RPD	08/21/06	0.000	20.000	
DUP	Uranium-235	15117-96-1	U-9.7e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Zinc-65	13982-39-3	U-8.8e-3	n/a	RPD	08/21/06	0.000	20.000	
<b>BATCH QC</b>									
BLANK	Actinium-228	14331-83-0	5.95e-02	0.059	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Americium-241	14596-10-2	U-2.95e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Gamma Energy Analysis-grd H2O

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Ba-133 by GEA	13981-41-4	U1.00e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cerium-144	14762-78-8	U-1.00e-4	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cerium/Praseodymium-144	CE/PR-144	U-2.00e-4	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cobalt-60	10198-40-0	U9.52e-04	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cesium-134	13967-70-9	U1.26e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cesium-137	10045-97-3	U-1.01e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Europium-152	14683-23-9	U-7.56e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Europium-154	15585-10-1	U2.31e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Europium-155	14391-16-3	U9.32e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Potassium-40	13966-00-2	U2.34e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Niobium-94	14681-63-1	U1.03e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Radium-226	13982-63-3	8.26e-02	0.083	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Radium-228	15262-20-1	5.95e-02	0.059	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ruthenium-103	13968-53-1	U-8.70e-4	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ruthenium-106	13967-48-1	U6.26e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Antimony-125	14234-35-6	U3.12e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Tin-113	13966-06-8	U-2.05e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Tin-126	15832-50-5	U-1.05e-2	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Uranium-235	15117-96-1	U-1.99e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Zinc-65	13982-39-3	U4.22e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
LCS	Americium-241	14596-10-2	4.09e+03	104.337	% Recov	08/18/06	80.000	120.000	
LCS	Cobalt-60	10198-40-0	4.41e+03	105.251	% Recov	08/18/06	80.000	120.000	
LCS	Cesium-137	10045-97-3	4.03e+03	112.570	% Recov	08/18/06	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
Matrix: SOLID  
Test: Americium by AEA

SAF Number: R06-013  
Sample Date: 08/16/06  
Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493 BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Americium-241	14596-10-2	U1.3e-02	n/a	RPD	08/18/06	0.000	20.000	
BATCH QC									
BLANK	Americium-241	14596-10-2	U4.1e-02	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Americium-241	14596-10-2	1.2e+01	99.792	% Recov	08/18/06	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Neptunium by AEA

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Neptunium-237	13994-20-2	1.33	n/a	RPD	08/18/06	0.000	25.000	
BATCH QC									
BLANK	Neptunium-237	13994-20-2	U5.3e-03	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Neptunium-237	13994-20-2	8.8e +01	88.000	% Recov	08/18/06	75.000	125.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Plutonium Isotopics by AEA

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W060002493</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
DUP	Plutonium-238	13981-16-3	U3.6e-03	n/a	RPD	08/18/06	0.000	20.000	
DUP	Pu-239/240 by AEA	PU-239/240	1.4e-02	44.444	RPD	08/18/06	0.000	20.000	
<b>BATCH QC</b>									
BLANK	Plutonium-238	13981-16-3	U-2.0e-03	n/a	pCi/g	08/18/06	-10.000	1000.000	
BLANK	Pu-239/240 by AEA	PU-239/240	1.6e-02	0.016	pCi/g	08/18/06	-10.000	1000.000	
LCS	Pu-239/240 by AEA	PU-239/240	1.4e +01	99.432	% Recov	08/18/06	75.000	125.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Strontium 89/90

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Strontium-89/90	SR-RAD	3.3	29.677	RPD	08/18/06	0.000	20.000	•
BATCH QC									
BLANK	Strontium-89/90	10098-97-2	-9.1E-02	-0.091	pCi/g	08/18/06	-10.000	300.000	
LCS	Strontium-89/90	10098-97-2	93.4	108.731	% Recov	08/18/06	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: TC99 by Liquid Scin.

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W060002493</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
DUP	Technetium-99	14133-76-7	U-9.8e-02	n/a	RPD	08/18/06	0.000	20.000	
MS	Technetium-99	14133-76-7	534.8	47.490	% Recov	08/18/06	75.000	125.000	
<b>BATCH QC</b>									
BLANK	Technetium-99	14133-76-7	U-7.5e-01	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Technetium-99	14133-76-7	11864.4	105.356	% Recov	08/18/06	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Uranium Isotopics by AEA

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
<b>Lab ID: W060002493</b>									
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>									
DUP	Uranium-233/234	U-233/234	1.7	25.641	RPD	08/18/06	0.000	20.000	*
DUP	Uranium-235	15117-96-1	1.6e-01	31.579	RPD	08/18/06	0.000	20.000	*
DUP	Uranium-238	U-238	1.5	28.571	RPD	08/18/06	0.000	20.000	*
<b>BATCH QC</b>									
BLANK	Uranium-233/234	13966-29-5	2.3e-02	0.023	pCi/g	08/18/06	-10.000	1000.000	
BLANK	Uranium-235	15117-96-1	U1.3e-02	n/a	pCi/g	08/18/06	-10.000	1000.000	
BLANK	Uranium-238	24678-82-8	U1.6e-02	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Uranium-238	24678-82-8	2.0e+01	105.513	% Recov	08/18/06	75.000	125.000	

# WSCF ANALYTICAL COMMENT REPORT

**Attention:** D.L. Klages H8-40

**Group #:** 20060935

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>Pu239 batch duplicate is flagged for poor RPD. The sample and dup activity is low level so the RPD doesn't apply.</p> <p>Tc-99 matrix spike recovery is low. Since all the other QC checks came out fine, this batch has been accepted. Imh</p> <p>GEA/Ra-228 &amp; Ac-228 were flagged for poor RPD. This is because the sample was not homogeneous. All the other QC checks came out fine, so this batch has been accepted. Imh</p> <p>ICP-AES: High aluminum preparation blank; "C" flag. High calcium and lithium and low silicon LCS recoveries; "E" flag for calcium; other lithium QC is acceptable. Aluminum, iron magnesium, calcium, and titanium sample results beyond effective spike range (spike results marked "NA"). High silicon spike recoveries; "E" flag.</p> <p>U ISO &amp; Sr89/90 batch dup is flagged for poor RPD because the sample is not homogeneous. Imh</p> <p>ICP-MS: Manganese, Zinc, and Thorium, and Uranium prep blanks have negative values that bias some sample results by less than 2.2 times the MDL. Prep blank results are all</p>

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

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF ANALYTICAL COMMENT REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	Lab Area	Test	Comment
				within acceptance limits. C-flag where applicable.
				ORGANICS: Sample concentrations are corrected for percent moisture and reported as dry weight basis. gar
				SVOA/TPHD: All results are moisture corrected and reported on a dry weight basis. J-flagged compound results are estimated values because their concentrations are below the level of accurate quantitation. cgc
				VOA: MS/MSD surrogate 4-Bromofluorobenzene marked as out high due to recoveries at 117/117%, respectively, while the Upper Control Limit for MS/MSD of BFB is 116% in Labcore But the sample UCL is 125% for BFB. Hence all of the sample surrogate recoveries are within limits, even though the MS/MSD is out although similar in recovery. 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: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				18	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				21	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				27	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				33	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.12	pCi/g
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.36	pCi/g
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.39	pCi/g
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.41	pCi/g

RQ=Result Qualifier

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**PROJECT HANFORD MANAGEMENT COMPANY**

WGPE v 1.1 Report#: 20060935

Report Date: 28-aug-2006

Page 1

# 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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<b>LA-505-411</b>	<b>LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE</b> <b>EPA SW-846 6010B</b> <b>INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY</b> <b>HEIS 6010_METALS_ICP</b> <b>Inductively Coupled Plasma-Atomic Emmision Spectrometry</b>
<b>LA-505-412</b>	<b>LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY</b> <b>EPA-600/R-94-111 200.8</b> <b>DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS</b> <b>HEIS 6010_METALS_ICP</b> <b>Inductively Coupled Plasma-Atomic Emmision Spectrometry</b>
<b>LA-508-415</b>	<b>LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS</b> <b>None</b> <b>No reference to any industry method.</b>
<b>LA-508-421</b>	<b>LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER</b> <b>None</b> <b>No reference to any industry method.</b>
<b>LA-508-471</b>	<b>LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP</b> <b>HEIS PUIISO_IE_PRECIP_AEA</b> <b>Plutonium by Alpha Energy Analysis</b>
<b>LA-508-481</b>	<b>LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE</b> <b>HEIS GAMMA_GS</b> <b>Gamma Emmision Spectrometry</b>
<b>LA-519-412</b>	<b>LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C</b> <b>EPA-600/4-79-020 160.3</b> <b>RESIDUE, TOTAL</b> <b>HEIS 160.1_TDS</b> <b>Residue, Filterable</b> <b>Standard Methods 2540B</b> <b>Total Solids Dried at 103-105 C</b>

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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: 28-aug-2006  
Report#: 20060935  
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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<b>LA-523-455</b>	<b>LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846</b> <b>EPA SW-846 8000B</b> DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS <b>EPA SW-846 8260B</b> VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) <b>HEIS 8260_VOA_GCMS</b> Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
<b>LA-523-456</b>	<b>LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C</b> <b>EPA SW-846 8000B</b> DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS <b>EPA SW-846 8270C</b> SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) <b>HEIS 8270_SVOA_GCMS</b> Semivolatile Organoc Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)
<b>LA-533-410</b>	<b>LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY</b> <b>EPA-600/R-94-111 300.0</b> DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY <b>HEIS 300.0_ANIONS_IC</b> Determination of Inorganic Anions by Ion Chromatography
<b>NWTPH</b>	<b>NWTPH-Diesel and/or Gasoline</b> <b>WDOE NWTPH-Dx/Gx</b> Total Petroleum Hydrocarbons - Diesel/Gasoline

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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: 28-aug-2006  
Report#: 20060935  
Report WGPPM/O

## W13q Worklist/Batch/QC Report for Group# 20060935

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W060002500	Percent Solids
29428	1	29796	33713	BLANK		Plutonium Isotopics by AEA
29428	2	29796	33713	LCS		Plutonium Isotopics by AEA
29428	3	29796	33713	DUP	W060002493	Plutonium Isotopics by AEA
29428	7	29796	33713	SAMPLE	W060002500	Plutonium Isotopics by AEA
29429	1	29795	33714	BLANK		Americium by AEA
29429	2	29795	33714	LCS		Americium by AEA
29429	3	29795	33714	DUP	W060002493	Americium by AEA
29429	7	29795	33714	SAMPLE	W060002500	Americium by AEA
29444	2	29812	33723	BLANK		Anions by Ion Chromatography
29444	11	29812	33723	BLANK		Anions by Ion Chromatography
29444	3	29812	33723	LCS		Anions by Ion Chromatography
29444	5	29812	33723	DUP	W060002493	Anions by Ion Chromatography
29444	6	29812	33723	MS	W060002493	Anions by Ion Chromatography
29444	7	29812	33723	MSD	W060002493	Anions by Ion Chromatography
29444	10	29812	33723	SAMPLE	W060002500	Anions by Ion Chromatography
29453	1	29818	33730	BLANK		ICP-2008 MS All possible metal
29453	2	29818	33730	LCS		ICP-2008 MS All possible metal
29453	4	29818	33730	MS	W060002493	ICP-2008 MS All possible metal
29453	5	29818	33730	MSD	W060002493	ICP-2008 MS All possible metal
29453	5	29818	33730	SPK-RPD	W060002493	ICP-2008 MS All possible metal
29453	8	29818	33730	SAMPLE	W060002500	ICP-2008 MS All possible metal
29411	1	29778	33733	BLANK		Gamma Energy Analysis-grd H2O
29411	2	29778	33733	LCS		Gamma Energy Analysis-grd H2O
29411	3	29778	33733	DUP	W060002500	Gamma Energy Analysis-grd H2O
29411	4	29778	33733	SAMPLE	W060002500	Gamma Energy Analysis-grd H2O
29418	1	29785	33738	BLANK		TC99 by Liquid Scin.
29418	4	29785	33738	LCS		TC99 by Liquid Scin.
29418	3	29785	33738	DUP	W060002493	TC99 by Liquid Scin.
29418	2	29785	33738	MS	W060002493	TC99 by Liquid Scin.
29418	8	29785	33738	SAMPLE	W060002500	TC99 by Liquid Scin.
29427	1	29794	33739	BLANK		Uranium Isotopics by AEA
29427	2	29794	33739	LCS		Uranium Isotopics by AEA
29427	3	29794	33739	DUP	W060002493	Uranium Isotopics by AEA
29427	7	29794	33739	SAMPLE	W060002500	Uranium Isotopics by AEA
29434	1	29802	33740	BLANK		Gross Alpha/Gross Beta (AB32)
29434	2	29802	33740	LCS		Gross Alpha/Gross Beta (AB32)
29434	3	29802	33740	DUP	W060002500	Gross Alpha/Gross Beta (AB32)
29434	4	29802	33740	SAMPLE	W060002500	Gross Alpha/Gross Beta (AB32)
			33741	BLANK		VOA Ground Water Protection
			33741	LCS		VOA Ground Water Protection
			33741	MS	W060002498	VOA Ground Water Protection
			33741	MSD	W060002498	VOA Ground Water Protection
			33741	SPK-RPD	W060002498	VOA Ground Water Protection
			33741	SAMPLE	W060002500	VOA Ground Water Protection

			33741	SURR	W060002500	VOA Ground Water Protection
29439	1	29806	33742	BLANK		ICP Metals Analysis, Grd H20 P
29439	2	29806	33742	LCS		ICP Metals Analysis, Grd H20 P
29439	4	29806	33742	MS	W060002493	ICP Metals Analysis, Grd H20 P
29439	5	29806	33742	MSD	W060002493	ICP Metals Analysis, Grd H20 P
29439	5	29806	33742	SPK-RPD	W060002493	ICP Metals Analysis, Grd H20 P
29439	8	29806	33742	SAMPLE	W060002500	ICP Metals Analysis, Grd H20 P
29455	1	29820	33744	BLANK		Strontium 89/90
29455	2	29820	33744	LCS		Strontium 89/90
29455	3	29820	33744	DUP	W060002493	Strontium 89/90
29455	7	29820	33744	SAMPLE	W060002500	Strontium 89/90
			33747	BLANK		SW-846 8270C Semi-Vols
			33747	LCS		SW-846 8270C Semi-Vols
			33747	MS	W060002500	SW-846 8270C Semi-Vols
			33747	MSD	W060002500	SW-846 8270C Semi-Vols
			33747	SAMPLE	W060002500	SW-846 8270C Semi-Vols
			33747	SPK-RPD	W060002500	SW-846 8270C Semi-Vols
			33747	SURR	W060002500	SW-846 8270C Semi-Vols
			33751	BLANK		WTPH-D TPH Diesel Range (Wa)
			33751	LCS		WTPH-D TPH Diesel Range (Wa)
			33751	MS	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	MSD	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	SAMPLE	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	SPK-RPD	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	SURR	W060002500	WTPH-D TPH Diesel Range (Wa)
29423	1	29790	33753	BLANK		Neptunium by AEA
29423	2	29790	33753	LCS		Neptunium by AEA
29423	3	29790	33753	DUP	W060002493	Neptunium by AEA
29423	7	29790	33753	SAMPLE	W060002500	Neptunium by AEA

M8141-SLF-06-234

ATTACHMENT 3

**SAMPLE RECEIPT INFORMATION**

Consisting of 5 pages  
Including cover page

**Waste Sampling and Characterization Facility**  
P.O. BOX 1970 S3-30, Richland, WA 99352  
PHONE: (509) 373-7004/FAX: (509) 373-7134

File

ACKNOWLEDGMENT OF SAMPLES RECEIVED

08/24/06

PROJECT HANFORD MANAGEMENT COMPANY

RICHLAND, WA 99354  
Attn: D.L. Klages H8-40

Customer Code: PHMC-MISC  
PO#: 121600/ES20  
Group#: 20060935



The following samples were received from you on 08/17/06. 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
W060002500	B1KB52		KLAGES Solid, or handle as if solid	08/16/06
		@2008 @AB-32 @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @GPP6010 @IC-30 @SR89_90 @SVOG @TC99-30 @TPHD-WA @VOA-GPP PERSOLID		

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@AB-32	Gross Alpha/Gross Beta (AB32)
@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
@SR89_90	Strontium 89/90
@SVOGPP	SW-846 8270C Semi-Vols
@TC99-30	TC99 by Liquid Scin.
@TPHD-WA	WTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
PERSOLID	Percent Solids

Fluor Hanford Inc. 08/24/06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

R06-013-017

PAGE 1 OF 3

<b>COLLECTOR</b> HOGAN, JG	<b>COMPANY CONTACT</b> TRECHTER, JE	<b>TELEPHONE NO.</b> 373-7046	<b>PROJECT COORDINATOR</b> TRECHTER, JE	<b>PRICE CODE</b> 8C	<b>DATA TURNAROUND</b> 7 DAYS 25 Days / 1st 21-25 70 days 25 Days
<b>SAMPLING LOCATION</b> 200-W-42	<b>PROJECT DESIGNATION</b> 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12		<b>SAF NO.</b> R06-013	<b>AIR QUALITY</b>	
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> DTS-SAWS-H112	<b>COA</b> 121600ES20	<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		

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KB52	W060002500 W060002499	S	8-16-06	1100	4X60mL aG	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Cool 4C
B1KB52		S			4X60mL G	TPH-Diesel Range - WTPH-D (TPHKEROSEN)	Cool 4C
B1KB52		S			1X40mL G	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Cool 4C
B1KB52		S			1X500mL Square Bottle - Poly	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	None
B1KB52		S			4X60mL G/P	Isotopic Plutonium (Pu-238, Pu-239/240) Isotopic Uranium (U-233/234, U-235, U-238) Americium-241 (Am-241)	None
B1KB52		S			4X60mL G/P	Strontium-89,90 -- Sr-90 (Sr-90)	None
B1KB52		S			4X60mL G/P	Technetium-99 (Tc-99)	None

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DURATEK J. G. HOGAN	DATE/TIME 8/17/06 0955	RECEIVED BY/STORED IN JA FRAZIER	DATE/TIME 8/17/06 0955	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	

ICED  
 Initial Date  
 8-17-06

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

<b>COLLECTOR</b> HOGAN, JG	<b>COMPANY CONTACT</b> TRECHTER, JE	<b>TELEPHONE NO.</b> 373-7046	<b>PROJECT COORDINATOR</b> TRECHTER, JE	<b>PRICE CODE</b> BC	<b>DATA TURNAROUND</b> 12-8-16-06 <del>15 Days</del> 7 Days
<b>SAMPLING LOCATION</b> 200-W-42	<b>PROJECT DESIGNATION</b> 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12	<b>SAF NO.</b> R06-013	<b>AIR QUALITY</b>		
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> DTS-SAWS-H112	<b>COA</b> 121600ES20	<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**

Reporting format the same as GPP, including QC. All samples, except VOAs, have been taken using the multiple-increment sampling program. This requires the entire sample provided in each bottle to be used in analysis. VOAs will be analyzed as usual.

(1)Semi-VOA -- 8270A (Add-On) {124TRMBEN, 2-NAPHTHAM, 2BUTOXETOL, BENZALC, CYCSEXN, DECANE, MCRE SOL, METHYLPHEN, PYRIDINE, TRIBUPH} Semi-VOA - 8270A (TCL) {12DICLBENZ, 13DICLBENZ, 14DICLBENZ, 245TRCLPHN, 246TRCLPHN, 24DICLPHEN, 24DIMET, 24DINITOLU, 26DINITOLU, 2CLMEETHER, 2MENAPH, 2METHPH, 2NITRAN, 2NITRPH, 3NITRAN, 46DINIT, 4CHLOET, 9H-CARB, ACENAPH, ACENATL, ANTHRACENE, BENZAAN, BENZBFL, BENZOPE, BENZOPY, BIS2CHE, BIS2CHM, BIS2EPH, BNZKFLU, BROPHEN, BUTBENP, CHLANIL, CHLCRES, CHLNAPH, CHLPHEN, CHRYSENE, DIBAHAN, DIBENFR, DIBPHTH, DICHBEN, DIEPHTH, DIMPHTH, DINPHEN, DIOPHTH, DIPRNIT, FLJORAN, FLUORENE, HEXCBEN, HEXCBUT, HEXCCYC, HEXCETH, INDENOP, ISOPHORONE, NAPHTHA, NITBENZ, NITPHENOL, NITRANILIN, NNDIPHA, PENTCHP, PHENANT, PHENOL, PYRENE, TRICHLB}

(2)VOA - 8260A (Add-On) {1BUTANOL, 1PROPANOL, 2-PENTANON, ACETILE, CISDCE, ETHANOL, HEXANE, N-BUTYL, PROPCYHEXA, TETHYDF, TRANDCE, TRCMFLM} VOA - 5035/8260 (TCL) {1,1,1-T, 1,1,2-T, 1,1-DCL, 1,2-DCL, 1122-TCE, 12DICHL, 2HEXANONE, ACETONE, BDCM, BENZENE, BROMOFORM, CARBIDE, CARBTET, CDBM, CHLOROBENZ, CHLOROFORM, CIS13DI, CLETHAN, DICETHY, DICPANE, ETHBENZENE, HEXONE, METHBRO, METHCHL, METHONE, METHYCH, PERCENE, STYRENE, TOLUENE, TRANS13, TRICELN, VINYLIDE, XYLENES}

(3)Gamma Spec - Add-on {Ac-228, Ba-133, Ce-144, Ce/Pr-144, Cm-244, Cs-134, K-40, Nb-94, Ra-228, Ru-103, Sb-125, Sn-113, Sn-125, Sn-126, Th-228, Th-232, U-235, U-238, Zn-65} Gamma Spectroscopy {Am-241, Co-58, Cs-137, Eu-152, Eu-154, Eu-155, Fe-59, Ra-226, Ru-106}

<b>COLLECTOR</b> HOGAN, JG	<b>COMPANY CONTACT</b> TRECHTER, JE	<b>TELEPHONE NO.</b> 373-7046	<b>PROJECT COORDINATOR</b> TRECHTER, JE	<b>PRICE CODE</b> 8C	<b>DATA TURNAROUND</b> 7 Days 15 Days 1st 7 Days 15 Days 8-16-06
<b>SAMPLING LOCATION</b> 200-W-42	<b>PROJECT DESIGNATION</b> 200-UW-1 Operable Unit, Soll from Trench between 216-U-8 and 216-U-12		<b>SAF NO.</b> R06-013	<b>AIR QUALITY</b>	
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> DTS-SAWS-H112	<b>COA</b> 121600ES20	<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		

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KB52		S	8-16-06	1100	4X60mL G/P	Neptunium-237 (Np-237)	None
B1KB52		S	↓	↓	4X60mL G/P	IC Anions - 300.0 (BROMIDE, CHLORIDE, FLUORIDE, NO2-N, NO3-N, PO4-P, SULFATE)	None
B1KB52		S			4X60mL G/P	ICP Metals - 6010A (Add-on) (B, Bi, La, Li, Si, <u>Sm</u> , Ti) ICP Metals - 6010A (TAL) (Al, Ca, Fe, K, Mg, Na)	Cool 4C
B1KB52		S			4X60mL G/P	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	None
B1KB52		S			8-16-06	1100	4x60mL G

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <b>DURATEK</b> J. G. HOGAN	DATE/TIME 8/17/06 0955	RECEIVED BY/STORED IN JA FRAZIER	DATE/TIME 8/17/06 0955	Reporting format the same as GPP, including QC. All samples, except VOAs, have been taken using the multiple-increment sampling program. This requires the entire sample provided in each bottle to be used in analysis. VOAs will be analyzed as usual. (4)ICP/MS - 200.8 (Add-on) {As, Be, Mo, Pb, Se, Sn, Sr, Ti, U} ICP/MS - 200.8 (TAL) {Ag, Ba, Cd, Co, Cr, Cu, Mn, Ni, Sb, V, Zn} ICP/MS - 200.8 (Hg) {Hg} Isotopic Thorium {Th-232}	
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		

**ICED**  
 Initial  
 Date  
 8-17-06

60 of 60

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



**M8141-SLF-06-231**

**ATTACHMENT 1**

**NARRATIVE**

**Consisting of 6 pages  
Including cover page**

<b>Sample Delivery Group</b>	<b>WSCF20060935</b>
<b>Sample Matrix</b>	<b>SOLID</b>
<b>Sample Visual</b>	<b>N/A</b>
<b>SAF Number</b>	<b>R06-013</b>
<b>Data Deliverable</b>	<b>Summary Report</b>

**Introduction**

One (1) 200-UW-1 Operable Unit soil sample (B1KB52) from the trench between 216-U-8 and 216-U-12 were received at the WSCF Laboratory on August 17, 2006. The samples were received in a cool condition with ice present in the coolers. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *200-UW-1 Operable Unit 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, 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**

Refer to *WSCF Method References Report*, pages 52 through 53 , for a complete listing of approved analytical methods used.

**Inorganic Comments**

**Anions** - The hold time requirements were met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with this delivery group. See pages 12 through 13 for QC details. Analytical Notes:

- Preparation Date: 21-aug-2006.
- Duplicate, Matrix Spike and Matrix Spike Duplicate QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Phosphate – Matrix Spike and Matrix Spike Duplicate recoveries were below established laboratory limits. Sample result was less than detection limit and U flagged.

All other QC controls are within the established limits.

**ICP-AES Metals** – The holding time for this analysis was met. A Blank, Laboratory Control Sample (LCS), Matrix Spike and Matrix Spike Duplicate were analyzed with this delivery group of less than 20 samples. See pages 14 through 16 for QC details. Analytical Notes:

- Preparation Date: 21-aug-2006.

- Matrix Spike and Matrix Spike Duplicate QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Aluminum, Calcium, Iron, Magnesium and Titanium – insufficient spike concentrations. Sample concentrations were greater than four times the spike concentration.
- Calcium – The Laboratory Control Sample recoveries exceeded established laboratory limits. Calcium result was E flagged. Lithium result was less than the method detection limit and U flagged.
- Silicon – Matrix Spike, Matrix Spike Duplicate and Laboratory Control Sample recoveries were outside established laboratory limits. Sample result was E flagged.
- Aluminum – Analyte detected in the associated preparation Blank sample was evaluated and sample result was C flagged.

All other QC controls are within the established limits.

**ICP-MS Metals** – The holding time for this analysis was met, with the exception of mercury. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with this deliver group of less than 20 samples. See pages 17 through 20 for QC details Analytical Notes:

- Preparation Date: 21-aug-2006.
- Matrix Spike and Matrix Spike Duplicate QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Thorium results listed in the report represent Th-232 exclusively.
- Zinc – Analyte detected in the associated preparation Blank sample was evaluated and sample B1KB51 was C flagged.
- Manganese (sample B1KB52), Thorium (sample B1KB52) and Uranium (sample B1KB52) – Negative preparation blank results may have potential affect on sample results. Sample results were X flagged.

All other QC controls are within the established limits.

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

**Organic Comments**

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

**Semi-VOA** – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with this delivery group. See pages 26 through 31 for QC details. Analytical Notes:

- Preparation Date: 17-aug-2006.
- Diethylphthalate - sample B1KB52 result was J flagged; result was less than the lowest calibration standard but greater than the detection limit.

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 this delivery group. See page 32 for QC details. Analytical Note:

- Preparation Date: 17-aug-2006.

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 this delivery group. See pages 33 through 36 for QC details. Analytical Notes:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1KB77 (SDG# 20060934, SAF# R06-013).
- 4-Bromofluorobenzene – Matrix Spike and Matrix Spike Duplicate QC exceeded established laboratory limits.

All other QC controls are within the established limits.

### Radiochemistry Comments

**RadChem** – There are no hold times associated with WSCF radiochemical methods. A Blank, Laboratory Control Sample, Matrix Spike (Technetium only), and Duplicate were analyzed with this delivery group. See pages 40 through 48 for QC details. Analytical Notes:

- Actinium-228 and Radium-228 Gamma Energy Analysis (GEA) – Duplicate QC Relative Percent Difference (RPD) exceeded established laboratory limits due to sample homogeneity issues.
- Americium-241, Neptunium-237, Plutonium Isotopic (238 and 239/240), Strontium-90, Technetium-99 and Uranium Isotopic (233/234, 235 and 238) – Applicable QC was analyzed on sample# B1KB49 (SDG# 20060934, SAF# R06-013).
- Pu-239/240 – Duplicate QC RPD exceeded established laboratory limits due to low sample activity.
- Strontium-90 – Duplicate QC RPD exceeded established laboratory limits due to sample homogeneity issues.

- Technetium-99 – Duplicate QC RPD exceeded established laboratory limits due to low sample activity.
- Uranium Isotopic (233/234, 235 and 238) – Duplicate QC RPD exceeded established laboratory limits due to sample homogeneity issues.

All other QC controls are within the established limits.

Americium-243, Plutonium-242, Strontium-85 and Uranium-232 – Radiochemical Tracer Recovery Data are summarized below:

<b>Radiochemical Tracer Percent Recovery</b>			
<b>Sample Number</b>	<b>Lab Sample ID</b>	<b>Isotope</b>	<b>Tracer Recovery (Percent)</b>
<b><u>Americium-243</u></b>			
BLANK		Am-243	79.9%
LCS		Am-243	93.0%
B1KB49	W060002493	Am-243	85.8%
DUPLICATE	W060002493	Am-243	89.2%
B1KB52	W060002500	Am-243	87.6%
<b><u>Plutonium-242</u></b>			
BLANK		Pu-242	84.0%
LCS		Pu-242	85.0%
B1KB49	W060002493	Pu-242	81.8%
DUPLICATE	W060002493	Pu-242	86.7%
B1KB52	W060002500	Pu-242	88.5%
<b><u>Strontium-85</u></b>			
BLANK		Sr-85	98.9%
LCS		Sr-85	83.4%
B1KB49	W060002493	Sr-85	86.0%
DUPLICATE	W060002493	Sr-85	88.2%
B1KB52	W060002500	Sr-85	89.1%
<b><u>Uranium-232</u></b>			
BLANK		U-232	79.8%
LCS		U-232	75.6%
B1KB49	W060002493	U-232	121.6%

Radiochemical Tracer Percent Recovery			
Sample Number	Lab Sample ID	Isotope	Tracer Recovery (Percent)
DUPLICATE	W060002493	U-232	93.0%
B1KB52	W060002500	U-232	88.7%

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*  
 Pauline D. Mix  
 WSCF Client Services

Abbreviations

Hg - mercury  
 IC - ion chromatography  
 ICP - inductively coupled plasma  
 ICP/AES - ICP/atomic emission spectroscopy  
 ICP/MS - ICP/mass spectrometry  
 Total U - total uranium  
 AT/TB - total alpha/total beta  
 AEA - Alpha Energy Analysis  
 WTPH-G - Total Hydrocarbons-Gasoline

Am - americium  
 Cm - curium  
 Pu - plutonium  
 Np - neptunium  
 GEA - gamma energy analysis  
 H3 - Tritium  
 Sr - Strontium 89, 90  
 WTPH-D - Total Hydrocarbons-Diesel  
 TSS - Total Suspended Solids

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ATTACHMENT 2

**ANALYTICAL RESULTS**

Consisting of 46 pages  
Including cover page



# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
<b>Inorganic</b>													
W060002500	B1KB52	TS	Percent Solids	SOLID	LA-519-412		> 99.5	%	1.00	0.0	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	16984-48-8	Fluoride (F) by IC	SOLID	LA-533-410	U	< 2.00	ug/g	50.00	2.0	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	16887-00-6	Chloride (Cl) by IC	SOLID	LA-533-410	U	< 1.70	ug/g	50.00	1.7	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	NO2-N	Nitrite (N) by IC	SOLID	LA-533-410	U	< 0.490	ug/g	50.00	0.49	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	24959-67-9	Bromide (Br) by IC	SOLID	LA-533-410	U	< 4.65	ug/g	50.00	4.6	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	NO3-N	Nitrate (N) by IC	SOLID	LA-533-410	U	< 0.900	ug/g	50.00	0.90	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	PO4-P	Phosphate (P) by IC	SOLID	LA-533-410	U	< 3.90	ug/g	50.00	3.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	14808-79-8	Sulfate (SO4) by IC	SOLID	LA-533-410	U	< 6.50	ug/g	50.00	6.5	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	7429-90-5	Aluminum by ICP	SOLID	LA-505-411	C	51.1	ug/g	94.08	3.5	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7439-89-6	Iron by ICP	SOLID	LA-505-411		525	ug/g	94.08	3.1	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7439-95-4	Magnesium by ICP	SOLID	LA-505-411		21.5	ug/g	94.08	1.4	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-09-7	Potassium by ICP	SOLID	LA-505-411	U	< 20.7	ug/g	94.08	21	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-23-5	Sodium by ICP	SOLID	LA-505-411	U	< 10.8	ug/g	94.08	11	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-70-2	Calcium by ICP	SOLID	LA-505-411	E	73.1	ug/g	94.08	2.9	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7439-93-2	Lithium by ICP	SOLID	LA-505-411	U	< 0.565	ug/g	94.08	0.56	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-32-6	Titanium by ICP	SOLID	LA-505-411		0.776	ug/g	94.08	0.38	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-42-8	Boron by ICP	SOLID	LA-505-411	U	< 1.98	ug/g	94.08	2.0	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-69-9	Bismuth by ICP	SOLID	LA-505-411	U	< 4.99	ug/g	94.08	5.0	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-21-3	Silicon by ICP	SOLID	LA-505-411	E	26.2	ug/g	94.08	7.1	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7439-96-5	Manganese by ICP-MS	SOLID	LA-505-412	X	0.548	ug/g	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-02-0	Nickel by ICP-MS	SOLID	LA-505-412		0.0863	ug/g	0.95	0.0572	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-22-4	Silver by ICP-MS	SOLID	LA-505-412	U	< 0.0381	ug/g	0.95	0.0381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-36-0	Antimony by ICP-MS	SOLID	LA-505-412	U	< 0.286	ug/g	0.95	0.286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-39-3	Barium by ICP-MS	SOLID	LA-505-412		0.206	ug/g	0.95	0.191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-41-7	Beryllium by ICP-MS	SOLID	LA-505-412	U	< 0.0191	ug/g	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	7440-43-9	Cadmium by ICP-MS	SOLID	LA-505-412	U	< 0.0381	ug/g	0.95	0.0381	08/22/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

RQ=Result Qualifier

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

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

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# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF			Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ								
W060002500	B1KB52	7440-47-3	Chromium by ICP-MS	SOLID	LA-505-412	U	< 0.668	ug/g	0.95	0.668	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-48-4	Cobalt by ICP-MS	SOLID	LA-505-412	U	< 0.0191	ug/g	0.95	0.0191	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-50-8	Copper by ICP-MS	SOLID	LA-505-412		0.579	ug/g	0.95	0.191	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-62-2	Vanadium by ICP-MS	SOLID	LA-505-412	U	< 0.477	ug/g	0.95	0.477	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-66-6	Zinc by ICP-MS	SOLID	LA-505-412	C	1.77	ug/g	0.95	0.286	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7439-92-1	Lead by ICP-MS	SOLID	LA-505-412		0.130	ug/g	0.95	0.0477	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7439-97-6	Mercury by ICP-MS	SOLID	LA-505-412	U	< 0.0381	ug/g	0.95	0.0381	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7439-98-7	Molybdenum by ICP-MS	SOLID	LA-505-412	U	< 0.0954	ug/g	0.95	0.0954	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-29-1	Thorium by ICP-MS	SOLID	LA-505-412	X	0.284	ug/g	0.95	0.0477	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-61-1	Uranium by ICP-MS	SOLID	LA-505-412	X	0.0282	ug/g	0.95	0.0191	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-38-2	Arsenic by ICP-MS	SOLID	LA-505-412	U	< 0.954	ug/g	0.95	0.954	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7782-49-2	Selenium by ICP-MS	SOLID	LA-505-412	U	< 0.381	ug/g	0.95	0.381	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-28-0	Thallium by ICP-MS	SOLID	LA-505-412	U	< 0.0300	ug/g	0.95	0.0286	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-24-6	Strontium by ICP-MS	SOLID	LA-505-412		0.154	ug/g	0.95	0.0286	08/22/06	08/16/06	08/17/06	
W060002500	B1KB52	7440-31-5	Tin	SOLID	LA-505-412	U	< 0.0477	ug/g	0.95	0.0477	08/22/06	08/16/06	08/17/06	

**MDL=Minimum Detection Limit**

**RQ=Result Qualifier**

**DF=Dilution Factor**

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

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

Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

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# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Bromide (Br) by IC	24959-67-9	< 4.65	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Chloride (Cl) by IC	16887-00-6	7.5314	9.110	RPD	08/21/06	0.000	20.000	
DUP	Fluoride (F) by IC	16984-48-8	< 2	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Nitrite (N) by IC	NO2-N	< 0.49	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Nitrate (N) by IC	NO3-N	13.4643	2.025	RPD	08/21/06	0.000	20.000	
DUP	Phosphate (P) by IC	PO4-P	< 3.9	n/a	RPD	08/21/06	0.000	20.000	U
DUP	Sulfate (SO4) by IC	14808-79-8	29.0249	2.346	RPD	08/21/06	0.000	20.000	
MS	Bromide (Br) by IC	24959-67-9	1.69307	84.654	% Recov	08/21/06	75.000	125.000	
MS	Chloride (Cl) by IC	16887-00-6	0.894452	91.271	% Recov	08/21/06	75.000	125.000	
MS	Fluoride (F) by IC	16984-48-8	0.42702	85.404	% Recov	08/21/06	75.000	125.000	
MS	Nitrite (N) by IC	NO2-N	0.44588	89.534	% Recov	08/21/06	75.000	125.000	
MS	Nitrate (N) by IC	NO3-N	0.407006	92.501	% Recov	08/21/06	75.000	125.000	
MS	Phosphate (P) by IC	PO4-P	0.55435	57.625	% Recov	08/21/06	75.000	125.000	
MS	Sulfate (SO4) by IC	14808-79-8	1.775156	88.758	% Recov	08/21/06	75.000	125.000	
MSD	Bromide (Br) by IC	24959-67-9	1.694338	84.717	% Recov	08/21/06	75.000	125.000	
MSD	Chloride (Cl) by IC	16887-00-6	0.90542	92.390	% Recov	08/21/06	75.000	125.000	
MSD	Fluoride (F) by IC	16984-48-8	0.434964	86.993	% Recov	08/21/06	75.000	125.000	
MSD	Nitrite (N) by IC	NO2-N	0.438152	87.982	% Recov	08/21/06	75.000	125.000	
MSD	Nitrate (N) by IC	NO3-N	0.425402	96.682	% Recov	08/21/06	75.000	125.000	
MSD	Phosphate (P) by IC	PO4-P	0.578926	60.179	% Recov	08/21/06	75.000	125.000	
MSD	Sulfate (SO4) by IC	14808-79-8	1.764856	88.243	% Recov	08/21/06	75.000	125.000	
BATCH QC									
BLANK	Bromide (Br) by IC	24959-67-9	< 9.3e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Bromide (Br) by IC	24959-67-9	< 9.3e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Chloride (Cl) by IC	16887-00-6	< 3.4e-2	n/a	mg/L	08/21/06	0.000	300.000	U

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Chloride (Cl) by IC	16887-00-6	<3.4e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Fluoride (F) by IC	16984-48-8	<4e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Fluoride (F) by IC	16984-48-8	<4e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrite (N) by IC	NO2-N	<9.8e-3	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrite (N) by IC	NO2-N	<9.8e-3	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrate (N) by IC	NO3-N	<1.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Nitrate (N) by IC	NO3-N	<1.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<7.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Phosphate (P) by IC	PO4-P	<7.8e-2	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Sulfate (SO4) by IC	14808-79-8	<0.13	n/a	mg/L	08/21/06	0.000	300.000	U
BLANK	Sulfate (SO4) by IC	14808-79-8	<0.13	n/a	mg/L	08/21/06	0.000	300.000	U
LCS	Bromide (Br) by IC	24959-67-9	390.9538	97.738	% Recov	08/21/06	80.000	120.000	
LCS	Chloride (Cl) by IC	16887-00-6	203.9548	104.059	% Recov	08/21/06	80.000	120.000	
LCS	Fluoride (F) by IC	16984-48-8	92.1569	92.157	% Recov	08/21/06	80.000	120.000	
LCS	Nitrite (N) by IC	NO2-N	99.6832	100.084	% Recov	08/21/06	80.000	120.000	
LCS	Nitrate (N) by IC	NO3-N	87.9705	100.080	% Recov	08/21/06	80.000	120.000	
LCS	Phosphate (P) by IC	PO4-P	189.4201	98.400	% Recov	08/21/06	80.000	120.000	
LCS	Sulfate (SO4) by IC	14808-79-8	388.5084	97.127	% Recov	08/21/06	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H20 P

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Aluminum by ICP	7429-90-5	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Boron by ICP	7440-42-8	212	109.845	% Recov	08/22/06	75.000	125.000	
MS	Bismuth by ICP	7440-69-9	213	110.363	% Recov	08/22/06	75.000	125.000	
MS	Calcium by ICP	7440-70-2	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Iron by ICP	7439-89-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Potassium by ICP	7440-09-7	2088	108.187	% Recov	08/22/06	75.000	125.000	
MS	Lithium by ICP	7439-93-2	106.675	110.544	% Recov	08/22/06	70.000	130.000	
MS	Magnesium by ICP	7439-95-4	NA	n/a	% Recov	08/22/06	75.000	125.000	
MS	Sodium by ICP	7440-23-5	193.9	100.466	% Recov	08/22/06	75.000	125.000	
MS	Silicon by ICP	7440-21-3	729.7	378.083	% Recov	08/22/06	70.000	130.000	
MS	Titanium by ICP	7440-32-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Aluminum by ICP	7429-90-5	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Boron by ICP	7440-42-8	214.3	108.782	% Recov	08/22/06	75.000	125.000	
MSD	Bismuth by ICP	7440-69-9	225	114.213	% Recov	08/22/06	75.000	125.000	
MSD	Calcium by ICP	7440-70-2	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Iron by ICP	7439-89-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Potassium by ICP	7440-09-7	2087	105.939	% Recov	08/22/06	75.000	125.000	
MSD	Lithium by ICP	7439-93-2	108.475	110.127	% Recov	08/22/06	75.000	125.000	
MSD	Magnesium by ICP	7439-95-4	NA	n/a	% Recov	08/22/06	75.000	125.000	
MSD	Sodium by ICP	7440-23-5	194.1	98.528	% Recov	08/22/06	75.000	125.000	
MSD	Silicon by ICP	7440-21-3	785.2	398.579	% Recov	08/22/06	75.000	125.000	
MSD	Titanium by ICP	7440-32-6	NA	n/a	% Recov	08/22/06	75.000	125.000	
SPK-RPD	Aluminum by ICP	7429-90-5		n/a	RPD	08/22/06	0.000	20.000	
SPK-RPD	Boron by ICP	7440-42-8	108.782	0.972	RPD	08/22/06	0.000	20.000	
SPK-RPD	Bismuth by ICP	7440-69-9	114.213	3.429	RPD	08/22/06	0.000	20.000	
SPK-RPD	Calcium by ICP	7440-70-2		n/a	RPD	08/22/06	0.000	20.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H2O P

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Iron by ICP	7439-89-6		n/a	RPD	08/22/06	0.000	20.000	
SPK-RPD	Potassium by ICP	7440-09-7	105.939	2.100	RPD	08/22/06	0.000	20.000	
SPK-RPD	Lithium by ICP	7439-93-2	110.127	0.378	RPD	08/22/06	0.000	20.000	
SPK-RPD	Magnesium by ICP	7439-95-4		n/a	RPD	08/22/06	0.000	20.000	
SPK-RPD	Sodium by ICP	7440-23-5	98.528	1.948	RPD	08/22/06	0.000	20.000	
SPK-RPD	Silicon by ICP	7440-21-3	398.579	5.278	RPD	08/22/06	0.000	20.000	
SPK-RPD	Titanium by ICP	7440-32-6		n/a	RPD	08/22/06	0.000	20.000	

### BATCH QC

BLANK	Aluminum by ICP	7429-90-5	6.02e-2	0.060	ug/mL	08/22/06			
BLANK	Boron by ICP	7440-42-8	<2.1e-2	n/a	ug/mL	08/22/06			U
BLANK	Bismuth by ICP	7440-69-9	<5.3e-2	n/a	ug/mL	08/22/06			U
BLANK	Calcium by ICP	7440-70-2	<3.1e-2	n/a	ug/mL	08/22/06			U
BLANK	Iron by ICP	7439-89-6	<3.3e-2	n/a	ug/mL	08/22/06			U
BLANK	Potassium by ICP	7440-09-7	<0.22	n/a	ug/mL	08/22/06			U
BLANK	Lithium by ICP	7439-93-2	<6e-3	n/a	ug/mL	08/22/06			U
BLANK	Magnesium by ICP	7439-95-4	<1.5e-2	n/a	ug/mL	08/22/06			U
BLANK	Sodium by ICP	7440-23-5	<0.115	n/a	ug/mL	08/22/06			U
BLANK	Silicon by ICP	7440-21-3	<7.5e-2	n/a	ug/mL	08/22/06			U
BLANK	Titanium by ICP	7440-32-6	<4e-3	n/a	ug/mL	08/22/06			U
LCS	Aluminum by ICP	7429-90-5	7143	113.022	% Recov	08/22/06	44.000	157.000	
LCS	Boron by ICP	7440-42-8	107.4	110.267	% Recov	08/22/06	45.000	156.000	
LCS	Bismuth by ICP	7440-69-9	236.2	119.052	% Recov	08/22/06	80.000	120.000	
LCS	Calcium by ICP	7440-70-2	4197	126.416	% Recov	08/22/06	76.000	124.000	
LCS	Iron by ICP	7439-89-6	12920	115.357	% Recov	08/22/06	47.000	152.000	
LCS	Potassium by ICP	7440-09-7	2176	113.333	% Recov	08/22/06	64.000	136.000	
LCS	Lithium by ICP	7439-93-2	7.524	126.242	% Recov	08/22/06	80.000	120.000	
LCS	Magnesium by ICP	7439-95-4	2348	115.098	% Recov	08/22/06	71.000	129.000	
LCS	Sodium by ICP	7440-23-5	509.5	114.494	% Recov	08/22/06	51.000	149.000	
LCS	Silicon by ICP	7440-21-3	169.2	23.210	% Recov	08/22/06	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
Matrix: SOLID  
Test: ICP Metals Analysis, Grd H20 P

SAF Number: R06-013  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Titanium by ICP	7440-32-6	291.4	94.000	% Recov	08/22/06	9.000	191.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Silver by ICP-MS	7440-22-4	195.1	97.550	% Recov	08/22/06	70.000	130.000	
MS	Arsenic by ICP-MS	7440-38-2	168.39	84.195	% Recov	08/22/06	70.000	130.000	
MS	Barium by ICP-MS	7440-39-3	195.42	97.710	% Recov	08/22/06	70.000	130.000	
MS	Beryllium by ICP-MS	7440-41-7	200.5175	100.259	% Recov	08/22/06	70.000	130.000	
MS	Cadmium by ICP-MS	7440-43-9	207.60505	103.803	% Recov	08/22/06	70.000	130.000	
MS	Cobalt by ICP-MS	7440-48-4	187.382	93.691	% Recov	08/22/06	70.000	130.000	
MS	Chromium by ICP-MS	7440-47-3	192.848	96.424	% Recov	08/22/06	70.000	130.000	
MS	Copper by ICP-MS	7440-50-8	184	92.000	% Recov	08/22/06	70.000	130.000	
MS	Mercury by ICP-MS	7439-97-6	2.1878	109.390	% Recov	08/22/06	70.000	130.000	
MS	Manganese by ICP-MS	7439-96-5	163.4	81.700	% Recov	08/22/06	70.000	130.000	
MS	Molybdenum by ICP-MS	7439-98-7	173.7549	86.877	% Recov	08/22/06	70.000	130.000	
MS	Nickel by ICP-MS	7440-02-0	189.91	94.955	% Recov	08/22/06	70.000	130.000	
MS	Lead by ICP-MS	7439-92-1	203.126	101.563	% Recov	08/22/06	70.000	130.000	
MS	Antimony by ICP-MS	7440-36-0	190.8	95.400	% Recov	08/22/06	70.000	130.000	
MS	Selenium by ICP-MS	7782-49-2	168	84.000	% Recov	08/22/06	70.000	130.000	
MS	Tin	7440-31-5	204.54	102.270	% Recov	08/22/06	70.000	130.000	
MS	Strontium by ICP-MS	7440-24-6	165.13	82.565	% Recov	08/22/06	70.000	130.000	
MS	Thorium by ICP-MS	7440-29-1	197.993	98.996	% Recov	08/22/06	70.000	130.000	
MS	Thallium by ICP-MS	7440-28-0	198.93748	99.469	% Recov	08/22/06	70.000	130.000	
MS	Uranium by ICP-MS	7440-61-1	201.272	100.636	% Recov	08/22/06	70.000	130.000	
MS	Vanadium by ICP-MS	7440-62-2	173.2	86.600	% Recov	08/22/06	70.000	130.000	
MS	Zinc by ICP-MS	7440-66-6	186.34	93.170	% Recov	08/22/06	70.000	130.000	
MSD	Silver by ICP-MS	7440-22-4	186.4	93.200	% Recov	08/22/06	70.000	130.000	
MSD	Arsenic by ICP-MS	7440-38-2	158.89	79.445	% Recov	08/22/06	70.000	130.000	
MSD	Barium by ICP-MS	7440-39-3	186.22	93.110	% Recov	08/22/06	70.000	130.000	
MSD	Beryllium by ICP-MS	7440-41-7	192.2175	96.109	% Recov	08/22/06	70.000	130.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Cadmium by ICP-MS	7440-43-9	195.10505	97.553	% Recov	08/22/06	70.000	130.000	
MSD	Cobalt by ICP-MS	7440-48-4	175.782	87.891	% Recov	08/22/06	70.000	130.000	
MSD	Chromium by ICP-MS	7440-47-3	184.048	92.024	% Recov	08/22/06	70.000	130.000	
MSD	Copper by ICP-MS	7440-50-8	179.1	89.550	% Recov	08/22/06	70.000	130.000	
MSD	Mercury by ICP-MS	7439-97-6	2.0908	104.540	% Recov	08/22/06	70.000	130.000	
MSD	Manganese by ICP-MS	7439-96-5	152.4	76.200	% Recov	08/22/06	70.000	130.000	
MSD	Molybdenum by ICP-MS	7439-98-7	159.7549	79.877	% Recov	08/22/06	70.000	130.000	
MSD	Nickel by ICP-MS	7440-02-0	179.71	89.855	% Recov	08/22/06	70.000	130.000	
MSD	Lead by ICP-MS	7439-92-1	198.526	99.263	% Recov	08/22/06	70.000	130.000	
MSD	Antimony by ICP-MS	7440-36-0	185.1	92.550	% Recov	08/22/06	70.000	130.000	
MSD	Selenium by ICP-MS	7782-49-2	155.4	77.700	% Recov	08/22/06	70.000	130.000	
MSD	Tin	7440-31-5	195.54	97.770	% Recov	08/22/06	70.000	130.000	
MSD	Strontium by ICP-MS	7440-24-6	156.53	78.265	% Recov	08/22/06	70.000	130.000	
MSD	Thorium by ICP-MS	7440-29-1	188.393	94.197	% Recov	08/22/06	70.000	130.000	
MSD	Thallium by ICP-MS	7440-28-0	193.53748	96.769	% Recov	08/22/06	70.000	130.000	
MSD	Uranium by ICP-MS	7440-61-1	189.472	94.736	% Recov	08/22/06	70.000	130.000	
MSD	Vanadium by ICP-MS	7440-62-2	165.7	82.850	% Recov	08/22/06	70.000	130.000	
MSD	Zinc by ICP-MS	7440-66-6	179.64	89.820	% Recov	08/22/06	70.000	130.000	
SPK-RPD	Silver by ICP-MS	7440-22-4	93.200	4.561	RPD	08/22/06	0.000	20.000	
SPK-RPD	Arsenic by ICP-MS	7440-38-2	79.445	5.805	RPD	08/22/06	0.000	20.000	
SPK-RPD	Barium by ICP-MS	7440-39-3	93.110	4.821	RPD	08/22/06	0.000	20.000	
SPK-RPD	Beryllium by ICP-MS	7440-41-7	96.109	4.227	RPD	08/22/06	0.000	20.000	
SPK-RPD	Cadmium by ICP-MS	7440-43-9	97.553	6.208	RPD	08/22/06	0.000	20.000	
SPK-RPD	Cobalt by ICP-MS	7440-48-4	87.891	6.388	RPD	08/22/06	0.000	20.000	
SPK-RPD	Chromium by ICP-MS	7440-47-3	92.024	4.670	RPD	08/22/06	0.000	20.000	
SPK-RPD	Copper by ICP-MS	7440-50-8	89.550	2.699	RPD	08/22/06	0.000	20.000	
SPK-RPD	Mercury by ICP-MS	7439-97-6	104.540	4.534	RPD	08/22/06	0.000	20.000	
SPK-RPD	Manganese by ICP-MS	7439-96-5	76.200	6.966	RPD	08/22/06	0.000	20.000	
SPK-RPD	Molybdenum by ICP-MS	7439-98-7	79.877	8.396	RPD	08/22/06	0.000	20.000	
SPK-RPD	Nickel by ICP-MS	7440-02-0	89.855	5.519	RPD	08/22/06	0.000	20.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SPK-RPD	Lead by ICP-MS	7439-92-1	99.263	2.291	RPD	08/22/06	0.000	20.000	
SPK-RPD	Antimony by ICP-MS	7440-36-0	92.550	3.033	RPD	08/22/06	0.000	20.000	
SPK-RPD	Selenium by ICP-MS	7782-49-2	77.700	7.792	RPD	08/22/06	0.000	20.000	
SPK-RPD	Tin	7440-31-5	97.770	4.499	RPD	08/22/06	0.000	20.000	
SPK-RPD	Strontium by ICP-MS	7440-24-6	78.265	5.347	RPD	08/22/06	0.000	20.000	
SPK-RPD	Thorium by ICP-MS	7440-29-1	94.197	4.968	RPD	08/22/06	0.000	20.000	
SPK-RPD	Thallium by ICP-MS	7440-28-0	96.769	2.752	RPD	08/22/06	0.000	20.000	
SPK-RPD	Uranium by ICP-MS	7440-61-1	94.736	6.040	RPD	08/22/06	0.000	20.000	
SPK-RPD	Vanadium by ICP-MS	7440-62-2	82.850	4.426	RPD	08/22/06	0.000	20.000	
SPK-RPD	Zinc by ICP-MS	7440-66-6	89.820	3.661	RPD	08/22/06	0.000	20.000	

### BATCH QC

BLANK	Silver by ICP-MS	7440-22-4	< 4e-2	n/a	ug/L	08/22/06			U
BLANK	Arsenic by ICP-MS	7440-38-2	< 1	n/a	ug/L	08/22/06			U
BLANK	Barium by ICP-MS	7440-39-3	< 0.2	n/a	ug/L	08/22/06			U
BLANK	Beryllium by ICP-MS	7440-41-7	< 2e-2	n/a	ug/L	08/22/06			U
BLANK	Cadmium by ICP-MS	7440-43-9	< 4e-2	n/a	ug/L	08/22/06			U
BLANK	Cobalt by ICP-MS	7440-48-4	< 2e-2	n/a	ug/L	08/22/06			U
BLANK	Chromium by ICP-MS	7440-47-3	< 0.7	n/a	ug/L	08/22/06			U
BLANK	Copper by ICP-MS	7440-50-8	< 0.2	n/a	ug/L	08/22/06			U
BLANK	Mercury by ICP-MS	7439-97-6	< 4e-2	n/a	ug/L	08/22/06			U
BLANK	Manganese by ICP-MS	7439-96-5	< 2e-2	n/a	ug/L	08/22/06			U
BLANK	Molybdenum by ICP-MS	7439-98-7	< 0.1	n/a	ug/L	08/22/06			U
BLANK	Nickel by ICP-MS	7440-02-0	< 6e-2	n/a	ug/L	08/22/06			U
BLANK	Lead by ICP-MS	7439-92-1	< 5e-2	n/a	ug/L	08/22/06			U
BLANK	Antimony by ICP-MS	7440-36-0	< 0.3	n/a	ug/L	08/22/06			U
BLANK	Selenium by ICP-MS	7782-49-2	< 0.4	n/a	ug/L	08/22/06			U
BLANK	Tin	7440-31-5	< 5e-2	n/a	ug/L	08/22/06			U
BLANK	Strontium by ICP-MS	7440-24-6	< 3e-2	n/a	ug/L	08/22/06			U
BLANK	Thorium by ICP-MS	7440-29-1	< 5e-2	n/a	ug/L	08/22/06			U

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: ICP-2008 MS All possible metal

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Thallium by ICP-MS	7440-28-0	< 3e-2	n/a	ug/L	08/22/06			U
BLANK	Uranium by ICP-MS	7440-61-1	< 2e-2	n/a	ug/L	08/22/06			U
BLANK	Vanadium by ICP-MS	7440-62-2	< 0.5	n/a	ug/L	08/22/06			U
BLANK	Zinc by ICP-MS	7440-66-6	0.3413	0.341	ug/L	08/22/06			
LCS	Silver by ICP-MS	7440-22-4	145.6	112.000	% Recov	08/22/06	98.000	134.000	
LCS	Arsenic by ICP-MS	7440-38-2	160.3	99.565	% Recov	08/22/06	75.000	134.000	
LCS	Barium by ICP-MS	7440-39-3	253.6	100.635	% Recov	08/22/06	87.000	121.000	
LCS	Beryllium by ICP-MS	7440-41-7	98.22	104.047	% Recov	08/22/06	70.000	153.000	
LCS	Cadmium by ICP-MS	7440-43-9	128.3	100.234	% Recov	08/22/06	95.000	124.000	
LCS	Cobalt by ICP-MS	7440-48-4	36.52	103.750	% Recov	08/22/06	88.000	119.000	
LCS	Chromium by ICP-MS	7440-47-3	70.03	100.763	% Recov	08/22/06	77.000	125.000	
LCS	Copper by ICP-MS	7440-50-8	151.1	102.095	% Recov	08/22/06	84.000	122.000	
LCS	Mercury by ICP-MS	7439-97-6	16.93	100.178	% Recov	08/22/06	71.000	132.000	
LCS	Manganese by ICP-MS	7439-96-5	424.9	104.142	% Recov	08/22/06	83.000	118.000	
LCS	Molybdenum by ICP-MS	7439-98-7	88.47	105.196	% Recov	08/22/06	71.000	130.000	
LCS	Nickel by ICP-MS	7440-02-0	155.8	105.986	% Recov	08/22/06	90.000	121.000	
LCS	Lead by ICP-MS	7439-92-1	149.6	105.352	% Recov	08/22/06	92.000	123.000	
LCS	Antimony by ICP-MS	7440-36-0	100.7	165.353	% Recov	08/22/06	114.000	260.000	
LCS	Selenium by ICP-MS	7782-49-2	68.67	106.963	% Recov	08/22/06	52.000	157.000	
LCS	Tin	7440-31-5	61.44	100.721	% Recov	08/22/06	86.000	123.000	
LCS	Strontium by ICP-MS	7440-24-6	84.12	100.143	% Recov	08/22/06	68.000	123.000	
LCS	Thorium by ICP-MS	7440-29-1	378.1	94.525	% Recov	08/22/06	77.000	121.000	
LCS	Thallium by ICP-MS	7440-28-0	86.99	103.560	% Recov	08/22/06	92.000	123.000	
LCS	Uranium by ICP-MS	7440-61-1	390.4	97.600	% Recov	08/22/06	81.000	125.000	
LCS	Vanadium by ICP-MS	7440-62-2	102.6	105.447	% Recov	08/22/06	81.000	122.000	
LCS	Zinc by ICP-MS	7440-66-6	175.7	106.485	% Recov	08/22/06	85.000	130.000	

# WSCF ANALYTICAL RESULTS REPORT

Attention:

D.L. Klages H8-40

Group #:

20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Organic													
W060002500	B1KB52	100-02-7	4-Nitrophenol	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	106-46-7	1,4-Dichlorobenzene (SV)	SOLID	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	108-95-2	Phenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	120-82-1	1,2,4-Trichlorobenzene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	121-14-2	2,4-Dinitrotoluene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	129-00-0	Pyrene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	59-50-7	4-Chloro-3-methylphenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	621-64-7	N-Nitroso-di-n-propylamine	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	83-32-9	Acenaphthene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	87-86-5	Pentachlorophenol	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	95-57-8	2-Chlorophenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	100-01-6	4-Nitroaniline	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	101-55-3	4-Bromophenyl-phenylether	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	105-67-9	2,4-Dimethylphenol	SOLID	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	106-47-8	4-Chloroaniline	SOLID	LA-523-456	U	< 330	ug/kg	1.00	3.3e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	108-60-1	Bis(2-Chloro-1-methylene)	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	111-44-4	bis(-2-Chloroethyl)Eth	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	111-91-1	bis(2-Chloroethoxy)methane	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	117-81-7	Bis (2-Ethylhexyl) phthalate	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	117-84-0	Di-n-octylphthalate	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	118-74-1	Hexachlorobenzene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	120-12-7	Anthracene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	120-83-2	2,4-Dichlorophenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	131-11-3	Dimethylphthalate	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	132-64-9	Dibenzofuran	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	191-24-2	Benzo(g,h,i)perylene	SOLID	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

RQ=Result Qualifier

DF=Dilution Factor

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

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

Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W060002500	B1KB52	193-39-5	Indeno(1,2,3-cd)pyrene	SOLID	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	205-99-2	Benzo(b)fluoranthene	SOLID	LA-523-456	U	< 190	ug/kg	1.00	1.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	206-44-0	Fluoranthene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	207-08-9	Benzo(k)fluoranthene	SOLID	LA-523-456	U	< 190	ug/kg	1.00	1.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	208-96-8	Acenaphthylene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	218-01-9	Chrysene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	50-32-8	Benzo(a)pyrene	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	51-28-5	2,4-Dinitrophenol	SOLID	LA-523-456	U	< 660	ug/kg	1.00	6.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	53-70-3	Dibenz(a,h)anthracene	SOLID	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	534-52-1	4,6-Dinitro-2-methylphenol	SOLID	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	541-73-1	1,3-Dichlorobenzene	SOLID	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	56-55-3	Benzo(a)anthracene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	606-20-2	2,6-Dinitrotoluene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	7005-72-3	4-Chlorophenyl-phenylether	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	77-47-4	Hexachlorocyclopentadiene	SOLID	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	78-59-1	Isophorone	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	84-66-2	Diethylphthalate	SOLID	LA-523-456	J	300	ug/kg	1.00	2.3e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	84-74-2	Di-n-butylphthalate	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	85-01-8	Phenanthrene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	85-68-7	Butylbenzylphthalate	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	86-30-6	N-Nitrosodiphenylamine	SOLID	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	86-73-7	Fluorene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	86-74-8	Carbazole	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	87-68-3	Hexachlorobutadiene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	88-74-4	2-Nitroaniline	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	88-75-5	2-Nitrophenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	91-20-3	Naphthalene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

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

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Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
W060002500	B1KB52	91-57-6	2-Methylnaphthalene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	91-58-7	2-Chloronaphthalene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	91-94-1	3,3'-Dichlorobenzidine	SOLID	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	95-48-7	2-Methylphenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	95-50-1	1,2-Dichlorobenzene (SV)	SOLID	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	95-95-4	2,4,5-Trichlorophenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	98-95-3	Nitrobenzene	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	99-09-2	3-Nitroaniline	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	65794-96-9	3 & 4 Methylphenol Total	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	67-72-1	Hexachloroethane	SOLID	LA-523-456	U	< 250	ug/kg	1.00	2.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	88-06-2	2,4,6-Trichlorophenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	124-18-5	Decane	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	112-40-3	Dodecane	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	100-51-6	Benzyl alcohol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	111-76-2	2-Butoxyethanol	SOLID	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	126-73-8	Tri-n-butylphosphate	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	91-59-8	2-Naphthylamine	SOLID	LA-523-456	U	< 420	ug/kg	1.00	4.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	108-94-1	Cyclohexanone	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	110-86-1	Pyridine	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	95-63-6	1,2,4-Trimethylbenzene	SOLID	LA-523-456	U	< 200	ug/kg	1.00	2.0e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	65-85-0	Benzoic acid	SOLID	LA-523-456	U	< 440	ug/kg	1.00	440	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	78-46-6	Dibutyl butylphosphonate	SOLID	LA-523-456	U	< 1.5e+02	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	75-35-4	1,1-Dichloroethene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	79-01-6	Trichloroethene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	71-43-2	Benzene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	108-88-3	Toluene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	108-90-7	Chlorobenzene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06

MDL= Minimum Detection Limit

RQ= Result Qualifier

DF= Dilution Factor

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

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

Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W060002500	B1KB52	75-34-3	1,1-Dichloroethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	100-41-4	Ethylbenzene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	100-42-5	Styrene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	10061-01-5	cis-1,3-Dichloropropene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	10061-02-6	trans-1,3-Dichloropropene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	107-06-2	1,2-Dichloroethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	108-10-1	4-Methyl-2-pentanone	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	124-48-1	Dibromochloromethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	127-18-4	Tetrachloroethene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	1330-20-7	Total Xylenes	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	540-59-0	1,2-Dichloroethene (cis & tran	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	56-23-5	Carbon Tetrachloride	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	591-78-6	2-Hexanone	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	67-64-1	Acetone	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	67-66-3	Chloroform	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	71-55-6	1,1,1-Trichloroethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	74-83-9	Bromomethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	74-87-3	Chloromethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-00-3	Chloroethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-01-4	Vinyl Chloride	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-09-2	Methylene Chloride	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-15-0	Carbon Disulfide	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-25-2	Bromoform	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-27-4	Bromodichloromethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	78-87-5	1,2-Dichloropropane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	78-93-3	2-Butanone	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	79-00-5	1,1,2-Trichloroethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

RQ=Result Qualifier

DF=Dilution Factor

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

Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
W060002500	B1KB52	79-34-5	1,1,2,2-Tetrachloroethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	71-36-3	1-Butanol	SOLID	LA-523-455	U	< 19.0	ug/kg	1.00	19	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	107-87-9	2-Pentanone	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	110-82-7	Cyclohexane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	110-54-3	Hexane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	109-99-9	Tetrahydrofuran	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-69-4	Trichlorofluoromethane	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	104-51-8	n-Butylbenzene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	156-60-5	trans-1,2-Dichloroethylene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	75-05-08	Acetonitrile	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	156-59-2	cis-1,2-Dichloroethylene	SOLID	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	TPHDIESEL	Total Pet. Hydrocarbons Diesel	SOLID	NWTPH	U	< 3.20e + 03	ug/kg	1.00	3.2e + 03	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	TPHKEROSENE	Kerosene	SOLID	NWTPH	U	< 3.20e + 03	ug/kg	1.00	3.2e + 03	08/21/06	08/16/06	08/17/06

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

C - The Analyte was found in the Associated Blank.  
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**DF=Dilution Factor**

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Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

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# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002500									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	1,2,4-Trichlorobenzene	120-82-1	4404.7	103.000	% Recov	08/21/06	46.000	107.000	
MS	1,4-Dichlorobenzene (SV)	106-46-7	4014.8	93.858	% Recov	08/21/06	30.000	96.000	
MS	2,4-Dinitrotoluene	121-14-2	3733.3	87.300	% Recov	08/21/06	59.000	106.000	
MS	2-Fluorophenol Surr	367-12-4	4453.4	104.000	% Recov	08/21/06	42.000	105.000	
MS	Acenaphthene	83-32-9	4359.8	102.000	% Recov	08/21/06	61.000	116.000	
MS	4-Chloro-3-methylphenol	59-50-7	6341.9	98.800	% Recov	08/21/06	61.000	106.000	
MS	2-Chlorophenol	95-57-8	6448.0	100.000	% Recov	08/21/06	66.000	106.000	
MS	N-Nitroso-di-n-propylamine	621-64-7	4481.8	105.000	% Recov	08/21/06	71.000	114.000	
MS	2-Fluorobiphenyl Surr	321-60-8	4550.1	106.000	% Recov	08/21/06	56.000	122.000	
MS	Phenol	108-95-2	6463.4	101.000	% Recov	08/21/06	42.000	111.000	
MS	Nitrobenzene-d5 Surr	4165-60-0	4364.3	102.000	% Recov	08/21/06	64.000	111.000	
MS	4-Nitrophenol	100-02-7	5579.1	87.000	% Recov	08/21/06	32.000	118.000	
MS	Pentachlorophenol	87-86-5	6387.4	99.500	% Recov	08/21/06	62.000	114.000	
MS	Phenol-d5 Surr	4165-62-2	4429.3	104.000	% Recov	08/21/06	54.000	120.000	
MS	Pyrene	129-00-0	4261.2	99.600	% Recov	08/21/06	66.000	118.000	
MS	2,4,6-Tribromophenol Surr	118-79-6	3898.6	91.100	% Recov	08/21/06	24.000	122.000	
MS	Terphenyl-d14 Surr	98904-43-9	4521.8	106.000	% Recov	08/21/06	35.000	150.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	4850.6	105.000	% Recov	08/21/08	46.000	107.000	
MSD	1,4-Dichlorobenzene (SV)	106-46-7	4326.5	93.846	% Recov	08/21/06	30.000	96.000	
MSD	2,4-Dinitrotoluene	121-14-2	4605.5	99.900	% Recov	08/21/06	59.000	106.000	
MSD	2-Fluorophenol Surr	367-12-4	4690.8	102.000	% Recov	08/21/06	42.000	105.000	
MSD	Acenaphthene	83-32-9	4697.2	102.000	% Recov	08/21/06	61.000	116.000	
MSD	4-Chloro-3-methylphenol	59-50-7	6635.5	96.000	% Recov	08/21/06	61.000	106.000	
MSD	2-Chlorophenol	95-57-8	6930.1	100.000	% Recov	08/21/06	66.000	106.000	
MSD	N-Nitroso-di-n-propylamine	621-64-7	4638.9	101.000	% Recov	08/21/06	71.000	114.000	
MSD	2-Fluorobiphenyl Surr	321-60-8	5014.2	109.000	% Recov	08/21/06	56.000	122.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Phenol	108-95-2	7065.7	102.000	% Recov	08/21/06	42.000	111.000	
MSD	Nitrobenzene-d5 Surr	4165-60-0	4825.2	105.000	% Recov	08/21/06	64.000	111.000	
MSD	4-Nitrophenol	100-02-7	6511.2	94.200	% Recov	08/21/06	32.000	118.000	
MSD	Pentachlorophenol	87-86-5	6792.8	98.200	% Recov	08/21/06	62.000	114.000	
MSD	Phenol-d5 Surr	4165-62-2	5000.9	108.000	% Recov	08/21/06	54.000	120.000	
MSD	Pyrene	129-00-0	4771.2	103.000	% Recov	08/21/06	66.000	118.000	
MSD	2,4,6-Tribromophenol Surr	118-79-6	4447.6	96.500	% Recov	08/21/06	24.000	122.000	
MSD	Terphenyl-d14 Surr	98904-43-9	4998.6	108.000	% Recov	08/21/06	35.000	150.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	105.000	1.923	RPD	08/18/06	0.000	20.000	
SPK-RPD	1,4-Dichlorobenzene (SV)	106-46-7	93.846	0.013	RPD	08/21/06	0.000	20.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	99.900	13.462	RPD	08/18/06	0.000	20.000	
SPK-RPD	2-Fluorophenol Surr	367-12-4	102.000	1.942	RPD	08/18/06	0.000	20.000	
SPK-RPD	Acenaphthene	83-32-9	102.000	0.000	RPD	08/18/06	0.000	20.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	96.000	2.875	RPD	08/18/06	0.000	20.000	
SPK-RPD	2-Chlorophenol	95-57-8	100.000	0.000	RPD	08/18/06	0.000	20.000	
SPK-RPD	N-Nitroso-di-n-propylamine	621-64-7	101.000	3.883	RPD	08/18/06	0.000	20.000	
SPK-RPD	2-Fluorobiphenyl Surr	321-60-8	109.000	2.791	RPD	08/18/06	0.000	20.000	
SPK-RPD	Phenol	108-95-2	102.000	0.985	RPD	08/18/06	0.000	20.000	
SPK-RPD	Nitrobenzene-d5 Surr	4165-60-0	105.000	2.899	RPD	08/18/06	0.000	20.000	
SPK-RPD	4-Nitrophenol	100-02-7	94.200	7.947	RPD	08/18/06	0.000	20.000	
SPK-RPD	Pentachlorophenol	87-86-5	98.200	1.315	RPD	08/18/06	0.000	20.000	
SPK-RPD	Phenol-d5 Surr	4165-62-2	108.000	3.774	RPD	08/18/06	0.000	20.000	
SPK-RPD	Pyrene	129-00-0	103.000	3.356	RPD	08/18/06	0.000	20.000	
SPK-RPD	2,4,6-Tribromophenol Surr	118-79-6	96.500	5.757	RPD	08/18/06	0.000	20.000	
SPK-RPD	Terphenyl-d14 Surr	98904-43-9	108.000	1.869	RPD	08/18/06	0.000	20.000	
SURR	2-Fluorophenol Surr	367-12-4	4431.2	101.000	% Recov	08/18/06	42.000	105.000	
SURR	2-Fluorobiphenyl Surr	321-60-8	4680.8	106.000	% Recov	08/18/06	56.000	122.000	
SURR	Nitrobenzene-d5 Surr	4165-60-0	4427.0	101.000	% Recov	08/18/06	64.000	111.000	
SURR	Phenol-d5 Surr	4165-62-2	4500.6	102.000	% Recov	08/18/06	54.000	120.000	
SURR	2,4,6-Tribromophenol Surr	118-79-6	3907.0	88.800	% Recov	08/18/06	24.000	122.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte		CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Terphenyl-d14	Surr	98904-43-9	4643.6	106.000	% Recov	08/18/06	35.000	150.000	
<b>BATCH QC</b>										
BLANK	1,2-Dichlorobenzene (SV)		95-50-1	< 240	n/a	ug/Kg	08/18/06			U
BLANK	1,2,4-Trimethylbenzene		95-63-6	< 180	n/a	ug/Kg	08/18/06			U
BLANK	1,2,4-Trichlorobenzene		120-82-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	1,3-Dichlorobenzene		541-73-1	< 260	n/a	ug/Kg	08/18/06			U
BLANK	1,4-Dichlorobenzene (SV)		106-46-7	< 240	n/a	ug/Kg	08/18/06			U
BLANK	2-Naphthylamine		91-59-8	< 380	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dichlorophenol		120-83-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dinitrotoluene		121-14-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4,5-Trichlorophenol		95-95-4	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4,6-Trichlorophenol		88-06-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dimethylphenol		105-67-9	< 220	n/a	ug/Kg	08/18/06			U
BLANK	2,6-Dinitrotoluene		606-20-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Butoxyethanol		111-76-2	< 200	n/a	ug/Kg	08/18/06			U
BLANK	2-Chloronaphthalene		91-58-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Fluorophenol	Surr	367-12-4	4129.6	103.240	% Recov	08/18/06	42.000	105.000	
BLANK	2-Methylnaphthalene		91-57-6	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Methylphenol		95-48-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Nitroaniline		88-74-4	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Nitrophenol		88-75-5	< 140	n/a	ug/Kg	08/18/06			U
BLANK	3 & 4 Methylphenol Total		65794-96-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	3-Nitroaniline		99-09-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4,6-Dinitro-2-methylphenol		534-52-1	< 220	n/a	ug/Kg	08/18/06			U
BLANK	4-Bromophenyl-phenylether		101-55-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4-Chlorophenyl-phenylether		7005-72-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Acenaphthene		83-32-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Acenaphthylene		208-96-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Anthracene		120-12-7	< 140	n/a	ug/Kg	08/18/06			U

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	bis(2-Chloroethyl)Eth	111-44-4	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(a)anthracene	56-55-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(b)fluoranthene	205-99-2	< 170	n/a	ug/Kg	08/18/06			U
BLANK	Benzoic acid	65-85-0	< 400	n/a	ug/Kg	08/18/06	0.000		U
BLANK	Benzo(g,h,i)perylene	191-24-2	< 220	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(a)pyrene	50-32-8	< 200	n/a	ug/Kg	08/18/06			U
BLANK	bis(2-Chloroethoxy)methane	111-91-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Bis (2-Ethylhexyl) phthalate	117-81-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Bis(2-Chloro-1-methylene)	108-60-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzyl alcohol	100-51-6	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Benzo(k)fluoranthene	207-08-9	< 170	n/a	ug/Kg	08/18/06			U
BLANK	Butylbenzylphthalate	85-68-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Carbazole	86-74-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4-Chloroaniline	106-47-8	< 300	n/a	ug/Kg	08/18/06			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2-Chlorophenol	95-57-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Chrysene	218-01-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Cyclohexanone	108-94-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 260	n/a	ug/Kg	08/18/06			U
BLANK	Decane	124-18-5	< 200	n/a	ug/Kg	08/18/06			U
BLANK	Dibenz(a,h)anthracene	53-70-3	< 260	n/a	ug/Kg	08/18/06			U
BLANK	Dibutyl butylphosphonate	78-46-6	< 140	n/a	ug/kg	08/18/06			U
BLANK	Dibenzofuran	132-64-9	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Di-n-butylphthalate	84-74-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Diethylphthalate	84-66-2	< 210	n/a	ug/Kg	08/18/06			U
BLANK	Dimethylphthalate	131-11-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4-Dinitrophenol	51-28-5	< 600	n/a	ug/Kg	08/18/06			U
BLANK	Di-n-octylphthalate	117-84-0	< 200	n/a	ug/Kg	08/18/06			U
BLANK	N-Nitroso-di-n-propylamine	621-64-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Dodecane	112-40-3	< 140	n/a	ug/Kg	08/18/06	-999.000	999.000	U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte		CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	2-Fluorobiphenyl	Surr	321-60-8	4053.9	101.000	% Recov	08/18/06	56.000	122.000	
BLANK	Fluorene		86-73-7	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Fluoranthene		206-44-0	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Hexachlorobenzene		118-74-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Hexachlorobutadiene		87-68-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Hexachlorocyclopentadiene		77-47-4	< 160	n/a	ug/Kg	08/18/06			U
BLANK	Hexachloroethane		67-72-1	< 230	n/a	ug/Kg	08/18/06			U
BLANK	Indeno(1,2,3-cd)pyrene		193-39-5	< 240	n/a	ug/Kg	08/18/06			U
BLANK	Isophorone		78-59-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Phenol		108-95-2	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Naphthalene		91-20-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Nitrobenzene-d5	Surr	4165-60-0	4151.5	104.000	% Recov	08/18/06	64.000	111.000	
BLANK	Nitrobenzene		98-95-3	< 140	n/a	ug/Kg	08/18/06			U
BLANK	4-Nitrophenol		100-02-7	< 200	n/a	ug/Kg	08/18/06			U
BLANK	4-Nitroaniline		100-01-6	< 200	n/a	ug/Kg	08/18/06			U
BLANK	N-Nitrosodiphenylamine		86-30-6	< 160	n/a	ug/Kg	08/18/06			U
BLANK	Pentachlorophenol		87-86-5	< 200	n/a	ug/Kg	08/18/06			U
BLANK	Phenanthrene		85-01-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Phenol-d5	Surr	4165-62-2	4267.2	107.000	% Recov	08/18/06	54.000	120.000	
BLANK	Pyrene		129-00-0	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Pyridine		110-86-1	< 140	n/a	ug/Kg	08/18/06			U
BLANK	Tri-n-butylphosphate		126-73-8	< 140	n/a	ug/Kg	08/18/06			U
BLANK	2,4,6-Tribromophenol	Surr	118-79-6	3877.3	96.900	% Recov	08/18/06	24.000	122.000	
BLANK	Terphenyl-d14	Surr	98904-43-9	4111.2	103.000	% Recov	08/18/06	35.000	150.000	
LCS	1,2,4-Trichlorobenzene		120-82-1	4238.8	106.000	% Recov	08/21/06	46.000	107.000	
LCS	1,4-Dichlorobenzene (SV)		106-46-7	4369.5	109.000	% Recov	08/21/06	42.000	111.000	
LCS	2,4-Dinitrotoluene		121-14-2	3906.3	97.700	% Recov	08/21/06	59.000	106.000	
LCS	2-Fluorophenol	Surr	367-12-4	4113.2	103.000	% Recov	08/21/06	50.000	110.000	
LCS	Acenaphthene		83-32-9	4378.9	109.000	% Recov	08/21/06	61.000	116.000	
LCS	4-Chloro-3-methylphenol		59-50-7	4107.6	68.500	% Recov	08/21/06	61.000	106.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	2-Chlorophenol	95-57-8	6161.8	103.000	% Recov	08/21/06	66.000	106.000	
LCS	N-Nitroso-di-n-propylamine	621-64-7	4123.0	103.000	% Recov	08/21/06	71.000	114.000	
LCS	2-Fluorobiphenyl Surr	321-60-8	4201.5	105.000	% Recov	08/21/06	58.000	109.000	
LCS	Phenol	108-95-2	6060.9	101.000	% Recov	08/21/06	67.000	105.000	
LCS	Nitrobenzene-d5 Surr	4165-60-0	4528.6	113.000	% Recov	08/21/06	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	5813.3	96.900	% Recov	08/21/06	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	5785.1	96.400	% Recov	08/21/06	62.000	114.000	
LCS	Phenol-d5 Surr	4165-62-2	4162.6	104.000	% Recov	08/21/06	59.000	116.000	
LCS	Pyrene	129-00-0	4349.8	109.000	% Recov	08/21/06	66.000	118.000	
LCS	2,4,6-Tribromophenol Surr	118-79-6	3900.2	97.500	% Recov	08/21/06	60.000	120.000	
LCS	Terphenyl-d14 Surr	98904-43-9	4349.9	109.000	% Recov	08/21/06	60.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002500									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	ortho-Terphenyl Surr	84-15-1	21567	101.000	% Recov	08/21/06	70.000	130.000	
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	107450	101.000	% Recov	08/21/06	75.000	125.000	
MSD	ortho-Terphenyl Surr	84-15-1	22027	91.800	% Recov	08/21/06	70.000	130.000	
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	109000	90.900	% Recov	08/21/06	75.000	125.000	
SPK-RPD	ortho-Terphenyl Surr	84-15-1	91.800	9.544	RPD	08/21/06	0.000	20.000	
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	90.900	10.526	RPD	08/21/06	0.000	20.000	
SURR	ortho-Terphenyl Surr	84-15-1	19022	89.200	% Recov	08/21/06	70.000	130.000	
BATCH QC									
BLANK	Kerosene	TPHKEROSENE	< 3000	n/a	ug/Kg	08/21/06			
BLANK	ortho-Terphenyl Surr	84-15-1	18525	92.600	% Recov	08/21/06	70.000	130.000	
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 3000	n/a	ug/Kg	08/21/06			
LCS	ortho-Terphenyl Surr	84-15-1	20009	100.000	% Recov	08/21/06	70.000	130.000	
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	100020	100.000	% Recov	08/21/06	80.000	120.000	

DHL

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002498									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	1,1-Dichloroethene	75-35-4	27.420	110.000	% Recov	08/21/06	63.000	117.000	
MS	Benzene	71-43-2	26.680	107.000	% Recov	08/21/06	75.000	129.000	
MS	4-Bromofluorobenzene Surr	460-00-4	58.700	117.000	% Recov	08/21/06	84.000	116.000	
MS	Chlorobenzene	108-90-7	27.180	109.000	% Recov	08/21/06	79.000	119.000	
MS	1,2-Dichloroethane-d4 Surr	17060-07-0	53.080	106.000	% Recov	08/21/06	82.000	136.000	
MS	Toluene-d8 Surr	2037-26-5	54.510	109.000	% Recov	08/21/06	89.000	119.000	
MS	Toluene	108-88-3	27.430	110.000	% Recov	08/21/06	76.000	120.000	
MS	Trichloroethene	79-01-6	25.840	103.000	% Recov	08/21/06	73.000	123.000	
MSD	1,1-Dichloroethene	75-35-4	25.390	101.000	% Recov	08/21/06	63.000	117.000	
MSD	Benzene	71-43-2	26.690	107.000	% Recov	08/21/06	75.000	129.000	
MSD	4-Bromofluorobenzene Surr	460-00-4	58.640	117.000	% Recov	08/21/06	84.000	116.000	
MSD	Chlorobenzene	108-90-7	26.730	107.000	% Recov	08/21/06	79.000	119.000	
MSD	1,2-Dichloroethane-d4 Surr	17060-07-0	52.590	105.000	% Recov	08/21/06	82.000	136.000	
MSD	Toluene-d8 Surr	2037-26-5	54.540	109.000	% Recov	08/21/06	89.000	119.000	
MSD	Toluene	108-88-3	27.670	110.000	% Recov	08/21/06	76.000	120.000	
MSD	Trichloroethene	79-01-6	25.610	102.000	% Recov	08/21/06	73.000	123.000	
SPK-RPD	1,1-Dichloroethene	75-35-4	101.000	8.531	RPD	08/21/06	0.000	20.000	
SPK-RPD	Benzene	71-43-2	107.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	4-Bromofluorobenzene Surr	460-00-4	117.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	Chlorobenzene	108-90-7	107.000	1.852	RPD	08/21/06	0.000	20.000	
SPK-RPD	1,2-Dichloroethane-d4 Surr	17060-07-0	105.000	0.948	RPD	08/21/06	0.000	20.000	
SPK-RPD	Toluene-d8 Surr	2037-26-5	109.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	Toluene	108-88-3	110.000	0.000	RPD	08/21/06	0.000	20.000	
SPK-RPD	Trichloroethene	79-01-6	102.000	0.976	RPD	08/21/06	0.000	20.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002500									
BATCH QC ASSOCIATED WITH SAMPLE									
SURR	4-Bromofluorobenzene Surr	460-00-4	54.690	116.000	% Recov	08/21/06	71.000	125.000	
SURR	1,2-Dichloroethane-d4 Surr	17060-07-0	50.010	106.000	% Recov	08/21/06	80.000	134.000	
SURR	Toluene-d8 Surr	2037-26-5	51.670	110.000	% Recov	08/21/06	80.000	126.000	
BATCH QC									
BLANK	1,1-Dichloroethane	75-34-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1,1-Trichloroethane	71-55-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1,2-Trichloroethane	79-00-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,1-Dichloroethene	75-35-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloroethane	107-06-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloroethene (cis & tran)	540-59-0	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1-Butanol	71-36-3	< 40	n/a	ug/Kg	08/21/06			U
BLANK	2-Hexanone	591-78-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	2-Pentanone	107-87-9	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	4-Methyl-2-pentanone	108-10-1	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Acetone	67-64-1	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Bromodichloromethane	75-27-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Benzene	71-43-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	4-Bromofluorobenzene Surr	460-00-4	117.00	117.000	% Recov	08/21/06	71.000	125.000	
BLANK	Bromoform	75-25-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	n-Butylbenzene	104-51-8	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Carbon Disulfide	75-15-0	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Carbon Tetrachloride	56-23-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Dibromochloromethane	124-48-1	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Cyclohexane	110-82-7	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Chloroform	67-66-3	< 2.0	n/a	ug/Kg	08/21/06			U

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Chlorobenzene	108-90-7	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Chloroethane	75-00-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloroethane-d4 Surr	17060-07-0	108.60	109.000	% Recov	08/21/06	80.000	134.000	
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	1,2-Dichloropropane	78-87-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Ethylbenzene	100-41-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Hexane	110-54-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Bromomethane	74-83-9	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Chloromethane	74-87-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	2-Butanone	78-93-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Methylene Chloride	75-09-2	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Tetrachloroethene	127-18-4	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Styrene	100-42-5	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Total Xylenes	1330-20-7	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Tetrahydrofuran	109-99-9	< 4.0	n/a	ug/Kg	08/21/06			U
BLANK	Toluene-d8 Surr	2037-26-5	108.70	109.000	% Recov	08/21/06	80.000	126.000	
BLANK	Toluene	108-88-3	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Trichlorofluoromethane	75-69-4	< 2.0	n/a	ug/Kg	08/21/06	0.000	5.000	U
BLANK	Trichloroethene	79-01-6	< 2.0	n/a	ug/Kg	08/21/06			U
BLANK	Vinyl Chloride	75-01-4	< 2.0	n/a	ug/Kg	08/21/06			U
LCS	1,1-Dichloroethene	75-35-4	50.210	100.000	% Recov	08/21/06	70.000	130.000	
LCS	Benzene	71-43-2	51.860	104.000	% Recov	08/21/06	70.000	130.000	
LCS	4-Bromofluorobenzene Surr	460-00-4	115.20	115.000	% Recov	08/21/06	71.000	125.000	
LCS	Chlorobenzene	108-90-7	52.470	105.000	% Recov	08/21/06	70.000	130.000	
LCS	1,2-Dichloroethane-d4 Surr	17060-07-0	108.20	108.000	% Recov	08/21/06	80.000	134.000	
LCS	Toluene-d8 Surr	2037-26-5	108.50	108.000	% Recov	08/21/06	80.000	126.000	
LCS	Toluene	108-88-3	52.930	106.000	% Recov	08/21/06	70.000	130.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
Matrix: SOLID  
Test: VOA Ground Water Protection

SAF Number: R06-013  
Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Trichloroethene	79-01-6	49.350	98.700	% Recov	08/21/06	70.000	130.000	

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
<b>Radiochemistry</b>													
W060002500	B1KB52	14596-10-2	Am-241 by AEA	SOLID	LA-508-471	U	-0.0130	pCi/g	1.00	0.047	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Am-241 by AEA Total Cntg Error	SOLID	LA-508-471		180	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	14596-10-2	Am-241 by GEA	SOLID	LA-508-481	U	0.103	pCi/g	1.00	0.17	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Am-241 Rel Count Error (GEA)	SOLID	LA-508-481		106	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	14234-35-6	Sb-125 by GEA	SOLID	LA-508-481	U	0.0181	pCi/g	1.00	0.067	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Sb-125 Rel. Count Error (GEA)	SOLID	LA-508-481		214	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13981-41-4	Ba-133 by GEA	SOLID	LA-508-481	U	5.11e-03	pCi/g	1.00	0.030	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ba-133 Rel. Count Error (GEA)	SOLID	LA-508-481		388	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	14762-78-8	Ce-144 by GEA	SOLID	LA-508-481	U	-0.0281	pCi/g	1.00	0.17	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ce-144 Rel. Count Error (GEA)	SOLID	LA-508-481		369	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	CE/PR-144	CePr-144 by GEA	SOLID	LA-508-481	U	-0.0562	pCi/g	1.00	0.35	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	CePr-144 Rel. Count Error	SOLID	LA-508-481		369	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	10198-40-0	Co-60 by GEA	SOLID	LA-508-481	U	2.74e-04	pCi/g	1.00	0.025	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Co-60 Rel. Count Error (GEA)	SOLID	LA-508-481		1.00e+03	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13967-70-9	Cs-134 by GEA	SOLID	LA-508-481	U	8.94e-03	pCi/g	1.00	0.027	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Cs-134 Rel. Count Error (GEA)	SOLID	LA-508-481		171	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	10045-97-3	Cs-137 by GEA	SOLID	LA-508-481	U	9.55e-03	pCi/g	1.00	0.027	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Cs-137 Rel. Count Error (GEA)	SOLID	LA-508-481		165	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	14683-23-9	Eu-152 by GEA	SOLID	LA-508-481	U	0.0178	pCi/g	1.00	0.072	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Eu-152 Rel. Count Error (GEA)	SOLID	LA-508-481		303	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	15585-10-1	Eu-154 by GEA	SOLID	LA-508-481	U	1.63e-03	pCi/g	1.00	0.069	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Eu-154 Rel. Count Error (GEA)	SOLID	LA-508-481		1.00e+03	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	14391-16-3	Eu-155 by GEA	SOLID	LA-508-481	U	0.0384	pCi/g	1.00	0.095	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Eu-155 Rel. Count Error (GEA)	SOLID	LA-508-481		144	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13966-00-2	K-40 by GEA	SOLID	LA-508-481		1.53	pCi/g	1.00	0.23	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	K-40 Rel.% Count Error (GEA)	SOLID	LA-508-481		28.6	%	1.00	0.0	08/19/06	08/16/06	08/17/06

MDL = Minimum Detection Limit

RQ = Result Qualifier

DF = Dilution Factor

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

Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

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U - Analyzed for but not detected above limiting criteria.

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W060002500	B1KB52	14681-63-1	Nb-94 by GEA	SOLID	LA-508-481	U	-1.05e-03	pCi/g	1.00	0.023	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Nb-94 Rel. Count Error (GEA)	SOLID	LA-508-481		1.00e+03	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13982-63-3	Ra-226 by GEA	SOLID	LA-508-481		0.360	pCi/g	1.00	0.051	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ra-226 Rel. Count Error (GEA)	SOLID	LA-508-481		27.5	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	15262-20-1	Ra-228 by GEA	SOLID	LA-508-481		0.470	pCi/g	1.00	0.076	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ra-228 Rel. Count Error (GEA)	SOLID	LA-508-481		27.4	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13967-48-1	Ru-106 by GEA	SOLID	LA-508-481	U	-0.0670	pCi/g	1.00	0.21	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ru-106 Rel. Count Error (GEA)	SOLID	LA-508-481		192	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	15832-50-5	Sn-126 by GEA	SOLID	LA-508-481	U	-9.12e-03	pCi/g	1.00	0.078	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Sn-126 Rel. Count Error (GEA)	SOLID	LA-508-481		550	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	15117-96-1	U-235 by GEA	SOLID	LA-508-481	U	0.0494	pCi/g	1.00	0.19	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	U-235 Rel. Count Error (GEA)	SOLID	LA-508-481		80.4	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13982-39-3	Zn-65 by GEA	SOLID	LA-508-481	U	-5.08e-03	pCi/g	1.00	0.051	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Zn-65 Rel. Count Error (GEA)	SOLID	LA-508-481		690	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	14331-83-0	Ac-228 by GEA	SOLID	LA-508-481		0.470	pCi/g	1.00	0.076	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ac-228 Rel. Count Error (GEA)	SOLID	LA-508-481		27.4	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13968-53-1	Ru-103 by GEA	SOLID	LA-508-481	U	-6.25e-04	pCi/g	1.00	0.023	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Ru-103 Rel. Count Error (GEA)	SOLID	LA-508-481		1.00e+03	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	13966-06-8	Sn-113 by GEA	SOLID	LA-508-481	U	0.0124	pCi/g	1.00	0.031	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Sn-113 Rel. Count Error (GEA)	SOLID	LA-508-481		144	%	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	12587-46-1	Gross Alpha	SOLID	LA-508-415		0.140	pCi/g	1.00	0.027	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Gross Alpha Method Error	SOLID	LA-508-415		30.0	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	12587-47-2	Gross Beta	SOLID	LA-508-415		0.100	pCi/g	1.00	0.056	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Gross Beta Method Error	SOLID	LA-508-415		40.0	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	13994-20-2	Np-237 by AEA	SOLID	LA-508-471	U	0.0210	pCi/g	1.00	0.023	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Np-237 by AEA Total Ctng Error	SOLID	LA-508-471		80.0	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	13981-16-3	Pu-238 by AEA	SOLID	LA-508-471	U	1.90e-03	pCi/g	1.00	0.020	08/18/06	08/16/06	08/17/06

MDL=Minimum Detection Limit

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Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W060002500	B1KB52	E,T,C	Pu-238 by AEA Total Cntg Error	SOLID	LA-508-471		100	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	PU-239/240	Pu-239/240 by AEA	SOLID	LA-508-471		0.0450	pCi/g	1.00	5.1e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Pu-239/240 AEA Total Cntg Err	SOLID	LA-508-471		46.0	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	10098-97-2	Sr-89/90 by Beta Counting	SOLID	LA-508-415		0.180	pCi/g	1.00	0.097	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Sr-89/90 Rel. Count Error	SOLID	LA-508-415		61.0	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	14133-76-7	Tc-99 by Liquid Scin.	SOLID	LA-508-421	U	-0.290	pCi/g	1.00	0.29	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	Tc-99 Counting Error	SOLID	LA-508-421		100	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	13966-29-5	U-234 by AEA	SOLID	LA-508-471		0.0320	pCi/g	1.00	0.015	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	U-233/234 AEA Total Cntg Error	SOLID	LA-508-471		59.0	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	15117-96-1	U-235 by AEA	SOLID	LA-508-471	U	2.20e-03	pCi/g	1.00	5.9e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	U-235 by AEA Total Cntg Error	SOLID	LA-508-471		200	%	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	24678-82-8	U-238 by AEA	SOLID	LA-508-471		0.0240	pCi/g	1.00	5.4e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	E,T,C	U-238 by AEA Total Cntg Error	SOLID	LA-508-471		63.0	%	1.00	0.10	08/18/06	08/16/06	08/17/06

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Report W005/ver. 1.2

PROJECT HANFORD MANAGEMENT COMPANY

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Gross Alpha/Gross Beta (AB32)

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002500									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Gross Alpha	12587-46-1	1.44E-01	0.692	RPD	08/18/06	0.000	20.000	
DUP	Gross Beta	12587-47-2	1.2E-01	18.182	RPD	08/18/06	0.000	20.000	
BATCH QC									
BLANK	Gross Alpha	12587-46-1	7.0E-03	0.007	pCi/g	08/18/06	-10.000	10.000	
BLANK	Gross Beta	12587-47-2	1.1E-02	0.011	pCi/g	08/18/06	-10.000	10.000	
LCS	Gross Alpha	12587-46-1	7.02	105.405	%rec	08/18/06	75.000	125.000	
LCS	Gross Beta	12587-47-2	24.1	117.561	%rec	08/18/06	75.000	125.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Gamma Energy Analysis-grd H2O

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/17/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002500									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Ac-228 by GEA	14331-83-0	3.06e-01	42.268	RPD	08/21/06	0.000	20.000	
DUP	Am-241 by GEA	14596-10-2	U-2.6e-1	n/a	RPD	08/21/06	0.000	20.000	
DUP	Ba-133 by GEA	13981-41-4	U-9.7e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Ce-144 by GEA	14762-78-8	U-3.0e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	CePr-144 by GEA	CE/PR-144	U-6.0e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Co-60 by GEA	10198-40-0	U3.58e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cs-134 by GEA	13967-70-9	U8.17e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Cs-137 by GEA	10045-97-3	U-8.5e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Eu-152 by GEA	14683-23-9	U4.64e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Eu-154 by GEA	15585-10-1	U-5.2e-4	n/a	RPD	08/21/06	0.000	20.000	
DUP	Eu-155 by GEA	14391-16-3	U-4.5e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	K-40 by GEA	13966-00-2	1.47e +00	4.000	RPD	08/21/06	0.000	20.000	
DUP	Nb-94 by GEA	14681-63-1	U7.80e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Ra-226 by GEA	13982-63-3	3.40e-01	5.714	RPD	08/21/06	0.000	20.000	
DUP	Ra-228 by GEA	15262-20-1	3.06e-01	42.268	RPD	08/21/06	0.000	20.000	
DUP	Ru-103 by GEA	13968-53-1	U-4.2e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Ru-106 by GEA	13967-48-1	U4.06e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Sb-125 by GEA	14234-35-6	U5.08e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Sn-113 by GEA	13966-06-8	U-2.2e-3	n/a	RPD	08/21/06	0.000	20.000	
DUP	Sn-126 by GEA	15832-50-5	U7.45e-02	n/a	RPD	08/21/06	0.000	20.000	
DUP	U-235 by GEA	15117-96-1	U-9.7e-2	n/a	RPD	08/21/06	0.000	20.000	
DUP	Zn-65 by GEA	13982-39-3	U-8.8e-3	n/a	RPD	08/21/06	0.000	20.000	
BATCH QC									
BLANK	Ac-228 by GEA	14331-83-0	5.95e-02	0.059	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Am-241 by GEA	14596-10-2	U-2.95e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Gamma Energy Analysis-grd H2O

SAF Number: R06-013  
 Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Ba-133 by GEA	13981-41-4	U1.00e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ce-144 by GEA	14762-78-8	U-1.00e-4	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	CePr-144 by GEA	CE/PR-144	U-2.00e-4	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Co-60 by GEA	10198-40-0	U9.52e-04	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cs-134 by GEA	13967-70-9	U1.26e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Cs-137 by GEA	10045-97-3	U-1.01e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Eu-152 by GEA	14683-23-9	U-7.56e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Eu-154 by GEA	15585-10-1	U2.31e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Eu-155 by GEA	14391-16-3	U9.32e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	K-40 by GEA	13966-00-2	U2.34e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Nb-94 by GEA	14681-63-1	U1.03e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ra-226 by GEA	13982-63-3	8.26e-02	0.083	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ra-228 by GEA	15262-20-1	5.95e-02	0.059	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ru-103 by GEA	13968-53-1	U-8.70e-4	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Ru-106 by GEA	13967-48-1	U6.26e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Sb-125 by GEA	14234-35-6	U3.12e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Sn-113 by GEA	13966-06-8	U-2.05e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Sn-126 by GEA	15832-50-5	U-1.05e-2	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	U-235 by GEA	15117-96-1	U-1.99e-3	n/a	pCi/g	08/21/06	-10.000	1000.000	
BLANK	Zn-65 by GEA	13982-39-3	U4.22e-03	n/a	pCi/g	08/21/06	-10.000	1000.000	
LCS	Am-241 by GEA	14596-10-2	4.09e +03	104.337	% Recov	08/18/06	80.000	120.000	
LCS	Co-60 by GEA	10198-40-0	4.41e +03	105.251	% Recov	08/18/06	80.000	120.000	
LCS	Cs-137 by GEA	10045-97-3	4.03e +03	112.570	% Recov	08/18/06	80.000	120.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
Matrix: SOLID  
Test: Americium by AEA

SAF Number: R06-013  
Sample Date: 08/16/06  
Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493 BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Am-241 by AEA	14596-10-2	U1.3e-02	n/a	RPD	08/18/06	0.000	20.000	
BATCH QC									
BLANK	Am-241 by AEA	14596-10-2	U4.1e-02	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Am-241 by AEA	14596-10-2	1.2e+01	99.792	% Recov	08/18/06	75.000	125.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Neptunium by AEA

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Np-237 by AEA	13994-20-2	1.33	n/a	RPD	08/18/06	0.000	25.000	
BATCH QC									
BLANK	Np-237 by AEA	13994-20-2	U5.3e-03	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Np-237 by AEA	13994-20-2	8.8e + 01	88.000	% Recov	08/18/06	75.000	125.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Plutonium Isotopics by AEA

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
---------	---------	-------	----------	----------	-------	---------------	-------------	-------------	----

Lab ID: W060002493  
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Pu-238 by AEA	13981-16-3	U3.6e-03	n/a	RPD	08/18/06	0.000	20.000	
DUP	Pu-239/240 by AEA	PU-239/240	1.4e-02	44.444	RPD	08/18/06	0.000	20.000	

BATCH QC

BLANK	Pu-238 by AEA	13981-16-3	U-2.0e-03	n/a	pCi/g	08/18/06	-10.000	1000.000	
BLANK	Pu-239/240 by AEA	PU-239/240	1.6e-02	0.016	pCi/g	08/18/06	-10.000	1000.000	
LCS	Pu-239/240 by AEA	PU-239/240	1.4e+01	99.432	% Recov	08/18/06	75.000	125.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Strontium 89/90

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Sr-89/90 by Beta Counting	10098-97-2	3.3	29.677	RPD	08/18/06	0.000	20.000	
BATCH QC									
BLANK	Sr-89/90 by Beta Counting	10098-97-2	-9.1E-02	-0.091	pCi/g	08/18/06	-10.000	300.000	
LCS	Sr-89/90 by Beta Counting	10098-97-2	93.4	108.731	% Recov	08/18/06	80.000	120.000	

## WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: TC99 by Liquid Scin.

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Tc-99 by Liquid Scin.	14133-76-7	U-9.8e-02	n/a	RPD	08/18/06	0.000	20.000	
MS	Tc-99 by Liquid Scin.	14133-76-7	534.8	47.490	% Recov	08/18/06	75.000	125.000	
BATCH QC									
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-7.5e-01	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	Tc-99 by Liquid Scin.	14133-76-7	11864.4	105.356	% Recov	08/18/06	75.000	125.000	

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060935  
 Matrix: SOLID  
 Test: Uranium Isotopics by AEA

SAF Number: R06-013  
 Sample Date: 08/16/06  
 Receive Date: 08/16/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060002493									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	U-234 by AEA	13966-29-5	1.7	25.641	RPD	08/18/06	0.000	20.000	•
DUP	U-235 by AEA	15117-96-1	1.6e-01	31.579	RPD	08/18/06	0.000	20.000	•
DUP	U-238 by AEA	24678-82-8	1.5	28.571	RPD	08/18/06	0.000	20.000	•
BATCH QC									
BLANK	U-234 by AEA	13966-29-5	2.3e-02	0.023	pCi/g	08/18/06	-10.000	1000.000	
BLANK	U-235 by AEA	15117-96-1	U1.3e-02	n/a	pCi/g	08/18/06	-10.000	1000.000	
BLANK	U-238 by AEA	24678-82-8	U1.6e-02	n/a	pCi/g	08/18/06	-10.000	1000.000	
LCS	U-238 by AEA	24678-82-8	2.0e + 01	105.513	% Recov	08/18/06	75.000	125.000	

# WSCF ANALYTICAL COMMENT REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>Pu239 batch duplicate is flagged for poor RPD. The sample and dup activity is low level so the RPD doesn't apply.</p> <p>Tc-99 matrix spike recovery is low. Since all the other QC checks came out fine, this batch has been accepted. Imh</p> <p>GEA/Ra-228 &amp; Ac-228 were flagged for poor RPD. This is because the sample was not homogeneous. All the other QC checks came out fine, so this batch has been accepted. Imh</p> <p>ICP-AES: High aluminum preparation blank; "C" flag. High calcium and lithium and low silicon LCS recoveries; "E" flag for calcium; other lithium QC is acceptable. Aluminum, iron magnesium, calcium, and titanium sample results beyond effective spike range (spike results marked "NA"). High silicon spike recoveries; "E" flag.</p> <p>U ISO &amp; Sr89/90 batch dup is flagged for poor RPD because the sample is not homogeneous. Imh</p> <p>ICP-MS: Manganese, Zinc, and Thorium, and Uranium prep blanks have negative values that bias some sample results by less than 2.2 times the MDL. Prep blank results are all</p>

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

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF ANALYTICAL COMMENT REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	Lab Area	Test	Comment
				within acceptance limits. C-flag where applicable.
				ORGANICS: Sample concentrations are corrected for percent moisture and reported as dry weight basis. gar
				SVOA/TPHD: All results are moisture corrected and reported on a dry weight basis. J-flagged compound results are estimated values because their concentrations are below the level of accurate quantitation. cgc
				VOA: MS/MSD surrogate 4-Bromofluorobenzene marked as out high due to recoveries at 117/117%, respectively, while the Upper Control Limit for MS/MSD of BFB is 116% in Labcore But the sample UCL is 125% for BFB. Hence all of the sample surrogate recoveries are within limits, even though the MS/MSD is out although similar in recovery. 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: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				18	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				21	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				27	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				33	%
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.12	pCi/g
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.36	pCi/g
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.39	pCi/g
W060002500	B1KB52	KLAGES	Gamma Energy Analysis-grd H2O				0.41	pCi/g

RQ=Result Qualifier

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PROJECT HANFORD MANAGEMENT COMPANY

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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-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE EPA SW-846 6010B HEIS 6010_METALS_ICP	INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY EPA-600/R-94-111 200.8 HEIS 6010_METALS_ICP	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS None	No reference to any industry method.
LA-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER None	No reference to any industry method.
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP HEIS PUIISO_IE_PRECIP_AEA	Plutonium by Alpha Energy Analysis
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE HEIS GAMMA_GS	Gamma Emmision Spectrometry
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C EPA-600/4-79-020 160.3 HEIS 160.1_TDS Standard Methods 2540B	RESIDUE, TOTAL Residue, Filterable Total Solids Dried at 103-105 C

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at [\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf](file:///ap006/aspdocs/WSCF/Sample%20Mgmt/ProcedureMethodCrossReference.pdf). This document includes on-line links to full-text versions of the procedures and methods, where available.

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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-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846 EPA SW-846 8000B DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS EPA SW-846 8260B VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) HEIS 8260_VOA_GCMS Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C EPA SW-846 8000B DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS EPA SW-846 8270C SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) HEIS 8270_SVOA_GCMS Semivolatile Organic Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY EPA-600/R-94-111 300.0 DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY HEIS 300.0_ANIONS_IC Determination of Inorganic Anions by Ion Chromatography
NWTPH	NWTPH-Diesel and/or Gasoline WDOE NWTPH-Dx/Gx Total Petroleum Hydrocarbons - Diesel/Gasoline

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.

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W13q Worklist/Batch/QC Report for Group# 20060935

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W060002500	Percent Solids
29428	1	29796	33713	BLANK		Plutonium Isotopics by AEA
29428	2	29796	33713	LCS		Plutonium Isotopics by AEA
29428	3	29796	33713	DUP	W060002493	Plutonium Isotopics by AEA
29428	7	29796	33713	SAMPLE	W060002500	Plutonium Isotopics by AEA
29429	1	29795	33714	BLANK		Americium by AEA
29429	2	29795	33714	LCS		Americium by AEA
29429	3	29795	33714	DUP	W060002493	Americium by AEA
29429	7	29795	33714	SAMPLE	W060002500	Americium by AEA
29444	2	29812	33723	BLANK		Anions by Ion Chromatography
29444	11	29812	33723	BLANK		Anions by Ion Chromatography
29444	3	29812	33723	LCS		Anions by Ion Chromatography
29444	5	29812	33723	DUP	W060002493	Anions by Ion Chromatography
29444	6	29812	33723	MS	W060002493	Anions by Ion Chromatography
29444	7	29812	33723	MSD	W060002493	Anions by Ion Chromatography
29444	10	29812	33723	SAMPLE	W060002500	Anions by Ion Chromatography
29453	1	29818	33730	BLANK		ICP-2008 MS All possible metal
29453	2	29818	33730	LCS		ICP-2008 MS All possible metal
29453	4	29818	33730	MS	W060002493	ICP-2008 MS All possible metal
29453	5	29818	33730	MSD	W060002493	ICP-2008 MS All possible metal
29453	5	29818	33730	SPK-RPD	W060002493	ICP-2008 MS All possible metal
29453	8	29818	33730	SAMPLE	W060002500	ICP-2008 MS All possible metal
29411	1	29778	33733	BLANK		Gamma Energy Analysis-grd H20
29411	2	29778	33733	LCS		Gamma Energy Analysis-grd H20
29411	3	29778	33733	DUP	W060002500	Gamma Energy Analysis-grd H20
29411	4	29778	33733	SAMPLE	W060002500	Gamma Energy Analysis-grd H20
29418	1	29785	33738	BLANK		TC99 by Liquid Scin.
29418	4	29785	33738	LCS		TC99 by Liquid Scin.
29418	3	29785	33738	DUP	W060002493	TC99 by Liquid Scin.
29418	2	29785	33738	MS	W060002493	TC99 by Liquid Scin.
29418	8	29785	33738	SAMPLE	W060002500	TC99 by Liquid Scin.
29427	1	29794	33739	BLANK		Uranium Isotopics by AEA
29427	2	29794	33739	LCS		Uranium Isotopics by AEA
29427	3	29794	33739	DUP	W060002493	Uranium Isotopics by AEA
29427	7	29794	33739	SAMPLE	W060002500	Uranium Isotopics by AEA
29434	1	29802	33740	BLANK		Gross Alpha/Gross Beta (AB32)
29434	2	29802	33740	LCS		Gross Alpha/Gross Beta (AB32)
29434	3	29802	33740	DUP	W060002500	Gross Alpha/Gross Beta (AB32)
29434	4	29802	33740	SAMPLE	W060002500	Gross Alpha/Gross Beta (AB32)
			33741	BLANK		VOA Ground Water Protection
			33741	LCS		VOA Ground Water Protection
			33741	MS	W060002498	VOA Ground Water Protection
			33741	MSD	W060002498	VOA Ground Water Protection
			33741	SPK-RPD	W060002498	VOA Ground Water Protection
			33741	SAMPLE	W060002500	VOA Ground Water Protection

			33741	SURR	W060002500	VOA Ground Water Protection
29439	1	29806	33742	BLANK		ICP Metals Analysis, Grd H2O P
29439	2	29806	33742	LCS		ICP Metals Analysis, Grd H2O P
29439	4	29806	33742	MS	W060002493	ICP Metals Analysis, Grd H2O P
29439	5	29806	33742	MSD	W060002493	ICP Metals Analysis, Grd H2O P
29439	5	29806	33742	SPK-RPD	W060002493	ICP Metals Analysis, Grd H2O P
29439	8	29806	33742	SAMPLE	W060002500	ICP Metals Analysis, Grd H2O P
29455	1	29820	33744	BLANK		Strontium 89/90
29455	2	29820	33744	LCS		Strontium 89/90
29455	3	29820	33744	DUP	W060002493	Strontium 89/90
29455	7	29820	33744	SAMPLE	W060002500	Strontium 89/90
			33747	BLANK		SW-846 8270C Semi-Vols
			33747	LCS		SW-846 8270C Semi-Vols
			33747	MS	W060002500	SW-846 8270C Semi-Vols
			33747	MSD	W060002500	SW-846 8270C Semi-Vols
			33747	SAMPLE	W060002500	SW-846 8270C Semi-Vols
			33747	SPK-RPD	W060002500	SW-846 8270C Semi-Vols
			33747	SURR	W060002500	SW-846 8270C Semi-Vols
			33751	BLANK		WTPH-D TPH Diesel Range (Wa)
			33751	LCS		WTPH-D TPH Diesel Range (Wa)
			33751	MS	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	MSD	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	SAMPLE	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	SPK-RPD	W060002500	WTPH-D TPH Diesel Range (Wa)
			33751	SURR	W060002500	WTPH-D TPH Diesel Range (Wa)
29423	1	29790	33753	BLANK		Neptunium by AEA
29423	2	29790	33753	LCS		Neptunium by AEA
29423	3	29790	33753	DUP	W060002493	Neptunium by AEA
29423	7	29790	33753	SAMPLE	W060002500	Neptunium by AEA

M8141-SLF-06-231

ATTACHMENT 3

**SAMPLE RECEIPT INFORMATION**

Consisting of 5 pages  
Including cover page

**Waste Sampling and Characterization Facility**  
P.O. BOX 1970 S3-30, Richland, WA 99352  
PHONE: (509) 373-7004/FAX: (509) 373-7134

FILE

ACKNOWLEDGMENT OF SAMPLES RECEIVED

08/24/06

PROJECT HANFORD MANAGEMENT COMPANY

RICHLAND, WA 99354  
Attn: D.L. Klages HB-40

Customer Code: PHMC-MISC  
PO#: 121600/ES20  
Group#: 20060935



The following samples were received from you on 08/17/06. 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
W060002500	B1KB52	@2008 @AEA-33 @TC99-30	KLAGES Solid, or handle as if solid @AB-32 @AEA-30 @AEA-31 @AEA-32 @GEA-GPP @GPP6010 @IC-30 @SR89 90 @SVOG @TPHD-WA @VOA-GPP PERSOLID	08/16/06

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@AB-32	Gross Alpha/Gross Beta (AB32)
@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
@SR89_90	Strontium 89/90
@SVOGPP	SW-846 8270C Semi-Vols
@TC99-30	TC99 by Liquid Scin.
@TPHD-WA	WTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
PERSOLID	Percent Solids

Fluor Hanford Inc. 08/24/06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

R06-013-017

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<b>COLLECTOR</b> HOGAN, JG	<b>COMPANY CONTACT</b> TRECHTER, JE	<b>TELEPHONE NO.</b> 373-7046	<b>PROJECT COORDINATOR</b> TRECHTER, JE	<b>PRICE CODE</b> BC	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> 200-W-42	<b>PROJECT DESIGNATION</b> 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12		<b>SAF NO.</b> R06-013	<b>AIR QUALITY</b>	7 DAYS 45 Days / 1st 216-08 70 days 15 Days
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> DTS-SAWS-H112	<b>COA</b> 121600ES20	<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		

MATRIX\*  
OL = OTHER LIQUID  
OS = OTHER SOLID  
S = SOIL  
W = WATER

**SPECIAL HANDLING AND/OR STORAGE**

**POSSIBLE SAMPLE HAZARDS/ REMARKS**

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KB52	0060002500	S	8-16-06	1100	4X60mL aG	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Cool 4C
B1KB52	0060002499	S			4X60mL G	TPH-Diesel Range - WTPH-D (TPHKEROSEN)	Cool 4C
B1KB52		S			1X40mL G	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Cool 4C
B1KB52		S			1X500mL Square Bottle - Poly	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	None
B1KB52		S			4X60mL G/P	Isotopic Plutonium (Pu-238, Pu-239/240) Isotopic Uranium (U-233/234, U-235, U-238) Americium-241 (Am-241)	None
B1KB52		S			4X60mL G/P	Strontium-89,90 -- Sr-90 (Sr-90)	None
B1KB52		S			4X60mL G/P	Technetium-99 (Tc-99)	None

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DURATEX J. G. HOGAN	DATE/TIME 8/17/06 0955	RECEIVED BY/STORED IN TA FARAZI ER	DATE/TIME 8/17/06 0955	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	

ICED Initial Date  
8-17-06

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

<b>COLLECTOR</b> HOGAN, JG	<b>COMPANY CONTACT</b> TRECHTER, JE	<b>TELEPHONE NO.</b> 373-7046	<b>PROJECT COORDINATOR</b> TRECHTER, JE	<b>PRICE CODE</b> 8C	<b>DATA TURNAROUND</b> 1x 8-16-06 15 Days 7 Days
<b>SAMPLING LOCATION</b> 200-W-42	<b>PROJECT DESIGNATION</b> 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12		<b>SAF NO.</b> R06-013	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> DTS-SAWS-H112	<b>COA</b> 121600ES20	<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**

Reporting format the same as GPP, including QC. All samples, except VOAs, have been taken using the multiple-increment sampling program. This requires the entire sample provided in each bottle to be used in analysis. VOAs will be analyzed as usual.

(1)Semi-VOA -- 8270A (Add-On) {124TRMEBEN, 2-NAPHTHAM, 2BUTOXETOL, BENZALC, CYCHEXN, DECANE, MCRESOL, METHYLPHEN, PYRIDINE, TRIBUPH} Semi-VOA - 8270A (TCL) {12DICLBENZ, 13DICLBENZ, 14DICLBENZ, 245TRCLPHN, 246TRCLPHN, 24DICLPHEN, 24DIMET, 24DINITOLU, 26DINITOLU, 2CLMEETHER, 2MENAPH, 2METHPH, 2NITRAN, 2NITRPH, 3NITRAN, 46DINIT, 4CHLOET, 9H-CARB, ACENAPH, ACENATL, ANTHRACENE, BENZAAN, BENZBFL, BENZOPE, BENZOPY, BIS2CHE, BIS2CHM, BIS2EPH, BNZKFLU, BROPHEN, BUTBENP, CHLANIL, CHLCRES, CHLNAPH, CHLPHEN, CHRYSENE, DIBAHAN, DIBENFR, DIBPPTH, DICHBEN, DIEPPTH, DIMPPTH, DINPHEN, DIOPHTH, DIPRNT, FLUORAN, FLUORENE, HEXCBEN, HEXCBUT, HEXCCYC, HEXCETH, INDENOP, ISOPHORONE, NAPHTHA, NITBENZ, NITPHENOL, NITRANILIN, NNDIPHA, PENTCHP, PHENANT, PHENOL, PYRENE, TRICHLB}

(2)VOA - 8260A (Add-On) {1BUTANOL, 1PROPANOL, 2-PENTANON, ACETILE, CISDCE, ETHANOL, HEXANE, N-BUTYL, PROPCYHEXA, TETHYDF, TRANDCE, TRCMFLM} VOA - 5035/8260 (TCL) {1,1,1-T, 1,1,2-T, 1,1-DCL, 1,2-DCL, 1122-TCE, 12DICHL, 2HEXANONE, ACETONE, BDCM, BENZENE, BROMOFORM, CARBIDE, CARBTET, CDBM, CHLOROBENZ, CHLOROFORM, CIS13DI, CLETHAN, DICETHY, DICPANE, ETHBENZENE, HEXONE, METHBRO, METHCHL, METHONE, METHYCH, PERCENE, STYRENE, TOLUENE, TRANS13, TRICELN, VINYLIDE, XYLENES}

(3)Gamma Spec - Add-on (Ac-228, Ba-133, Ce-144, Ce/Pr-144, Cm-244, Cs-134, K-40, Nb-94, Ra-228, Ru-103, Sb-125, Sn-113, Sn-125, Sn-126, Th-228, Th-232, U-235, U-238, Zn-65) Gamma Spectroscopy (Am-241, Co-58, Co-60, Cs-137, Eu-152, Eu-154, Eu-155, Fe-59, Ra-226, Ru-106)

SRA of SR

<b>COLLECTOR</b> HOGAN, JG	<b>COMPANY CONTACT</b> TRECHTER, JE	<b>TELEPHONE NO.</b> 373-7046	<b>PROJECT COORDINATOR</b> TRECHTER, JE	<b>PRICE CODE</b> 8C	<b>DATA TURNAROUND</b> 7 Days 15 Days + 1M 7 Days 15 Days 8-16-06
<b>SAMPLING LOCATION</b> 200-W-42	<b>PROJECT DESIGNATION</b> 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12		<b>SAF NO.</b> R06-013	<b>AIR QUALITY</b>	
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> DTS-SAWS-H112	<b>COA</b> 121600ES20	<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		

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KB52		S	8-16-06	1100	4X60mL G/P	Neptunium-237 (Np-237)	None
B1KB52		S			4X60mL G/P	IC Anions - 300.0 (BROMIDE, CHLORIDE, FLUORIDE, NO2-N, NO3-N, PO4-P, SULFATE)	None
B1KB52		S			4X60mL G/P	ICP Metals - 6010A (Add-on) (B, Bi, La, Li, <u>Sn</u> , Ti) ICP Metals - 6010A (TAL) (Al, Ca, Fe, K, Mg, Na)	Cool 4C
B1KB52		S			4X60mL G/P	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	None
B1KB52		S	8-16-06	1100	4x60mL G	GROSS ALPHA/BETA	NONE

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DURATEK J. G. HOGAN	RECEIVED BY/STORED IN J. G. HOGAN	Reporting format the same as GPP, including QC. All samples, except VOAs, have been taken using the multiple-increment sampling program. This requires the entire sample provided in each bottle to be used in analysis. VOAs will be analyzed as usual. (4)ICP/MS - 200.8 (Add-on) {As, Be, Mo, Pb, Se, Sn, Sr, Ti, U} ICP/MS - 200.8 (TAL) {Ag, Ba, Cd, Co, Cr, Cu, Mn, Ni, Sb, V, Zn} ICP/MS - 200.8 (Hg) {Hg} Isotopic Thorium {Th-232}
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	

ICED  
 Initial  
 Date  
 8-17-06

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

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

# FLUOR

## Memorandum

M8141-SLF-06-231

To: D. L. Klages H8-40 Date: August 24, 2006

From: S. L. Fitzgerald, Manager *ASL for SLF 8-24-06*  
WSCF Analytical Chemistry

cc: S. J. Trent (FH) A0-21  
T. F. Dale S3-30  
H. K. Meznarich S3-30  
P. D. Mix S3-30  
J. E. Trechter S3-30  
File/LB  
(Above w/attachments)

Subject: FINAL RESULTS FOR 200-UW-1 OPERABLE UNIT TRENCH – SAMPLE DELIVERY GROUP WSCF20060935 – SAF NUMBER R06-013

- Reference: (1) 200-UW-1 Operable Unit Support Activities Sampling – Letter of Instruction, D&D-27876, Rev. 0, dated December 14, 2005
- (2) HNF-SD-CD-QAPP-017, Rev. 7, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20060935, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

*These pages replaced per laboratory instruction. pcl 9-06-06*

**REVISED**  
*KLages*

*9/6/06*

*entire package resubmitted*



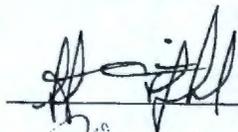
**WSCF**  
**ANALYTICAL RESULTS REPORT**

for

**PROJECT HANFORD MANAGEMENT COMPANY**  
**RICHLAND, WA 99354**

**Attention: D.L. Klages H8-40**

Analytical:

 S. Fitzgerald

Client Services:

 P. D. Miller 5/28/2006

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

CONTROLLED USE INFORMATION: The recipient of this report has the responsibility to protect and safeguard the requested information from unauthorized disclosure or misuse. This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. WSCF will not identify analytical reports as Official Use Only (OUO) or Sensitive. This classification must be determined by the owner of the report.

Report#: 20060935  
Report Date: 28-aug-2006  
Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

Page 1

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	WSCF		RQ	Result	Unit	DF	MDL	Analyze Sample Receive		
				Matrix	Method								
<b>Inorganic</b>													
W060002500	B1KB52	KLAGES	TS	Total solids	OTHERLIQ	LA-519-412	>99.5	%	1.00	0.0	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	16984-48-8	Fluoride	OTHERLIQ	LA-533-410 U	< 2.00	mg/kg	50.00	2.0	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	16887-00-6	Chloride	OTHERLIQ	LA-533-410 U	< 1.70	mg/kg	50.00	1.7	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	NO2-N	Nitrogen in Nitrite	OTHERLIQ	LA-533-410 U	< 0.490	mg/kg	50.00	0.49	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	24959-67-9	Bromide	OTHERLIQ	LA-533-410 U	< 4.65	mg/kg	50.00	4.6	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	NO3-N	Nitrogen in Nitrate	OTHERLIQ	LA-533-410 U	< 0.900	mg/kg	50.00	0.90	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	PO4-P	Phosphate (P) by IC	OTHERLIQ	LA-533-410 U	< 3.90	mg/kg	50.00	3.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14808-79-8	Sulfate	OTHERLIQ	LA-533-410 U	< 6.50	mg/kg	50.00	6.5	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7429-90-5	Aluminum	OTHERLIQ	LA-505-411 C	51.1	mg/kg	94.08	3.5	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7439-89-6	Iron	OTHERLIQ	LA-505-411	525	mg/kg	94.08	3.1	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7439-95-4	Magnesium	OTHERLIQ	LA-505-411	21.5	mg/kg	94.08	1.4	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-09-7	Potassium	OTHERLIQ	LA-505-411 U	< 20.7	mg/kg	94.08	21	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-23-5	Sodium	OTHERLIQ	LA-505-411 U	< 10.8	mg/kg	94.08	11	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-70-2	Calcium	OTHERLIQ	LA-505-411 E	73.1	mg/kg	94.08	2.9	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7439-93-2	Lithium	OTHERLIQ	LA-505-411 U	< 0.565	mg/kg	94.08	0.56	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-32-6	Titanium	OTHERLIQ	LA-505-411	0.776	mg/kg	94.08	0.38	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-42-8	Boron	OTHERLIQ	LA-505-411 U	< 1.98	mg/kg	94.08	2.0	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-69-9	Bismuth	OTHERLIQ	LA-505-411 U	< 4.99	mg/kg	94.08	5.0	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-21-3	Silicon	OTHERLIQ	LA-505-411 E	26.2	mg/kg	94.08	7.1	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7439-96-5	Manganese	OTHERLIQ	LA-505-412 X	0.548	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-02-0	Nickel	OTHERLIQ	LA-505-412	0.0863	mg/kg	0.95	0.0572	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-22-4	Silver	OTHERLIQ	LA-505-412 U	< 0.0381	mg/kg	0.95	0.0381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-36-0	Antimony	OTHERLIQ	LA-505-412 U	< 0.286	mg/kg	0.95	0.286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-39-3	Barium	OTHERLIQ	LA-505-412	0.206	mg/kg	0.95	0.191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-41-7	Beryllium	OTHERLIQ	LA-505-412 U	< 0.0191	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	7440-43-9	Cadmium	OTHERLIQ	LA-505-412 U	< 0.0381	mg/kg	0.95	0.0381	08/22/06	08/16/06	08/17/06

MDL = Minimum Detection Limit

RQ = Result Qualifier

DF = Dilution Factor

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

E - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

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

Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

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# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	WSCF			Result	Unit	DF	MDL	Analyze	Sample	Receive
				Matrix	Method	RQ							
W060002500	B1KB52	KLAGES 7440-47-3	Chromium	OTHERLIQ	LA-505-412	U	< 0.668	mg/kg	0.95	0.668	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-48-4	Cobalt	OTHERLIQ	LA-505-412	U	< 0.0191	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-50-8	Copper	OTHERLIQ	LA-505-412		0.579	mg/kg	0.95	0.191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-82-2	Vanadium	OTHERLIQ	LA-505-412	U	< 0.477	mg/kg	0.95	0.477	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-86-6	Zinc	OTHERLIQ	LA-505-412	C	1.77	mg/kg	0.95	0.286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-92-1	Lead	OTHERLIQ	LA-505-412		0.130	mg/kg	0.95	0.0477	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-97-6	Mercury	OTHERLIQ	LA-505-412	U	< 0.0381	mg/kg	0.95	0.0381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7439-98-7	Molybdenum	OTHERLIQ	LA-505-412	U	< 0.0954	mg/kg	0.95	0.0954	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-29-1	Thorium	OTHERLIQ	LA-505-412	X	0.284	mg/kg	0.95	0.0477	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-61-1	Uranium	OTHERLIQ	LA-505-412	X	0.0282	mg/kg	0.95	0.0191	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-38-2	Arsenic	OTHERLIQ	LA-505-412	U	< 0.954	mg/kg	0.95	0.954	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7782-49-2	Selenium	OTHERLIQ	LA-505-412	U	< 0.381	mg/kg	0.95	0.381	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-28-0	Thallium	OTHERLIQ	LA-505-412	U	< 0.0300	mg/kg	0.95	0.0286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-24-6	Strontium	OTHERLIQ	LA-505-412		0.154	mg/kg	0.95	0.0286	08/22/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7440-31-5	Tin	OTHERLIQ	LA-505-412	U	< 0.0477	mg/kg	0.95	0.0477	08/22/06	08/16/06	08/17/06

**MDL=Minimum Detection Limit**

**RQ=Result Qualifier**

**DF=Dilution Factor**

C - The Analyte was found in the Associated Blank.

J - Analyte is an estimate, has potentially larger errors

X - Other flags and notes described in the comments/narrative.

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Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

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# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
Organic													
W060002500	B1KB52	KLAGES 100-02-7	4-Nitrophenol	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 106-46-7	1,4-Dichlorobenzene	OTHERLIQ	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-95-2	Phenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 120-82-1	1,2,4-Trichlorobenzene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 121-14-2	2,4-Dinitrotoluene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 129-00-0	Pyrene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 59-50-7	4-Chloro-3-methylphenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 621-64-7	N-Nitrosodi-n-dipropylamine	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 83-32-9	Acenaphthene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 87-86-5	Pentachlorophenol	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-57-8	2-Chlorophenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 100-01-6	4-Nitroaniline	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 101-55-3	4-Bromophenylphenyl ether	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 105-67-9	2,4-Dimethylphenol	OTHERLIQ	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 106-47-8	4-Chloroaniline	OTHERLIQ	LA-523-456	U	< 330	ug/kg	1.00	3.3e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-80-1	Bis(2-chloro-1-methylethyl)eth	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 111-44-4	Bis(2-chloroethyl) ether	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 111-91-1	Bis(2-Chloroethoxy)methane	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 117-81-7	Bis(2-ethylhexyl) phthalate	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 117-84-0	Di-n-octylphthalate	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 118-74-1	Hexachlorobenzene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 120-12-7	Anthracene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 120-83-2	2,4-Dichlorophenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 131-11-3	Dimethyl phthalate	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 132-64-9	Dibenzofuran	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 191-24-2	Benzo(ghi)perylene	OTHERLIQ	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06

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# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	WSCF			Result	Unit	DF	MDL	Analyze	Sample	Receive
				Matrix	Method	RQ							
W060002500	B1KB52	KLAGES 193-39-5	Indeno(1,2,3-cd)pyrene	OTHERLIQ	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 205-99-2	Benzo(b)fluoranthene	OTHERLIQ	LA-523-456	U	< 190	ug/kg	1.00	1.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 206-44-0	Fluoranthene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 207-08-9	Benzo(k)fluoranthene	OTHERLIQ	LA-523-456	U	< 190	ug/kg	1.00	1.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 208-96-8	Acenaphthylene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 218-01-9	Chrysene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 50-32-8	Benzo(a)pyrene	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 51-28-5	2,4-Dinitrophenol	OTHERLIQ	LA-523-456	U	< 660	ug/kg	1.00	6.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 53-70-3	Dibenz[a,h]anthracene	OTHERLIQ	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 534-52-1	4,6-Dinitro-2-methylphenol	OTHERLIQ	LA-523-456	U	< 240	ug/kg	1.00	2.4e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 541-73-1	1,3-Dichlorobenzene	OTHERLIQ	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 56-55-3	Benzo(a)anthracene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 606-20-2	2,6-Dinitrotoluene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 7005-72-3	4-Chlorophenylphenyl ether	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 77-47-4	Hexachlorocyclopentadiene	OTHERLIQ	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 78-59-1	Isophorone	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 84-86-2	Diethylphthalate	OTHERLIQ	LA-523-456	J	300	ug/kg	1.00	2.3e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 84-74-2	Di-n-butylphthalate	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 85-01-8	Phenanthrene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 85-68-7	Butylbenzylphthalate	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 86-30-6	N-Nitrosodiphenylamine	OTHERLIQ	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 86-73-7	Fluorene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 86-74-8	Carbazole	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 87-68-3	Hexachlorobutadiene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 88-74-4	2-Nitroaniline	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 88-75-5	2-Nitrophenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-20-3	Naphthalene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06

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# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	WSCF			Result	Unit	DF	MDL	Analyze	Sample	Receive
				Matrix	Method	RQ							
W060002500	B1KB52	KLAGES 91-57-6	2-Methylnaphthalene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-58-7	2-Chloronaphthalene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-94-1	3,3'-Dichlorobenzidine	OTHERLIQ	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-48-7	2-Methylphenol (cresol, o-)	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-50-1	1,2-Dichlorobenzene	OTHERLIQ	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-95-4	2,4,5-Trichlorophenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 98-95-3	Nitrobenzene	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 99-09-2	3-Nitroaniline	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 65794-96-9	3 & 4 Methylphenol Total	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 67-72-1	Hexachloroethane	OTHERLIQ	LA-523-456	U	< 250	ug/kg	1.00	2.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 88-06-2	2,4,6-Trichlorophenol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 124-18-5	Decane	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 112-40-3	Dodecane	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 100-51-6	Benzyl alcohol	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 111-76-2	2-Butoxyethanol	OTHERLIQ	LA-523-456	U	< 220	ug/kg	1.00	2.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 126-73-8	Tributyl phosphite	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 91-59-8	2-Naphthylamine	OTHERLIQ	LA-523-456	U	< 420	ug/kg	1.00	4.2e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-94-1	Cyclohexanone	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 110-86-1	Pyridine	OTHERLIQ	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 95-63-6	1,2,4-Trimethylbenzene	OTHERLIQ	LA-523-456	U	< 200	ug/kg	1.00	2.0e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 65-85-0	Benzoic acid	OTHERLIQ	LA-523-456	U	< 440	ug/kg	1.00	440	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 78-46-6	Dibutyl butylphosphonate	OTHERLIQ	LA-523-456	U	< 1.5e+02	ug/kg	1.00	1.5e+02	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-35-4	1,1-Dichloroethene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 79-01-6	Trichloroethene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 71-43-2	Benzene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-88-3	Toluene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-90-7	Chlorobenzene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06

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Report WGPP/ver. 1.3

PROJECT HANFORD MANAGEMENT COMPANY

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze	Sample	Receive
					Method	RQ							
W060002500	B1KB52	KLAGES 75-34-3	1,1-Dichloroethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 100-41-4	Ethylbenzene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 100-42-5	Styrene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 10061-01-5	cis-1,3-Dichloropropene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 10061-02-6	trans-1,3-Dichloropropene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W080002500	B1KB52	KLAGES 107-08-2	1,2-Dichloroethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 108-10-1	4-Methyl-2-Pentanone	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 124-48-1	Dibromochloromethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 127-18-4	Tetrachloroethene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 1330-20-7	Xylenes (total)	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 540-59-0	1,2-Dichloroethene(Total)	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 56-23-5	Carbon tetrachloride	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 591-78-6	2-Hexanone	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 67-64-1	Acetone	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 67-66-3	Chloroform	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 71-55-6	1,1,1-Trichloroethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 74-83-9	Bromomethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 74-87-3	Chloromethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-00-3	Chloroethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-01-4	Vinyl chloride	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-09-2	Methylenechloride	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-15-0	Carbon disulfide	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-25-2	Bromoform	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-27-4	Bromodichloromethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 78-87-5	1,2-Dichloropropane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 78-93-3	2-Butanone	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 79-00-5	1,1,2-Trichloroethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06

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# WSCF

## ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
W060002500	B1KB52	KLAGES 79-34-5	1,1,2,2-Tetrachloroethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 71-36-3	1-Butanol	OTHERLIQ	LA-523-455	U	< 19.0	ug/kg	1.00	19	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 107-87-9	2-Pentanone	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 110-82-7	Cyclohexane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 110-54-3	Hexane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 109-99-9	Tetrahydrofuran	OTHERLIQ	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-69-4	Trichloromonofluoromethane	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 104-51-8	n-Butylbenzene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 156-60-5	trans-1,2-Dichloroethylene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 75-05-8	Acetonitrile	OTHERLIQ	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 156-59-2	cis-1,2-Dichloroethylene	OTHERLIQ	LA-523-455	U	< 0.940	ug/kg	1.00	0.94	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES TPHDIESEL	Total Pet. Hydrocarbons Diesel	OTHERLIQ	NWTPH	U	< 3.20e+03	ug/kg	1.00	3.2e+03	08/21/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES TPHKEROSENE	Kerosene	OTHERLIQ	NWTPH	U	< 3.20e+03	ug/kg	1.00	3.2e+03	08/21/06	08/16/06	08/17/06

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# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF		Result	Unit	DF	MDL	Analyze Sample Receive		
					Method	RQ							
<b>Radiochemistry</b>													
W060002500	B1KB52	KLAGES 14596-10-2	Americium-241	OTHERLIQ	LA-508-471	U	-0.0130	pCi/g	1.00	0.047	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Am-241 by AEA Total Cntg Error	OTHERLIQ	LA-508-471		+- 0.023	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14596-10-2	Americium-241	OTHERLIQ	LA-508-481	U	0.103	pCi/g	1.00	0.17	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Am-241 Rel Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.11	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14234-35-6	Antimony-125	OTHERLIQ	LA-508-481	U	0.0181	pCi/g	1.00	0.067	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Sb-125 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.039	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13981-41-4	Ba-133 by GEA	OTHERLIQ	LA-508-481	U	5.11e-03	pCi/g	1.00	0.030	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ba-133 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.020	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14762-78-8	Cerium-144	OTHERLIQ	LA-508-481	U	-0.0281	pCi/g	1.00	0.17	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ce-144 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.10	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES CE/PR-144	Cerium/Praseodymium-144	OTHERLIQ	LA-508-481	U	-0.0562	pCi/g	1.00	0.35	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	CePr-144 Rel. Count Error	OTHERLIQ	LA-508-481		+- 0.21	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 10198-40-0	Cobalt-60	OTHERLIQ	LA-508-481	U	2.74e-04	pCi/g	1.00	0.025	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Co-60 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 2.7e-03	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13967-70-9	Cesium-134	OTHERLIQ	LA-508-481	U	8.94e-03	pCi/g	1.00	0.027	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Cs-134 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.015	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 10045-97-3	Cesium-137	OTHERLIQ	LA-508-481	U	9.55e-03	pCi/g	1.00	0.027	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Cs-137 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.016	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14683-23-9	Europium-152	OTHERLIQ	LA-508-481	U	0.0178	pCi/g	1.00	0.072	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Eu-152 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.054	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 15585-10-1	Europium-154	OTHERLIQ	LA-508-481	U	1.63e-03	pCi/g	1.00	0.069	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Eu-154 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.016	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14391-16-3	Europium-155	OTHERLIQ	LA-508-481	U	0.0384	pCi/g	1.00	0.095	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Eu-155 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.055	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13966-00-2	Potassium-40	OTHERLIQ	LA-508-481		1.53	pCi/g	1.00	0.23	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	K-40 Rel.% Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.44	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06

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# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	WSCF		RQ	Result	Unit	DF	MDL	Analyze Sample Receive		
				Matrix	Method						08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14681-63-1	Niobium-94	OTHERLIQ	LA-508-481	U	-1.05e-03	pCi/g	1.00	0.023	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Nb-94 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.010	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13982-63-3	Radium-226	OTHERLIQ	LA-508-481		0.360	pCi/g	1.00	0.051	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ra-226 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.099	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 15262-20-1	Radium-228	OTHERLIQ	LA-508-481		0.470	pCi/g	1.00	0.076	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ra-228 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.13	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13967-48-1	Ruthenium-106	OTHERLIQ	LA-508-481	U	-0.0670	pCi/g	1.00	0.21	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ru-106 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.13	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 15832-50-5	Tin-126	OTHERLIQ	LA-508-481	U	-9.12e-03	pCi/g	1.00	0.078	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Sn-126 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.050	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 15117-96-1	Uranium-235	OTHERLIQ	LA-508-481	U	0.0494	pCi/g	1.00	0.19	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	U-235 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.040	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13982-39-3	Zinc-65	OTHERLIQ	LA-508-481	U	-5.08e-03	pCi/g	1.00	0.051	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Zn-65 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.035	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 14331-83-0	Actinium-228	OTHERLIQ	LA-508-481		0.470	pCi/g	1.00	0.076	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ac-228 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.13	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13968-53-1	Ruthenium-103	OTHERLIQ	LA-508-481	U	-6.25e-04	pCi/g	1.00	0.023	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Ru-103 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 6.2e-03	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13966-06-8	Tin-113	OTHERLIQ	LA-508-481	U	0.0124	pCi/g	1.00	0.031	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Sn-113 Rel. Count Error (GEA)	OTHERLIQ	LA-508-481		+- 0.018	pCi/g	1.00	0.0	08/19/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 12587-46-1	Gross alpha	OTHERLIQ	LA-508-415		0.140	pCi/g	1.00	0.027	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Gross Alpha Method Error	OTHERLIQ	LA-508-415		+- 0.042	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 12587-47-2	Gross beta	OTHERLIQ	LA-508-415		0.100	pCi/g	1.00	0.056	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Gross Beta Method Error	OTHERLIQ	LA-508-415		+- 0.040	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13994-20-2	Neptunium-237	OTHERLIQ	LA-508-471	U	0.0210	pCi/g	1.00	0.023	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES E,T,C	Np-237 by AEA Total Ctnng Error	OTHERLIQ	LA-508-471		+- 0.017	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES 13981-16-3	Plutonium-238	OTHERLIQ	LA-508-471	U	1.90e-03	pCi/g	1.00	0.020	08/18/06	08/16/06	08/17/06

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# WSCF ANALYTICAL RESULTS REPORT

Attention: D.L. Klages H8-40

Group #: 20060935

Sample #	Client ID	CAS #	Test Performed	WSCF		RQ	Result	Unit	DF	MDL	Analyze Sample Receive		
				Matrix	Method								
W060002500	B1KB52	KLAGES	E,T,C	Pu-238 by AEA Total Cntg Error	OTHERLIQ	LA-508-471	+- 1.9e-03	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	PU-239/240	Pu-239/240 by AEA	OTHERLIQ	LA-508-471	0.0450	pCi/g	1.00	5.1e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Pu-239/240 AEA Total Cntg Err	OTHERLIQ	LA-508-471	+- 0.021	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	SR-RAD	Strontium-89/90	OTHERLIQ	LA-508-415	0.180	pCi/g	1.00	0.097	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Sr-89/90 Rel. Count Error	OTHERLIQ	LA-508-415	+- 0.11	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	14133-76-7	Technetium-99	OTHERLIQ	LA-508-421	U -0.290	pCi/g	1.00	0.29	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	Tc-99 Counting Error	OTHERLIQ	LA-508-421	+- 0.29	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	U-233/234	Uranium-233/234	OTHERLIQ	LA-508-471	0.0320	pCi/g	1.00	0.015	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	U-233/234 AEA Total Cntg Error	OTHERLIQ	LA-508-471	+- 0.019	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	15117-96-1	Uranium-235	OTHERLIQ	LA-508-471	U 2.20e-03	pCi/g	1.00	5.9e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	U-235 by AEA Total Cntg Error	OTHERLIQ	LA-508-471	+- 4.4e-03	pCi/g	1.00	0.0	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	U-238	Uranium-238	OTHERLIQ	LA-508-471	0.0240	pCi/g	1.00	5.4e-03	08/18/06	08/16/06	08/17/06
W060002500	B1KB52	KLAGES	E,T,C	U-238 by AEA Total Cntg Error	OTHERLIQ	LA-508-471	+- 0.015	pCi/g	1.00	0.10	08/18/06	08/16/06	08/17/06

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