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Revision 1

Fluor Hanford
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FLUOR

Memorandum

M8141-SLF-05-362

To:	S. J. Trent	A0-21	Date:	September 7, 2005
From:	S. L. Fitzgerald, Manager WSCF Analytical Chemistry			

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

Subject: REVISED FINAL RESULTS FOR U PLANT CLOSURE CONTAMINANT PLUME REFINEMENT– SAMPLE DELIVERY GROUP WSCF20050592 – SAF NUMBER F05-009

Reference:
(1) Memo, SL Fitzgerald to SJ Trent, same subject (M8141-SLF-05-152), dated March 28, 2005
(2) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002
(3) HNF-SD-CD-QAPP-017, Rev. 7, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains a revised package for sample delivery group WSCF20050592 (Attachments 1, 2 and 3). Compliant to your request, the narrative (Attachment 1) and the analytical results (Attachment 2) have been revised to include the re-analyzed uranium results and associated quality control data.

Please replace the original submittal (Reference 1) in its entirety with this revised package. If you have any questions, don't hesitate to call on Pauline Mix (telephone 372-1488) for assistance.

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Attachments 3

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ATTACHMENT 1

NARRATIVE

Consisting of 4 pages
Including cover page

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Sample Delivery Group	**WSCF20050592, Rev. 1**
Sample Matrix	**SOIL**
Sample Visual	**N/A**
SAF Number	**F05-009**
Data Deliverable	**Summary Report**

Introduction

On August 18, 2005, the WSCF Laboratory was requested to re-analyze several Groundwater Remediation Project (GRP) samples for total uranium. Compliant to the GRP request, sample B1CF50 was re-analyzed for total uranium on August 30, 2005. One (1) U Plant Closure Contaminant Plume Refinement, 216-U-8/C4716/C4727, 47' – 51', GRP sample (B1CF50) was received at the WSCF Laboratory on March 15, 2005. The sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the chain of custody and sample receipt forms are included as Attachment 3.

Analytical Methodology for Requested Analyses

Inorganic

- ICP-AES Metals by EPA Method 6010B. Analytical work was performed with no deviations to the approved method.
- ICP-MS Metals by EPA Method 200.8. Analytical work was performed with no deviations to the approved method.

Radiochemistry

- All RadChem analyses (GEA) were run by internal WSCF procedures. Analytical work was performed with no deviations to the approved method.

Inorganic Comments

ICP-AES Metals (Titanium only) – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 14 for QC details. Analytical Notes:

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- Preparation Date: 21-mar-2005.

- Titanium - insufficient spike concentration. Sample concentration was greater than four times the spike concentration.

All other QC controls are within the established limits.

ICP-MS Metals (Re-analysis of Uranium, only) – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with this re-analysis. See page 9 for QC details. Analytical Notes:

- Preparation Date for re-analysis: 24-aug-2005.

- Matrix Spike and Matrix Spike Duplicate QC Samples were analyzed on sample# B1CF45 (SDG# 20050554, SAF# F05-009).

- In addition to the analyzed date of 08/30/05, the letter "R" has also been scribed next to the sample# associated with the rerun analytical result for uranium.

ICP-MS Metals (Original) – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 10 through 13 for QC details. Analytical Notes:

- Preparation Date: 17-mar-2005.

- Silver - Matrix Spike and Matrix Spike Duplicate QC sample recoveries were biased low. Sample result was E Flagged.

- Antimony – the Laboratory Control Sample recovery exceeded established laboratory limits, but was within the manufacturer's limits. Sample results were below the detection limit and U-flagged.

All other QC controls are within the established limits.

Radiochemistry Comments

RadChem – There are no hold times associated with WSCF's radiochemical methods. A Blank, Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 17 through 19 for QC details. Analytical Note:

- Bismuth-214, Radium-214 and Thorium-234 – Duplicate Relative Percent Difference (RPD) exceeded established laboratory limit. Sample results were below the detection limit and not flagged. RPD does not apply to low level sample activity.

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

Pauline D. Mix
WSCF Client Services

Abbreviations

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

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ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 18 pages
Including cover page

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WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.D. Mix 9/7/2005

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

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

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20050592
Report Date: 31-aug-2005
Report WGPP/ver. 1.1
Groundwater Remediation Program

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F05-009: F05-009

Group #: WSCF20050592

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Inorganic															
R W050001001	B1CF50	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		21.9	mg/kg	0.83	0.083	08/30/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.06e+03	mg/kg	99.34	0.099	03/21/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		208	mg/kg	8.76	6.1	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		8.12	mg/kg	8.76	0.18	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	E	0.123	mg/kg	8.76	8.8e-03	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 6.25	mg/kg	8.76	6.2	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		46.0	mg/kg	8.76	0.81	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0175	mg/kg	8.76	0.018	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		7.68	mg/kg	8.76	2.9	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		4.57	mg/kg	8.76	0.17	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		9.21	mg/kg	8.76	0.56	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		33.5	mg/kg	8.76	0.25	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		45.4	mg/kg	8.76	2.2	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		3.19	mg/kg	8.76	0.23	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412		0.543	mg/kg	8.76	8.8e-03	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		14.9	mg/kg	8.76	0.14	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412	U	< 2.10	mg/kg	8.76	2.1	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.61	mg/kg	8.76	0.64	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.237	mg/kg	8.76	0.018	03/18/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		25.3	mg/kg	8.76	0.88	03/18/05	03/15/05	03/15/05

MDL=Minimum Detection Limit E - Analyte is an estimate, has potentially larger errors U - Analyzed for but not detected above limiting criteria.
RQ=Result Qualifier

DF=Dilution Factor

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

Report WGPP/ver. 1.1
Groundwater Remediation Program

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: Uranium by ICP-MS

SAF Number: F05-009
Sample Date: 03/09/05
Receive Date:03/09/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050000955									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Uranium by ICP-MS	7440-61-1	41.1	114.167	% Recov	08/31/05	75.000	125.000	
MSD	Uranium by ICP-MS	7440-61-1	44.6	114.948	% Recov	08/31/05	75.000	125.000	
SPK-RPD	Uranium by ICP-MS	7440-61-1	114.948	0.682	RPD	08/31/05	0.000	20.000	
BATCH QC									
BLANK	Uranium by ICP-MS	7440-61-1	0	0.000	ug/L	08/31/05			
DUP	Uranium by ICP-MS	7440-61-1	NA	n/a	RPD	08/31/05	0.000	20.000	
LCS	Uranium by ICP-MS	7440-61-1	355	94.415	% Recov	08/31/05	75.000	125.000	
LCS-DUP	Uranium by ICP-MS	7440-61-1	NA	n/a	% Recov	08/31/05	80.000	120.000	
LCS-RPD	Uranium by ICP-MS	7440-61-1		n/a	RPD	08/31/05	0.000	20.000	

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date: 03/15/05
Receive Date:03/15/05

Lab ID: W050001001
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	Silver	7440-22-4	271.077	67.769	% Recov	03/18/05	70.000	130.000	
MS	Arsenic	7440-38-2	327.7	81.925	% Recov	03/18/05	70.000	130.000	
MS	Barium	7440-39-3	323.31	80.828	% Recov	03/18/05	70.000	130.000	
MS	Cadmium	7440-43-9	322.5	80.625	% Recov	03/18/05	70.000	130.000	
MS	Cobalt	7440-48-4	322.826	80.707	% Recov	03/18/05	70.000	130.000	
MS	Chromium	7440-47-3	314.718	78.680	% Recov	03/18/05	70.000	130.000	
MS	Copper	7440-50-8	317.786	79.447	% Recov	03/18/05	70.000	130.000	
MS	Mercury	7439-97-6	15.1674	75.837	% Recov	03/18/05	70.000	130.000	
MS	Manganese	7439-96-5	313.2	78.300	% Recov	03/18/05	70.000	130.000	
MS	Nickel	7440-02-0	316.377	79.094	% Recov	03/18/05	70.000	130.000	
MS	Lead	7439-92-1	309.506	77.376	% Recov	03/18/05	70.000	130.000	
MS	Antimony	7440-36-0	336.2	84.050	% Recov	03/18/05	70.000	130.000	
MS	Selenium	7782-49-2	341.491	85.373	% Recov	03/18/05	70.000	130.000	
MS	Strontium	7440-24-6	319.16	79.790	% Recov	03/18/05	70.000	130.000	
MS	Thallium	7440-28-0	302.1631	75.541	% Recov	03/18/05	70.000	130.000	
MS	Uranium	7440-61-1	313.67	78.418	% Recov	03/18/05	70.000	130.000	
MS	Vanadium	7440-62-2	317.36	79.340	% Recov	03/18/05	70.000	130.000	
MS	Zinc	7440-66-6	328.16	82.040	% Recov	03/18/05	70.000	130.000	
MSD	Silver	7440-22-4	283.777	70.944	% Recov	03/18/05	70.000	130.000	
MSD	Arsenic	7440-38-2	349.2	87.300	% Recov	03/18/05	70.000	130.000	
MSD	Barium	7440-39-3	358.11	89.528	% Recov	03/18/05	70.000	130.000	
MSD	Cadmium	7440-43-9	347.7	86.925	% Recov	03/18/05	70.000	130.000	
MSD	Cobalt	7440-48-4	334.826	83.707	% Recov	03/18/05	70.000	130.000	
MSD	Chromium	7440-47-3	337.318	84.329	% Recov	03/18/05	70.000	130.000	
MSD	Copper	7440-50-8	336.586	84.147	% Recov	03/18/05	70.000	130.000	
MSD	Mercury	7439-97-6	16.2474	81.237	% Recov	03/18/05	70.000	130.000	

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date: 03/15/05
Receive Date:03/15/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Manganese	7439-96-5	339.1	84.775	% Recov	03/18/05	70.000	130.000	
MSD	Nickel	7440-02-0	333.977	83.494	% Recov	03/18/05	70.000	130.000	
MSD	Lead	7439-92-1	330.906	82.727	% Recov	03/18/05	70.000	130.000	
MSD	Antimony	7440-36-0	354.2	88.550	% Recov	03/18/05	70.000	130.000	
MSD	Selenium	7782-49-2	362.091	90.523	% Recov	03/18/05	70.000	130.000	
MSD	Strontium	7440-24-6	353.36	88.340	% Recov	03/18/05	70.000	130.000	
MSD	Thallium	7440-28-0	323.8631	80.966	% Recov	03/18/05	70.000	130.000	
MSD	Uranium	7440-61-1	334.67	83.668	% Recov	03/18/05	70.000	130.000	
MSD	Vanadium	7440-62-2	342.86	85.715	% Recov	03/18/05	70.000	130.000	
MSD	Zinc	7440-66-6	340.76	85.190	% Recov	03/18/05	70.000	130.000	
SPK-RPD	Silver	7440-22-4	70.944	4.578	RPD	03/18/05	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	87.300	6.352	RPD	03/18/05	0.000	20.000	
SPK-RPD	Barium	7440-39-3	89.528	10.214	RPD	03/18/05	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	86.925	7.520	RPD	03/18/05	0.000	20.000	
SPK-RPD	Cobalt	7440-48-4	83.707	3.649	RPD	03/18/05	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	84.329	6.931	RPD	03/18/05	0.000	20.000	
SPK-RPD	Copper	7440-50-8	84.147	5.746	RPD	03/18/05	0.000	20.000	
SPK-RPD	Mercury	7439-97-6	81.237	6.876	RPD	03/18/05	0.000	20.000	
SPK-RPD	Manganese	7439-96-5	84.775	7.941	RPD	03/18/05	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	83.494	5.412	RPD	03/18/05	0.000	20.000	
SPK-RPD	Lead	7439-92-1	82.727	6.684	RPD	03/18/05	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	88.550	5.214	RPD	03/18/05	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	90.523	5.856	RPD	03/18/05	0.000	20.000	
SPK-RPD	Strontium	7440-24-6	88.340	10.171	RPD	03/18/05	0.000	20.000	
SPK-RPD	Thallium	7440-28-0	80.966	6.933	RPD	03/18/05	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	83.668	6.478	RPD	03/18/05	0.000	20.000	
SPK-RPD	Vanadium	7440-62-2	85.715	7.725	RPD	03/18/05	0.000	20.000	
SPK-RPD	Zinc	7440-66-6	85.190	3.767	RPD	03/18/05	0.000	20.000	

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BATCH QC									
BLANK	Silver	7440-22-4	<0.2	n/a	ug/L	03/18/05			U
BLANK	Arsenic	7440-38-2	<0.3	n/a	ug/L	03/18/05			U
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L	03/18/05			U
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L	03/18/05			U
BLANK	Cobalt	7440-48-4	<0.2	n/a	ug/L	03/18/05			U
BLANK	Chromium	7440-47-3	<0.3	n/a	ug/L	03/18/05			U
BLANK	Copper	7440-50-8	<0.5	n/a	ug/L	03/18/05			U
BLANK	Mercury	7439-97-6	<0.1	n/a	ug/L	03/18/05			U
BLANK	Manganese	7439-96-5	<0.3	n/a	ug/L	03/18/05			U
BLANK	Nickel	7440-02-0	<0.5	n/a	ug/L	03/18/05			U
BLANK	Lead	7439-92-1	<1.2	n/a	ug/L	03/18/05			U
BLANK	Antimony	7440-36-0	<0.5	n/a	ug/L	03/18/05			U
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L	03/18/05			U
BLANK	Strontium	7440-24-6	<0.2	n/a	ug/L	03/18/05			U
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L	03/18/05			U
BLANK	Uranium	7440-61-1	<0.1	n/a	ug/L	03/18/05			U
BLANK	Vanadium	7440-62-2	<0.4	n/a	ug/L	03/18/05			U
BLANK	Zinc	7440-66-6	<4.0	n/a	ug/L	03/18/05			U
LCS	Silver	7440-22-4	145.7	112.077	% Recov	03/18/05	110.000	170.000	
LCS	Arsenic	7440-38-2	169.9	105.528	% Recov	03/18/05	82.000	142.000	
LCS	Barium	7440-39-3	242.2	96.111	% Recov	03/18/05	79.000	123.000	
LCS	Cadmium	7440-43-9	131.8	102.969	% Recov	03/18/05	68.000	127.000	
LCS	Cobalt	7440-48-4	36.4	103.409	% Recov	03/18/05	78.000	111.000	
LCS	Chromium	7440-47-3	68.42	96.446	% Recov	03/18/05	50.000	126.000	
LCS	Copper	7440-50-8	147.8	99.865	% Recov	03/18/05	61.000	134.000	
LCS	Mercury	7439-97-6	16	94.675	% Recov	03/18/05	75.000	114.000	
LCS	Manganese	7439-96-5	412.2	101.029	% Recov	03/18/05	79.000	114.000	
LCS	Nickel	7440-02-0	154.7	105.238	% Recov	03/18/05	84.000	125.000	

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Lead	7439-92-1	143.7	101.197	% Recov	03/18/05	87.000	120.000	
LCS	Antimony	7440-36-0	113.9	187.028	% Recov	03/18/05	61.000	135.000	
LCS	Selenium	7782-49-2	73.22	114.050	% Recov	03/18/05	83.000	145.000	
LCS	Strontium	7440-24-6	78.98	94.024	% Recov	03/18/05	80.000	120.000	
LCS	Thallium	7440-28-0	84.56	100.667	% Recov	03/18/05	79.000	125.000	
LCS	Uranium	7440-61-1	369.6	92.400	% Recov	03/18/05	89.000	107.000	
LCS	Vanadium	7440-62-2	99.29	102.046	% Recov	03/18/05	77.000	111.000	
LCS	Zinc	7440-66-6	184.9	112.061	% Recov	03/18/05	76.000	148.000	

REVISED
Dayer
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: ICP Metals Analysis, Grd H20 P

SAF Number: F05-009
Sample Date: 03/15/05
Receive Date:03/15/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050001001									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Titanium	7440-32-6	285	n/a	% Recov	03/21/05	75.000	125.000	
MSD	Titanium	7440-32-6	455	n/a	% Recov	03/21/05	75.000	125.000	
SPK-RPD	Titanium	7440-32-6		n/a	RPD	03/21/05	0.000	20.000	
BATCH QC									
BLANK	Titanium	7440-32-6	1e-3	0.001	ug/L	03/21/05			
LCS	Titanium	7440-32-6	568	111.591	% Recov	03/21/05	9.000	181.000	

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Dhynes
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F05-009: F05-009

Group #: WSCF20050592

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Radiochemistry															
W050001001	B1CF50	GRP	TRENT	14596-10-2	Americium-241	SOIL	LA-508-481	U	-0.0411	pCi/g	1.00	0.24	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Am-241 Rel Count Error (GEA)	SOIL	LA-508-481		+- 0.17	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14234-35-6	Antimony-125	SOIL	LA-508-481	U	-0.0445	pCi/g	1.00	0.35	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Sb-125 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.21	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14762-78-8	Cerium-144	SOIL	LA-508-481	U	0.0662	pCi/g	1.00	0.74	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Ce-144 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.44	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	10198-40-0	Cobalt-60	SOIL	LA-508-481	U	-0.0835	pCi/g	1.00	0.12	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Co-60 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.064	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	13967-70-9	Cesium-134	SOIL	LA-508-481	U	3.11e-03	pCi/g	1.00	0.15	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Cs-134 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.031	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	10045-97-3	Cesium-137	SOIL	LA-508-481		3.23	pCi/g	1.00	0.14	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Cs-137 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.59	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14683-23-9	Europium-152	SOIL	LA-508-481	U	-0.0703	pCi/g	1.00	0.35	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Eu-152 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.21	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	15585-10-1	Europium-154	SOIL	LA-508-481	U	-0.104	pCi/g	1.00	0.39	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Eu-154 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.23	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14391-16-3	Europium-155	SOIL	LA-508-481	U	0.0440	pCi/g	1.00	0.38	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Eu-155 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.22	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14881-63-1	Niobium-94	SOIL	LA-508-481	U	-0.0156	pCi/g	1.00	0.12	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Nb-94 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.071	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	13982-63-3	Radium-226	SOIL	LA-508-481		0.467	pCi/g	1.00	0.27	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Ra-226 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.36	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	15262-20-1	Radium-228	SOIL	LA-508-481		0.637	pCi/g	1.00	0.40	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Ra-228 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.51	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	13967-48-1	Ruthenium-106	SOIL	LA-508-481	U	-0.0234	pCi/g	1.00	1.2	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Ru-106 Rel. Count Error (GEA)	SOIL	LA-508-481		+- 0.23	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05

MDL = Minimum Detection Limit E - Analyte is an estimate, has potentially larger errors U - Analyzed for but not detected above limiting criteria.
RQ = Result Qualifier

DF = Dilution Factor

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

Report WGPP/ver. 1.1
Groundwater Remediation Program

REVISED
Dhynes
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F05-009: F05-009

Group #: WSCF20050592

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ		Result	Unit	DF	MDL	Analyze	Sample	Receive
W050001001	B1CF50	GRP	TRENT	15632-50-5	Tin-126	SOIL	LA-508-481	U		-0.137	pCi/g	1.00	0.24	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Sn-126 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.17	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	15065-10-8	Thorium-234	SOIL	LA-508-481			3.77	pCi/g	1.00	2.3	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Th-234 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	2.1	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	15117-96-1	Uranium-235	SOIL	LA-508-481	U		0.424	pCi/g	1.00	0.77	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	U-235 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.49	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	13982-39-3	Zinc-65	SOIL	LA-508-481	U		-0.0934	pCi/g	1.00	0.25	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Zn-65 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.18	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14331-83-0	Actinium-228	SOIL	LA-508-481			0.637	pCi/g	1.00	0.59	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Ac-228 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.51	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14913-49-6	Bismuth-212	SOIL	LA-508-481	U		0.119	pCi/g	1.00	1.1	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Bi-212 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.67	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14733-03-0	Bismuth-214	SOIL	LA-508-481			0.487	pCi/g	1.00	0.27	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Bi-214 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.36	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	15092-94-1	Lead-212	SOIL	LA-508-481			0.379	pCi/g	1.00	0.23	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Pb-212 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.18	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	15067-28-4	Lead-214	SOIL	LA-508-481			0.493	pCi/g	1.00	0.27	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Pb-214 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.29	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	13968-53-1	Ruthenium-103	SOIL	LA-508-481	U		0.0162	pCi/g	1.00	0.13	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Ru-103 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.076	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	13966-06-8	Tin-113	SOIL	LA-508-481	U		0.120	pCi/g	1.00	0.17	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Sn-113 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.095	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	14913-50-9	Thallium-208	SOIL	LA-508-481	U		0.156	pCi/g	1.00	0.17	03/16/05	03/15/05	03/15/05
W050001001	B1CF50	GRP	TRENT	E,T,C	Tl-208 Rel. Count Error (GEA)	SOIL	LA-508-481		+-	0.10	pCi/g	1.00	0.0	03/16/05	03/15/05	03/15/05

MDL=Minimum Detection Limit E - Analyte is an estimate, has potentially larger errors U - Analyzed for but not detected above limiting criteria.
RQ=Result Qualifier

DF=Dilution Factor

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

Report WGPP/ver. 1.1
Groundwater Remediation Program

REVISED
DLyons
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

SAF Number: F05-009
Sample Date: 03/15/05
Receive Date:03/15/05

Lab ID: W050001001
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
DUP	Actinium-228	14331-83-0	6.54e-01	2.634	RPD	03/18/05	0.000	20.000	
DUP	Americium-241	14596-10-2	U1.90e-02	n/a	RPD	03/18/05	0.000	20.000	
DUP	Bismuth-212	14913-49-6	U1.17e-01	n/a	RPD	03/18/05	0.000	20.000	
DUP	Bismuth-214	14733-03-0	3.05e-01	41.969	RPD	03/18/05	0.000	20.000	*
DUP	Cerium-144	14762-78-8	U-4.22e-2	n/a	RPD	03/18/05	0.000	20.000	
DUP	Cobalt-60	10198-40-0	U-1.11e-2	n/a	RPD	03/18/05	0.000	20.000	
DUP	Cesium-134	13967-70-9	U-2.11e-2	n/a	RPD	03/18/05	0.000	20.000	
DUP	Cesium-137	10045-97-3	3.23e+00	0.000	RPD	03/18/05	0.000	20.000	
DUP	Europium-152	14683-23-9	U1.79e-01	n/a	RPD	03/18/05	0.000	20.000	
DUP	Europium-154	15585-10-1	U2.05e-02	n/a	RPD	03/18/05	0.000	20.000	
DUP	Europium-155	14391-16-3	U-5.85e-2	n/a	RPD	03/18/05	0.000	20.000	
DUP	Niobium-94	14681-63-1	U-1.14e-2	n/a	RPD	03/18/05	0.000	20.000	
DUP	Lead-212	15092-94-1	3.42e-01	10.264	RPD	03/18/05	0.000	20.000	
DUP	Lead-214	15067-28-4	4.74e-01	3.930	RPD	03/18/05	0.000	20.000	
DUP	Radium-226	13982-63-3	3.05e-01	41.969	RPD	03/18/05	0.000	20.000	*
DUP	Radium-228	15262-20-1	6.54e-01	2.634	RPD	03/18/05	0.000	20.000	
DUP	Ruthenium-103	13968-53-1	U2.82e-02	n/a	RPD	03/18/05	0.000	20.000	
DUP	Ruthenium-106	13967-48-1	U-1.53e-1	n/a	RPD	03/18/05	0.000	20.000	
DUP	Antimony-125	14234-35-6	U6.73e-02	n/a	RPD	03/18/05	0.000	20.000	
DUP	Tin-113	13966-06-8	U-3.57e-2	n/a	RPD	03/18/05	0.000	20.000	
DUP	Tin-126	15832-50-5	U-1.28e-1	n/a	RPD	03/18/05	0.000	20.000	
DUP	Thorium-234	15065-10-8	5.47e+00	36.797	RPD	03/18/05	0.000	20.000	*
DUP	Thallium-208	14913-50-9	2.51e-01	n/a	RPD	03/18/05	0.000	20.000	
DUP	Uranium-235	15117-96-1	U6.14e-01	n/a	RPD	03/18/05	0.000	20.000	
DUP	Zinc-65	13982-39-3	U1.53e-01	n/a	RPD	03/18/05	0.000	20.000	

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WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

SAF Number: F05-009
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BATCH QC									
BLANK	Actinium-228	14331-83-0	U6.06e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Americium-241	14596-10-2	U-1.1e-1	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Bismuth-212	14913-49-6	U3.35e-1	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Bismuth-214	14733-03-0	2.46e-01	0.246	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Cerium-144	14762-78-8	U1.63e-3	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Cobalt-60	10198-40-0	U-4.3e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Cesium-134	13967-70-9	U6.04e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Cesium-137	10045-97-3	U-2.5e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Europium-152	14683-23-9	U1.32e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Europium-154	15585-10-1	U-5.2e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Europium-155	14391-16-3	U-1.2e-1	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Niobium-94	14681-63-1	U1.43e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Lead-212	15092-94-1	U1.21e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Lead-214	15067-28-4	3.69e-01	0.369	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Radium-226	13982-63-3	2.45e-01	0.245	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Radium-228	15262-20-1	U6.06e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Ruthenium-103	13968-53-1	U1.18e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Ruthenium-106	13967-48-1	U1.72e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Antimony-125	14234-35-6	U-4.3e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Tin-113	13966-06-8	U-2.3e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Tin-126	15832-50-5	U-4.0e-1	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Thorium-234	15065-10-8	U-2.01e0	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Thallium-208	14913-50-9	U-1.1e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Uranium-235	15117-96-1	U-9.4e-2	n/a	pCi/g	03/18/05	-10.000	1000.000	
BLANK	Zinc-65	13982-39-3	U-1.0e-1	n/a	pCi/g	03/18/05	-10.000	1000.000	
LCS	Americium-241	14596-10-2	4.13e+03	105.357	% Recov	03/17/05	80.000	120.000	
LCS	Cobalt-60	10198-40-0	4.43e+03	105.728	% Recov	03/17/05	80.000	120.000	
LCS	Cesium-137	10045-97-3	3.92e+03	109.497	% Recov	03/17/05	80.000	120.000	

Report w13gq/rev.5.5 p 8
31-aug-2005 10:26:01

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Dryes
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050592
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

SAF Number: F05-009
Sample Date:
Receive Date:

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

REVISED
Dayes
9/13/05

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F05-009

Group #: WSCF20050592

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Sb LCS recovery is within mfg. specifications; no flag. Low Ag MS and MSD (acceptable but low); "E" flag. Sample unhomogeneity is a probable cause of different uranium sample results because QC is acceptable in both. Bi-214,Th234,Ra226/GEA duplicates are flagged but the sample activity for these nuclides is low level activity. RPD does not apply to low level activity. lmh ICP-AES: Spiking level insufficient for sample results. -Titanium MS/MSD NA. ldl

Lab Areas: VALGROUP - Group Validation; VALTEST - Test Validation; TESTDATA - Test Data Entry; LOGSAMP - Login for Sample; LOGTEST - Login for Tests

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number :

Group #: 20050592

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units

RQ=Result Qualifier

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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	INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE	
	None	No reference to any industry method.

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: 31-aug-2005
Report#: WSCF20050592
Report WGPPM/O

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w13qlog v1 31-aug-2005 10:25:55

W13q Worklist/Batch/QC Report for Group# WSCF20050592

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
25423	1	25788	29181	BLANK		ICP-2008 MS All possible metal
25423	2	25788	29181	LCS		ICP-2008 MS All possible metal
25423	4	25788	29181	MS	W050001001	ICP-2008 MS All possible metal
25423	5	25788	29181	MSD	W050001001	ICP-2008 MS All possible metal
25423	3	25788	29181	SAMPLE	W050001001	ICP-2008 MS All possible metal
25423	5	25788	29181	SPK-RPD	W050001001	ICP-2008 MS All possible metal
25371	1	25737	29199	BLANK		Gamma Energy Analysis-grd H2O
25371	2	25737	29199	LCS		Gamma Energy Analysis-grd H2O
25371	3	25737	29199	DUP	W050001001	Gamma Energy Analysis-grd H2O
25371	4	25737	29199	SAMPLE	W050001001	Gamma Energy Analysis-grd H2O
25434	1	25800	29266	BLANK		ICP Metals Analysis, Grd H20 P
25434	2	25800	29266	LCS		ICP Metals Analysis, Grd H20 P
25434	4	25800	29266	MS	W050001001	ICP Metals Analysis, Grd H20 P
25434	5	25800	29266	MSD	W050001001	ICP Metals Analysis, Grd H20 P
25434	3	25800	29266	SAMPLE	W050001001	ICP Metals Analysis, Grd H20 P
25434	5	25800	29266	SPK-RPD	W050001001	ICP Metals Analysis, Grd H20 P
			30918	BLANK		Uranium by ICP-MS
			30918	DUP		Uranium by ICP-MS
			30918	LCS		Uranium by ICP-MS
			30918	LCS-DUP		Uranium by ICP-MS
			30918	LCS-RPD		Uranium by ICP-MS
			30918	MS	W050000955	Uranium by ICP-MS
			30918	MSD	W050000955	Uranium by ICP-MS
			30918	SPK-RPD	W050000955	Uranium by ICP-MS
			30918	SAMPLE	W050001001	Uranium by ICP-MS

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M8141-SLF-05-362

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 3 pages
Including cover page

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9/13/05

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

8/29/05
File CB
Rerun

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 119141/ES10
Group#: 20050592
Project#: F05-009
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 03/15/05. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W050001001	B1CF50	GRP @2008 @GEA-GPP @GPP6010 U-MS	TRENT Solid, or handle as if solid	03/15/05

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@GEA-GPP	Gamma Energy Analysis-grd H2O
@GPP6010	ICP Metals Analysis, Grd H20 P
U-MS	Uranium by ICP-MS

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03/24/05

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F05-009-064 PAGE 1 OF 1

COLLECTOR: POPE/PFISTER/MOKLER/TYRA/HUGHES	COMPANY CONTACT: JACKSON, RL	TELEPHONE NO.: 372-9004	PROJECT COORDINATOR: TRENT, SJ
SAMPLING LOCATION: 216-U-8	PROJECT DESIGNATION: U Plant Closure Contaminant Plume Refinement		SAF NO.: F05-009
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-439 1	COA: 119141ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A 20050592		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8B

AIR QUALITY: ☐

DATA TURNAROUND: 7 Days / ~~15 Days~~

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS GEA

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B1CF50 W0500100	SOIL	3-15-05	1015	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J. Mokler	3/15/05 12:05	TA Frazier	3/15/05 12:05

SPECIAL INSTRUCTIONS

(1)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Lead, Selenium, Strontium, Thallium, Uranium} ICP/MS - 200.8 (Hg); ~~ICP Metals - 6010B (TAL) (Magnesium)~~ ICP Metals - 6010B (Add-On) {Titanium} MJ 3-2-05 MJ 3-2-05

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LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6003-618(03/03)