0068284

Revision 2

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

FLUOR

Memorandum

M8141-SLF-05-364

To: S. J. Trent A0-21 Date: September 8, 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 SAMPLES – SAMPLE DELIVERY GROUP WSCF20050569 – SAF NUMBER F05-009

Reference: (1) Memo, SL Fitzgerald to SJ Trent, same subject (M8141-SLF-05-200), dated May 2, 2005

This letter contains a revised package for sample delivery group WSCF20050569 (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 previously revised submittal for SDG 20050569 (Reference 1) in its entirety with this revised package. If you have any other questions, don't hesitate to call on Pauline Mix at telephone 372-1488 for assistance.

SLF/grf

Attachments 3

SEP 2005
RECEIVED

REVISED
Dayes
9/13/05

M8141-SLF-05-364

ATTACHMENT 1

NARRATIVE

Consisting of 4 pages
Including cover page

REVISED
D Dayes
9/13/05

Sample Delivery Group	**WSCF20050569, Rev. 2**
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, samples B1CF94, B1CF97 and B1CF99 were re-analyzed for total uranium on August 30, 2005.

Nine (9) U Plant Closure Contaminant Plume Refinement, 216-U-12; C4723, C4724, C4725, C4728, C4729, C4730, 18' – 50', GRP samples (B1CF89, B1CF90, B1CF91, B1CF94, B1CF95, B1CF96, B1CF97, B1CF98 and B1CF99) were received at the WSCF Laboratory on March 14, 2005. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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.

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 15 for QC details. Analytical Notes:

- Preparation Date: 16-mar-2005.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1CF40 (SDG# 20050554, SAF# F05-009).

REVISED
Dhynes
9/13/05

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

- Titanium - The analyte detected in the associated preparation Blank sample was evaluated and there was no significant affect on the sample results.

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 16 for QC details. Analytical Notes:

- Preparation Date for reanalysis: 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.

All QC controls are within the established limits.

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 17 through 20 for QC details. Analytical Notes:

- Preparation Date: 15-mar-2005.

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1CF40 (SDG# 20050554, SAF# F05-009).

- The analytes detected in the associated preparation Blank sample were evaluated and there was no significant affect on the sample results.

- 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.

- Barium – Original analytical result of 504 mg/Kg was reported in error. Probable cause for the high barium result is unknown; however, could have resulted from contamination in the process. Re-preparation and re-analysis of the sample showed the analytical result to be 74.2 mg/Kg. The attached WSCF Analytical Results Report (Attachment 2) has been corrected to reflect the lower analytical result for barium.

All other QC controls are within the established limits.

REVISED
DHyes
9/13/05

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

Pauline D. Mix
WSCF Client Services

Abbreviations

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

REVISED
Dayes
9/13/05

M8141-SLF-05-364

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 19 pages
Including cover page

REVISED
Dayes
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.O. 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#: WSCF20050569
Report Date: 31-aug-2005
Report WGPP/ver. 1.1
Groundwater Remediation Program

REVISED
Daynes
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Inorganic															
W050000977	B1CF89	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.28e+03	mg/kg	98.74	0.10	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		270	mg/kg	7.73	5.4	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		10.5	mg/kg	7.73	0.16	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 7.73e-03	mg/kg	7.73	7.7e-03	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 5.52	mg/kg	7.73	5.5	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		72.0	mg/kg	7.73	0.71	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0155	mg/kg	7.73	0.016	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		9.09	mg/kg	7.73	2.6	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		6.16	mg/kg	7.73	0.15	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		12.5	mg/kg	7.73	0.50	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		42.1	mg/kg	7.73	0.22	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		49.7	mg/kg	7.73	1.9	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		2.70	mg/kg	7.73	0.20	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 7.73e-03	mg/kg	7.73	7.7e-03	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.413	mg/kg	7.73	0.12	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		5.39	mg/kg	7.73	1.9	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.30	mg/kg	7.73	0.56	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.149	mg/kg	7.73	0.016	03/16/05	03/11/05	03/14/05
W050000977	B1CF89	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		33.6	mg/kg	7.73	0.77	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.13e+03	mg/kg	97.87	0.098	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		259	mg/kg	9.37	6.5	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		9.27	mg/kg	9.37	0.20	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.37e-03	mg/kg	9.37	9.4e-03	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 6.89	mg/kg	9.37	6.7	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		64.0	mg/kg	9.37	0.86	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.118	mg/kg	9.37	0.019	03/16/05	03/11/05	03/14/05

MDL=Minimum Detection Limit 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
Dayne
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000978	B1CF90	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		8.42	mg/kg	9.37	3.2	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		5.83	mg/kg	9.37	0.18	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		11.4	mg/kg	9.37	0.60	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		36.7	mg/kg	9.37	0.27	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		40.5	mg/kg	9.37	2.3	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		2.69	mg/kg	9.37	0.24	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.37e-03	mg/kg	9.37	9.4e-03	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.501	mg/kg	9.37	0.15	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		2.74	mg/kg	9.37	2.2	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.11	mg/kg	9.37	0.68	03/16/05	03/11/05	03/14/05
W050000979	B1CF90	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.139	mg/kg	9.37	0.019	03/16/05	03/11/05	03/14/05
W050000978	B1CF90	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		35.8	mg/kg	9.37	0.94	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.36e+03	mg/kg	96.34	0.096	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		372	mg/kg	7.66	5.3	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		14.2	mg/kg	7.66	0.16	03/16/05	03/11/05	03/14/05
W050000978	B1CF91	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 7.66e-03	mg/kg	7.66	7.7e-03	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 5.47	mg/kg	7.66	5.5	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		85.6	mg/kg	7.66	0.70	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.188	mg/kg	7.66	0.015	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		12.7	mg/kg	7.66	2.6	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		7.73	mg/kg	7.66	0.15	03/16/05	03/11/05	03/14/05
W050000978	B1CF91	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		14.6	mg/kg	7.66	0.49	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		46.9	mg/kg	7.66	0.22	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		47.4	mg/kg	7.66	1.9	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		3.58	mg/kg	7.66	0.20	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 7.66e-03	mg/kg	7.66	7.7e-03	03/16/05	03/11/05	03/14/05
W050000978	B1CF91	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.517	mg/kg	7.66	0.12	03/16/05	03/11/05	03/14/05

MDL = Minimum Detection Limit 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
Dayner
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000979	B1CF91	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		5.60	mg/kg	7.66	1.8	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		0.729	mg/kg	7.66	0.56	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.102	mg/kg	7.66	0.015	03/16/05	03/11/05	03/14/05
W050000979	B1CF91	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		46.5	mg/kg	7.66	0.77	03/16/05	03/11/05	03/14/05
R W050000980	B1CF94	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		2.84	mg/kg	0.95	0.095	06/30/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.23e+03	mg/kg	98.29	0.098	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		438	mg/kg	7.28	5.1	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		14.7	mg/kg	7.28	0.15	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 7.28e-03	mg/kg	7.28	7.3e-03	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 5.20	mg/kg	7.28	5.2	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		74.2	mg/kg	4.93	0.99	04/27/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.178	mg/kg	7.28	0.015	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		14.6	mg/kg	7.28	2.4	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		10.3	mg/kg	7.28	0.14	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		20.0	mg/kg	7.28	0.47	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		46.6	mg/kg	7.28	0.21	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		61.1	mg/kg	7.28	1.8	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		7.86	mg/kg	7.28	0.19	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 7.28e-03	mg/kg	7.28	7.3e-03	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		5.47	mg/kg	7.28	0.12	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		7.30	mg/kg	7.28	1.8	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		0.600	mg/kg	7.28	0.53	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.144	mg/kg	7.28	0.015	03/16/05	03/10/05	03/14/05
W050000980	B1CF94	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		53.7	mg/kg	7.28	0.73	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.10e+03	mg/kg	98.50	0.098	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		508	mg/kg	9.87	6.9	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		13.1	mg/kg	9.87	0.21	03/16/05	03/10/05	03/14/05

MDL=Minimum Detection Limit 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
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000981	B1CF95	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.87e-03	mg/kg	9.87	9.9e-03	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 7.06	mg/kg	9.87	7.0	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		76.0	mg/kg	9.87	0.91	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0197	mg/kg	9.87	0.020	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		13.7	mg/kg	9.87	3.3	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		7.69	mg/kg	9.87	0.19	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		13.1	mg/kg	9.87	0.63	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		39.1	mg/kg	9.87	0.29	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		51.4	mg/kg	9.87	2.5	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		4.47	mg/kg	9.87	0.26	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.87e-03	mg/kg	9.87	9.9e-03	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.399	mg/kg	9.87	0.16	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		7.00	mg/kg	9.87	2.4	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		0.950	mg/kg	9.87	0.72	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.0798	mg/kg	9.87	0.020	03/16/05	03/10/05	03/14/05
W050000981	B1CF95	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		34.9	mg/kg	9.87	0.99	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		2.12e+03	mg/kg	99.01	0.099	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		303	mg/kg	9.51	6.6	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		8.04	mg/kg	9.51	0.20	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.51e-03	mg/kg	9.51	9.5e-03	03/16/05	03/10/05	03/14/06
W050000982	B1CF96	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 6.79	mg/kg	9.51	6.8	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		71.8	mg/kg	9.51	0.88	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.159	mg/kg	9.51	0.019	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		6.47	mg/kg	9.51	3.2	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		7.94	mg/kg	9.51	0.18	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		14.4	mg/kg	9.51	0.61	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		49.2	mg/kg	9.51	0.28	03/16/05	03/10/05	03/14/05

MDL=Minimum Detection Limit 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 WGPPver. 1.1
Groundwater Remediation Program

REVISED
Dhynes
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000982	B1CF96	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		50.9	mg/kg	9.51	2.4	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		4.61	mg/kg	9.51	0.25	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412		0.0728	mg/kg	9.51	9.5e-03	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.848	mg/kg	9.51	0.15	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		3.72	mg/kg	9.51	2.3	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.63	mg/kg	9.51	0.69	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.108	mg/kg	9.51	0.019	03/16/05	03/10/05	03/14/05
W050000982	B1CF96	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		26.3	mg/kg	9.51	0.95	03/16/05	03/10/05	03/14/05
R W050000983	B1CF97	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		5.66	mg/kg	0.87	0.067	08/30/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.03e+03	mg/kg	99.31	0.099	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		317	mg/kg	9.99	7.0	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		8.83	mg/kg	9.99	0.21	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.99e-03	mg/kg	9.99	0.010	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 7.13	mg/kg	9.99	7.1	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		107	mg/kg	9.99	0.92	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0200	mg/kg	9.99	0.020	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		10.1	mg/kg	9.99	3.4	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		6.09	mg/kg	9.99	0.19	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		14.8	mg/kg	9.99	0.84	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		41.1	mg/kg	9.99	0.29	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		55.8	mg/kg	9.99	2.5	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		2.97	mg/kg	9.99	0.26	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.99e-03	mg/kg	9.99	0.010	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		8.01	mg/kg	9.99	0.16	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		6.06	mg/kg	9.99	2.4	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	< 0.729	mg/kg	9.99	0.73	03/16/05	03/10/05	03/14/05
W050000983	B1CF97	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.133	mg/kg	9.99	0.020	03/16/05	03/10/05	03/14/05

MDL = Minimum Detection Limit 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
Dayes
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000983	B1CF97	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		38.7	mg/kg	9.99	1.0	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.06e+03	mg/kg	96.49	0.096	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		261	mg/kg	9.73	6.8	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		9.18	mg/kg	9.73	0.20	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.73e-03	mg/kg	9.73	9.7e-03	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 6.95	mg/kg	9.73	7.0	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		116	mg/kg	9.73	0.90	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.0195	mg/kg	9.73	0.020	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		6.60	mg/kg	9.73	3.3	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		5.77	mg/kg	9.73	0.18	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		11.0	mg/kg	9.73	0.62	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		37.9	mg/kg	9.73	0.28	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		43.4	mg/kg	9.73	2.4	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		3.10	mg/kg	9.73	0.25	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.73e-03	mg/kg	9.73	9.7e-03	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		3.63	mg/kg	9.73	0.16	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		5.76	mg/kg	9.73	2.3	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	< 0.710	mg/kg	9.73	0.71	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.114	mg/kg	9.73	0.020	03/16/05	03/10/05	03/14/05
W050000984	B1CF98	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		37.9	mg/kg	9.73	0.87	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		2.08	mg/kg	0.94	0.094	08/30/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.53e+03	mg/kg	99.31	0.099	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		317	mg/kg	9.65	6.7	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		11.4	mg/kg	9.65	0.20	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412		1.00	mg/kg	9.65	9.7e-03	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 6.89	mg/kg	9.65	6.9	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		77.1	mg/kg	9.65	0.89	03/16/05	03/10/05	03/14/05

MDL=Minimum Detection Limit 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
9/13/05

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050569

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000985	B1CF99	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-506-412		1.40	mg/kg	9.65	0.019	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		16.2	mg/kg	9.65	3.2	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		10.1	mg/kg	9.65	0.18	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		16.7	mg/kg	9.65	0.62	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		42.0	mg/kg	9.65	0.28	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		55.6	mg/kg	9.65	2.4	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		6.17	mg/kg	9.65	0.25	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.65e-03	mg/kg	9.65	9.7e-03	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		6.01	mg/kg	9.65	0.15	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		7.91	mg/kg	9.65	2.3	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.90	mg/kg	9.65	0.70	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		1.42	mg/kg	9.65	0.019	03/16/05	03/10/05	03/14/05
W050000985	B1CF99	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		35.1	mg/kg	9.65	0.96	03/16/05	03/10/05	03/14/05

MDL = Minimum Detection Limit 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
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050569
Matrix: SOLID
Test: ICP Metals Analysis, Grd H20 P

SAF Number: F05-009
Sample Date: 03/08/05
Receive Date:03/09/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050000952									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Titanium	7440-32-6	320	n/a	% Recov	03/16/05	75.000	125.000	
MSD	Titanium	7440-32-6	289	n/a	% Recov	03/16/05	75.000	125.000	
SPK-RPD	Titanium	7440-32-6		n/a	RPD	03/16/05	0.000	20.000	
BATCH QC									
BLANK	Titanium	7440-32-6	0.3	0.300	ug/L	03/16/05			
LCS	Titanium	7440-32-6	688	135.167	% Recov	03/16/05	9.000	191.000	

REVISED
DAyes
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050569
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	

REVISED
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050569
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date: 03/08/05
Receive Date:03/09/05

Lab ID: W050000952
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	293.3	73.325	% Recov	03/16/05	70.000	130.000	
MS	Arsenic	7440-38-2	426.088	106.522	% Recov	03/16/05	70.000	130.000	
MS	Barium	7440-39-3	441.59	110.397	% Recov	03/16/05	70.000	130.000	
MS	Cadmium	7440-43-9	414.31332	103.578	% Recov	03/16/05	70.000	130.000	
MS	Cobalt	7440-48-4	403.508	100.877	% Recov	03/16/05	70.000	130.000	
MS	Chromium	7440-47-3	398.904	99.726	% Recov	03/16/05	70.000	130.000	
MS	Copper	7440-50-8	404.18	101.045	% Recov	03/16/05	70.000	130.000	
MS	Mercury	7439-97-6	20.45	102.250	% Recov	03/16/05	70.000	130.000	
MS	Manganese	7439-96-5	429.3	107.325	% Recov	03/16/05	70.000	130.000	
MS	Nickel	7440-02-0	403.56	100.890	% Recov	03/16/05	70.000	130.000	
MS	Lead	7439-92-1	403.856	100.964	% Recov	03/16/05	70.000	130.000	
MS	Antimony	7440-36-0	458.5	114.625	% Recov	03/16/05	70.000	130.000	
MS	Selenium	7782-49-2	431.103	107.776	% Recov	03/16/05	70.000	130.000	
MS	Strontium	7440-24-6	412.33	103.082	% Recov	03/16/05	70.000	130.000	
MS	Thallium	7440-28-0	392.4206	98.105	% Recov	03/16/05	70.000	130.000	
MS	Uranium	7440-61-1	404.2757	101.069	% Recov	03/16/05	70.000	130.000	
MS	Vanadium	7440-62-2	390.44	97.610	% Recov	03/16/05	70.000	130.000	
MS	Zinc	7440-66-6	413.85	103.463	% Recov	03/16/05	70.000	130.000	
MSD	Silver	7440-22-4	345.8	86.450	% Recov	03/16/05	70.000	130.000	
MSD	Arsenic	7440-38-2	401.188	100.297	% Recov	03/16/05	70.000	130.000	
MSD	Barium	7440-39-3	401.99	100.498	% Recov	03/16/05	70.000	130.000	
MSD	Cadmium	7440-43-9	401.51332	100.378	% Recov	03/16/05	70.000	130.000	
MSD	Cobalt	7440-48-4	396.708	99.177	% Recov	03/16/05	70.000	130.000	
MSD	Chromium	7440-47-3	390.004	97.501	% Recov	03/16/05	70.000	130.000	
MSD	Copper	7440-50-8	395.38	98.845	% Recov	03/16/05	70.000	130.000	
MSD	Mercury	7439-97-6	19.38	96.900	% Recov	03/16/05	70.000	130.000	

Report w13gq/rev.5.5 p 1
31-aug-2005 10:21:22

REVISED
Dryer
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050569
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date: 03/08/05
Receive Date:03/09/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Manganese	7439-96-5	379.6	94.900	% Recov	03/16/05	70.000	130.000	
MSD	Nickel	7440-02-0	391.76	97.940	% Recov	03/16/05	70.000	130.000	
MSD	Lead	7439-92-1	387.256	96.814	% Recov	03/16/05	70.000	130.000	
MSD	Antimony	7440-36-0	443.9	110.975	% Recov	03/16/05	70.000	130.000	
MSD	Selenium	7782-49-2	418.503	104.626	% Recov	03/16/05	70.000	130.000	
MSD	Strontium	7440-24-6	397.83	99.457	% Recov	03/16/05	70.000	130.000	
MSD	Thallium	7440-28-0	379.1206	94.780	% Recov	03/16/05	70.000	130.000	
MSD	Uranium	7440-61-1	388.1757	97.044	% Recov	03/16/05	70.000	130.000	
MSD	Vanadium	7440-62-2	388.04	97.010	% Recov	03/16/05	70.000	130.000	
MSD	Zinc	7440-66-6	402.45	100.612	% Recov	03/16/05	70.000	130.000	
SPK-RPD	Silver	7440-22-4	86.450	16.429	RPD	03/16/05	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	100.297	6.020	RPD	03/16/05	0.000	20.000	
SPK-RPD	Barium	7440-39-3	100.498	9.388	RPD	03/16/05	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	100.378	3.138	RPD	03/16/05	0.000	20.000	
SPK-RPD	Cobalt	7440-48-4	99.177	1.700	RPD	03/16/05	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	97.501	2.256	RPD	03/16/05	0.000	20.000	
SPK-RPD	Copper	7440-50-8	98.845	2.201	RPD	03/16/05	0.000	20.000	
SPK-RPD	Mercury	7439-97-6	96.900	5.373	RPD	03/16/05	0.000	20.000	
SPK-RPD	Manganese	7439-96-5	94.900	12.288	RPD	03/16/05	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	97.940	2.967	RPD	03/16/05	0.000	20.000	
SPK-RPD	Lead	7439-92-1	96.814	4.197	RPD	03/16/05	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	110.975	3.236	RPD	03/16/05	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	104.626	2.966	RPD	03/16/05	0.000	20.000	
SPK-RPD	Strontium	7440-24-6	99.457	3.580	RPD	03/16/05	0.000	20.000	
SPK-RPD	Thallium	7440-28-0	94.780	3.448	RPD	03/16/05	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	97.044	4.063	RPD	03/16/05	0.000	20.000	
SPK-RPD	Vanadium	7440-62-2	97.010	0.617	RPD	03/16/05	0.000	20.000	
SPK-RPD	Zinc	7440-66-6	100.612	2.794	RPD	03/16/05	0.000	20.000	

REVISED
9/12/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050569
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	1.569e-3	0.002	ug/L	03/16/05			
BLANK	Arsenic	7440-38-2	0.24	0.240	ug/L	03/16/05			
BLANK	Barium	7440-39-3	9.2e-2	0.092	ug/L	03/16/05			
BLANK	Cadmium	7440-43-9	2e-3	0.002	ug/L	03/16/05			
BLANK	Cobalt	7440-48-4	1.9e-2	0.019	ug/L	03/16/05			
BLANK	Chromium	7440-47-3	0.336	0.336	ug/L	03/16/05			
BLANK	Copper	7440-50-8	6.414e-2	0.064	ug/L	03/16/05			
BLANK	Mercury	7439-97-6	1e-3	0.001	ug/L	03/16/05			
BLANK	Manganese	7439-96-5	0.697	0.697	ug/L	03/16/05			
BLANK	Nickel	7440-02-0	2.1e-2	0.021	ug/L	03/16/05			
BLANK	Lead	7439-92-1	2.644e-2	0.026	ug/L	03/16/05			
BLANK	Antimony	7440-36-0	0.714	0.714	ug/L	03/16/05			
BLANK	Selenium	7782-49-2	7.3e-2	0.073	ug/L	03/16/05			
BLANK	Strontium	7440-24-6	0.1	0.100	ug/L	03/16/05			
BLANK	Thallium	7440-28-0	1.321e-2	0.013	ug/L	03/16/05			
BLANK	Uranium	7440-61-1	1.814e-2	0.018	ug/L	03/16/05			
BLANK	Vanadium	7440-62-2	2.9e-2	0.029	ug/L	03/16/05			
BLANK	Zinc	7440-66-6	0.7331	0.733	ug/L	03/16/05			
LCS	Silver	7440-22-4	143.2	110.154	% Recov	03/16/05	110.000	170.000	
LCS	Arsenic	7440-38-2	170.3	105.776	% Recov	03/16/05	82.000	142.000	
LCS	Barium	7440-39-3	242.2	96.111	% Recov	03/16/05	79.000	123.000	
LCS	Cadmium	7440-43-9	133.4	104.219	% Recov	03/16/05	88.000	127.000	
LCS	Cobalt	7440-48-4	35.36	100.455	% Recov	03/16/05	78.000	111.000	
LCS	Chromium	7440-47-3	70.6	101.583	% Recov	03/16/05	50.000	126.000	
LCS	Copper	7440-50-8	151.2	102.162	% Recov	03/16/05	61.000	134.000	
LCS	Mercury	7439-97-6	16.14	95.503	% Recov	03/16/05	75.000	114.000	
LCS	Manganese	7439-96-5	410.4	100.586	% Recov	03/16/05	79.000	114.000	
LCS	Nickel	7440-02-0	152	103.401	% Recov	03/16/05	84.000	125.000	

REVISED
9/13/05

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050569
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	03/16/05	87.000	120.000	
LCS	Antimony	7440-36-0	116.6	189.819	% Recov	03/16/05	61.000	135.000	
LCS	Selenium	7782-49-2	68.82	107.196	% Recov	03/16/05	83.000	145.000	
LCS	Strontium	7440-24-6	80.13	95.393	% Recov	03/16/05	80.000	120.000	
LCS	Thallium	7440-28-0	62.61	98.345	% Recov	03/16/05	79.000	125.000	
LCS	Uranium	7440-61-1	372.3	93.075	% Recov	03/16/05	89.000	107.000	
LCS	Vanadium	7440-62-2	95.44	98.068	% Recov	03/16/05	77.000	111.000	
LCS	Zinc	7440-66-6	183.5	111.212	% Recov	03/16/05	76.000	148.000	

REVISED
9/13/05

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F05-009

Group #: WSCF20050569

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Preparation blank results are in ug/L (ppb) and sample results are in ug/g (ppm). Sb LCS recovery is within mfg. specifications; no flag issued. Barium reanalyzed due to probable contamination of original prepared sample. QC on reanalysis: LCS with manufacturer's specifications, MS 86.8% recovery, MSD 94.3% recovery. Sample unhomogenity is a probable cause of different uranium sample results because QC is acceptable in both. ICP-AES: Spiking level for Titanium was insufficient for sample conantration, MS/MSD results NA.

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

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

REVISED
9/13/05

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number :

Group #: 20050569

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

RQ=Result Qualifier

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

REVISED
Dayne
9/13/05

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

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#: WSCF20050569
Report WGPPM/O

REVISED
9/13/05

w13qlog v1 31-aug-2005 10:21:12

W13q Worklist/Batch/QC Report for Group# WSCF20050569

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
25384	1	25750	29143	BLANK		ICP-2008 MS All possible metal
25384	2	25750	29143	LCS		ICP-2008 MS All possible metal
25384	4	25750	29143	MS	W050000952	ICP-2008 MS All possible metal
25384	5	25750	29143	MSD	W050000952	ICP-2008 MS All possible metal
25384	5	25750	29143	SPK-RPD	W050000952	ICP-2008 MS All possible metal
25384	15	25750	29143	SAMPLE	W050000977	ICP-2008 MS All possible metal
25384	16	25750	29143	SAMPLE	W050000978	ICP-2008 MS All possible metal
25384	17	25750	29143	SAMPLE	W050000979	ICP-2008 MS All possible metal
25384	18	25750	29143	SAMPLE	W050000980	ICP-2008 MS All possible metal
25384	19	25750	29143	SAMPLE	W050000981	ICP-2008 MS All possible metal
25384	20	25750	29143	SAMPLE	W050000982	ICP-2008 MS All possible metal
25384	21	25750	29143	SAMPLE	W050000983	ICP-2008 MS All possible metal
25384	22	25750	29143	SAMPLE	W050000984	ICP-2008 MS All possible metal
25384	23	25750	29143	SAMPLE	W050000985	ICP-2008 MS All possible metal
25369	1	25735	29153	BLANK		ICP Metals Analysis, Grd H20 P
25369	2	25735	29153	LCS		ICP Metals Analysis, Grd H20 P
25369	4	25735	29153	MS	W050000952	ICP Metals Analysis, Grd H20 P
25369	5	25735	29153	MSD	W050000952	ICP Metals Analysis, Grd H20 P
25369	5	25735	29153	SPK-RPD	W050000952	ICP Metals Analysis, Grd H20 P
25369	13	25735	29153	SAMPLE	W050000977	ICP Metals Analysis, Grd H20 P
25369	14	25735	29153	SAMPLE	W050000978	ICP Metals Analysis, Grd H20 P
25369	15	25735	29153	SAMPLE	W050000979	ICP Metals Analysis, Grd H20 P
25369	16	25735	29153	SAMPLE	W050000980	ICP Metals Analysis, Grd H20 P
25369	17	25735	29153	SAMPLE	W050000981	ICP Metals Analysis, Grd H20 P
25369	18	25735	29153	SAMPLE	W050000982	ICP Metals Analysis, Grd H20 P
25369	19	25735	29153	SAMPLE	W050000983	ICP Metals Analysis, Grd H20 P
25369	20	25735	29153	SAMPLE	W050000984	ICP Metals Analysis, Grd H20 P
25369	21	25735	29153	SAMPLE	W050000985	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	W050000980	Uranium by ICP-MS
			30918	SAMPLE	W050000983	Uranium by ICP-MS
			30918	SAMPLE	W050000985	Uranium by ICP-MS

REVISED
Dayes
9/13/05

M8141-SLF-05-364

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 11 pages
Including cover page

REVISED
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 KB

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 119141/ES10
Group#: 20050569
Project#: F05-009
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

Return

The following samples were received from you on 03/14/05. 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
W050000977	B1CF89	GRP @2008 TRENT @GPP6010	Solid, or handle as if solid	03/11/05
W050000978	B1CF90	GRP @2008 TRENT @GPP6010	Solid, or handle as if solid	03/11/05
W050000979	B1CF91	GRP @2008 TRENT @GPP6010	Solid, or handle as if solid	03/11/05
W050000980	B1CF94	GRP @2008 TRENT @GPP6010 U-MS	Solid, or handle as if solid	03/10/05
W050000981	B1CF95	GRP @2008 TRENT @GPP6010	Solid, or handle as if solid	03/10/05
W050000982	B1CF96	GRP @2008 TRENT @GPP6010	Solid, or handle as if solid	03/10/05
W050000983	B1CF97	GRP @2008 TRENT @GPP6010 U-MS	Solid, or handle as if solid	03/10/05
W050000984	B1CF98	GRP @2008 TRENT @GPP6010	Solid, or handle as if solid	03/10/05
W050000985	B1CF99	GRP @2008 TRENT @GPP6010 U-MS	Solid, or handle as if solid	03/10/05

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@GPP6010	ICP Metals Analysis, Grd H20 P
U-MS	Uranium by ICP-MS

REVISED
DAlyes
9/13/05

03/24/05

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F05-009-103	PAGE 1 OF 1
COLLECTOR: POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT: JACKSON, RL	TELEPHONE NO.: 372-9004	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8B
SAMPLING LOCATION: 216-U-12 ; C4723 44ft - 46ft	PROJECT DESIGNATION: U Plant Closure Contaminant Plume Refinement		SAF NO.: F05-009	AIR QUALITY ☐
ICE CHEST NO.: 20050569	FIELD LOGBOOK NO.: HNF-N-4391	COA: 119141ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

DATA TURNAROUND: 7 Days / ~~15 Days~~ [illegible] 3/14/05

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

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF89 W050000977	SOIL	3/11/05	1430	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/[illegible]	3/11/05 1530	MO-026 3T FRIG #1	3/11/05 1530
MO026 FRIDGE	3/14/05 0715	MRWEIL/[illegible]	3/14/05 0715
MRWEIL/[illegible]	3/14/05 10:35	TA FRAZIER [illegible]	3/14/05 10:35

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} [illegible] 3-2-05 [illegible] 3-2-05

REVISED [illegible] 9/13/05

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

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F05-009-104	PAGE 1 OF 1
COLLECTOR: POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT: JACKSON, RL	TELEPHONE NO.: 372-9004	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8B
SAMPLING LOCATION: 216-U-12 ; C4724 44ft - 46FT	PROJECT DESIGNATION: U Plant Closure Contaminant Plume Refinement		SAF NO.: F05-009	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-4391	COA: 119141ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	DATA TURNAROUND: 7 Days / ~~15~~ Days ~~[illegible]~~ 3/14/05
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=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

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF90 wa50000978	SOIL	3/11/05	0910	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/ [signature] 3/11/05	1530	MO-026 FRIG #1 3/11/05	1530
MO026 FRIDGE 3/14/05	0715	MIRWEIL [signature] 3/14/05	0715
MIRWEIL / [signature] 3/14/05	10:35	JA FRAZIER [signature] 3/14/05	10:35
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

(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} TMG 3-2-05 TMS 3-2-05

REVISED [signature] 9/13/05

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

A-6003-618(03/03)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F05-009-105 PAGE 1 OF 1

COLLECTOR: POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT: JACKSON, RL	TELEPHONE NO.: 372-9004	PROJECT COORDINATOR: TRENT, SJ
SAMPLING LOCATION: 216-U-12 C4725 44ft-46ft	PROJECT DESIGNATION: U Plant Closure Contaminant Plume Refinement		SAF NO.: F05-009
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-4391	COA: 119141ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8B

AIR QUALITY: [ ]

DATA TURNAROUND: 7 Days / ~~15 Days~~ 3-14-05

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

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF91 W050000979	SOIL	3/11/05	1210	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R.PFISTER / [signature]	3/11/05 1530	MO-026 FRIG #1	3/11/05 1530
MO026 FRIDGE	3/14/05 0715	MRWEIL / [signature]	3/14/05 0715
MRWEIL / [signature]	3/14/05 10:35	TA FRAZIER [signature]	3/14/05 10:35

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} TMJ 3-2-05

TMJ 3-2-05

REVISED [signature] 9/13/05

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

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-009-108	PAGE 1 OF 1

COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL	**TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION 216-U-12, C4728 44ft-46ft 48'-52' 782-5-26-05	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement		**SAF NO.** F05-009
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-4391	**COA** 119141ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A

PRICE CODE 8B

AIR QUALITY [ ]

DATA TURNAROUND 7 Days / ~~15 Days~~ 3/14/05

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

PRESERVATION None

TYPE OF CONTAINER aG

NO. OF CONTAINER(S) 1

VOLUME 60mL

SPECIAL HANDLING AND/OR STORAGE

SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF94 WOS0000980	SOIL	3-10-05	1920	F

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/[signature]	3/10/05 1730	MO-026 FRIG #1	3/10/05 1730
MOOZE FRIDGE	3/14/05 0715	MRWEIL/[signature]	3/14/05 0715
MRWEIL/[signature]	3/14/05 10:35	TA FRAZIER Teresa Frazier	3/14/05 10:35

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} TMT 3-2-05 TMT 3-2-05

REVISED [signature] 9/13/05

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

30 of 35

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-009-109	PAGE 1 OF 1

COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL	**TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION 216-U-12 ; C4729 44 FT - 46 FT	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement		**SAF NO.** F05-009
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-4391	**COA** 119141ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A

PRICE CODE 8B

AIR QUALITY ☐

DATA TURNAROUND 7 Days / ~~15 Days~~ 3-14-05

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	8G
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF95 W050000981	SOIL	3-10-05	1231	X

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/[signature]	3/10/05 1730	MO-026 FRIG #1	3/10/05 1730
MO026 FRIDGE	3/14/05 0715	[signature]	3/14/05 0715
[signature]	3/14/05 10:35	TA FRAZIER [signature]	3/14/05 10:35

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} TMJ 3-2-05 TMJ 3-2-05

REVISED [signature] 9/13/05

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

31 of 35

A-6003-618(03/03)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F05-009-110 PAGE 1 OF 1

COLLECTOR: POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT: JACKSON, RL	TELEPHONE NO.: 372-9004	PROJECT COORDINATOR: TRENT, SJ
SAMPLING LOCATION: 216-U-12; C4730 18FT-20FT	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		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8B

AIR QUALITY: ☐

DATA TURNAROUND: 7 Days / ~~15 Days~~ 3/14/05

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

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF96 W050000982	SOIL	3/10/05	1450	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER / [signature]	3/10/05 1730	MO-026 FRIG #1	3/10/05 1730
MO026 FRIDGE	3/14/05 0715	MR WEIL / [signature]	3/14/05 0775
MR WEIL / [signature]	3/14/05 10:35	TA FRAZIER [signature]	3/14/05 10:35

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} TMT 3-2-05

TMT 3-2-05

REVISED [signature] 9/13/05

LABORATORY SECTION — RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION — DISPOSAL METHOD — DISPOSED BY — DATE/TIME

A-6003-618(03/03)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F05-009-111

COLLECTOR: POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT: JACKSON, RL	TELEPHONE NO.: 372-9004	PROJECT COORDINATOR: TRENT, SJ
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / ~~15 Days~~ 3/14/05		
SAMPLING LOCATION: 216-U-12 ; C4730 38FT-40FT	PROJECT DESIGNATION: U Plant Closure Contaminant Plume Refinement	SAF NO.: F05-009	AIR QUALITY
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		BILL OF LADING/AIR BILL NO.: N/A

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=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

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF97 W050000983	SOIL	3-10-05	15:35	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/ [signature]	3/10/05 1730	MO-026 FRIDGE #1	3/10/05 1730
MO026 FRIDGE	3/14/05 0715	MR WEIL/ [signature]	3/14/05 0715
MR WEIL/ [signature]	3/14/05 10:35	TA FRAZIER Teresa Frazier	3/14/05 10:35

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} MMJ 3-2-05

MMJ 3-2-05

REVISED Days 9/13/05

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

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F05-009-112	PAGE 1 OF 1
COLLECTOR POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT JACKSON, RL	TELEPHONE NO. 372-9004	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8B	DATA TURNAROUND 7 Days / ~~15~~ Days KDW 3-24-05
SAMPLING LOCATION 216-U-12, C4730 44FT-46FT	PROJECT DESIGNATION U Plant Closure Contaminant Plume Refinement		SAF NO. F05-009	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-4391	COA 119141ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=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

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF98 W05000098H	SOIL	3/10/05	1600	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/ [signature] 3/10/5	1730	MO-026 FRIG #1 3/10/05	1730
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MO 026 FRIDGE 3/14/05	0715	MOKLER/[signature] 3/14/05	0715
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MR REIL/[signature] 3/14/05	10:35	TA FRAZIER [signature] 3/14/05	10:35
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

(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 - 6010~~B (TAL) ~~(Magnesium)~~ ICP Metals - 6010B (Add-On) {Titanium} TMJ 3-2-05
TMJ 3-2-05

REVISED
[signature]
9/13/05

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

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-009-113	PAGE 1 OF 1

COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL	**TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION 216-U-12 ; C4728 44FT-46FT 45'-50'	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement		**SAF NO.** F05-009
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-4391	**COA** 119141ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A

PRICE CODE 8B

AIR QUALITY ☐

DATA TURNAROUND 7 Days / ~~15 Days~~ 3/14/05

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	**PRESERVATION**	None
	TYPE OF CONTAINER	aG
	NO. OF CONTAINER(S)	1
	VOLUME	60mL
SPECIAL HANDLING AND/OR STORAGE	**SAMPLE ANALYSIS**	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1CF99 W0500009 85	SOIL	3-10-05	6420	X								

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PFISTER/[signature]	3/10/05 1730	MO-026 FRIG #1	3/10/05 1730
MO026 FRIDGE	3/14/05 0715	MRWEIL/[signature]	3/14/05 0719
MRWEIL/[signature]	3/14/05 10135	TA FRAZIER [signature]	3/14/05 10135

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} TMT 3-2-05 TMT 3-2-05

REVISED [signature] 9/13/05

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

A-6003-618(03/03)