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

FLUOR

Memorandum

M8141-SLF-05-133

To: S. J. Trent A0-21 Date: March 18, 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: FINAL RESULTS FOR U PLANT CLOSURE CONTAMINANT PLUME REFINEMENT–SAMPLE DELIVERY GROUP WSCF20050554 – SAF NUMBER F05-009

Reference:
(1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 6, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20050554, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

MAR 2005
RECEIVED

M8141-SLF-05-133

ATTACHMENT 1

NARRATIVE

Consisting of 3 pages
Including cover page

Sample Delivery Group	**WSCF20050554**
Sample Matrix	**SOIL**
Sample Visual	**N/A**
SAF Number	**F05-009**
Data Deliverable	**Summary Report**

Introduction

Five (5) U Plant Closure Contaminant Plume Refinement, 216-U-8/C4714/C4717/C4718, 1' – 46', GRP samples (B1CF40, B1CF43, B1CF44, B1CF45 and B1CF46) were received at the WSCF Laboratory on March 9, 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 11 for QC details. Analytical Notes:

- Preparation Date: 15-mar-2005.
- 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 – 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 12 through 15 for QC details. Analytical Notes:

- Preparation Date: 15-mar-2005.
- 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 the established laboratory limit, but was within the manufacturer's limit. Sample results were not flagged.

All other QC controls are within the established limits.

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.

Herlene S. Rich
WSCF Production Control

Abbreviations

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

M8141-SLF-05-133

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 15 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.D. Min 3/18/2005

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#: WSCF20050554
Report Date: 17-mar-2005
Report WGPP/ver. 1.1
Groundwater Remediation Program

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050554

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Inorganic															
W050000952	B1CF40	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.22e+03	mg/kg	98.08	0.098	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		292	mg/kg	9.88	6.9	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		11.0	mg/kg	9.88	0.21	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.88e-03	mg/kg	9.88	9.9e-03	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 7.05	mg/kg	9.88	7.0	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		59.4	mg/kg	9.88	0.91	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.0867	mg/kg	9.88	0.020	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		8.90	mg/kg	9.88	3.3	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		6.59	mg/kg	9.88	0.19	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		10.8	mg/kg	9.88	0.63	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		42.7	mg/kg	9.88	0.29	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		41.2	mg/kg	9.88	2.5	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		3.64	mg/kg	9.88	0.26	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.88e-03	mg/kg	9.88	9.9e-03	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.724	mg/kg	9.88	0.16	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		5.31	mg/kg	9.88	2.4	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.40	mg/kg	9.88	0.72	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.279	mg/kg	9.88	0.020	03/16/05	03/08/05	03/09/05
W050000952	B1CF40	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		27.9	mg/kg	9.88	0.99	03/16/05	03/08/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.96e+03	mg/kg	99.80	0.10	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		395	mg/kg	9.80	6.8	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		9.16	mg/kg	9.80	0.21	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412		0.111	mg/kg	9.80	9.8e-03	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 7.00	mg/kg	9.80	7.0	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		91.1	mg/kg	9.80	0.90	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.318	mg/kg	9.80	0.020	03/16/05	03/09/05	03/09/05

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

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050554

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000953	B1CF43	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		9.65	mg/kg	9.80	3.3	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		9.56	mg/kg	9.80	0.19	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		15.9	mg/kg	9.80	0.63	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		56.2	mg/kg	9.80	0.28	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		55.8	mg/kg	9.80	2.4	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		7.01	mg/kg	9.80	0.26	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412		0.0520	mg/kg	9.80	9.8e-03	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		1.34	mg/kg	9.80	0.16	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		9.07	mg/kg	9.80	2.4	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.23	mg/kg	9.80	0.72	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		2.94	mg/kg	9.80	0.020	03/16/05	03/09/05	03/09/05
W050000953	B1CF43	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		33.6	mg/kg	9.80	0.98	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.96e+03	mg/kg	97.05	0.097	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		457	mg/kg	9.90	6.9	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		13.1	mg/kg	9.90	0.21	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412		0.300	mg/kg	9.90	9.9e-03	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 7.07	mg/kg	9.90	7.1	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		111	mg/kg	9.90	0.91	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.635	mg/kg	9.90	0.020	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		11.6	mg/kg	9.90	3.3	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		11.2	mg/kg	9.90	0.19	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		17.9	mg/kg	9.90	0.63	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		61.7	mg/kg	9.90	0.29	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		65.2	mg/kg	9.90	2.5	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		6.49	mg/kg	9.90	0.26	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412		0.0910	mg/kg	9.90	9.9e-03	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		3.20	mg/kg	9.90	0.16	03/16/05	03/09/05	03/09/05

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

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050554

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000954	B1CF44	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		7.84	mg/kg	9.90	2.4	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.03	mg/kg	9.90	0.72	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		1.31	mg/kg	9.90	0.020	03/16/05	03/09/05	03/09/05
W050000954	B1CF44	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		37.5	mg/kg	9.90	0.99	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.28e+03	mg/kg	99.44	0.099	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		317	mg/kg	9.97	7.0	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		8.37	mg/kg	9.97	0.21	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.97e-03	mg/kg	9.97	0.010	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 7.12	mg/kg	9.97	7.1	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		90.7	mg/kg	9.97	0.92	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.239	mg/kg	9.97	0.020	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		10.1	mg/kg	9.97	3.4	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		6.58	mg/kg	9.97	0.19	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		15.9	mg/kg	9.97	0.64	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		37.3	mg/kg	9.97	0.29	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		54.8	mg/kg	9.97	2.5	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		4.73	mg/kg	9.97	0.26	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.97e-03	mg/kg	9.97	0.010	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		7.74	mg/kg	9.97	0.16	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		4.47	mg/kg	9.97	2.4	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	< 0.728	mg/kg	9.97	0.73	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.642	mg/kg	9.97	0.020	03/16/05	03/09/05	03/09/05
W050000955	B1CF45	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		35.3	mg/kg	9.97	1.0	03/16/05	03/09/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.46e+03	mg/kg	99.54	0.10	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7439-96-5	Manganese	SOIL	LA-505-412		272	mg/kg	9.77	6.8	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-02-0	Nickel	SOIL	LA-505-412		7.05	mg/kg	9.77	0.20	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 9.77e-03	mg/kg	9.77	9.8e-03	03/16/05	03/08/05	03/09/05

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

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050554

Sample #	Client ID			CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000956	B1CF46	GRP	TRENT	7440-36-0	Antimony	SOIL	LA-505-412		8.35	mg/kg	9.77	7.0	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-39-3	Barium	SOIL	LA-505-412		44.2	mg/kg	9.77	0.90	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-43-9	Cadmium	SOIL	LA-505-412		0.126	mg/kg	9.77	0.020	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-47-3	Chromium	SOIL	LA-505-412		8.04	mg/kg	9.77	3.3	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		6.53	mg/kg	9.77	0.19	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-50-8	Copper	SOIL	LA-505-412		19.6	mg/kg	9.77	0.62	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		43.6	mg/kg	9.77	0.28	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-66-6	Zinc	SOIL	LA-505-412		67.8	mg/kg	9.77	2.4	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7439-92-1	Lead	SOIL	LA-505-412		3.36	mg/kg	9.77	0.25	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7439-97-6	Mercury	SOIL	LA-505-412	U	< 9.77e-03	mg/kg	9.77	9.8e-03	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-61-1	Uranium	SOIL	LA-505-412		0.416	mg/kg	9.77	0.16	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		6.02	mg/kg	9.77	2.3	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7782-49-2	Selenium	SOIL	LA-505-412		1.02	mg/kg	9.77	0.71	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-28-0	Thallium	SOIL	LA-505-412		0.280	mg/kg	9.77	0.020	03/16/05	03/08/05	03/09/05
W050000956	B1CF46	GRP	TRENT	7440-24-6	Strontium	SOIL	LA-505-412		26.3	mg/kg	9.77	0.98	03/16/05	03/08/05	03/09/05

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*

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050554
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	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050554
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	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050554
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	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050554
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	100.588	% Recov	03/16/05	79.000	114.000	
LCS	Nickel	7440-02-0	152	103.401	% Recov	03/16/05	84.000	125.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050554
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	115.6	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	82.61	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	98.088	% 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	

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F05-009

Group #: WSCF20050554

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. ICP-AES: The spiking level for Titanium was insufficient for the sample concentration. Results NA for MS/MSD

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

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number :

Group #: 20050554

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.

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.

w13qlog v1 17-mar-2005 12:38:35

W13q Worklist/Batch/QC Report for Group# WSCF20050554

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	3	25750	29143	SAMPLE	W050000952	ICP-2008 MS All possible metal
25384	5	25750	29143	SPK-RPD	W050000952	ICP-2008 MS All possible metal
25384	6	25750	29143	SAMPLE	W050000953	ICP-2008 MS All possible metal
25384	7	25750	29143	SAMPLE	W050000954	ICP-2008 MS All possible metal
25384	8	25750	29143	SAMPLE	W050000955	ICP-2008 MS All possible metal
25384	9	25750	29143	SAMPLE	W050000956	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	3	25735	29153	SAMPLE	W050000952	ICP Metals Analysis, Grd H20 P
25369	5	25735	29153	SPK-RPD	W050000952	ICP Metals Analysis, Grd H20 P
25369	6	25735	29153	SAMPLE	W050000953	ICP Metals Analysis, Grd H20 P
25369	7	25735	29153	SAMPLE	W050000954	ICP Metals Analysis, Grd H20 P
25369	8	25735	29153	SAMPLE	W050000955	ICP Metals Analysis, Grd H20 P
25369	9	25735	29153	SAMPLE	W050000956	ICP Metals Analysis, Grd H20 P

M8141-SLF-05-133

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 7 pages
Including cover page

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

File
N1
3/18/05

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 119141/ES10
Group#: 20050554
Project#: F05-009
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 03/09/05. 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
W050000952	B1CF40	GRP @2008 @GPP6010	TRENT Solid, or handle as if solid	03/08/05
W050000953	B1CF43	GRP @2008 @GPP6010	TRENT Solid, or handle as if solid	03/09/05
W050000954	B1CF44	GRP @2008 @GPP6010	TRENT Solid, or handle as if solid	03/09/05
W050000955	B1CF45	GRP @2008 @GPP6010	TRENT Solid, or handle as if solid	03/09/05
W050000956	B1CF46	GRP @2008 @GPP6010	TRENT Solid, or handle as if solid	03/08/05

Test Acronym Description

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

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 3/14/05	F05-009-054	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-8 ; C4714 44Ft - 46Ft	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~~ 3-7-05

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 20050554	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF40 W05000952	SOIL	3-8-05	1215	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM JSPope/ASHer 3-8-05	DATE/TIME 1700	RECEIVED BY/STORED IN MO-026/Ref #1 3-8-05	DATE/TIME 1700
RELINQUISHED BY/REMOVED FROM MO-026/Ref #1 3-9-05	DATE/TIME 1700	RECEIVED BY/STORED IN JSPope/ASHer 3-9-05	DATE/TIME 1530
RELINQUISHED BY/REMOVED FROM JSPope/ASHer 3-9-05 10:40	DATE/TIME	RECEIVED BY/STORED IN Victor Bias 3/9/05 10:40	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

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

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	F05-009-057	PAGE 1 OF 1

COLLECTOR POPE/PFISTER/HOKLER/TYRA	COMPANY CONTACT JACKSON, RL	TELEPHONE NO. 372-9004	PROJECT COORDINATOR TRENT, SJ
SAMPLING LOCATION 216-U-8 ; C4717 14 - 3ft	PROJECT DESIGNATION U Plant Closure Contaminant Plume Refinement		SAF NO. F05-009
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-4391	COA 119141E510	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~~ 3-7-05

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	
B1CF43 953	SOIL	3-9-05	0820	X

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
BAPfister 3-9-05	1040	Victor Bins	3/9/05 1040

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} TMB 3-2-05
~~TMB 3-2-05~~

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

F05-009-058 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-8 ; C4717 37 ft - 39 ft	PROJECT DESIGNATION: U Plant Closure Contaminant Plume Refinement		SAF NO.: F05-009
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-U-4391	COA: 119141E510	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~~ 3-7-05

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

POSSIBLE SAMPLE HAZARDS/ REMARKS

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	
B1CF44 TSL	SOIL	3-9-05	0905	X

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	3-9-05 10:40	Victor Burns [signature]	3/9/05 10:40

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 MOS 3-2-05

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		F05-009-059	PAGE 1 OF 1
COLLECTOR POPE/PFISTER/HOKLER/TYRA	COMPANY CONTACT JACKSON, RL	TELEPHONE NO. 372-9004	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8B DATA TURNAROUND
SAMPLING LOCATION 216-U-8 ; C4717 44 ft - 46 ft	PROJECT DESIGNATION U Plant Closure Contaminant Plume Refinement		SAF NO. F05-009	AIR QUALITY ☐ 7 Days / ~~15 Days~~
ICE CHEST NO.	FIELD LOGBOOK NO. HUF-U-4391	COA 119141E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None
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		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	[redacted]
B1CF45 955	SOIL	3-9-05	0930	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM BAR/ [illegible]	DATE/TIME 3-9-05 1040	RECEIVED BY/STORED IN Victor Bics [illegible]	DATE/TIME 3/9/05 10:40
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

(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 - 60108 (TAL) (Magnesium)~~ ICP Metals - 60108 (Add-On) (Titanium) TMT 3-2-05 TMT 3-2-05

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			F05-009-060	PAGE 1 OF 1
COLLECTOR POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT JACKSON, RL	TELEPHONE NO. 372-9004	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8B AIR QUALITY	DATA TURNAROUND 7 Days / ~~15 Days~~ 3-7-05
SAMPLING LOCATION 216-U-8 ; C4718 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		

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	
B1CF46 956	SOIL	3-8-05	1530	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM JSAPG/[signature] 3-8-05	DATE/TIME 1700	RECEIVED BY/STORED IN MO-026 / Ref. # 1 3-8-05	DATE/TIME 1700
RELINQUISHED BY/REMOVED FROM MO-026 / Ref. #1 3-9-05	DATE/TIME 0530	RECEIVED BY/STORED IN JSPOPE/[signature] 3-9-05	DATE/TIME 0530
RELINQUISHED BY/REMOVED FROM JSPOPE/[signature] 3-9-05	DATE/TIME 10:40	RECEIVED BY/STORED IN Victor Bus [signature] 3/9/05	DATE/TIME 10:40
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} TMS 3-2-05 TMS 3-2-05

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

A-6003-618(03/03)