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Memorandum

M8141-SLF-05-113

To:	S. J. Trent	A0-21	Date:	March 7, 2005
From:	S. L. Fitzgerald, Manager WSCF Analytical Chemistry	M. Stauffer for SLF		

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 WSCF20050470 – 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 WSCF20050470, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

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M8141-SLF-05-113

ATTACHMENT 1

NARRATIVE

Consisting of 3 pages
Including cover page

Sample Delivery Group	**WSCF20050470**
Sample Matrix	**SOIL**
Sample Visual	**N/A**
SAF Number	**F05-009**
Data Deliverable	**Summary Report**

Introduction

One (1) U Plant Closure Contaminant Plume Refinement, 216-U-1 & 216-U-2/C4705, 44' – 46', GRP sample (B1CDB3) was received at the WSCF Laboratory on February 28, 2005. The sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

Analytical Methodology for Requested Analyses

Inorganic

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

Inorganic Comments

ICP-AES Metals (Magnesium and 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 8 for QC details. Analytical Notes:

- Preparation Date: 02-mar-2005.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1CD96 (SDG# 20050458, SAF# F05-009).

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

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

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 9 through 12 for QC details. Analytical Notes:

- Preparation Date: 03-mar-2005.

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1CD92 (SDG# 20050482, SAF# F05-009).

- Arsenic, Mercury, Antimony, Selenium and Uranium - The analytes detected in the associated preparation Blank sample were evaluated and there was no significant effect on the sample results.

- Antimony and Mercury – The Laboratory Control Sample recoveries exceeded established laboratory limits, but were within manufacturer's specifications. 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-05-113

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 12 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.O. Mix 3/7/2005

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

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Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20050470
Report Date: 7-mar-2005
Report WGPP/ver. 1.1
Groundwater Remediation Program

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20050470

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Inorganic													
W050000778	B1CDB3 TRENT	7439-95-4	Magnesium	SOIL	LA-505-411		5.60e+03	mg/kg	96.32	1.8	03/02/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-32-6	Titanium	SOIL	LA-505-411		1.22e+03	mg/kg	96.32	0.096	03/02/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7439-96-5	Manganese	SOIL	LA-505-412		403	mg/kg	9.35	2.8	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-02-0	Nickel	SOIL	LA-505-412		9.66	mg/kg	9.35	4.7	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-22-4	Silver	SOIL	LA-505-412	U	< 1.87	mg/kg	9.35	1.9	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-36-0	Antimony	SOIL	LA-505-412	U	< 4.68	mg/kg	9.35	4.7	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-39-3	Barium	SOIL	LA-505-412		83.6	mg/kg	9.35	1.9	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-43-9	Cadmium	SOIL	LA-505-412	U	< 0.935	mg/kg	9.35	0.94	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-47-3	Chromium	SOIL	LA-505-412		9.20	mg/kg	9.35	2.8	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-48-4	Cobalt	SOIL	LA-505-412		7.08	mg/kg	9.35	1.9	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-50-8	Copper	SOIL	LA-505-412		13.6	mg/kg	9.35	4.7	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-62-2	Vanadium	SOIL	LA-505-412		33.4	mg/kg	9.35	3.7	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-66-6	Zinc	SOIL	LA-505-412		49.6	mg/kg	9.35	37	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7439-92-1	Lead	SOIL	LA-505-412	U	< 11.2	mg/kg	9.35	11	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7439-97-6	Mercury	SOIL	LA-505-412		1.07	mg/kg	9.35	0.94	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-61-1	Uranium	SOIL	LA-505-412	U	< 0.935	mg/kg	9.35	0.94	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-38-2	Arsenic	SOIL	LA-505-412		6.52	mg/kg	9.35	2.8	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7782-49-2	Selenium	SOIL	LA-505-412	U	< 2.80	mg/kg	9.35	2.8	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-28-0	Thallium	SOIL	LA-505-412	U	< 0.935	mg/kg	9.35	0.94	03/04/05	02/28/05	02/28/05
W050000778	B1CDB3 TRENT	7440-24-6	Strontium	SOIL	LA-505-412		33.3	mg/kg	9.35	0.94	03/04/05	02/28/05	02/28/05

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: WSCF20050470
Matrix: SOLID
Test: ICP Metals Analysis, Grd H20 P

SAF Number: F05-009
Sample Date: 02/24/05
Receive Date:02/24/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W050000765									
BATCH QC ASSOCIATED WITH SAMPLE									
MS	Magnesium	7439-95-4	NA	n/a	% Recov	03/02/05	75.000	125.000	
MS	Titanium	7440-32-6	190	95.960	% Recov	03/02/05	75.000	125.000	
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	03/02/05	75.000	125.000	
MSD	Titanium	7440-32-6	180	91.371	% Recov	03/02/05	75.000	125.000	
SPK-RPD	Magnesium	7439-95-4		n/a	RPD	03/02/05	0.000	20.000	
SPK-RPD	Titanium	7440-32-6	91.371	4.899	RPD	03/02/05	0.000	20.000	
BATCH QC									
BLANK	Magnesium	7439-95-4	2.8	2.800	ug/L	03/02/05			
BLANK	Titanium	7440-32-6	<1e-3	n/a	ug/L	03/02/05			U
LCS	Magnesium	7439-95-4	2450	109.375	% Recov	03/02/05	71.000	129.000	
LCS	Titanium	7440-32-6	262	84.516	% Recov	03/02/05	9.000	191.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050470
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date: 03/01/05
Receive Date:03/01/05

Lab ID: W050000791
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	346.2	86.550	% Recov	03/04/05	70.000	130.000	
MS	Arsenic	7440-38-2	422.7	105.675	% Recov	03/04/05	70.000	130.000	
MS	Barium	7440-39-3	399.57	99.892	% Recov	03/04/05	70.000	130.000	
MS	Cadmium	7440-43-9	415.3	103.825	% Recov	03/04/05	70.000	130.000	
MS	Cobalt	7440-48-4	407.94	101.985	% Recov	03/04/05	70.000	130.000	
MS	Chromium	7440-47-3	409.61	102.403	% Recov	03/04/05	70.000	130.000	
MS	Copper	7440-50-8	400.99	100.248	% Recov	03/04/05	70.000	130.000	
MS	Mercury	7439-97-6	21.39	106.950	% Recov	03/04/05	70.000	130.000	
MS	Manganese	7439-96-5	384.6	96.150	% Recov	03/04/05	70.000	130.000	
MS	Nickel	7440-02-0	412.76	103.190	% Recov	03/04/05	70.000	130.000	
MS	Lead	7439-92-1	407	101.750	% Recov	03/04/05	70.000	130.000	
MS	Antimony	7440-36-0	430.2	107.550	% Recov	03/04/05	70.000	130.000	
MS	Selenium	7782-49-2	427.8	106.950	% Recov	03/04/05	70.000	130.000	
MS	Strontium	7440-24-6	396.3	99.075	% Recov	03/04/05	70.000	130.000	
MS	Thallium	7440-28-0	393.8	98.450	% Recov	03/04/05	70.000	130.000	
MS	Uranium	7440-61-1	416.39	104.097	% Recov	03/04/05	70.000	130.000	
MS	Vanadium	7440-62-2	420.51	105.127	% Recov	03/04/05	70.000	130.000	
MS	Zinc	7440-66-6	423.33	105.832	% Recov	03/04/05	70.000	130.000	
MSD	Silver	7440-22-4	333.1	83.275	% Recov	03/04/05	70.000	130.000	
MSD	Arsenic	7440-38-2	391	97.750	% Recov	03/04/05	70.000	130.000	
MSD	Barium	7440-39-3	362.27	90.567	% Recov	03/04/05	70.000	130.000	
MSD	Cadmium	7440-43-9	387.9	96.975	% Recov	03/04/05	70.000	130.000	
MSD	Cobalt	7440-48-4	385.54	96.385	% Recov	03/04/05	70.000	130.000	
MSD	Chromium	7440-47-3	381.71	95.427	% Recov	03/04/05	70.000	130.000	
MSD	Copper	7440-50-8	369.39	92.347	% Recov	03/04/05	70.000	130.000	
MSD	Mercury	7439-97-6	20.41	102.050	% Recov	03/04/05	70.000	130.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050470
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F05-009
Sample Date: 03/01/05
Receive Date:03/01/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Manganese	7439-96-5	358.7	89.675	% Recov	03/04/05	70.000	130.000	
MSD	Nickel	7440-02-0	381.86	95.465	% Recov	03/04/05	70.000	130.000	
MSD	Lead	7439-92-1	383.5	95.875	% Recov	03/04/05	70.000	130.000	
MSD	Antimony	7440-36-0	392.9	98.225	% Recov	03/04/05	70.000	130.000	
MSD	Selenium	7782-49-2	404.9	101.225	% Recov	03/04/05	70.000	130.000	
MSD	Strontium	7440-24-6	371.1	92.775	% Recov	03/04/05	70.000	130.000	
MSD	Thallium	7440-28-0	373.1	93.275	% Recov	03/04/05	70.000	130.000	
MSD	Uranium	7440-61-1	395.49	98.873	% Recov	03/04/05	70.000	130.000	
MSD	Vanadium	7440-62-2	367.91	91.978	% Recov	03/04/05	70.000	130.000	
MSD	Zinc	7440-66-6	388.73	97.183	% Recov	03/04/05	70.000	130.000	
SPK-RPD	Silver	7440-22-4	83.275	3.857	RPD	03/04/05	0.000	20.000	
SPK-RPD	Arsenic	7440-38-2	97.750	7.792	RPD	03/04/05	0.000	20.000	
SPK-RPD	Barium	7440-39-3	90.567	9.792	RPD	03/04/05	0.000	20.000	
SPK-RPD	Cadmium	7440-43-9	96.975	6.823	RPD	03/04/05	0.000	20.000	
SPK-RPD	Cobalt	7440-48-4	96.385	5.646	RPD	03/04/05	0.000	20.000	
SPK-RPD	Chromium	7440-47-3	95.427	7.053	RPD	03/04/05	0.000	20.000	
SPK-RPD	Copper	7440-50-8	92.347	8.205	RPD	03/04/05	0.000	20.000	
SPK-RPD	Mercury	7439-97-6	102.050	4.689	RPD	03/04/05	0.000	20.000	
SPK-RPD	Manganese	7439-96-5	89.675	6.969	RPD	03/04/05	0.000	20.000	
SPK-RPD	Nickel	7440-02-0	95.465	7.777	RPD	03/04/05	0.000	20.000	
SPK-RPD	Lead	7439-92-1	95.875	5.946	RPD	03/04/05	0.000	20.000	
SPK-RPD	Antimony	7440-36-0	98.225	9.063	RPD	03/04/05	0.000	20.000	
SPK-RPD	Selenium	7782-49-2	101.225	5.500	RPD	03/04/05	0.000	20.000	
SPK-RPD	Strontium	7440-24-6	92.775	6.568	RPD	03/04/05	0.000	20.000	
SPK-RPD	Thallium	7440-28-0	93.275	5.398	RPD	03/04/05	0.000	20.000	
SPK-RPD	Uranium	7440-61-1	98.873	5.148	RPD	03/04/05	0.000	20.000	
SPK-RPD	Vanadium	7440-62-2	91.978	13.342	RPD	03/04/05	0.000	20.000	
SPK-RPD	Zinc	7440-66-6	97.183	8.521	RPD	03/04/05	0.000	20.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050470
Matrix: SOLID
Test: ICP-2008 MS All possible metal

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BATCH QC									
BLANK	Silver	7440-22-4	<0.2	n/a	ug/L	03/04/05			U
BLANK	Arsenic	7440-38-2	0.53	0.530	ug/L	03/04/05			
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L	03/04/05			U
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L	03/04/05			U
BLANK	Cobalt	7440-48-4	<0.2	n/a	ug/L	03/04/05			U
BLANK	Chromium	7440-47-3	<0.3	n/a	ug/L	03/04/05			U
BLANK	Copper	7440-50-8	<0.5	n/a	ug/L	03/04/05			U
BLANK	Mercury	7439-97-6	0.19	0.190	ug/L	03/04/05			
BLANK	Manganese	7439-96-5	<0.3	n/a	ug/L	03/04/05			U
BLANK	Nickel	7440-02-0	<0.5	n/a	ug/L	03/04/05			U
BLANK	Lead	7439-92-1	<1.2	n/a	ug/L	03/04/05			U
BLANK	Antimony	7440-36-0	0.83	0.830	ug/L	03/04/05			
BLANK	Selenium	7782-49-2	0.37	0.370	ug/L	03/04/05			
BLANK	Strontium	7440-24-6	<0.1	n/a	ug/L	03/04/05			U
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L	03/04/05			U
BLANK	Uranium	7440-61-1	0.16	0.160	ug/L	03/04/05			
BLANK	Vanadium	7440-62-2	<0.4	n/a	ug/L	03/04/05			U
BLANK	Zinc	7440-66-6	<4	n/a	ug/L	03/04/05			U
LCS	Silver	7440-22-4	153	117.692	% Recov	03/04/05	110.000	170.000	
LCS	Arsenic	7440-38-2	185.3	115.093	% Recov	03/04/05	82.000	142.000	
LCS	Barium	7440-39-3	259	102.778	% Recov	03/04/05	79.000	123.000	
LCS	Cadmium	7440-43-9	150	117.188	% Recov	03/04/05	88.000	127.000	
LCS	Cobalt	7440-48-4	36.89	104.801	% Recov	03/04/05	78.000	111.000	
LCS	Chromium	7440-47-3	68.97	99.237	% Recov	03/04/05	50.000	126.000	
LCS	Copper	7440-50-8	157.3	106.284	% Recov	03/04/05	61.000	134.000	
LCS	Mercury	7439-97-6	19.78	117.041	% Recov	03/04/05	75.000	114.000	
LCS	Manganese	7439-96-5	413	101.225	% Recov	03/04/05	79.000	114.000	
LCS	Nickel	7440-02-0	156.5	106.463	% Recov	03/04/05	84.000	125.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050470
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	155.4	109.437	% Recov	03/04/05	87.000	120.000	
LCS	Antimony	7440-36-0	122.2	200.657	% Recov	03/04/05	61.000	135.000	*
LCS	Selenium	7782-49-2	77.72	121.059	% Recov	03/04/05	83.000	145.000	
LCS	Strontium	7440-24-6	81.78	97.357	% Recov	03/04/05	80.000	120.000	
LCS	Thallium	7440-28-0	93	110.714	% Recov	03/04/05	79.000	125.000	
LCS	Uranium	7440-61-1	410.1	102.525	% Recov	03/04/05	89.000	107.000	
LCS	Vanadium	7440-62-2	99.72	102.487	% Recov	03/04/05	77.000	111.000	
LCS	Zinc	7440-66-6	191.7	116.182	% Recov	03/04/05	76.000	148.000	

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F05-009

Group #: WSCF20050470

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: The spiking level for Magnesium was insufficient for the sample content. Idl ICP-MS: Preparation blank results are in ug/L (ppb) and sample results are in ug/g (ppm). All LCS recoveries are within manufacturers specifications.

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

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number :

Group #: 20050470

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

RQ=Result Qualifier

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WSCF
METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-505-411 LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE
EPA SW-846 6010B INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY

LA-505-412 LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY
EPA-600/R-94-111 200.8 DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS

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 07-mar-2005 12:50:18

W13q Worklist/Batch/QC Report for Group# WSCF20050470

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
25238	1	25599	28971	BLANK		ICP Metals Analysis, Grd H20 P
25238	2	25599	28971	LCS		ICP Metals Analysis, Grd H20 P
25238	9	25599	28971	MS	W050000765	ICP Metals Analysis, Grd H20 P
25238	10	25599	28971	MSD	W050000765	ICP Metals Analysis, Grd H20 P
25238	0	25599	28971	SPK-RPD	W050000765	ICP Metals Analysis, Grd H20 P
25238	13	25599	28971	SAMPLE	W050000778	ICP Metals Analysis, Grd H20 P
25268	1	25634	29016	BLANK		ICP-2008 MS All possible metal
25268	2	25634	29016	LCS		ICP-2008 MS All possible metal
25268	10	25634	29016	SAMPLE	W050000778	ICP-2008 MS All possible metal
25268	4	25634	29016	MS	W050000791	ICP-2008 MS All possible metal
25268	5	25634	29016	MSD	W050000791	ICP-2008 MS All possible metal
25268	0	25634	29016	SPK-RPD	W050000791	ICP-2008 MS All possible metal

M8141-SLF-05-113

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 3 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

3/7/05
File KB

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 119141/ES10
Group#: 20050470
Project#: F05-009
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 02/28/05. 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
W050000778	B1CDB3	TRENT @2008 @GPP6010	Solid, or handle as if solid	02/28/05

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	F05-009-012	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8B	DATA TURNAROUND
POPE/PFISTER/MOKLER/TYRA	JACKSON, RL	372-9004	TRENT, SJ		
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY** ☐	**7 Days / ~~10 Days~~** 2-28-05
216-U-1 & 216-U-2; C4705 44'-46'	U Plant Closure Contaminant Plume Refinement		F05-009		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
		119141ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Waste Sampling & Characterization	N/A		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

20050470

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											
B1CDB3	SOIL	2-28-05	1300	X										
W05000778														

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. Pfister/[signature]	2/28/05 14:45	V. Chorisinski [signature]	2/28/05 14:45
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 - 6010B (TAL) {Magnesium} ICP Metals - 6010B (Add-On) {Titanium}

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

A-6003-618(03/03)

Verification No.	CHEMICAL DATA PACKAGE VERIFICATION COVER SHEET	Page 1 of 1

Project: U-Plant Closure Contaminant | Reviewer: S. J. Trent / [illegible] | Date: 4/21/05

Laboratory: WSCF | Case: N/A

SDG: WSCF20050470

	VOA	Semi-VOA	Pest/PCB	Inorganic	General	Dioxin/Furan	Special GC
Analyses Performed:				✓			
Case Narrative:				✓			
Batch Sheet:				N/A			

HEIS No.	Sample Matrix	COC/SAR	VOA	Semi-VOA	Pest/PCB	Inorganic	General	Dioxin/Furan	Special GC
B1CDB3	soil	F05-009-012				6010B/200.8			

A-6003-637 (03/03)

INORGANIC DATA VERIFICATION CHECKLIST

Package ID: WSCF20050470

Review the data package for completeness and check off the items below. If any data review elements are missing, contact the laboratory for re-submittal. 6010B/200.8

Present? Yes	No	N/A	Data Package Item
O	O	✓	Cover page (CLP only)
			Sample Data
✓	O		*Inorganic analysis data sheets
			Standards Data
O	✓		Initial and continuing calibration verification
O	✓		CRDL standard for AA and ICP (Detection limit verification)
			QC Summary
✓	O		*Blanks
O	✓	O	ICP interference check summary
✓	O		*Spike sample recovery
O	O	✓	*Post-digestion spike sample recovery
✓	O		*Duplicates
✓	O		*Laboratory control samples
O	✓	O	Standard additional results
O	✓		ICP serial dilutions
✓	O		Instrument detection limits
O	✓	O	ICP interelement correction factors
O	✓	O	ICP linear ranges
O	✓		Preparation log
O	✓	O	Instrument run log
			Raw Data
O	✓	O	ICP raw data
O	O	✓	Furnace AA raw data
O	O	✓	Flame AA raw data
O	O	✓	Mercury raw data
O	O	✓	Cyanide raw data
			Additional Data
O	✓	O	Moisture/% solids data sheets
O	✓		Sample preparation sheets

Comments:

No MS/MSD for magnesium due to high concentration of magnesium in the sample and insufficient spike amount.

NOTE: Checklist items required by "summary" data packages are identified by an asterisk (*) in front of the item.

A-6003-625 (03/03)