0096813

SAF-RC-148
300 Area Field Remediation – Soil Full Protocol
FINAL VALIDATION PACKAGE

COMPLETE COPY OF FINAL VALIDATION PACKAGE TO:

Kathy Wendt H4-21

COMMENTS:

SDG J01007 SAF-RC-148

Sample Location/Waste Site: 300-251

RECEIVED
MAY 3 1 2011
EDMC

Date: 2 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol - Waste Site 300-251
Subject: PCB - Data Package No. J01007-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01007 prepared by TestAmerica Laboratory Inc. (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1DWK5	2/1/11	Soil	C	See note 1
J1DWK6	2/1/11	Soil	C	See note 1
J1DWK7	2/1/11	Soil	C	See note 1
J1DWK8	2/1/11	Soil	C	See note 1
J1DWK9	2/1/11	Soil	C	See note 1
J1DWL0	2/1/11	Soil	C	See note 1
J1DWL1	2/1/11	Soil	C	See note 1
J1DWL2	2/1/11	Soil	C	See note 1
J1DWL3	2/1/11	Soil	C	See note 1
J1DWL4	2/1/11	Soil	C	See note 1
J1DWL5	2/1/11	Soil	C	See note 1
J1DWL6	2/1/11	Soil	C	See note 1
J1DWL7	2/1/11	Soil	C	See note 1
J1DWL8	2/1/11	Soil	C	See note 1
J1DWL9	2/1/11	Soil	C	See note 1

1 – PCBs by 8082.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 300 Area Remedial Action Sampling and Analysis Plan (DOE/RL-2001-48, Rev. 3). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Data Requested by Client

DATA QUALITY OBJECTIVES

Holding Times

Holding times are not applicable for PCB analysis.

Method Blank

Method blank analyses are performed to determine the extent of laboratory contamination introduced through sampling, sample preparation or analysis. At least one method blank analysis must be conducted for every 20 samples. Method blanks should not contain target compounds at a concentration greater than required quantitation limit (RQL). If target compounds are present, sample results less than five times the blank concentration are qualified as undetected and flagged "U". If the sample result is less than five times the blank concentration and less than RQL, the result is qualified as undetected and elevated to the RQL.

All method blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

Accuracy

Matrix Spike & Laboratory Control Sample

Matrix spike (MS) and laboratory control sample (LCS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Recoveries must fall within the range of 70% to 130%. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Non-detected sample results with spike recoveries outside control limits are qualified as estimates and flagged "UJ". Sample results greater than five times the spike concentration require no qualification.

All accuracy results were acceptable.

Surrogate Recovery

The analysis of surrogate compounds provides a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the laboratory. When a surrogate compound recovery is outside the control window, all positively identified target compounds associated with the

unacceptable surrogate recoveries are qualified as estimates and flagged "J". Non-detected compounds with surrogate recoveries less than the lower control limit are qualified as having an estimated detection limit and flagged "UJ". Non-detected compounds with surrogate recoveries above the upper control limit require no qualification.

All surrogate results were acceptable.

- **Precision**

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike/matrix spike duplicate results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed as the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. For soil samples, results must be within RPD limits of plus/minus 30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

Field Duplicate Samples

One set of field duplicates (J1DWK6/J1DWL9) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the 300 Area RQLs to ensure that laboratory detection levels meet the required criteria. All results met the RQL.

- **Completeness**

Data Package No. J01007 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

None found.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-2001-48, Rev. 3, *300 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, May 2004.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

PCB DATA QUALIFICATION SUMMARY*

SDG: J01007	**REVIEWER: ELR**	**Project: 300-251**	**PAGE_1_OF_1**
COMMENTS: No qualifiers assigned			

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK5**

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	31.4 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/16/2011 2152			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.0	U	8.0	16
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.6	U	4.6	10
Aroclor 1248		4.6	U	4.6	10
Aroclor 1254		2.6	U	2.6	10
Aroclor 1260		2.6	U	2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	91		59 - 130
Tetrachloro-m-xylene	88		53 - 128

4/30/11

000010

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK6**

Lab Sample ID: 280-12175-2
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/16/2011 2224			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	11
Aroclor 1221		8.5	U	8.5	17
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		4.9	U	4.9	11
Aroclor 1248		4.9	U	4.9	11
Aroclor 1254		16		2.7	11
Aroclor 1260		39		2.7	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	80		59 - 130
Tetrachloro-m-xylene	121		53 - 128

4/30/11

000011

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK7**

Lab Sample ID: 280-12175-3
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.0 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/16/2011 2256			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	10
Aroclor 1221		8.4	U	8.4	17
Aroclor 1232		2.1	U	2.1	10
Aroclor 1242		4.9	U	4.9	10
Aroclor 1248		4.9	U	4.9	10
Aroclor 1254		24		2.7	10
Aroclor 1260		74		2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	89		59 - 130
Tetrachloro-m-xylene	91		53 - 128

4/30/11

000012

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK8**

Lab Sample ID: 280-12175-4
Client Matrix: Solid
% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.0 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0031			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	10
Aroclor 1221		8.3	U	8.3	17
Aroclor 1232		2.1	U	2.1	10
Aroclor 1242		4.8	U	4.8	10
Aroclor 1248		42		4.8	10
Aroclor 1254		2.7	U	2.7	10
Aroclor 1260		2.7	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	85		59 - 130
Tetrachloro-m-xylene	91		53 - 128

4/30/11

000013

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK9**

Lab Sample ID: 280-12175-5
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	32.0 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0103			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.8
Aroclor 1221		7.9	U	7.9	16
Aroclor 1232		2.0	U	2.0	9.8
Aroclor 1242		4.6	U	4.6	9.8
Aroclor 1248		4.6	U	4.6	9.8
Aroclor 1254		20		2.6	9.8
Aroclor 1260		88		2.6	9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	89		59 - 130
Tetrachloro-m-xylene	88		53 - 128

4/30/11

000014

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL0**

Lab Sample ID: 280-12175-6
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0206			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.2	U	8.2	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.8	U	4.8	10
Aroclor 1248		4.8	U	4.8	10
Aroclor 1254		2.7	U	2.7	10
Aroclor 1260		2.7	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	88		59 - 130
Tetrachloro-m-xylene	86		53 - 128

4/30/11

000015

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL1**

Lab Sample ID: 280-12175-7
Client Matrix: Solid
% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.4 g
Dilution:	2.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 1242			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		5.9	U D	5.9	21
Aroclor 1221		17	U D	17	35
Aroclor 1232		4.2	U D	4.2	21
Aroclor 1242		9.9	U D	9.9	21
Aroclor 1248		9.9	U D	9.9	21
Aroclor 1254		140	D	5.5	21
Aroclor 1260		85	D	5.5	21

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	98		59 - 130
Tetrachloro-m-xylene	87		53 - 128

4/30/11

000016

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL2**

Lab Sample ID: 280-12175-8
Client Matrix: Solid
% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 1346			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	10
Aroclor 1221		8.3	U	8.3	17
Aroclor 1232		2.1	U	2.1	10
Aroclor 1242		4.8	U	4.8	10
Aroclor 1248		4.8	U	4.8	10
Aroclor 1254		10	P	2.7	10
Aroclor 1260		12	P	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	89		59 - 130
Tetrachloro-m-xylene	91		53 - 128

4/30/11

000017

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL3**

Lab Sample ID: 280-12175-9
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.4 g
Dilution:	2.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 1418			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		5.7	U D	5.7	21
Aroclor 1221		16	U D	16	34
Aroclor 1232		4.1	U D	4.1	21
Aroclor 1242		9.6	U D	9.6	21
Aroclor 1248		9.6	U D	9.6	21
Aroclor 1254		160	D	5.3	21
Aroclor 1260		76	D	5.3	21

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	64		59 - 130
Tetrachloro-m-xylene	96		53 - 128

4/30/11

000018

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL4**

Lab Sample ID: 280-12175-10
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.4 g
Dilution:	2.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 1450			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		5.7	U D	5.7	21
Aroclor 1221		17	U D	17	34
Aroclor 1232		4.1	U D	4.1	21
Aroclor 1242		9.6	U D	9.6	21
Aroclor 1248		9.6	U D	9.6	21
Aroclor 1254		210	D	5.4	21
Aroclor 1260		90	D	5.4	21

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	100		59 - 130
Tetrachloro-m-xylene	79		53 - 128

4/30/11

000019

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL5**

Lab Sample ID: 280-12175-11
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0445			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	10
Aroclor 1221		8.3	U	8.3	17
Aroclor 1232		2.1	U	2.1	10
Aroclor 1242		4.8	U	4.8	10
Aroclor 1248		4.8	U	4.8	10
Aroclor 1254		2.7	U	2.7	10
Aroclor 1260		2.7	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	86		59 - 130
Tetrachloro-m-xylene	91		53 - 128

4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL6**

Lab Sample ID: 280-12175-12
Client Matrix: Solid
% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0517			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.1	U	8.1	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		18		2.6	10
Aroclor 1260		31		2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	76		59 - 130
Tetrachloro-m-xylene	95		53 - 128

K 4/30/11

000021

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL7**

Lab Sample ID: 280-12175-13
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0548			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	11
Aroclor 1221		8.5	U	8.5	17
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		4.9	U	4.9	11
Aroclor 1248		4.9	U	4.9	11
Aroclor 1254		2.7	U	2.7	11
Aroclor 1260		2.7	U	2.7	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	93		59 - 130
Tetrachloro-m-xylene	94		53 - 128

4/30/11

000022

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL8**

Lab Sample ID: 280-12175-14
Client Matrix: Solid
% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	30.2 g
Dilution:	2.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 1820			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		5.8	U D	5.8	21
Aroclor 1221		17	U D	17	35
Aroclor 1232		4.2	U D	4.2	21
Aroclor 1242		9.8	U D	9.8	21
Aroclor 1248		120	D	9.8	21
Aroclor 1254		5.5	U D	5.5	21
Aroclor 1260		9.6	J D	5.5	21

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	101		59 - 130
Tetrachloro-m-xylene	91		53 - 128

4/30/11

000023

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL9

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-53883		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-52737		Initial Weight/Volume:	32.1 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	02/17/2011 0652			Injection Volume:	1 uL
Date Prepared:	02/10/2011 1610			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.0	U	8.0	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		22		2.6	10
Aroclor 1260		35		2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	78		59 - 130
Tetrachloro-m-xylene	92		53 - 128

4/30/11

000024

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-12175-1

SDG #: J01007
SAF#: RC-148

Date SDG Closed: February 3, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1DWK5	280-12175-1	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK6	280-12175-2	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK7	280-12175-3	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK8	280-12175-4	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK9	280-12175-5	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL0	280-12175-6	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL1	280-12175-7	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL2	280-12175-8	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL3	280-12175-9	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL4	280-12175-10	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL5	280-12175-11	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL6	280-12175-12	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL7	280-12175-13	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL8	280-12175-14	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL9	280-12175-15	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWM1	280-12175-16	6010/7471	6010B/6020/7471A

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/3/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.9 C, 3.9 C and 3.1 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in sample J1DWK9 due to matrix interferences. It can be noted that these compounds were adequately resolved in associated standards, indicating the instrument is achieving separation. The combined peak was reported as Benzo(b)fluoranthene, while Benzo(k)fluoranthene was reported as undetected even though it may be present. Associated results have been flagged with a "K".

Low levels of Bis(2-ethylhexyl) phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-52125. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The laboratory noted that samples J1DWK6, J1DWK7, J1DWK9, J1DWL1, J1DWL2, J1DWL3, J1DWL4, J1DWL6, J1DWL8 and J1DWL9 contained more than one Aroclor component. Results should be considered estimated due to shared peaks.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, samples J1DWL1, J1DWL3, J1DWL4 and J1DWL8 had to be analyzed at dilutions, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilutions required.

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 and Aroclor1260 in sample J1DWL2. The results have been flagged with a "P".

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, sample J1DWL3 had to be analyzed at a dilution, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilution required.

The surrogate recovery was not calculated for sample J1DWL3, because the extract was diluted beyond the ability to reliably quantitate a recovery. The recovery has been flagged with a "D".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A

Serial dilution of a digestate in batch 280-52227 indicates that physical and chemical interferences are present for Cobalt, Copper, Nickel and Silicon. Results have been flagged with an "X".

Low levels of Uranium are present in the method blank associated with batch 280-52228. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1DWK5; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the Matrix Spike performed on sample J1DWK5, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

1.9, 3.9, 3.1

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 1 of 4

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L	Data Turnaround 21 Days
Project Designation 300 Area Field Remediation - Soil Full Protocol	Sampling Location 300-251 Verification		SAF No. RC-148		
Ice Chest No. GWS-222-2	Field Logbook No. EL-1395-17	COA R302512000	Method of Shipment Hand Deliver/Government Vehicle/FedEx		
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver JH 1/25/11	Offsite Property No. A100656		Bill of Lading/Air Bill No. See OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P				
No. of Container(s)	1	1	1	1	1	1	1				
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions	Isotopic Uranium	Strontium-89,90 -- Total Sr				
Sample No. / Matrix * / Sample Date / Sample Time											
J1DWK5 / SOIL / 2/1/11 / 1153	X	X	X	X							
J1DWK6 / SOIL / 2/1/11 / 1215	X	X	X	X							
J1DWK7 / SOIL / 2/1/11 / 1230	X	X	X	X							
J1DWK8 / SOIL / 2/1/11 / 1240	X	X	X	X							
J1DWK9 / SOIL / 2/1/11 / 1250	X	X	X	X							

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From Quincy Stowe	Date/Time 02/01/11 1419	Received By/Stored In Dante Delberghi	Date/Time 2/1/11 1419
Relinquished By/Removed From Dante Delberghi	Date/Time 2/1/11 1600	Received By/Stored In A. Freer A. Freer	Date/Time 2/1/11 1600
Relinquished By/Removed From WCH A. Freer A. Freer	Date/Time 2-2-11 1020	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 2/2/11 100
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 Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

SDG# J01007

REVIEWED BY JPB DATE 2-2-11

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 2 of 4

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Pull Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: GWS-222-2	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver DH 1/25/11	Offsite Property No.: A 100656		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

6200029

SAMPLE ANALYSIS												
Preservation				Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None		
Type of Container				G/P	aG	aG	aG	G/P	G/P	G/P		
No. of Container(s)				1	1	1	1	1	1	1		
Volume				60mL	120mL	120mL	120mL	500mL	60mL	60mL		
				See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr		
Sample No.	Matrix *	Sample Date	Sample Time									
J1DWL0	SOIL	2/1/11	1300	X	X	X	X					
J1DWL1	SOIL	2/1/11	1307	X	X	X	X					
J1DWL2	SOIL	2/1/11	1315	X	X	X	X					
J1DWL3	SOIL	2/1/11	1320	X	X	X	X					
J1DWL4	SOIL	2/1/11	1335	X	X	X	X					

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Quincy Stowe	02/01/11 1419	Received By/Stored In: Doug Heidelberger	2/1/11 1414
Relinquished By/Removed From: Doug Heidelberger	2/1/11 1600	Received By/Stored In: A. Freier	2/1/11 1600
Relinquished By/Removed From: WCH A. Freier	2-2-11 1020	Received By/Stored In: Fed Ex	
Relinquished By/Removed From		Received By/Stored In	2/3/11 1090
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

SDGH J01007

REVIEWED BY JYB DATE 2-2-11

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 3 of 4

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 300 Area Field Remediation - Soil Full Protocol	Sampling Location 300-251 Verification		SAF No. RC-148
Ice Chest No. GWS-222-2	Field Logbook No. EL-1395-17	COA R302512000	Method of Shipment Hand Deliver/Government Vehicle/FedEx
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 1125/11	Offsite Property No. A100656		Bill of Ladine/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

000030

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P				
No. of Container(s)	1	1	1	1	1	1	1				
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr				
Sample No. / Matrix * / Sample Date / Sample Time											
J1DWL5 / SOIL / 2/1/11 / 1340	X	X	X	X							
J1DWL6 / SOIL / 2/1/11 / 1350	X	X	X	X							
J1DWL7 / SOIL / 2/1/11 / 1400	X	X	X	X							
J1DWL8 / SOIL / 2/1/11 / 1405	X	X	X	X							
J1DWL9 / SOIL / 2/1/11 / 1215	X	X	X	X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Dontie Delberg	2/1/11 1419
Dontie Delberg	2/1/11 1600	A. Freier	2/1/11 1600
A. Freier	2-2-11 1020	Fed Ex	
			2/3/11 1020

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

SDGH J01007

REVIEWED BY JEB DATE 2-2-11

Matrix *

S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Appendix 5

Data Validation Supporting Documentation

PCB DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:	300-251		DATA PACKAGE:	J01007	
VALIDATOR:	ELR	LAB: TAL		DATE: 4/30/11	
			SDG:	J01007	

ANALYSES PERFORMED					
SW-846 8081	SW-846 8081 (TCLP)	SW-846 8082	SW-846 8081 (TCLP)		

SAMPLES/MATRIX				
J1DWK5	J1DWK6	J1DWK7	J1DWK8	J1DWK9
J1DWL0	J1DWL1	J1DWL2	J1DWL3	J1DWL4
J1DWL5	J1DWL6	J1DWL7	J1DWL8	J1DWL9
				soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes No N/A

Comments:

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations acceptable? ..... Yes No N/A

Continuing calibrations acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

DDT and endrin breakdowns acceptable? ..... Yes No N/A

Comments:

PCB DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) ..... Yes No N/A

Calibration blank results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field/trip blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field/trip blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

4. ACCURACY (Levels C, D, and E)

Surrogates analyzed? ..... Yes No N/A

Surrogate recoveries acceptable? ..... Yes No N/A

Surrogates traceable? (Levels D, E) ..... Yes No N/A

Surrogates expired? (Levels D, E) ..... Yes No N/A

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: no PAS

PCB DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable? ..... Yes No N/A

Duplicate results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

6. SYSTEM PERFORMANCE (Levels D and E)

Chromatographic performance acceptable? ..... Yes No N/A

Positive results resolved acceptably? ..... Yes No N/A

Comments: _____

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: _____

PCB DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E) ..... Yes No N/A

Compound quantitation acceptable? (Levels D, E) ..... Yes No N/A

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

9. SAMPLE CLEANUP (Levels D and E)

Fluoricil ® (or other absorbent) cleanup performed? ..... Yes No N/A

Lot check performed? ..... Yes No N/A

Check recoveries acceptable? ..... Yes No N/A

GPC cleanup performed? ..... Yes No N/A

GPC check performed? ..... Yes No N/A

GPC check recoveries acceptable? ..... Yes No N/A

GPC calibration performed? ..... Yes No N/A

GPC calibration check performed? ..... Yes No N/A

GPC calibration check retention times acceptable? ..... Yes No N/A

Check/calibration materials traceable? ..... Yes No N/A

Check/calibration materials Expired? ..... Yes No N/A

Analytical batch QC given similar cleanup? ..... Yes No N/A

Transcription/Calculation Errors? ..... Yes No N/A

Comments:

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-52737

Method: 8082
Preparation: 3550C

Lab Sample ID: MB 280-52737/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/17/2011 1138
Date Prepared: 02/10/2011 1610

Analysis Batch: 280-53883
Prep Batch: 280-52737
Units: ug/Kg

Instrument ID: GCS_W
Lab File ID: 044F4401.D
Initial Weight/Volume: 30.2 g
Final Weight/Volume: 5000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.8	U	2.8	9.9
Aroclor 1221	8.0	U	8.0	16
Aroclor 1232	2.0	U	2.0	9.9
Aroclor 1242	4.6	U	4.6	9.9
Aroclor 1248	4.6	U	4.6	9.9
Aroclor 1254	2.6	U	2.6	9.9
Aroclor 1260	2.6	U	2.6	9.9

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	96	59 - 130
Tetrachloro-m-xylene	81	53 - 128

Lab Control Sample - Batch: 280-52737

Method: 8082
Preparation: 3550C

Lab Sample ID: LCS 280-52737/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/17/2011 1210
Date Prepared: 02/10/2011 1610

Analysis Batch: 280-53883
Prep Batch: 280-52737
Units: ug/Kg

Instrument ID: GCS_W
Lab File ID: 045F4501.D
Initial Weight/Volume: 30.2 g
Final Weight/Volume: 5000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	33.1	33.3	100	54 - 132	
Aroclor 1260	33.1	36.0	109	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	101	59 - 130
Tetrachloro-m-xylene	94	53 - 128

000037

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-52737

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-12175-3	Analysis Batch: 280-53883	Instrument ID: GCS_W
Client Matrix:	Solid	Prep Batch: 280-52737	Lab File ID: 021F2101.D
Dilution:	1.0		Initial Weight/Volume: 30.0 g
Date Analyzed:	02/16/2011 2327		Final Weight/Volume: 5000 uL
Date Prepared:	02/10/2011 1610		Injection Volume: 1 uL
			Column ID: PRIMARY

MSD Lab Sample ID:	280-12175-3	Analysis Batch: 280-53883	Instrument ID: GCS_W
Client Matrix:	Solid	Prep Batch: 280-52737	Lab File ID: 022F2201.D
Dilution:	1.0		Initial Weight/Volume: 30.1 g
Date Analyzed:	02/16/2011 2359		Final Weight/Volume: 5000 uL
Date Prepared:	02/10/2011 1610		Injection Volume: 1 uL
			Column ID: PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	116	116	54 - 132	0	26		
Aroclor 1260	78	115	62 - 129	12	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	89	88	59 - 130
Tetrachloro-m-xylene	89	91	53 - 128

000038

Date: 2 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol - Waste Site 300-251
Subject: Radiochemistry - Data Package No. J01007-EB

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01007 prepared by TestAmerica Inc. (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1DWK5	2/1/11	Soil	C	See note 1
J1DWK6	2/1/11	Soil	C	See note 1
J1DWK7	2/1/11	Soil	C	See note 1
J1DWK8	2/1/11	Soil	C	See note 1
J1DWK9	2/1/11	Soil	C	See note 1
J1DWL0	2/1/11	Soil	C	See note 1
J1DWL1	2/1/11	Soil	C	See note 1
J1DWL2	2/1/11	Soil	C	See note 1
J1DWL3	2/1/11	Soil	C	See note 1
J1DWL4	2/1/11	Soil	C	See note 1
J1DWL5	2/1/11	Soil	C	See note 1
J1DWL6	2/1/11	Soil	C	See note 1
J1DWL7	2/1/11	Soil	C	See note 1
J1DWL8	2/1/11	Soil	C	See note 1
J1DWL9	2/1/11	Soil	C	See note 1

1 – Alpha spectroscopy (isotopic uranium), total strontium and gamma spectroscopy.

Data validation was conducted in accordance with the Washington Closure Hanford Incorporated (WCH) validation statement of work and the 300 Area Remedial Action Sampling and Analysis Plan (DOE/RL-2001-48, Rev. 3). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Data Requested by Client

DATA QUALITY PARAMETERS

- **Holding Times**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for radiochemical analysis is 6 months.

All holding times were acceptable.

- **Preparation (Method) Blanks**

Laboratory Blanks

Blank samples are analyzed to determine if positive results are due to laboratory reagent, sample container, or detector contamination. If blank analysis results indicate the presence of an analyte above the minimum detectable activity (MDA), the following qualifiers are applied: All positive sample results less than five times the highest blank concentration are qualified as estimates and flagged "J"; sample results below the MDA are qualified as undetected and flagged "U"; sample results above the MDA and greater than five times the highest blank concentration are not qualified.

All laboratory blank results were acceptable.

Field (Equipment) Blank

No field blanks were submitted for analysis.

- **Accuracy**

Accuracy is evaluated from laboratory control sample (LCS) or blank spike sample (BSS) batch samples and spiked samples from the analytical batch. Measured activities are compared to the known added amounts. The acceptable LCS or BSS and matrix spike (MS) recovery range is 70-130%. In addition, samples may be spiked with a radiochemical tracer to assist in isolating the radioisotope of interest with the yield of the tracer being used in calculating sample activity. The acceptable range for tracer recovery is 20% to 105%. Spike sample results outside the above ranges result in associated sample results being qualified as estimates, or not qualified, depending on the activity of the individual sample. Results are rejected for LCS/BSS recoveries of less than 30% and tracer recoveries of less than 20%, and tracer recoveries of greater than 115% for detected results.

Due to the lack of an LCS analysis, all uranium-235 (aspec) results were qualified as estimates and flagged "J"

Due to radiochemical yields outside QC limits, the uranium-234 (aspec), uranium-235 (aspec) and uranium-238 (aspec) results in samples J1DWK5 and J1DWL2 were qualified as estimates and flagged "J".

All other accuracy results were acceptable.

- **Laboratory Duplicates**

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the contract required detection limit (CRDL) and the RPD is less than 30%, no qualification is required. If either activity (concentration) is less than five times the CRDL, the RPD control limit is less than or equal to two times the CRDL. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.
All duplicate results were acceptable.

Field Duplicates

One set of field duplicates (J1DWK6/J1DWL9) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

- **Detection Levels**

Reported analytical detection levels for undetected analytes are compared against the remaining waste sites RQLs to ensure that laboratory detection levels meet the required criteria. Forty-nine analytes exceeded the RQL. Under the WCH statement of work, no qualification is required. All other analytes met the RQL.

- **Completeness**

Data package No. J01007 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiencies were noted:

- Due to the lack of an LCS analysis, all uranium-235 (aspec) results were qualified as estimates and flagged "J"

- Due to radiochemical yields outside QC limits, the uranium-234 (aspec), uranium-235 (aspec) and uranium-238 (aspec) results in samples J1DWK5 and J1DWL2 were qualified as estimates and flagged "J".

Data flagged "J" indicates that the associated concentration is an estimate, but under the WCH statement of work, the data may be usable for decision-making purposes. All other validated results are considered accurate within the standard error associated with the methods.

Forty-nine analytes exceeded the RQL. Under the WCH statement of work, no qualification is required.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services.*

DOE/RL-2001-48, Rev. 3, *300 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, May 2004.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the WCH statement of work are as follows:

U - Indicates the compound or analyte was analyzed for and not detected above the minimum detectable activity (MDA) in the sample. The value reported is the sample result corrected for sample dilution and moisture content by the laboratory. The data is usable for decision making purposes.

UJ - Indicates the compound or analyte was analyzed for and not detected at concentrations above the minimum detectable activity (MDA) in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate, but is usable for decision making purposes.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

Appendix 2

Summary of Data Qualification

RADIOCHEMISTRY DATA QUALIFICATION SUMMARY*

SDG: J01007	REVIEWER: ELR	Project: 300-251	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Uranium-234 (aspec) Uranium-235 (aspec) Uranium-238 (aspec)	J	J1DWK5, J1DWL2	Tracer recovery
Uranium-235 (aspec)	J	All	No LCS analysis

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45823

4/30/11

SDG No: J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034212	UISO_IE_PLATE_AEA								
	J1DWK5								
	MD01K1AA	U-234	1.25E+01 +- 2.7E+00	J	pCi/g	110%	1.91E-01	1.00E+00	
		U-235	6.17E-01 +- 2.7E-01	J	pCi/g	110%	1.32E-01	1.00E+00	
		U-238	1.20E+01 +- 2.6E+00	J	pCi/g	110%	1.91E-01	1.00E+00	
	J1DWK6								
	MD01L1AA	U-234	1.62E+00 +- 5.1E-01		pCi/g	101%	1.50E-01	1.00E+00	
		U-235	1.16E-01 +- 1.1E-01	U J	pCi/g	101%	1.23E-01	1.00E+00	
		U-238	1.98E+00 +- 5.9E-01		pCi/g	101%	1.38E-01	1.00E+00	
	J1DWK6 DUP								
	MD01L1AE	U-234	1.72E+00 +- 5.3E-01		pCi/g	100%	8.73E-02	1.00E+00	6.4
		U-235	6.87E-02 +- 8.2E-02	U	pCi/g	100%	8.73E-02	1.00E+00	50.9
		U-238	1.79E+00 +- 5.4E-01		pCi/g	100%	8.73E-02	1.00E+00	10.2
	J1DWK7								
	MD01M1AA	U-234	4.62E+00 +- 1.4E+00		pCi/g	51%	1.88E-01	1.00E+00	
		U-235	2.25E-01 +- 2.1E-01	J	pCi/g	51%	1.68E-01	1.00E+00	
		U-238	4.35E+00 +- 1.4E+00		pCi/g	51%	1.68E-01	1.00E+00	
	J1DWK8								
	MD01N1AA	U-234	9.35E+00 +- 2.4E+00		pCi/g	72%	1.53E-01	1.00E+00	
		U-235	6.08E-01 +- 3.2E-01	J	pCi/g	72%	1.27E-01	1.00E+00	
		U-238	8.64E+00 +- 2.2E+00		pCi/g	72%	1.27E-01	1.00E+00	
	J1DWK9								
	MD01P1AA	U-234	2.31E+00 +- 6.5E-01		pCi/g	96%	9.57E-02	1.00E+00	
		U-235	9.15E-02 +- 9.3E-02	U J	pCi/g	96%	8.58E-02	1.00E+00	
		U-238	2.03E+00 +- 5.9E-01		pCi/g	96%	8.58E-02	1.00E+00	
	J1DWL0								
	MD01T1AA	U-234	3.42E+00 +- 9.1E-01		pCi/g	90%	9.57E-02	1.00E+00	
		U-235	7.66E-02 +- 9.0E-02	U J	pCi/g	90%	9.57E-02	1.00E+00	
		U-238	3.42E+00 +- 9.1E-01		pCi/g	90%	1.07E-01	1.00E+00	
	J1DWL1								
	MD01X1AA	U-234	9.22E+00 +- 2.1E+00		pCi/g	90%	1.03E-01	1.00E+00	
		U-235	2.66E-01 +- 1.8E-01	J	pCi/g	90%	9.73E-02	1.00E+00	
		U-238	8.50E+00 +- 2.0E+00		pCi/g	90%	9.01E-02	1.00E+00	
	J1DWL2								
	MD0101AA	U-234	1.15E+01 +- 2.6E+00	J	pCi/g	109%	1.34E-01	1.00E+00	
		U-235	5.02E-01 +- 2.6E-01	J	pCi/g	109%	1.02E-01	1.00E+00	
		U-238	1.07E+01 +- 2.4E+00	J	pCi/g	109%	1.40E-01	1.00E+00	
	J1DWL3								
	MD0111AA	U-234	1.99E+01 +- 4.4E+00		pCi/g	86%	2.15E-01	1.00E+00	

TestAmerica

rptSTLRchSaSummary2 V5.2.11 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000010

Sample Results Summary

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Date: 23-Feb-11

Report No. : 45823

4/30/11

SDG No: J01007

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034212 UISO_IE_PLATE_AEA									
	J1DWL3								
	MD0111AA	U-235	8.40E-01 +- 3.6E-01	J	pCi/g	86%	1.49E-01	1.00E+00	
		U-238	1.97E+01 +- 4.4E+00		pCi/g	86%	2.18E-01	1.00E+00	
	J1DWL4								
	MD0131AA	U-234	1.64E+00 +- 5.6E-01		pCi/g	82%	1.74E-01	1.00E+00	
		U-235	5.06E-02 +- 8.3E-02	U J	pCi/g	82%	1.46E-01	1.00E+00	
		U-238	1.98E+00 +- 6.4E-01		pCi/g	82%	1.83E-01	1.00E+00	
	J1DWL5								
	MD02C1AA	U-234	4.15E-01 +- 2.1E-01		pCi/g	101%	8.64E-02	1.00E+00	
		U-235	-1.15E-03 +- 4.6E-02	U J	pCi/g	101%	8.64E-02	1.00E+00	
		U-238	3.69E-01 +- 2.0E-01		pCi/g	101%	8.64E-02	1.00E+00	
	J1DWL6								
	MD02F1AA	U-234	8.12E+00 +- 1.8E+00		pCi/g	97%	9.61E-02	1.00E+00	
		U-235	3.22E-01 +- 1.8E-01	J	pCi/g	97%	8.62E-02	1.00E+00	
		U-238	8.28E+00 +- 1.9E+00		pCi/g	97%	8.62E-02	1.00E+00	
	J1DWL7								
	MD02H1AA	U-234	1.27E+01 +- 2.8E+00		pCi/g	99%	1.11E-01	1.00E+00	
		U-235	4.17E-01 +- 2.2E-01	J	pCi/g	99%	9.22E-02	1.00E+00	
		U-238	1.30E+01 +- 2.9E+00		pCi/g	99%	9.22E-02	1.00E+00	
	J1DWL8								
	MD02M1AA	U-234	9.57E+00 +- 2.1E+00		pCi/g	94%	9.84E-02	1.00E+00	
		U-235	4.00E-01 +- 2.1E-01	J	pCi/g	94%	8.82E-02	1.00E+00	
		U-238	1.08E+01 +- 2.4E+00		pCi/g	94%	9.84E-02	1.00E+00	
	J1DWL9								
	MD02Q1AA	U-234	2.41E+00 +- 9.0E-01		pCi/g	49%	1.74E-01	1.00E+00	
		U-235	9.30E-02 +- 1.3E-01	U J	pCi/g	49%	1.74E-01	1.00E+00	
		U-238	2.27E+00 +- 8.6E-01		pCi/g	49%	1.94E-01	1.00E+00	
1034211 GAMMA_GS									
	J1DWK5								
	MD01K1AD	AMERICIUM 241	5.56E-03 +- 7.7E-02	U	pCi/g		1.17E-01		
		CO-60	1.20E-02 +- 6.5E-02	U	pCi/g		1.20E-01	5.00E-02	
		CS-137	2.21E-02 +- 5.6E-02	U	pCi/g		1.01E-01	1.00E-01	
		EU-152	8.11E-02 +- 1.3E-01	U	pCi/g		2.39E-01	1.00E-01	
		EU-154	7.69E-02 +- 1.9E-01	U	pCi/g		3.50E-01	1.00E-01	
		EU-155	2.97E-04 +- 9.5E-02	U	pCi/g		1.64E-01	1.00E-01	
		RA-226	6.72E-01 +- 3.0E-01	U	pCi/g		3.30E-01		
		RA-228	6.33E-01 +- 3.3E-01	U	pCi/g		5.50E-01		
		U-235	3.38E-01 +- 2.4E-01	U	pCi/g		4.21E-01	1.00E+00	

TestAmerica

rptSTLRchSaSummary2 V5.2.11 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000011

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45823

5/23/11

SDG No: J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034211 GAMMA_GS									
J1DWK5									
	MD01K1AD	U-238	7.06E-01 +- 1.9E-01		pCi/g		1.56E-01	1.00E+00	
J1DWK5 DUP									
	MD01K1AE	AMERICIUM 241	3.98E-02 +- 9.3E-02	U	pCi/g		1.37E-01		151.0
		CO-60	6.46E-02 +- 6.7E-02	U	pCi/g		1.34E-01	5.00E-02	137.5
		CS-137	3.49E-02 +- 6.4E-02	U	pCi/g		1.15E-01	1.00E-01	45.0
		EU-152	-3.37E-02 +- 1.7E-01	U	pCi/g		2.77E-01	1.00E-01	484.4
		EU-154	-2.42E-01 +- 2.1E-01	U	pCi/g		3.30E-01	1.00E-01	-386.5
		EU-155	1.44E-03 +- 1.2E-01	U	pCi/g		2.04E-01	1.00E-01	131.7
		RA-226	4.10E-01 +- 2.3E-01	U	pCi/g		3.54E-01		48.5
		RA-228	1.25E+00 +- 4.9E-01	U	pCi/g		6.92E-01		65.3
		U-235	3.31E-01 +- 2.9E-01	U	pCi/g		5.12E-01	1.00E+00	2.2
		U-238	5.06E-01 +- 2.2E-01		pCi/g		2.01E-01	1.00E+00	33.0
J1DWK6									
	MD01L1AD	AMERICIUM 241	-3.98E-02 +- 2.2E-01	U	pCi/g		3.63E-01		
		CO-60	-6.06E-03 +- 5.5E-02	U	pCi/g		9.70E-02	5.00E-02	
		CS-137	-3.38E-02 +- 5.3E-02	U	pCi/g		8.48E-02	1.00E-01	
		EU-152	5.29E-02 +- 9.3E-02	U	pCi/g		1.68E-01	1.00E-01	
		EU-154	-3.24E-02 +- 1.6E-01	U	pCi/g		2.80E-01	1.00E-01	
		EU-155	4.29E-02 +- 9.1E-02	U	pCi/g		1.62E-01	1.00E-01	
		RA-226	5.33E-01 +- 1.8E-01		pCi/g		1.11E-01		
		RA-228	1.06E+00 +- 3.3E-01	U	pCi/g		5.10E-01		
		U-235	2.97E-02 +- 1.8E-01	U	pCi/g		3.05E-01	1.00E+00	
		U-238	6.00E-01 +- 1.6E-01		pCi/g		1.14E-01	1.00E+00	
J1DWK7									
	MD01M1AD	AMERICIUM 241	9.66E-02 +- 1.7E-01	U	pCi/g		2.72E-01		
		CO-60	3.18E-03 +- 6.5E-02	U	pCi/g		1.20E-01	5.00E-02	
		CS-137	3.71E-02 +- 6.3E-02	U	pCi/g		1.17E-01	1.00E-01	
		EU-152	8.28E-02 +- 1.6E-01	U	pCi/g		2.55E-01	1.00E-01	
		EU-154	8.27E-02 +- 1.9E-01	U	pCi/g		3.61E-01	1.00E-01	
		EU-155	4.74E-02 +- 1.2E-01	U	pCi/g		2.18E-01	1.00E-01	
		RA-226	1.83E-01 +- 2.9E-01	U	pCi/g		3.76E-01		
		RA-228	1.03E+00 +- 5.1E-01	U	pCi/g		7.40E-01		
		U-235	4.34E-01 +- 2.8E-01	U	pCi/g		5.07E-01	1.00E+00	
		U-238	8.09E-01 +- 2.3E-01		pCi/g		1.90E-01	1.00E+00	
J1DWK8									
	MD01N1AD	AMERICIUM 241	1.78E-02 +- 8.0E-02	U	pCi/g		1.18E-01		
		CO-60	-3.26E-02 +- 5.6E-02	U	pCi/g		9.41E-02	5.00E-02	

TestAmerica

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RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000012

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45823

5/23/11

SDG No: J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034211	GAMMA_GS								
J1DWK8									
	MD01N1AD	CS-137	9.73E-03 +- 5.2E-02	U	pCi/g		9.47E-02	1.00E-01	
		EU-152	-3.96E-02 +- 1.4E-01	U	pCi/g		2.43E-01	1.00E-01	
		EU-154	-2.30E-02 +- 1.9E-01	U	pCi/g		3.48E-01	1.00E-01	
		EU-155	1.14E-01 +- 1.1E-01	U	pCi/g		1.90E-01	1.00E-01	
		RA-226	5.80E-01 +- 2.8E-01		pCi/g		1.87E-01		
		RA-228	1.01E+00 +- 3.7E-01	U	pCi/g		6.20E-01		
		U-235	3.29E-01 +- 2.7E-01	U	pCi/g		4.70E-01	1.00E+00	
		U-238	7.15E-01 +- 2.3E-01		pCi/g		1.79E-01	1.00E+00	
J1DWK9									
	MD01P1AD	AMERICIUM 241	4.38E-02 +- 8.7E-02	U	pCi/g		1.29E-01		
		CO-60	1.70E-02 +- 6.8E-02	U	pCi/g		1.27E-01	5.00E-02	
		CS-137	2.15E-02 +- 6.4E-02	U	pCi/g		1.14E-01	1.00E-01	
		EU-152	2.26E-02 +- 1.6E-01	U	pCi/g		2.79E-01	1.00E-01	
		EU-154	-7.22E-02 +- 2.4E-01	U	pCi/g		4.09E-01	1.00E-01	
		EU-155	1.23E-01 +- 1.2E-01	U	pCi/g		2.09E-01	1.00E-01	
		RA-226	5.91E-01 +- 3.4E-01	U	pCi/g		3.52E-01		
		RA-228	1.11E+00 +- 3.7E-01	U	pCi/g		7.15E-01		
		U-235	-7.62E-02 +- 2.8E-01	U	pCi/g		4.65E-01	1.00E+00	
		U-238	5.75E-01 +- 2.2E-01		pCi/g		1.94E-01	1.00E+00	
J1DWL0									
	MD01T1AD	AMERICIUM 241	3.33E-02 +- 1.4E-01	U	pCi/g		2.22E-01		
		CO-60	3.28E-02 +- 5.9E-02	U	pCi/g		1.14E-01	5.00E-02	
		CS-137	9.19E-03 +- 5.6E-02	U	pCi/g		1.00E-01	1.00E-01	
		EU-152	-6.42E-04 +- 1.3E-01	U	pCi/g		2.25E-01	1.00E-01	
		EU-154	7.15E-03 +- 1.6E-01	U	pCi/g		2.88E-01	1.00E-01	
		EU-155	3.46E-02 +- 9.9E-02	U	pCi/g		1.74E-01	1.00E-01	
		RA-226	5.51E-01 +- 2.6E-01	U	pCi/g		3.26E-01		
		RA-228	8.91E-01 +- 3.9E-01	U	pCi/g		6.20E-01		
		U-235	1.32E-02 +- 2.1E-01	U	pCi/g		3.58E-01	1.00E+00	
		U-238	5.67E-01 +- 2.1E-01		pCi/g		1.60E-01	1.00E+00	
J1DWL1									
	MD01X1AD	AMERICIUM 241	2.49E-02 +- 2.5E-01	U	pCi/g		4.20E-01		
		CO-60	-3.75E-02 +- 5.9E-02	U	pCi/g		9.72E-02	5.00E-02	
		CS-137	-2.81E-02 +- 5.3E-02	U	pCi/g		8.58E-02	1.00E-01	
		EU-152	6.31E-02 +- 9.9E-02	U	pCi/g		1.79E-01	1.00E-01	
		EU-154	2.16E-01 +- 1.7E-01	U	pCi/g		3.48E-01	1.00E-01	
		EU-155	-9.70E-03 +- 9.4E-02	U	pCi/g		1.62E-01	1.00E-01	

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RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000013

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45823 5/23/11 SDG No: J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034211 GAMMA_GS									
J1DWL1									
	MD01X1AD	RA-226	7.48E-01 +- 2.1E-01	U	pCi/g		2.87E-01		
		RA-228	1.07E+00 +- 2.9E-01	U	pCi/g		5.14E-01		
		U-235	7.92E-01 +- 3.6E-01		pCi/g		2.79E-01	1.00E+00	
		U-238	5.14E-01 +- 1.9E-01		pCi/g		1.24E-01	1.00E+00	
J1DWL2									
	MD0101AD	AMERICIUM 241	1.83E-02 +- 7.8E-02	U	pCi/g		1.21E-01		
		CO-60	3.60E-02 +- 6.1E-02	U	pCi/g		1.19E-01	5.00E-02	
		CS-137	5.58E-03 +- 6.0E-02	U	pCi/g		1.07E-01	1.00E-01	
		EU-152	-4.36E-03 +- 1.4E-01	U	pCi/g		2.38E-01	1.00E-01	
		EU-154	-8.64E-02 +- 1.8E-01	U	pCi/g		3.08E-01	1.00E-01	
		EU-155	3.65E-02 +- 9.8E-02	U	pCi/g		1.72E-01	1.00E-01	
		RA-226	2.70E-01 +- 2.5E-01	U	pCi/g		3.12E-01		
		RA-228	8.64E-01 +- 3.9E-01	U	pCi/g		5.83E-01		
		U-235	3.26E-01 +- 2.5E-01	U	pCi/g		4.40E-01	1.00E+00	
		U-238	6.24E-01 +- 1.9E-01		pCi/g		1.68E-01	1.00E+00	
J1DWL3									
	MD0111AD	AMERICIUM 241	7.04E-02 +- 1.0E-01	U	pCi/g		1.55E-01		
		CO-60	-4.66E-02 +- 7.4E-02	U	pCi/g		1.23E-01	5.00E-02	
		CS-137	2.54E-02 +- 7.3E-02	U	pCi/g		1.30E-01	1.00E-01	
		EU-152	-2.28E-02 +- 1.8E-01	U	pCi/g		2.98E-01	1.00E-01	
		EU-154	-2.48E-02 +- 2.2E-01	U	pCi/g		3.92E-01	1.00E-01	
		EU-155	3.20E-02 +- 1.3E-01	U	pCi/g		2.28E-01	1.00E-01	
		RA-226	3.14E-01 +- 2.4E-01	U	pCi/g		3.44E-01		
		RA-228	1.17E+00 +- 4.6E-01	U	pCi/g		7.09E-01		
		U-235	5.60E-01 +- 4.7E-01		pCi/g		5.23E-01	1.00E+00	
		U-238	5.83E-01 +- 2.3E-01	U	pCi/g		2.99E-01	1.00E+00	
J1DWL4									
	MD0131AD	AMERICIUM 241	-5.33E-02 +- 1.4E-01	U	pCi/g		2.24E-01		
		CO-60	8.04E-02 +- 6.0E-02	U	pCi/g		1.24E-01	5.00E-02	
		CS-137	-2.68E-02 +- 5.6E-02	U	pCi/g		9.47E-02	1.00E-01	
		EU-152	-1.09E-01 +- 1.3E-01	U	pCi/g		2.13E-01	1.00E-01	
		EU-154	9.85E-02 +- 1.6E-01	U	pCi/g		3.22E-01	1.00E-01	
		EU-155	2.03E-02 +- 1.1E-01	U	pCi/g		1.93E-01	1.00E-01	
		RA-226	1.64E-01 +- 2.2E-01	U	pCi/g		3.15E-01		
		RA-228	4.20E-01 +- 3.2E-01	U	pCi/g		5.35E-01		
		U-235	-5.07E-02 +- 2.3E-01	U	pCi/g		3.82E-01	1.00E+00	
		U-238	3.97E-01 +- 1.9E-01		pCi/g		1.65E-01	1.00E+00	

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RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000014

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45823 K 5/23/11 **SDG No:** J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034211 GAMMA_GS									
J1DWL5									
	MD02C1AD	AMERICIUM 241	1.18E-01 +- 1.6E-01	U	pCi/g		2.83E-01		
		CO-60	-5.98E-03 +- 4.1E-02	U	pCi/g		7.25E-02	5.00E-02	
		CS-137	-3.78E-02 +- 4.0E-02	U	pCi/g		6.16E-02	1.00E-01	
		EU-152	-1.26E-02 +- 7.5E-02	U	pCi/g		1.28E-01	1.00E-01	
		EU-154	-5.11E-02 +- 1.2E-01	U	pCi/g		1.98E-01	1.00E-01	
		EU-155	1.30E-02 +- 6.5E-02	U	pCi/g		1.16E-01	1.00E-01	
		RA-226	4.20E-01 +- 1.9E-01		pCi/g		1.14E-01		
		RA-228	4.08E-01 +- 2.5E-01	U	pCi/g		3.62E-01		
		U-235	7.34E-03 +- 1.3E-01	U	pCi/g		2.24E-01	1.00E+00	
		U-238	3.80E-01 +- 1.3E-01		pCi/g		8.71E-02	1.00E+00	
J1DWL6									
	MD02F1AD	AMERICIUM 241	-9.93E-02 +- 1.9E-01	U	pCi/g		3.04E-01		
		CO-60	-1.02E-01 +- 7.8E-02	U	pCi/g		1.11E-01	5.00E-02	
		CS-137	3.67E-02 +- 6.8E-02	U	pCi/g		1.26E-01	1.00E-01	
		EU-152	3.49E-02 +- 1.6E-01	U	pCi/g		2.82E-01	1.00E-01	
		EU-154	-1.31E-01 +- 2.2E-01	U	pCi/g		3.63E-01	1.00E-01	
		EU-155	-1.25E-02 +- 1.4E-01	U	pCi/g		2.40E-01	1.00E-01	
		RA-226	2.75E-01 +- 2.9E-01	U	pCi/g		2.31E-01		
		RA-228	3.59E-01 +- 5.2E-01	U	pCi/g		6.99E-01		
		U-235	5.00E-01 +- 3.1E-01	U	pCi/g		5.49E-01	1.00E+00	
		U-238	6.65E-01 +- 2.2E-01		pCi/g		2.31E-01	1.00E+00	
J1DWL7									
	MD02H1AD	AMERICIUM 241	1.05E-01 +- 1.0E-01	U	pCi/g		1.57E-01		
		CO-60	-2.97E-02 +- 7.9E-02	U	pCi/g		1.37E-01	5.00E-02	
		CS-137	2.06E-03 +- 7.2E-02	U	pCi/g		1.25E-01	1.00E-01	
		EU-152	-2.32E-02 +- 1.8E-01	U	pCi/g		3.07E-01	1.00E-01	
		EU-154	-1.48E-01 +- 2.6E-01	U	pCi/g		4.31E-01	1.00E-01	
		EU-155	3.63E-02 +- 1.4E-01	U	pCi/g		2.28E-01	1.00E-01	
		RA-226	3.16E-01 +- 3.1E-01	U	pCi/g		3.67E-01		
		RA-228	9.01E-01 +- 4.1E-01	U	pCi/g		6.76E-01		
		U-235	3.48E-01 +- 3.2E-01	U	pCi/g		5.64E-01	1.00E+00	
		U-238	3.90E-01 +- 2.7E-01	U	pCi/g		3.09E-01	1.00E+00	
J1DWL8									
	MD02M1AD	AMERICIUM 241	-2.38E-01 +- 1.9E-01	U	pCi/g		2.97E-01		
		CO-60	7.62E-03 +- 4.3E-02	U	pCi/g		7.99E-02	5.00E-02	
		CS-137	-5.41E-02 +- 4.1E-02	U	pCi/g		6.07E-02	1.00E-01	
		EU-152	-1.23E-02 +- 7.8E-02	U	pCi/g		1.32E-01	1.00E-01	

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RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000015

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45823

5/23/11

SDG No: J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034211 GAMMA_GS									
J1DWL8									
	MD02M1AD	EU-154	-4.69E-02 +- 1.3E-01	U	pCi/g		2.21E-01	1.00E-01	
		EU-155	1.09E-01 +- 7.5E-02	U	pCi/g		1.39E-01	1.00E-01	
		RA-226	5.61E-01 +- 1.4E-01		pCi/g		1.28E-01		
		RA-228	5.50E-01 +- 2.4E-01	U	pCi/g		3.80E-01		
		U-235	4.59E-01 +- 2.1E-01		pCi/g		2.21E-01	1.00E+00	
		U-238	4.45E-01 +- 1.4E-01		pCi/g		9.96E-02	1.00E+00	
J1DWL9									
	MD02Q1AD	AMERICIUM 241	-2.94E-02 +- 6.4E-02	U	pCi/g		1.05E-01		
		CO-60	-5.94E-03 +- 6.3E-02	U	pCi/g		1.14E-01	5.00E-02	
		CS-137	3.69E-02 +- 6.1E-02	U	pCi/g		1.14E-01	1.00E-01	
		EU-152	-1.43E-02 +- 1.5E-01	U	pCi/g		2.64E-01	1.00E-01	
		EU-154	-1.37E-01 +- 1.8E-01	U	pCi/g		2.87E-01	1.00E-01	
		EU-155	-5.83E-02 +- 9.5E-02	U	pCi/g		1.59E-01	1.00E-01	
		RA-226	5.78E-01 +- 2.3E-01	U	pCi/g		3.23E-01		
		RA-228	8.20E-01 +- 3.8E-01	U	pCi/g		6.24E-01		
		U-235	9.11E-02 +- 2.4E-01	U	pCi/g		4.11E-01	1.00E+00	
		U-238	4.67E-01 +- 2.1E-01	U	pCi/g		2.92E-01	1.00E+00	
1034213 SRTOT_SEP_PRECIP_GPC									
J1DWK5									
	MD01K1AC	STRONTIUM	-6.75E-03 +- 7.3E-02	U	pCi/g	74%	1.74E-01		
J1DWK6									
	MD01L1AC	STRONTIUM	4.46E-02 +- 6.7E-02	U	pCi/g	75%	1.45E-01		
J1DWK7									
	MD01M1AC	STRONTIUM	7.14E-02 +- 7.4E-02	U	pCi/g	73%	1.51E-01		
J1DWK7 DUP									
	MD01M1AE	STRONTIUM	-4.39E-02 +- 6.0E-02	U	pCi/g	68%	1.56E-01		838.8
J1DWK8									
	MD01N1AC	STRONTIUM	4.95E-02 +- 7.5E-02	U	pCi/g	70%	1.62E-01		
J1DWK9									
	MD01P1AC	STRONTIUM	6.56E-02 +- 7.9E-02	U	pCi/g	69%	1.66E-01		
J1DWL0									
	MD01T1AC	STRONTIUM	1.93E-01 +- 1.0E-01		pCi/g	71%	1.57E-01		
J1DWL1									
	MD01X1AC	STRONTIUM	5.68E-02 +- 7.5E-02	U	pCi/g	75%	1.61E-01		
J1DWL2									
	MD0101AC	STRONTIUM	1.78E-02 +- 6.9E-02	U	pCi/g	74%	1.59E-01		
J1DWL3									

TestAmerica

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RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000016

Sample Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID

Report No. : 45823

5/23/11

SDG No: J01007

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1034213	SRTOT_SEP_PRECIP_GPC								
	J1DWL3								
	MD0111AC	STRONTIUM	6.26E-02 +- 7.3E-02	U	pCi/g	79%	1.52E-01		
	J1DWL4								
	MD0131AC	STRONTIUM	4.80E-02 +- 6.8E-02	U	pCi/g	78%	1.46E-01		
	J1DWL5								
	MD02C1AC	STRONTIUM	4.64E-02 +- 7.3E-02	U	pCi/g	75%	1.59E-01		
	J1DWL6								
	MD02F1AC	STRONTIUM	4.08E-02 +- 6.6E-02	U	pCi/g	79%	1.44E-01		
	J1DWL7								
	MD02H1AC	STRONTIUM	6.19E-03 +- 6.2E-02	U	pCi/g	78%	1.47E-01		
	J1DWL8								
	MD02M1AC	STRONTIUM	4.21E-02 +- 7.4E-02	U	pCi/g	78%	1.62E-01		
	J1DWL9								
	MD02Q1AC	STRONTIUM	1.22E-01 +- 7.6E-02	U	pCi/g	83%	1.31E-01		

No. of Results: 224

TestAmerica

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RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000017

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

February 23, 2011

Attention: Joan Kessner

SAF Number	:	RC-148
Date SDG Closed	:	February 2, 2011
Number of Samples	:	Fifteen (15)
Sample Type	:	Soil
SDG Number	:	J01007
Data Deliverable	:	21– Day / Summary

CASE NARRATIVE

I. Introduction

On February 2, 2011, fifteen soil samples were received at TestAmerica for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1DWK5	MD01K	SOIL	02/02/11
J1DWK6	MD01L	SOIL	02/02/11
J1DWK7	MD01M	SOIL	02/02/11
J1DWK8	MD01N	SOIL	02/02/11
J1DWK9	MD01P	SOIL	02/02/11
J1DWL0	MD01T	SOIL	02/02/11
J1DWL1	MD01X	SOIL	02/02/11
J1DWL2	MD010	SOIL	02/02/11
J1DWL3	MD011	SOIL	02/02/11
J1DWL4	MD013	SOIL	02/02/11
J1DWL5	MD02C	SOIL	02/02/11
J1DWL6	MD02F	SOIL	02/02/11
J1DWL7	MD02H	SOIL	02/02/11
J1DWL8	MD02M	SOIL	02/02/11
J1DWL9	MD02Q	SOIL	02/02/11

II. Sample Receipt

2800 George Washington Way Richland, WA 99354 tel 509.375.3131 fax 509.375.5590 www.testamericainc.com

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy
Uranium 234, 235 and 238 by method RL-ALP-015
Gas Proportional Counting
Strontium-90 by method RL-GPC-003
Gamma Spectroscopy
Gamma Spec by method RL-GAM-001

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy
Uranium 234, 235 and 238 by method RL-ALP-015:
The LCS, batch blank, samples and sample duplicate (J1DWK6) results are within contractual requirements.

Gas Proportional Counting
Strontium-90 by method RL-GPC-003:
The LCS, batch blank, samples and sample duplicate (J1DWK7) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RL-GAM-001:
The CRDL was not met on some analytes due to the reduced count time. The count time was reduced to meet the priority turn around time. Except as noted, the LCS, batch blank, samples and sample duplicate (J1DWK5) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Washington Closure Hanford
February 23, 2011

Reviewed and approved:

Rhonda Wagar
Project Manager

000021

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-17459
NCM Initiated By: John Norton
Date Opened: 02/15/2011
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Counting
Tests: Gamma by GER
Lot #'s (Sample #'s): J1B020481 (1,10,11,12,13,14,15,2,3,4,5, 6,7,8,9),
QC Batches: 1034211,

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
John Norton	02/15/2011	These samples did not meet the CRDL due to the limited sample volumes and the limited counting time, furthermore ingrowth was not allowed, by client request.

Corrective Action

Name	Date	Corrective Action
John Norton	02/15/2011	The data will be submitted to the client, the samples can be re-counted for a longer time frame after ingrowth at client request.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 2/15/2011

000022

TestAmerica Laboratories, Inc.

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 1 of 3

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: N/A	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

J1B020481

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage: ~~Cool 4 degrees C~~ DH 1/25/11 None

000023

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TRH-Diesel Range - WTPH-D+	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr			
Sample No.	Matrix *	Sample Date	Sample Time							
J1DWK5	SOIL	2/1/11	1153				X	X	X	MD01K
J1DWK6	SOIL	2/1/11	1215				X	X	X	MD01L
J1DWK7	SOIL	2/1/11	1230				X	X	X	MD01M
J1DWK8	SOIL	2/1/11	1240				X	X	X	MD01N
J1DWK9	SOIL	2/1/11	1250				X	X	X	MD01P

J1B020481 · SDG ~~J1D0007~~ J1D0007 Due 2-23-11

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Quincy Stowe	Date/Time: 02/01/11 1419	Received By/Stored In: Don Heidelberg	Date/Time: 2/1/11 1419
Relinquished By/Removed From: Don Heidelberg	Date/Time: 2/1/11 1600	Received By/Stored In: A Freier A. Freier	Date/Time: 2/1/11 1600
Relinquished By/Removed From: WCH A. Freier A. Freier	Date/Time: 2-2-11 1220	Received By/Stored In: TAIR	Date/Time: 1220 2-2-11
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 Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

REVIEWED BY SEB DATE 2-2-11

Matrix *: S=Soil, SS=Sediment, SO=Solid, SL=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 2 of 3

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: N/A	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS: *None*

Special Handling and/or Storage: ~~Cool 4 degrees C~~ None

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	DH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr			
Sample No.	Matrix *	Sample Date	Sample Time								
J1DWL0	SOIL	2/1/11	1300		MD01T	X	X	X			
J1DWL1	SOIL	2/1/11	1307		MD01X	X	X	X			
J1DWL2	SOIL	2/1/11	1315		MD010	X	X	X			
J1DWL3	SOIL	2/1/11	1320		MD011	X	X	X			
J1DWL4	SOIL	2/1/11	1335		MD013	X	X	X			

J1B020481 SDG J01007

J1B020481

CHAIN OF POSSESSION	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From: Quincy Stowe	02/01/11 1419	Received By/Stored In: Dante Delberg	Date/Time: 2/1/11 1419
Relinquished By/Removed From: Dante Delberg	2/1/11 1600	Received By/Stored In: A. Freier	Date/Time: 2/1/11 1600
Relinquished By/Removed From: A Freier	2-2-11 1220	Received By/Stored In:	Date/Time: 1220
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

Sign/Print Names

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

Matrix *: S=Soil; SE=Sediment; SO=Solid; SL=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

REVIEWED BY SJB DATE 2-2-11

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica Laboratories, Inc.

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 3 of 3

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: N/A	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: ~~Hand Deliver~~/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

~~Cool 4 degrees C~~ DH 1/25/11

None

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr			

1B0204 81 · WCH

SDGJO1007. DUE 2-23-11

Sample No.	Matrix *	Sample Date	Sample Time									
J1DWL5	SOIL	2/1/11	1340		MD02C	X	X	X			
J1DWL6	SOIL	2/1/11	1350		MD02E	X	X	X			
J1DWL7	SOIL	2/1/11	1400		MD02H	X	X	X			
J1DWL8	SOIL	2/1/11	1405		MD02J	X	X	X			
J1DWL9	SOIL	2/1/11	1215		MD02Q	X	X	X			

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Quincy Stowe	Date/Time: 02/01/11 1419	Received By/Stored In: Dan Heidelberg	Date/Time: 2/1/11 1414
Relinquished By/Removed From: Dan Heidelberg	Date/Time: 2/1/11 1600	Received By/Stored In: A Freier	Date/Time: 2/1/11 1600
Relinquished By/Removed From: A Freier WCH	Date/Time: 2/2/11 1220	Received By/Stored In: FAIR	Date/Time: 2/2/11 1220
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 Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

Matrix *

S=Soil
SD=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

REVIEWED BY SKB DATE 2-2-11

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica Laboratories, Inc.

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Appendix 5

Data Validation Supporting Documentation

APPENDIX A

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 300-231			DATA PACKAGE: J01007		
VALIDATOR: ELR		LAB: TAL		DATE: 4/30/11	
			SDG: J01007		
ANALYSES PERFORMED					
☐ Gross Alpha/Beta	☒ Strontium-90	☐ Technetium-99	☒ Alpha Spectroscopy	☒ Gamma Spectroscopy	
☐ Total Uranium	☒ Radium-22	☐ Tritium			
SAMPLES/MATRIX					
J1DWK5	J1DWK6	J1DWK7	J1DWK8	J1DWK9	
J1DWL0	J1DWL1	J1DWL2	J1DWL3	J1DWL4	
J1DWL5	J1DWL6	J1DWL7	J1DWL8	J1DWL9	
					soil

1. Completeness ..... ☐ N/A

Technical verification forms present? ..... Yes (No) N/A

Comments: _____

2. Initial Calibration (Levels D, E) ..... ☒ N/A

Instruments/detectors calibrated? ..... Yes No N/A

Initial calibration acceptable? ..... Yes No N/A

Standards NIST traceable? ..... Yes No N/A

Standards Expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

3. Continuing Calibration (Levels D, E) ☒ N/A

Calibration checked within required frequency? ..... Yes No N/A

Calibration check acceptable? ..... Yes No N/A

Calibration check standards traceable? ..... Yes No N/A

Calibration check standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

4. Background Counts (Levels D, E) ..... ☒ N/A

Background Counts checked within required frequency? ..... Yes No N/A

Background Counts acceptable? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

5. Blanks (Levels B, C, D, E) ..... ☐ N/A

Method blank analyzed within required frequency? ..... Yes No N/A

Method blank results acceptable? ..... Yes No N/A

Analytes detected in method blank? ..... Yes No N/A

Field blank(s) analyzed? ..... Yes No N/A

Field blank results acceptable? ..... Yes No N/A

Analytes detected in field blank(s)? ..... Yes No N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A

Comments: no FB

6. Laboratory Control Samples or Blank Spike Samples (Levels C, D, E) ..... ☐ N/A

LCS /BSS analyzed within required frequency? ..... Yes No N/A

LCS/BSS recoveries acceptable? ..... Yes No N/A

LCS/BSS traceable? (Levels D,E) ..... Yes No N/A

LCS/BSS expired? (Levels D,E) ..... Yes No N/A

LCS/BSS levels correct? (Levels D,E) ..... Yes No N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A

Comments: no U-235 LCS – J all

7. Chemical Carrier Recovery (Levels C, D, E) ..... ☐ N/A

Chemical carrier added? ..... Yes No N/A

Chemical recovery acceptable? ..... Yes No N/A

Chemical carrier traceable? (Levels D, E) ..... Yes No N/A

Chemical carrier expired? (Levels D, E) ..... Yes No N/A

Transcription/Calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

8. Tracer Recovery (Levels C, D, E) ..... ☐ N/A

Tracer added? ..... Yes No N/A

Tracer recovery acceptable? ..... Yes No N/A

Tracer traceable? (Levels D, E) ..... Yes No N/A

Tracer expired? (Levels D, E) ..... Yes No N/A

Transcription/Calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

U234, 235 → 238 (espec) — KS + LZ — Jeff

9. Matrix Spikes (Levels C, D, E) ..... ☒ N/A

Matrix spike analyzed? ..... Yes No N/A

Spike recoveries acceptable? ..... Yes No N/A

Spike source traceable? (Levels D, E) ..... Yes No N/A

Spike source expired? Levels D, E) ..... Yes No N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A

Comments: _____

10. Duplicates (Levels C, D, E) ..... ☐ N/A

Duplicates Analyzed at required frequency? ..... Yes No N/A

RPD Values Acceptable? ..... Yes No N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A

Comments: _____

11. Field QC Samples (Levels C, D E) ..... ☐ N/A

Field duplicate sample(s) analyzed? ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split sample(s) analyzed? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: no FS or PA

6/9

12. Holding Times (All levels)

Are sample holding times acceptable? ..... Yes No N/A

Comments: _____

13. Results and Detection Limits (All Levels) ..... ☐ N/A

Results reported for all required sample analyses? ..... Yes No N/A

Results supported in raw data?(Levels D, E) ..... Yes No N/A

Results Acceptable? (Levels D, E) ..... Yes No N/A

Transcription/Calculation errors? (Levels D, E) ..... Yes No N/A

MDA's meet required detection limits? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: 49 ovr

Appendix 6

Additional Documentation Requested by Client

QC Results Summary

Date: 23-Feb-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 45823

SDG No.: J01007

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
UISO_IE_PLATE_AEA								
1034212 BLANK QC,								
MD1PL1AA	U-234	-1.60E-03 +- 5.3E-02	U	pCi/g	91%			1.02E-01
	U-235	-5.32E-04 +- 5.3E-02	U	pCi/g	91%			8.94E-02
	U-238	-5.32E-04 +- 5.3E-02	U	pCi/g	91%			8.94E-02
1034212 LCS,								
MD1PL1AC	U-234	3.01E+00 +- 8.5E-01		pCi/g	104%	92%	-0.1	1.34E-01
	U-238	3.60E+00 +- 9.8E-01		pCi/g	104%	105%	0.1	1.34E-01
GAMMA_GS								
1034211 BLANK QC,								
MD1PG1AA	AMERICIUM 241	2.95E-02 +- 3.8E-02	U	pCi/g				6.90E-02
	CO-60	4.49E-02 +- 4.5E-02	U	pCi/g				9.47E-02
	CS-137	6.28E-03 +- 5.0E-02	U	pCi/g				8.85E-02
	EU-152	-7.11E-02 +- 1.1E-01	U	pCi/g				1.80E-01
	EU-154	6.12E-02 +- 1.5E-01	U	pCi/g				2.91E-01
	EU-155	1.17E-02 +- 6.6E-02	U	pCi/g				1.17E-01
	RA-226	2.75E-01 +- 1.8E-01	U	pCi/g				2.34E-01
	RA-228	7.56E-03 +- 2.2E-01	U	pCi/g				3.75E-01
	U-235	1.07E-01 +- 1.6E-01	U	pCi/g				2.91E-01
	U-238	1.92E-01 +- 2.0E-01	U	pCi/g				1.79E-01
1034211 LCS,								
MD1PG1AC	CS-137	7.89E-01 +- 2.3E-01		pCi/g		104%	0.0	2.07E-01
SRTOT_SEP_PRECIP_GPC								
1034213 BLANK QC,								
MD1PT1AA	STRONTIUM	7.83E-02 +- 6.8E-02	U	pCi/g	89%			1.34E-01
1034213 LCS,								
MD1PT1AC	STRONTIUM	1.13E+00 +- 3.2E-01		pCi/g	91%	100%	0.0	1.31E-01

No. of Results: 18

TestAmerica

rptSTLRchQcSummary V5.2.11
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

000034

Date: 2 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol - Waste Site 300-251
Subject: Semivolatile - Data Package No. J01007-LLI

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01007 prepared by TestAmerica Laboratory Inc. (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1DWK5	2/1/11	Soil	C	See note 1
J1DWK6	2/1/11	Soil	C	See note 1
J1DWK7	2/1/11	Soil	C	See note 1
J1DWK8	2/1/11	Soil	C	See note 1
J1DWK9	2/1/11	Soil	C	See note 1
J1DWL0	2/1/11	Soil	C	See note 1
J1DWL1	2/1/11	Soil	C	See note 1
J1DWL2	2/1/11	Soil	C	See note 1
J1DWL3	2/1/11	Soil	C	See note 1
J1DWL4	2/1/11	Soil	C	See note 1
J1DWL5	2/1/11	Soil	C	See note 1
J1DWL6	2/1/11	Soil	C	See note 1
J1DWL7	2/1/11	Soil	C	See note 1
J1DWL8	2/1/11	Soil	C	See note 1
J1DWL9	2/1/11	Soil	C	See note 1

1 – Semivolatiles by 8270C

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 300 Area Remedial Action Sampling and Analysis Plan (DOE/RL-2001-48, Rev. 3). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested by Client

DATA QUALITY OBJECTIVES

Holding Times

Analytical holding times were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as

follows: Samples must be extracted within 14 days of the date of sample collection and analyzed within 40 days from the date of extraction.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

Method Blanks

Method blank analyses are conducted to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. Analytical results for analytes present in any sample at less than five times the concentration of that analyte found in the associated blank are qualified as non-detects and flagged "U". Common laboratory contaminants present in samples at less than ten times the concentration of that analyte found in the associated blank are qualified as non-detects. If a sample result is less than the CRQL and is less than five times (or less than ten times for lab contaminants) the highest associated blank result, the sample result value is raised to the CRQL level and qualified as undetected "U".

Due to method blank contamination, the bis(2-ethylhexyl)phthalate result in samples J1DWK5, J1DWK6, J1DWK7, J1DWK8, J1DWK9, J1DWL0, J1DWL1, J1DWL2, J1DWL4, J1DWL6, J1DWL7, J1DWL8 and J1DWL9 were raised to the RQL, qualified as undetected and flagged "U".

All other method blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

Accuracy

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

Matrix spike/matrix spike duplicate analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike/matrix spike duplicate analyses are performed in duplicate using five compounds for which percent recoveries must be within a range of

50-150% or within laboratory control limits. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Undetected sample results with spike recoveries below control limits are qualified as estimates and flagged "UJ". Undetected sample results are not qualified if the spike recovery is above control limits. Sample results greater than five times the spike concentration require no qualification.

All accuracy results were acceptable.

Surrogate Recovery

The analyses of surrogate compounds provide a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. If two surrogates of the same class of compounds (base/neutral or acid) are out of control limits, all associated sample results greater than the contract required quantitation limit (CRQL) are qualified as estimates and flagged "J". Sample results less than the CRQL and below the lower control limit are qualified as estimates and flagged "UJ". Sample results less than the CRQL with recoveries above the upper control limit require no qualification. If a surrogate recovery is less than 10%, detects are qualified as estimates and flagged "J" and nondetects are rejected and flagged "UR".

All surrogate results were acceptable.

Precision

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike (MS)/matrix spike duplicate (MSD) results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. Samples results must be within RPD limits of +/-30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

All other duplicate results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1DWK6/J1DWL9) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the required quantitation limits (RQL's) to ensure that laboratory detection levels meet the required criteria. All undetected analytes met the RQL.

- **Completeness**

Data package No. J01007 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiencies was noted:

Due to method blank contamination, the bis(2-ethylhexyl)phthalate result in samples J1DWK5, J1DWK6, J1DWK7, J1DWK8, J1DWK9, J1DWL0, J1DWL1, J1DWL2, J1DWL4, J1DWL6, J1DWL7, J1DWL8 and J1DWL9 were raised to the RQL, qualified as undetected and flagged "U".

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-2001-48, Rev. 3, *300 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, May 2004.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

SEMIVOLATILE DATA QUALIFICATION SUMMARY*

SDG: J01007	**REVIEWER: ELR**	**Project: 300-251**	**QC Issue**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Bis(2-ethylhexyl)phthalate	U	J1DWK5, J1DWK6 J1DWK7, J1DWK8 J1DWK9, J1DWL0 J1DWL1, J1DWL2 J1DWL4, J1DWL6 J1DWL7, J1DWL8 J1DWL9	Method blank contamination

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK5**

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2032.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 1626			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		16	U	16	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate	660	~~15~~	~~J~~ U	47	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		84	U	84	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK5

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2032.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 1626			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	81		50 - 120
2-Fluorophenol	84		53 - 120
Nitrobenzene-d5	82		50 - 120
Phenol-d5	84		52 - 120
Terphenyl-d14	105		55 - 120
2,4,6-Tribromophenol	94		51 - 120

4/30/11

000011

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK5

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2032.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 1626			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.39	470	J N
	Unknown	2.74	3000	J N

4/30/11

000012

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

4/30/12

Client Sample ID: J1DWK6

Lab Sample ID: 280-12175-2
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2033.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/15/2011 1645			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	350
Acenaphthylene		18	U	18	350
Anthracene		18	U	18	350
Benzo[a]anthracene		21	U	21	350
Benzo[a]pyrene		21	U	21	350
Benzo[b]fluoranthene		28	U	28	350
Benzo[ghi]perylene		17	U	17	350
Benzo[k]fluoranthene		43	U	43	350
Bis(2-chloroethoxy)methane		25	U	25	350
Bis(2-chloroethyl)ether		18	U	18	350
bis (2-chloroisopropyl) ether		25	U	25	350
Bis(2-ethylhexyl) phthalate	660	~~[illegible]~~	~~[illegible]~~ U	49	350
4-Bromophenyl phenyl ether		20	U	20	350
Butyl benzyl phthalate		46	U	46	350
Carbazole		38	U	38	350
4-Chloroaniline		87	U	87	350
4-Chloro-3-methylphenol		70	U	70	350
2-Chloronaphthalene		11	U	11	350
2-Chlorophenol		22	U	22	350
4-Chlorophenyl phenyl ether		22	U	22	350
Chrysene		29	U	29	350
Dibenz(a,h)anthracene		20	U	20	350
Dibenzofuran		21	U	21	350
1,2-Dichlorobenzene		23	U	23	350
1,3-Dichlorobenzene		13	U	13	350
1,4-Dichlorobenzene		15	U	15	350
3,3'-Dichlorobenzidine		96	U	96	700
2,4-Dichlorophenol		11	U	11	350
Diethyl phthalate		28	U	28	350
2,4-Dimethylphenol		70	U	70	350
Dimethyl phthalate		25	U	25	350
Di-n-butyl phthalate		31	U	31	350
4,6-Dinitro-2-methylphenol		350	U	350	700
2,4-Dinitrophenol		360	U	360	880
2,4-Dinitrotoluene		70	U	70	350
2,6-Dinitrotoluene		30	U	30	350
Di-n-octyl phthalate		15	U	15	350
Fluoranthene		38	U	38	350
Fluorene		19	U	19	350
Hexachlorobenzene		31	U	31	350
Hexachlorobutadiene		11	U	11	350
Hexachlorocyclopentadiene		53	U	53	350
Hexachloroethane		23	U	23	350
Indeno[1,2,3-cd]pyrene		23	U	23	350
Isophorone		18	U	18	350
2-Methylnaphthalene		20	U	20	350

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK6**

Lab Sample ID: 280-12175-2
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method: 8270C
Preparation: 3550C
Dilution: 1.0
Date Analyzed: 02/15/2011 1645
Date Prepared: 02/07/2011 1330

Analysis Batch: 280-53465
Prep Batch: 280-52125

4/30/14

Instrument ID: MSS_D
Lab File ID: D2033.D
Initial Weight/Volume: 30.0 g
Final Weight/Volume: 1000 uL
Injection Volume: 0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	350
3 & 4 Methylphenol		35	U	35	350
Naphthalene		33	U	33	350
2-Nitroaniline		53	U	53	350
3-Nitroaniline		78	U	78	350
4-Nitroaniline		77	U	77	350
Nitrobenzene		23	U	23	350
2-Nitrophenol		11	U	11	350
4-Nitrophenol		100	U	100	700
N-Nitrosodi-n-propylamine		33	U	33	350
N-Nitrosodiphenylamine		22	U	22	350
Pentachlorophenol		350	U	350	700
Phenanthrene		18	U	18	350
Phenol		19	U	19	350
Pyrene		13	U	13	350
1,2,4-Trichlorobenzene		30	U	30	350
2,4,5-Trichlorophenol		11	U	11	350
2,4,6-Trichlorophenol		11	U	11	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	81		50 - 120
2-Fluorophenol	84		53 - 120
Nitrobenzene-d5	81		50 - 120
Phenol-d5	83		52 - 120
Terphenyl-d14	101		55 - 120
2,4,6-Tribromophenol	93		51 - 120

000014

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK6**

Lab Sample ID: 280-12175-2
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2033.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/15/2011 1645			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.37	5800	J N
	Unknown	2.74	3500	J N

4/30/11

000015

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK7

Lab Sample ID: 280-12175-3
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2034.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1704		4/30/11	Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		27	U	27	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		41	U	41	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		66	U	47	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		44	U	44	330
Carbazole		36	U	36	330
4-Chloroaniline		83	U	83	330
4-Chloro-3-methylphenol		67	U	67	330
2-Chloronaphthalene		10	U	10	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		14	U	14	330
3,3'-Dichlorobenzidine		91	U	91	670
2,4-Dichlorophenol		10	U	10	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		67	U	67	330
Dimethyl phthalate		23	U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	670
2,4-Dinitrophenol		340	U	340	840
2,4-Dinitrotoluene		67	U	67	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		15	U	15	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		10	U	10	330
Hexachlorocyclopentadiene		51	U	51	330
Hexachloroethane		22	U	22	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK7

Lab Sample ID: 280-12175-3
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2034.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1704			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		51	U	51	330
3-Nitroaniline		74	U	74	330
4-Nitroaniline		73	U	73	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		98	U	98	670
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	670
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol	82		53 - 120
Nitrobenzene-d5	79		50 - 120
Phenol-d5	83		52 - 120
Terphenyl-d14	102		55 - 120
2,4,6-Tribromophenol	91		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK7

Lab Sample ID: 280-12175-3
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2034.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1704			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

V 4/30/4

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.38	1700	J N
	Unknown	2.74	2900	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK8

Lab Sample ID: 280-12175-4
Client Matrix: Solid
% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2035.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1723			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		CLD ~~68~~	~~JB~~ U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK8**

Lab Sample ID: 280-12175-4
Client Matrix: Solid
% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2035.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1723			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	79		50 - 120
2-Fluorophenol	82		53 - 120
Nitrobenzene-d5	77		50 - 120
Phenol-d5	82		52 - 120
Terphenyl-d14	105		55 - 120
2,4,6-Tribromophenol	90		51 - 120

000020

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK8

Lab Sample ID: 280-12175-4
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2035.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1723			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Tentatively Identified Compounds **Number TIC's Found:** 1

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.74	2800	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK9

Lab Sample ID: 280-12175-5
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2036.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/15/2011 1741			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

V 4/30/4

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	350
Acenaphthylene		18	U	18	350
Anthracene		18	U	18	350
Benzo[a]anthracene		25	J	21	350
Benzo[a]pyrene		33	J	21	350
Benzo[b]fluoranthene		59	J K	28	350
Benzo[ghi]perylene		27	J	17	350
Benzo[k]fluoranthene		42	U K	42	350
Bis(2-chloroethoxy)methane		24	U	24	350
Bis(2-chloroethyl)ether		17	U	17	350
bis (2-chloroisopropyl) ether		24	U	24	350
Bis(2-ethylhexyl) phthalate	LCO	~~73~~ K 4/30/4	~~JB~~ U	48	350
4-Bromophenyl phenyl ether		20	U	20	350
Butyl benzyl phthalate		45	U	45	350
Carbazole		38	U	38	350
4-Chloroaniline		86	U	86	350
4-Chloro-3-methylphenol		69	U	69	350
2-Chloronaphthalene		10	U	10	350
2-Chlorophenol		22	U	22	350
4-Chlorophenyl phenyl ether		22	U	22	350
Chrysene		28	U	28	350
Dibenz(a,h)anthracene		20	U	20	350
Dibenzofuran		21	U	21	350
1,2-Dichlorobenzene		23	U	23	350
1,3-Dichlorobenzene		13	U	13	350
1,4-Dichlorobenzene		14	U	14	350
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	350
Diethyl phthalate		27	U	27	350
2,4-Dimethylphenol		69	U	69	350
Dimethyl phthalate		24	U	24	350
Di-n-butyl phthalate		30	U	30	350
4,6-Dinitro-2-methylphenol		350	U	350	690
2,4-Dinitrophenol		350	U	350	870
2,4-Dinitrotoluene		69	U	69	350
2,6-Dinitrotoluene		29	U	29	350
Di-n-octyl phthalate		15	U	15	350
Fluoranthene		38	U	38	350
Fluorene		19	U	19	350
Hexachlorobenzene		30	U	30	350
Hexachlorobutadiene		10	U	10	350
Hexachlorocyclopentadiene		52	U	52	350
Hexachloroethane		22	U	22	350
Indeno[1,2,3-cd]pyrene		23	U	23	350
Isophorone		18	U	18	350
2-Methylnaphthalene		20	U	20	350

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK9**

Lab Sample ID: 280-12175-5
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2036.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/15/2011 1741			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	350
3 & 4 Methylphenol		35	U	35	350
Naphthalene		33	U	33	350
2-Nitroaniline		52	U	52	350
3-Nitroaniline		77	U	77	350
4-Nitroaniline		76	U	76	350
Nitrobenzene		23	U	23	350
2-Nitrophenol		10	U	10	350
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		33	U	33	350
N-Nitrosodiphenylamine		22	U	22	350
Pentachlorophenol		350	U	350	690
Phenanthrene		18	U	18	350
Phenol		19	U	19	350
Pyrene		13	U	13	350
1,2,4-Trichlorobenzene		29	U	29	350
2,4,5-Trichlorophenol		10	U	10	350
2,4,6-Trichlorophenol		10	U	10	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol	83		53 - 120
Nitrobenzene-d5	79		50 - 120
Phenol-d5	82		52 - 120
Terphenyl-d14	97		55 - 120
2,4,6-Tribromophenol	91		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK9**

Lab Sample ID: 280-12175-5
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2036.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/15/2011 1741			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.37	2400	J N
	Unknown	2.74	3400	J N

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000024

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL0

Lab Sample ID: 280-12175-6
Client Matrix: Solid

% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2037.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Date Analyzed:	02/15/2011 1800			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		17	U	17	340
Anthracene		17	U	17	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		16	U	16	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		CCO ~~69~~ 4/30/11	~~JB~~ U	47	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		84	U	84	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		51	U	51	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		17	U	17	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL0**

Lab Sample ID: 280-12175-6
Client Matrix: Solid

% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2037.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Date Analyzed:	02/15/2011 1800			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		51	U	51	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		17	U	17	340
Phenol		19	U	19	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	75		50 - 120
2-Fluorophenol	81		53 - 120
Nitrobenzene-d5	80		50 - 120
Phenol-d5	82		52 - 120
Terphenyl-d14	99		55 - 120
2,4,6-Tribromophenol	86		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL0**

Lab Sample ID: 280-12175-6
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2037.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Date Analyzed:	02/15/2011 1800			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.39	190	J N
	Unknown	2.74	3000	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL1

Lab Sample ID: 280-12175-7
Client Matrix: Solid
% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2038.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1819			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

V 4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		42	U	42	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		LLO ~~72~~ V 4/30/11	~~JB~~ U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		69	U	69	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		69	U	69	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL1**

Lab Sample ID: 280-12175-7
Client Matrix: Solid
% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2038.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1819			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	690
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	85		50 - 120
2-Fluorophenol	87		53 - 120
Nitrobenzene-d5	84		50 - 120
Phenol-d5	88		52 - 120
Terphenyl-d14	111		55 - 120
2,4,6-Tribromophenol	95		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL1

Lab Sample ID: 280-12175-7
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2038.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1819			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

K 4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.38	1700	J N
	Unknown	2.74	3700	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL2**

Lab Sample ID: 280-12175-8
Client Matrix: Solid
% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2039.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1838			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

✓ 4/30/11

DryWt Corrected: Y

Analyte	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene	11	U	11	340
Acenaphthylene	17	U	17	340
Anthracene	17	U	17	340
Benzo[a]anthracene	20	U	20	340
Benzo[a]pyrene	20	U	20	340
Benzo[b]fluoranthene	27	U	27	340
Benzo[ghi]perylene	16	U	16	340
Benzo[k]fluoranthene	41	U	41	340
Bis(2-chloroethoxy)methane	23	U	23	340
Bis(2-chloroethyl)ether	17	U	17	340
bis (2-chloroisopropyl) ether	23	U	23	340
Bis(2-ethylhexyl) phthalate	660 ~~72~~ ✓ 4/30/11	~~JB~~ U	47	340
4-Bromophenyl phenyl ether	19	U	19	340
Butyl benzyl phthalate	44	U	44	340
Carbazole	37	U	37	340
4-Chloroaniline	84	U	84	340
4-Chloro-3-methylphenol	67	U	67	340
2-Chloronaphthalene	10	U	10	340
2-Chlorophenol	21	U	21	340
4-Chlorophenyl phenyl ether	21	U	21	340
Chrysene	28	U	28	340
Dibenz(a,h)anthracene	19	U	19	340
Dibenzofuran	20	U	20	340
1,2-Dichlorobenzene	22	U	22	340
1,3-Dichlorobenzene	12	U	12	340
1,4-Dichlorobenzene	14	U	14	340
3,3'-Dichlorobenzidine	92	U	92	670
2,4-Dichlorophenol	10	U	10	340
Diethyl phthalate	27	U	27	340
2,4-Dimethylphenol	67	U	67	340
Dimethyl phthalate	23	U	23	340
Di-n-butyl phthalate	30	U	30	340
4,6-Dinitro-2-methylphenol	340	U	340	670
2,4-Dinitrophenol	340	U	340	840
2,4-Dinitrotoluene	67	U	67	340
2,6-Dinitrotoluene	29	U	29	340
Di-n-octyl phthalate	15	U	15	340
Fluoranthene	37	U	37	340
Fluorene	18	U	18	340
Hexachlorobenzene	30	U	30	340
Hexachlorobutadiene	10	U	10	340
Hexachlorocyclopentadiene	51	U	51	340
Hexachloroethane	22	U	22	340
Indeno[1,2,3-cd]pyrene	22	U	22	340
Isophorone	17	U	17	340
2-Methylnaphthalene	19	U	19	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL2

Lab Sample ID: 280-12175-8
Client Matrix: Solid
% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2039.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1838			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		51	U	51	340
3-Nitroaniline		74	U	74	340
4-Nitroaniline		74	U	74	340
Nitrobenzene		22	U	22	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		99	U	99	670
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		21	U	21	340
Pentachlorophenol		340	U	340	670
Phenanthrene		17	U	17	340
Phenol		18	U	18	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	82		50 - 120
2-Fluorophenol	84		53 - 120
Nitrobenzene-d5	81		50 - 120
Phenol-d5	85		52 - 120
Terphenyl-d14	106		55 - 120
2,4,6-Tribromophenol	96		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL2**

Lab Sample ID: 280-12175-8
Client Matrix: Solid
% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2039.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/15/2011 1838			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** **2**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.38	730	J N
	Unknown	2.74	3100	J N

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Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

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Client Sample ID: J1DWL3

Lab Sample ID: 280-12175-9
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2040.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1857			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		850	B	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		110	J	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL3**

Lab Sample ID: 280-12175-9
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2040.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1857			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	91		50 - 120
2-Fluorophenol	83		53 - 120
Nitrobenzene-d5	81		50 - 120
Phenol-d5	87		52 - 120
Terphenyl-d14	85		55 - 120
2,4,6-Tribromophenol	101		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL3

Lab Sample ID: 280-12175-9
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2040.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1857			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 9

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.39	280	J N
	Unknown	2.43	180	J N
	Unknown	2.74	3100	J N
	Unknown	7.94	540	J N
	Unknown	7.98	180	J N
	Unknown	8.38	230	J N
	Unknown	8.42	450	J N
27193-86-8	Phenol, dodecyl-	8.62	190	J N
	Unknown	8.87	360	J N

4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL4

Lab Sample ID: 280-12175-10
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2042.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1935			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

K 4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		42	U	42	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		660 ~~82~~	~~JB~~ U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		69	U	69	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		69	U	69	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL4

Lab Sample ID: 280-12175-10
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2042.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1935			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	690
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol	80		53 - 120
Nitrobenzene-d5	79		50 - 120
Phenol-d5	80		52 - 120
Terphenyl-d14	101		55 - 120
2,4,6-Tribromophenol	89		51 - 120

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL4**

Lab Sample ID: 280-12175-10
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2042.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1935			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.37	5100	J N
	Unknown	2.74	3000	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

4/30/11

Client Sample ID: J1DWL5

Lab Sample ID: 280-12175-11
Client Matrix: Solid

% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2043.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 1954			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		48	U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL5**

Lab Sample ID: 280-12175-11
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2043.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 1954			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol	82		53 - 120
Nitrobenzene-d5	78		50 - 120
Phenol-d5	81		52 - 120
Terphenyl-d14	103		55 - 120
2,4,6-Tribromophenol	89		51 - 120

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL5**

Lab Sample ID: 280-12175-11
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2043.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 1954			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.39	340	J N
	Unknown	2.74	2700	J N

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Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL6

Lab Sample ID: 280-12175-12
Client Matrix: Solid
% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2044.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 2013			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		42	U	42	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate	L40	~~72~~ 4/30/12	~~JB~~ U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		38	U	38	340
4-Chloroaniline		86	U	86	340
4-Chloro-3-methylphenol		69	U	69	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		13	U	13	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		69	U	69	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		38	U	38	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL6**

Lab Sample ID: 280-12175-12
Client Matrix: Solid
% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2044.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 2013			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		76	U	76	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	690
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	73		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	75		50 - 120
Phenol-d5	79		52 - 120
Terphenyl-d14	99		55 - 120
2,4,6-Tribromophenol	88		51 - 120

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL6

Lab Sample ID: 280-12175-12
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2044.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 2013			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.37	3900	J N
	Unknown	2.74	3000	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL7

Lab Sample ID: 280-12175-13
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2045.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Date Analyzed:	02/15/2011 2032			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	350
Acenaphthylene		18	U	18	350
Anthracene		18	U	18	350
Benzo[a]anthracene		21	U	21	350
Benzo[a]pyrene		21	U	21	350
Benzo[b]fluoranthene		28	U	28	350
Benzo[ghi]perylene		17	U	17	350
Benzo[k]fluoranthene		42	U	42	350
Bis(2-chloroethoxy)methane		24	U	24	350
Bis(2-chloroethyl)ether		18	U	18	350
bis (2-chloroisopropyl) ether		24	U	24	350
Bis(2-ethylhexyl) phthalate	660	~~75~~ 4130/4	~~JB~~ U	49	350
4-Bromophenyl phenyl ether		20	U	20	350
Butyl benzyl phthalate		46	U	46	350
Carbazole		38	U	38	350
4-Chloroaniline		87	U	87	350
4-Chloro-3-methylphenol		70	U	70	350
2-Chloronaphthalene		11	U	11	350
2-Chlorophenol		22	U	22	350
4-Chlorophenyl phenyl ether		22	U	22	350
Chrysene		29	U	29	350
Dibenz(a,h)anthracene		20	U	20	350
Dibenzofuran		21	U	21	350
1,2-Dichlorobenzene		23	U	23	350
1,3-Dichlorobenzene		13	U	13	350
1,4-Dichlorobenzene		14	U	14	350
3,3'-Dichlorobenzidine		95	U	95	700
2,4-Dichlorophenol		11	U	11	350
Diethyl phthalate		28	U	28	350
2,4-Dimethylphenol		70	U	70	350
Dimethyl phthalate		24	U	24	350
Di-n-butyl phthalate		31	U	31	350
4,6-Dinitro-2-methylphenol		350	U	350	700
2,4-Dinitrophenol		350	U	350	880
2,4-Dinitrotoluene		70	U	70	350
2,6-Dinitrotoluene		30	U	30	350
Di-n-octyl phthalate		78	J	15	350
Fluoranthene		38	U	38	350
Fluorene		19	U	19	350
Hexachlorobenzene		31	U	31	350
Hexachlorobutadiene		11	U	11	350
Hexachlorocyclopentadiene		53	U	53	350
Hexachloroethane		23	U	23	350
Indeno[1,2,3-cd]pyrene		23	U	23	350
Isophorone		18	U	18	350
2-Methylnaphthalene		20	U	20	350

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL7**

Lab Sample ID: 280-12175-13
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2045.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Date Analyzed:	02/15/2011 2032			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	350
3 & 4 Methylphenol		35	U	35	350
Naphthalene		33	U	33	350
2-Nitroaniline		53	U	53	350
3-Nitroaniline		77	U	77	350
4-Nitroaniline		77	U	77	350
Nitrobenzene		23	U	23	350
2-Nitrophenol		11	U	11	350
4-Nitrophenol		100	U	100	700
N-Nitrosodi-n-propylamine		33	U	33	350
N-Nitrosodiphenylamine		22	U	22	350
Pentachlorophenol		350	U	350	700
Phenanthrene		18	U	18	350
Phenol		19	U	19	350
Pyrene		13	U	13	350
1,2,4-Trichlorobenzene		30	U	30	350
2,4,5-Trichlorophenol		11	U	11	350
2,4,6-Trichlorophenol		11	U	11	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	74		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	76		50 - 120
Phenol-d5	80		52 - 120
Terphenyl-d14	101		55 - 120
2,4,6-Tribromophenol	90		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL7

Lab Sample ID: 280-12175-13
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2045.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Date Analyzed:	02/15/2011 2032			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 3

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.37	4700	J N
	Unknown	2.74	4000	J N
629-96-9	1-Eicosanol	9.97	170	J N

000048

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL8

Lab Sample ID: 280-12175-14
Client Matrix: Solid
% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2046.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 2050			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	350
Acenaphthylene		18	U	18	350
Anthracene		18	U	18	350
Benzo[a]anthracene		21	U	21	350
Benzo[a]pyrene		21	U	21	350
Benzo[b]fluoranthene		27	U	27	350
Benzo[ghi]perylene		17	U	17	350
Benzo[k]fluoranthene		42	U	42	350
Bis(2-chloroethoxy)methane		24	U	24	350
Bis(2-chloroethyl)ether		17	U	17	350
bis (2-chloroisopropyl) ether		24	U	24	350
Bis(2-ethylhexyl) phthalate		LCG ~~75~~	~~JB~~ U	48	350
4-Bromophenyl phenyl ether		20	U	20	350
Butyl benzyl phthalate		45	U	45	350
Carbazole		38	U	38	350
4-Chloroaniline		86	U	86	350
4-Chloro-3-methylphenol		69	U	69	350
2-Chloronaphthalene		10	U	10	350
2-Chlorophenol		22	U	22	350
4-Chlorophenyl phenyl ether		22	U	22	350
Chrysene		28	U	28	350
Dibenz(a,h)anthracene		20	U	20	350
Dibenzofuran		21	U	21	350
1,2-Dichlorobenzene		23	U	23	350
1,3-Dichlorobenzene		13	U	13	350
1,4-Dichlorobenzene		14	U	14	350
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	350
Diethyl phthalate		27	U	27	350
2,4-Dimethylphenol		69	U	69	350
Dimethyl phthalate		24	U	24	350
Di-n-butyl phthalate		30	U	30	350
4,6-Dinitro-2-methylphenol		350	U	350	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	350
2,6-Dinitrotoluene		29	U	29	350
Di-n-octyl phthalate		15	U	15	350
Fluoranthene		38	U	38	350
Fluorene		19	U	19	350
Hexachlorobenzene		30	U	30	350
Hexachlorobutadiene		10	U	10	350
Hexachlorocyclopentadiene		52	U	52	350
Hexachloroethane		22	U	22	350
Indeno[1,2,3-cd]pyrene		23	U	23	350
Isophorone		18	U	18	350
2-Methylnaphthalene		20	U	20	350

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL8**

Lab Sample ID: 280-12175-14
Client Matrix: Solid
% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2046.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 2050			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

K 4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	350
3 & 4 Methylphenol		35	U	35	350
Naphthalene		32	U	32	350
2-Nitroaniline		52	U	52	350
3-Nitroaniline		76	U	76	350
4-Nitroaniline		76	U	76	350
Nitrobenzene		23	U	23	350
2-Nitrophenol		10	U	10	350
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	350
N-Nitrosodiphenylamine		22	U	22	350
Pentachlorophenol		350	U	350	690
Phenanthrene		18	U	18	350
Phenol		19	U	19	350
Pyrene		13	U	13	350
1,2,4-Trichlorobenzene		29	U	29	350
2,4,5-Trichlorophenol		10	U	10	350
2,4,6-Trichlorophenol		10	U	10	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol	84		53 - 120
Nitrobenzene-d5	81		50 - 120
Phenol-d5	84		52 - 120
Terphenyl-d14	102		55 - 120
2,4,6-Tribromophenol	93		51 - 120

000050

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL8

Lab Sample ID: 280-12175-14
Client Matrix: Solid
% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2046.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/15/2011 2050			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.38	2600	J N
	Unknown	2.75	3900	J N

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL9**

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2047.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Date Analyzed:	02/15/2011 2109			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

K 4/30/11

DryWt Corrected: Y

Analyte	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene	11	U	11	350
Acenaphthylene	18	U	18	350
Anthracene	18	U	18	350
Benzo[a]anthracene	21	U	21	350
Benzo[a]pyrene	21	U	21	350
Benzo[b]fluoranthene	28	U	28	350
Benzo[ghi]perylene	17	U	17	350
Benzo[k]fluoranthene	43	U	43	350
Bis(2-chloroethoxy)methane	25	U	25	350
Bis(2-chloroethyl)ether	18	U	18	350
bis (2-chloroisopropyl) ether	25	U	25	350
Bis(2-ethylhexyl) phthalate	600 ~~520~~ K 5/13/11	~~B~~ U	49	350
4-Bromophenyl phenyl ether	20	U	20	350
Butyl benzyl phthalate	46	U	46	350
Carbazole	39	U	39	350
4-Chloroaniline	88	U	88	350
4-Chloro-3-methylphenol	71	U	71	350
2-Chloronaphthalene	11	U	11	350
2-Chlorophenol	22	U	22	350
4-Chlorophenyl phenyl ether	22	U	22	350
Chrysene	29	U	29	350
Dibenz(a,h)anthracene	20	U	20	350
Dibenzofuran	21	U	21	350
1,2-Dichlorobenzene	24	U	24	350
1,3-Dichlorobenzene	13	U	13	350
1,4-Dichlorobenzene	15	U	15	350
3,3'-Dichlorobenzidine	96	U	96	710
2,4-Dichlorophenol	11	U	11	350
Diethyl phthalate	28	U	28	350
2,4-Dimethylphenol	71	U	71	350
Dimethyl phthalate	25	U	25	350
Di-n-butyl phthalate	31	U	31	350
4,6-Dinitro-2-methylphenol	350	U	350	710
2,4-Dinitrophenol	360	U	360	880
2,4-Dinitrotoluene	71	U	71	350
2,6-Dinitrotoluene	30	U	30	350
Di-n-octyl phthalate	15	U	15	350
Fluoranthene	39	U	39	350
Fluorene	19	U	19	350
Hexachlorobenzene	31	U	31	350
Hexachlorobutadiene	11	U	11	350
Hexachlorocyclopentadiene	53	U	53	350
Hexachloroethane	23	U	23	350
Indeno[1,2,3-cd]pyrene	24	U	24	350
Isophorone	18	U	18	350
2-Methylnaphthalene	20	U	20	350

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL9**

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2047.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Date Analyzed:	02/15/2011 2109			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

4/30/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	350
3 & 4 Methylphenol		35	U	35	350
Naphthalene		33	U	33	350
2-Nitroaniline		53	U	53	350
3-Nitroaniline		78	U	78	350
4-Nitroaniline		78	U	78	350
Nitrobenzene		24	U	24	350
2-Nitrophenol		11	U	11	350
4-Nitrophenol		100	U	100	710
N-Nitrosodi-n-propylamine		33	U	33	350
N-Nitrosodiphenylamine		22	U	22	350
Pentachlorophenol		350	U	350	710
Phenanthrene		18	U	18	350
Phenol		19	U	19	350
Pyrene		13	U	13	350
1,2,4-Trichlorobenzene		30	U	30	350
2,4,5-Trichlorophenol		11	U	11	350
2,4,6-Trichlorophenol		11	U	11	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	87		50 - 120
2-Fluorophenol	87		53 - 120
Nitrobenzene-d5	84		50 - 120
Phenol-d5	87		52 - 120
Terphenyl-d14	111		55 - 120
2,4,6-Tribromophenol	93		51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL9**

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

8270C Semivolatile Organic Compounds (GC/MS)

Method:	8270C	Analysis Batch: 280-53465		Instrument ID:	MSS_D
Preparation:	3550C	Prep Batch: 280-52125		Lab File ID:	D2047.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Date Analyzed:	02/15/2011 2109			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

K 4/30/11

Tentatively Identified Compounds **Number TIC's Found:** 5

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.37	2200	J N
	Unknown	2.75	4800	J N
	Unknown	4.44	590	J N
	Unknown	4.70	140	J N
	Unknown	9.96	230	J N

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-12175-1

SDG #: J01007
SAF#: RC-148

Date SDG Closed: February 3, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1DWK5	280-12175-1	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK6	280-12175-2	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK7	280-12175-3	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK8	280-12175-4	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK9	280-12175-5	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL0	280-12175-6	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL1	280-12175-7	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL2	280-12175-8	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL3	280-12175-9	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL4	280-12175-10	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL5	280-12175-11	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL6	280-12175-12	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL7	280-12175-13	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL8	280-12175-14	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL9	280-12175-15	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWM1	280-12175-16	6010/7471	6010B/6020/7471A

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/3/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.9 C, 3.9 C and 3.1 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in sample J1DWK9 due to matrix interferences. It can be noted that these compounds were adequately resolved in associated standards, indicating the instrument is achieving separation. The combined peak was reported as Benzo(b)fluoranthene, while Benzo(k)fluoranthene was reported as undetected even though it may be present. Associated results have been flagged with a "K".

Low levels of Bis(2-ethylhexyl) phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-52125. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The laboratory noted that samples J1DWK6, J1DWK7, J1DWK9, J1DWL1, J1DWL2, J1DWL3, J1DWL4, J1DWL6, J1DWL8 and J1DWL9 contained more than one Aroclor component. Results should be considered estimated due to shared peaks.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, samples J1DWL1, J1DWL3, J1DWL4 and J1DWL8 had to be analyzed at dilutions, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilutions required.

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 and Aroclor1260 in sample J1DWL2. The results have been flagged with a "P".

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, sample J1DWL3 had to be analyzed at a dilution, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilution required.

The surrogate recovery was not calculated for sample J1DWL3, because the extract was diluted beyond the ability to reliably quantitate a recovery. The recovery has been flagged with a "D".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A

Serial dilution of a digestate in batch 280-52227 indicates that physical and chemical interferences are present for Cobalt, Copper, Nickel and Silicon. Results have been flagged with an "X".

Low levels of Uranium are present in the method blank associated with batch 280-52228. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1DWK5; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the Matrix Spike performed on sample J1DWK5, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

1.9, 3.9, 3.1

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 1 of 4

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: GWS-222-2	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (DH 1/25/11)	Offsite Property No.: A100656		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

00058

Preservation			Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
Type of Container			G/P	aG	aG	aG	G/P	G/P	G/P			
No. of Container(s)			1	1	1	1	1	1	1			
Volume			60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS			See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions	Isotopic Uranium	Strontium-89,90 -- Total Sr			
Sample No.	Matrix *	Sample Date	Sample Time									
J1DWK5	SOIL	2/1/11	1153	X	X	X	X					
J1DWK6	SOIL	2/1/11	1215	X	X	X	X					
J1DWK7	SOIL	2/1/11	1230	X	X	X	X					
J1DWK8	SOIL	2/1/11	1240	X	X	X	X					
J1DWK9	SOIL	2/1/11	1250	X	X	X	X					

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Dontte Delbaugh	2/1/11 1419
Dontte Delbaugh	2/1/11 1600	A. Freier A. Freier	2/1/11 1600
WCH A. Freier A. Freier	2-2-11 1020	Fed Ex	
			2/2/11 100

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

SDG# J01007

REVIEWED BY STB DATE 2-2-11

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 2 of 4

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: GWS-222-2	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: A 100656		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

650059

Preservation			Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
Type of Container			G/P	aG	aG	aG	G/P	G/P	G/P			
No. of Container(s)			1	1	1	1	1	1	1			
Volume			60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS			See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr			
Sample No.	Matrix *	Sample Date	Sample Time									
J1DWL0	SOIL	2/1/11	1300	X	X	X	X					
J1DWL1	SOIL	2/1/11	1307	X	X	X	X					
J1DWL2	SOIL	2/1/11	1315	X	X	X	X					
J1DWL3	SOIL	2/1/11	1320	X	X	X	X					
J1DWL4	SOIL	2/1/11	1335	X	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Quincy Stowe	Date/Time: 02/01/11 1419	Received By/Stored In: Doug Delberghe	Date/Time: 1419 2/1/11
Relinquished By/Removed From: Doug Delberghe	Date/Time: 2/1/11 1600	Received By/Stored In: A. Freier	Date/Time: 2/1/11 1600
Relinquished By/Removed From: WCH A. Freier	Date/Time: 2-2-11 1020	Received By/Stored In: Fed Ex	Date/Time:
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time: 2/3/11 1000
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 Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

SDGH J01007

REVIEWED BY JEB DATE 2-2-11

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 3 of 4
Collector: Q. Stowe	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L; Data Turnaround: 21 Days
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification	SAF No.: RC-148	
Ice Chest No.: BWS-222-2	Field Logbook No.: EL-1395-17; COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (DH 1125/11)	Offsite Property No.: A100656	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

090000

Preservation			Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
Type of Container			G/P	aG	aG	aG	G/P	G/P	G/P			
No. of Container(s)			1	1	1	1	1	1	1			
Volume			60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS			See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 -- Total Sr			
Sample No.	Matrix *	Sample Date	Sample Time									
J1DWL5	SOIL	2/1/11	1340	X	X	X	X					
J1DWL6	SOIL	2/1/11	1350	X	X	X	X					
J1DWL7	SOIL	2/1/11	1400	X	X	X	X					
J1DWL8	SOIL	2/1/11	1405	X	X	X	X					
J1DWL9	SOIL	2/1/11	1215	X	X	X	X					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Dontte Helberg	2/1/11 1419
Dontte Helberg	2/1/11 1600	A. Freier	2/1/11 1600
A. Freier (WCH)	2-2-11 1020	Fed Ex	
			2/3/11 1020

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

SDGH J01007

REVIEWED BY JEB DATE 2-2-11

Matrix *
S=Soil
SS=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Appendix 5

Data Validation Supporting Documentation

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 306-251			DATA PACKAGE: J01007		
VALIDATOR: ELR		LAB: TAL		DATE: 4/30/4	
			SDG: J01007		
ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)

SAMPLES/MATRIX				
J1DWK5	J1DWK6	J1DWK7	J1DWK8	J1DWK9
J1DWL0	J1DWL1	J1DWL2	J1DWL3	J1DWL4
J1DWL5	J1DWL6	J1DWL7	J1DWL8	J1DWL9
				soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes No N/A

Comments:

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? ..... Yes No N/A

Initial calibrations acceptable? ..... Yes No N/A

Continuing calibrations acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments:

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) ..... Yes No N/A

Calibration blank results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field/trip blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field/trip blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: bis(2-ethylhexyl) phthalate - U at RQL all <5X

no PB

4. ACCURACY (Levels C, D, and E)

Surrogates/system monitoring compounds analyzed? ..... Yes No N/A

Surrogate/system monitoring compound recoveries acceptable? ..... Yes No N/A

Surrogates traceable? (Levels D, E) ..... Yes No N/A

Surrogates expired? (Levels D, E) ..... Yes No N/A

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: no PAS

GC/MS ORGANIC DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD RPD values acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed? ..... Yes No N/A

Iinternal standard areas acceptable? ..... Yes No N/A

Internal standard retention times acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments: _____

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: _____

GC/MS ORGANIC DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E) ..... Yes No N/A

Compound quantitation acceptable? (Levels D, E) ..... Yes No N/A

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Laboratory properly identified and coded all TIC? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

9. SAMPLE CLEANUP (Levels D and E)

GPC cleanup performed? ..... Yes No N/A

GPC check performed? ..... Yes No N/A

GPC check recoveries acceptable? ..... Yes No N/A

GPC calibration performed? ..... Yes No N/A

GPC calibration check performed? ..... Yes No N/A

GPC calibration check retention times acceptable? ..... Yes No N/A

Check/calibration materials traceable? ..... Yes No N/A

Check/calibration materials Expired? ..... Yes No N/A

Analytical batch QC given similar cleanup? ..... Yes No N/A

Transcription/Calculation Errors? ..... Yes No N/A

Comments: _____

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-52125

Method: 8270C
Preparation: 3550C

Lab Sample ID: MB 280-52125/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/15/2011 1607
Date Prepared: 02/07/2011 1330

Analysis Batch: 280-53465
Prep Batch: 280-52125
Units: ug/Kg

Instrument ID: MSS_D
Lab File ID: D2031.D
Initial Weight/Volume: 30.2 g
Final Weight/Volume: 1000 uL
Injection Volume: 0.5 uL

Analyte	Result	Qual	MDL	RL
Acenaphthene	10	U	10	330
Acenaphthylene	17	U	17	330
Anthracene	17	U	17	330
Benzo[a]anthracene	20	U	20	330
Benzo[a]pyrene	20	U	20	330
Benzo[b]fluoranthene	26	U	26	330
Benzo[ghi]perylene	16	U	16	330
Benzo[k]fluoranthene	40	U	40	330
Bis(2-chloroethoxy)methane	23	U	23	330
Bis(2-chloroethyl)ether	16	U	16	330
bis (2-chloroisopropyl) ether	23	U	23	330
Bis(2-ethylhexyl) phthalate	62.7	J	46	330
4-Bromophenyl phenyl ether	19	U	19	330
Butyl benzyl phthalate	43	U	43	330
Carbazole	36	U	36	330
4-Chloroaniline	81	U	81	330
4-Chloro-3-methylphenol	66	U	66	330
2-Chloronaphthalene	9.9	U	9.9	330
2-Chlorophenol	21	U	21	330
4-Chlorophenyl phenyl ether	21	U	21	330
Chrysene	27	U	27	330
Dibenz(a,h)anthracene	19	U	19	330
Dibenzofuran	20	U	20	330
1,2-Dichlorobenzene	22	U	22	330
1,3-Dichlorobenzene	12	U	12	330
1,4-Dichlorobenzene	14	U	14	330
3,3'-Dichlorobenzidine	89	U	89	660
2,4-Dichlorophenol	9.9	U	9.9	330
Diethyl phthalate	26	U	26	330
2,4-Dimethylphenol	66	U	66	330
Dimethyl phthalate	23	U	23	330
Di-n-butyl phthalate	29	U	29	330
4,6-Dinitro-2-methylphenol	330	U	330	660
2,4-Dinitrophenol	330	U	330	820
2,4-Dinitrotoluene	66	U	66	330
2,6-Dinitrotoluene	28	U	28	330
Di-n-octyl phthalate	14	U	14	330
Fluoranthene	36	U	36	330
Fluorene	18	U	18	330
Hexachlorobenzene	29	U	29	330
Hexachlorobutadiene	9.9	U	9.9	330
Hexachlorocyclopentadiene	50	U	50	330
Hexachloroethane	21	U	21	330

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-52125

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-52125/1-A	Analysis Batch:	280-53465	Instrument ID:	MSS_D
Client Matrix:	Solid	Prep Batch:	280-52125	Lab File ID:	D2031.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.2 g
Date Analyzed:	02/15/2011 1607			Final Weight/Volume:	1000 uL
Date Prepared:	02/07/2011 1330			Injection Volume:	0.5 uL

Analyte	Result	Qual	MDL	RL
Indeno[1,2,3-cd]pyrene	22	U	22	330
Isophorone	17	U	17	330
2-Methylnaphthalene	19	U	19	330
2-Methylphenol	13	U	13	330
3 & 4 Methylphenol	33	U	33	330
Naphthalene	31	U	31	330
2-Nitroaniline	50	U	50	330
3-Nitroaniline	73	U	73	330
4-Nitroaniline	72	U	72	330
Nitrobenzene	22	U	22	330
2-Nitrophenol	9.9	U	9.9	330
4-Nitrophenol	96	U	96	660
N-Nitrosodi-n-propylamine	31	U	31	330
N-Nitrosodiphenylamine	21	U	21	330
Pentachlorophenol	330	U	330	660
Phenanthrene	17	U	17	330
Phenol	18	U	18	330
Pyrene	12	U	12	330
1,2,4-Trichlorobenzene	28	U	28	330
2,4,5-Trichlorophenol	9.9	U	9.9	330
2,4,6-Trichlorophenol	9.9	U	9.9	330

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	76	50 - 120
2-Fluorophenol	81	53 - 120
Nitrobenzene-d5	77	50 - 120
Phenol-d5	81	52 - 120
Terphenyl-d14	103	55 - 120
2,4,6-Tribromophenol	78	51 - 120

Method Blank TICs- Batch: 280-52125

Cas Number	Analyte	RT	Est. Result	Qual
	Unknown	2.74	3450	J N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Lab Control Sample - Batch: 280-52125

Method: 8270C
Preparation: 3550C

Lab Sample ID: LCS 280-52125/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/15/2011 1328
Date Prepared: 02/07/2011 1330

Analysis Batch: 280-53465
Prep Batch: 280-52125
Units: ug/Kg

Instrument ID: MSS_D
Lab File ID: D2022.D
Initial Weight/Volume: 30.2 g
Final Weight/Volume: 1000 uL
Injection Volume: 0.5 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2650	2220	84	52 - 120	
Anthracene	2650	2600	98	57 - 120	
Carbazole	2650	2610	98	54 - 120	
4-Chloro-3-methylphenol	2650	2410	91	57 - 120	
2-Chlorophenol	2650	2260	85	53 - 120	
1,4-Dichlorobenzene	2650	2100	79	46 - 120	
2,4-Dinitrotoluene	2650	2560	97	53 - 120	
2-Methylnaphthalene	2650	2200	83	55 - 120	
2-Methylphenol	2650	2250	85	51 - 120	
4-Nitrophenol	2650	2740	104	41 - 120	
N-Nitrosodi-n-propylamine	2650	2270	86	51 - 120	
Pentachlorophenol	2650	2550	96	30 - 120	
Phenol	2650	2300	87	54 - 120	
Pyrene	2650	2600	98	50 - 120	
1,2,4-Trichlorobenzene	2650	2030	77	50 - 120	
2,4,6-Trichlorophenol	2650	2340	88	50 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	83	50 - 120
2-Fluorophenol	87	53 - 120
Nitrobenzene-d5	85	50 - 120
Phenol-d5	87	52 - 120
Terphenyl-d14	97	55 - 120
2,4,6-Tribromophenol	91	51 - 120

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-52125

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-12175-2	Analysis Batch: 280-53465	Instrument ID:	MSS_D	
Client Matrix:	Solid	Prep Batch: 280-52125	Lab File ID:	D2025.D	
Dilution:	1.0		Initial Weight/Volume:	30.3	g
Date Analyzed:	02/15/2011 1424		Final Weight/Volume:	1000	uL
Date Prepared:	02/07/2011 1330		Injection Volume:	0.5	uL

MSD Lab Sample ID:	280-12175-2	Analysis Batch: 280-53465	Instrument ID:	MSS_D	
Client Matrix:	Solid	Prep Batch: 280-52125	Lab File ID:	D2026.D	
Dilution:	1.0		Initial Weight/Volume:	30.3	g
Date Analyzed:	02/15/2011 1443		Final Weight/Volume:	1000	uL
Date Prepared:	02/07/2011 1330		Injection Volume:	0.5	uL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	83	86	52 - 120	4	30		
Anthracene	92	99	57 - 120	7	30		
Carbazole	91	99	54 - 120	8	30		
4-Chloro-3-methylphenol	89	95	57 - 120	6	30		
2-Chlorophenol	76	77	53 - 120	2	30		
1,4-Dichlorobenzene	72	74	46 - 120	3	30		
2,4-Dinitrotoluene	92	97	53 - 120	5	30		
2-Methylnaphthalene	77	80	55 - 120	3	30		
2-Methylphenol	75	81	51 - 120	7	30		
4-Nitrophenol	97	100	41 - 120	3	30		
N-Nitrosodi-n-propylamine	76	77	51 - 120	1	30		
Pentachlorophenol	87	92	30 - 120	5	30		
Phenol	78	81	54 - 120	3	30		
Pyrene	94	101	50 - 120	7	38		
1,2,4-Trichlorobenzene	70	71	50 - 120	1	30		
2,4,6-Trichlorophenol	86	92	50 - 120	6	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	78	82	50 - 120
2-Fluorophenol	79	79	53 - 120
Nitrobenzene-d5	78	78	50 - 120
Phenol-d5	81	82	52 - 120
Terphenyl-d14	94	99	55 - 120
2,4,6-Tribromophenol	93	95	51 - 120

Date: 2 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol - Waste Site 300-251
Subject: Diesel range organics - Data Package No. J01007-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01007 prepared by TestAmerica Laboratory Inc. (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1DWK5	2/1/11	Soil	C	See note 1
J1DWK6	2/1/11	Soil	C	See note 1
J1DWK7	2/1/11	Soil	C	See note 1
J1DWK8	2/1/11	Soil	C	See note 1
J1DWK9	2/1/11	Soil	C	See note 1
J1DWL0	2/1/11	Soil	C	See note 1
J1DWL1	2/1/11	Soil	C	See note 1
J1DWL2	2/1/11	Soil	C	See note 1
J1DWL3	2/1/11	Soil	C	See note 1
J1DWL4	2/1/11	Soil	C	See note 1
J1DWL5	2/1/11	Soil	C	See note 1
J1DWL6	2/1/11	Soil	C	See note 1
J1DWL7	2/1/11	Soil	C	See note 1
J1DWL8	2/1/11	Soil	C	See note 1
J1DWL9	2/1/11	Soil	C	See note 1

1 – NWTPH-Dx.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 300 Area Remedial Action Sampling and Analysis Plan (DOE/RL-2001-48, Rev. 3). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Data Requested by Client

DATA QUALITY OBJECTIVES

Holding Times

Analytical holding times were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Samples must be extracted within 14 days of the date of sample collection and analyzed within 40 days from the date of extraction.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

Method Blanks

Method blank analyses are conducted to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. Analytical results for analytes present in any sample at less than five times the concentration of that analyte found in the associated blank are qualified as non-detects and flagged "U". Common laboratory contaminants present in samples at less than ten times the concentration of that analyte found in the associated blank are qualified as non-detects. If a sample result is less than the CRQL and is less than five times (or less than ten times for lab contaminants) the highest associated blank result, the sample result value is raised to the CRQL level and qualified as undetected "U".

All method blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

Accuracy

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

Matrix spike/matrix spike duplicate analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike/matrix spike duplicate analyses are performed in

duplicate using five compounds for which percent recoveries must be within a range of 50-150% or within laboratory control limits. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Undetected sample results with spike recoveries below control limits are qualified as estimates and flagged "UJ". Undetected sample results are not qualified if the spike recovery is above control limits. Sample results greater than five times the spike concentration require no qualification.

All accuracy results were acceptable.

Surrogate Recovery

The analyses of surrogate compounds provide a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. If two surrogates of the same class of compounds (base/neutral or acid) are out of control limits, all associated sample results greater than the contract required quantitation limit (CRQL) are qualified as estimates and flagged "J". Sample results less than the CRQL and below the lower control limit are qualified as estimates and flagged "UJ". Sample results less than the CRQL with recoveries above the upper control limit require no qualification. If a surrogate recovery is less than 10%, detects are qualified as estimates and flagged "J" and nondetects are rejected and flagged "UR".

Due to the surrogate being diluted out (0%), all diesel range organic results in sample J1DWL3 were qualified as estimates and flagged "J".

All other surrogate results were acceptable.

Precision

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike (MS)/matrix spike duplicate (MSD) results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. Samples results must be within RPD limits of +/-30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

All laboratory results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1DWK6/J1DWL9) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the required quantitation limits (RQL's) to ensure that laboratory detection levels meet the required criteria. No RQLs were specified

- **Completeness**

Data package No. J01007 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiency was noted:

- Due to the surrogate being diluted out (0%), all diesel range organic results in sample J1DWL3 were qualified as estimates and flagged "J".

Data flagged "J" indicates that the associated concentration is an estimate, but under the WCH statement of work, the data may be usable for decision-making purposes. All other validated results are considered accurate within the standard error associated with the methods.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-2001-48, Rev. 3, *300 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, May 2004.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

DIESEL RANGE ORGANICS DATA QUALIFICATION SUMMARY*

SDG: J01007	REVIEWER: ELR	Project: 300-251	PAGE_1_OF_1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All	J	J1DWL3	Surrogate recovery

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK5**

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	027B2701.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Date Analyzed:	02/15/2011 2221			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		4600		1000	4200
C10-C28		2200	J	710	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	82		49 - 115

K 4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK6**

Lab Sample ID: 280-12175-2
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	030B3001.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Date Analyzed:	02/15/2011 2345			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		17000		1000	4100
C10-C28		4300		700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	71		49 - 115

4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK7**

Lab Sample ID: 280-12175-3
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	031B3101.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Date Analyzed:	02/16/2011 0013			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		27000		1000	4100
C10-C28		18000		690	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	62		49 - 115

4/30/11

000012

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK8**

Lab Sample ID: 280-12175-4
Client Matrix: Solid
% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	032B3201.D
Dilution:	1.0			Initial Weight/Volume:	30.8 g
Date Analyzed:	02/16/2011 0040			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		7000		1000	4100
C10-C28		1600	J	690	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	73		49 - 115

4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK9**

Lab Sample ID: 280-12175-5
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	034B3401.D
Dilution:	1.0			Initial Weight/Volume:	31.8 g
Date Analyzed:	02/16/2011 0136			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		27000		990	4000
C10-C28		11000		670	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	77		49 - 115

K
4/30/11

000014

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL0

Lab Sample ID: 280-12175-6
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	035B3501.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Date Analyzed:	02/16/2011 0204			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2300	J	1000	4000
C10-C28		740	J	680	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	78		49 - 115

4/30/11

000015

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL1**

Lab Sample ID: 280-12175-7
Client Matrix: Solid
% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	036B3601.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/16/2011 0232			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		8300		1100	4300
C10-C28		3200	J	730	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	76		49 - 115

4/30/11

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL2**

Lab Sample ID: 280-12175-8
Client Matrix: Solid
% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	037B3701.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Date Analyzed:	02/16/2011 0300			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		16000		1000	4100
C10-C28		6800		700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	74		49 - 115

4/30/11

000017

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL3

Lab Sample ID: 280-12175-9
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53888		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	060B6001.D
Dilution:	10			Initial Weight/Volume:	30.0 g
Date Analyzed:	02/18/2011 1217			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2500000	D J	10000	42000
C10-C28		1500000	D J	7100	42000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	D	49 - 115

4/30/11

000018

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL4**

Lab Sample ID: 280-12175-10
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	039B3901.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/16/2011 0355			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2600	J	1000	4200
C10-C28		1300	J	710	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	71		49 - 115

4/30/11

000019

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL5**

Lab Sample ID: 280-12175-11
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	040B4001.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Date Analyzed:	02/16/2011 0423			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1000	U	1000	4100
C10-C28		700	U	700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	72		49 - 115

4/30/11

000020

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL6**

Lab Sample ID: 280-12175-12
Client Matrix: Solid
% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	041B4101.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Date Analyzed:	02/16/2011 0451			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		43000		1000	4200
C10-C28		22000		710	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	75		49 - 115

4/30/11

000021

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL7**

Lab Sample ID: 280-12175-13
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	042B4201.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Date Analyzed:	02/16/2011 0519			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2100	J	1100	4300
C10-C28		1300	J	730	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	79		49 - 115

4/30/11

000022

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL8**

Lab Sample ID: 280-12175-14
Client Matrix: Solid
% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	043B4301.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Date Analyzed:	02/16/2011 0547			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		8000		1000	4200
C10-C28		2700	J	710	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	71		49 - 115

4/30/11

000023

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL9**

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 280-53885		Instrument ID:	GCS_U
Preparation:	3550C	Prep Batch: 280-52686		Lab File ID:	045B4501.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Date Analyzed:	02/16/2011 0643			Final Weight/Volume:	1000 uL
Date Prepared:	02/10/2011 1350			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		14000		1100	4200
C10-C28		4400		720	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	70		49 - 115

4/30/4

000024

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-12175-1

SDG #: J01007
SAF#: RC-148

Date SDG Closed: February 3, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1DWK5	280-12175-1	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK6	280-12175-2	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK7	280-12175-3	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK8	280-12175-4	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK9	280-12175-5	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL0	280-12175-6	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL1	280-12175-7	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL2	280-12175-8	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL3	280-12175-9	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL4	280-12175-10	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL5	280-12175-11	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL6	280-12175-12	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL7	280-12175-13	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL8	280-12175-14	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL9	280-12175-15	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWM1	280-12175-16	6010/7471	6010B/6020/7471A

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/3/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.9 C, 3.9 C and 3.1 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in sample J1DWK9 due to matrix interferences. It can be noted that these compounds were adequately resolved in associated standards, indicating the instrument is achieving separation. The combined peak was reported as Benzo(b)fluoranthene, while Benzo(k)fluoranthene was reported as undetected even though it may be present. Associated results have been flagged with a "K".

000026

Low levels of Bis(2-ethylhexyl) phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-52125. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The laboratory noted that samples J1DWK6, J1DWK7, J1DWK9, J1DWL1, J1DWL2, J1DWL3, J1DWL4, J1DWL6, J1DWL8 and J1DWL9 contained more than one Aroclor component. Results should be considered estimated due to shared peaks.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, samples J1DWL1, J1DWL3, J1DWL4 and J1DWL8 had to be analyzed at dilutions, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilutions required.

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 and Aroclor1260 in sample J1DWL2. The results have been flagged with a "P".

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, sample J1DWL3 had to be analyzed at a dilution, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilution required.

The surrogate recovery was not calculated for sample J1DWL3, because the extract was diluted beyond the ability to reliably quantitate a recovery. The recovery has been flagged with a "D".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A

Serial dilution of a digestate in batch 280-52227 indicates that physical and chemical interferences are present for Cobalt, Copper, Nickel and Silicon. Results have been flagged with an "X".

Low levels of Uranium are present in the method blank associated with batch 280-52228. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1DWK5; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the Matrix Spike performed on sample J1DWK5, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

1.9, 3.9, 3.1

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 1 of 4

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 300 Area Field Remediation - Soil Full Protocol	Sampling Location 300-251 Verification		SAF No. RC-148
Ice Chest No. GWS-222-2	Field Logbook No. EL-1395-17	COA R302512000	Method of Shipment Hand Deliver/Government Vehicle/FedEx
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver OH 4/25/11	Offsite Property No. A100656		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

000028

			Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None		
			Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P		
			No. of Container(s)	1	1	1	1	1	1	1		
			Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions	Isotopic Uranium	Strontium-89,90 -- Total Sr		
Sample No.	Matrix *	Sample Date	Sample Time									
J1DWK5	SOIL	2/1/11	1153	X	X	X	X					
J1DWK6	SOIL	2/1/11	1215	X	X	X	X					
J1DWK7	SOIL	2/1/11	1230	X	X	X	X					
J1DWK8	SOIL	2/1/11	1240	X	X	X	X					
J1DWK9	SOIL	2/1/11	1250	X	X	X	X					

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Dottie Delbaugh	2/1/11 1419
Dottie Delbaugh	2/1/11 1600	A. Freier	2/1/11 1600
A. Freier (WCH)	2-2-11 1020	Fed Ex	
			2/2/11 100

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

SDG# J01007

REVIEWED BY JZB DATE 2-2-11

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 2 of 4

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: GWS-222-2	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver JH 1/25/11	Offsite Property No.: A 100656		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

000029

			Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None		
			Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P		
			No. of Container(s)	1	1	1	1	1	1	1		
			Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr		
Sample No.	Matrix *	Sample Date	Sample Time									
J1DWL0	SOIL	2/1/11	1300	X	X	X	X					
J1DWL1	SOIL	2/1/11	1307	X	X	X	X					
J1DWL2	SOIL	2/1/11	1315	X	X	X	X					
J1DWL3	SOIL	2/1/11	1320	X	X	X	X					
J1DWL4	SOIL	2/1/11	1335	X	X	X	X					

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Doug Heidelberger	2/1/11 1414
Doug Heidelberger	2/1/11 1600	A. Freier	2/1/11 1600
WCH A. Freier	2-2-11 1020	Fed Ex	
		~~Received By/Stored In~~	2/2/11 1020
		~~Received By/Stored In~~	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

SDGH J01007

REVIEWED BY JYB DATE 2-2-11

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 3 of 4

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 300 Area Field Remediation - Soil Full Protocol	Sampling Location 300-251 Verification		SAF No. RC-148
Ice Chest No. BWS-222-2	Field Logbook No. EL-1395-17	COA R302512000	Method of Shipment Hand Deliver/Government Vehicle/FedEx
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 1/25/11	Offsite Property No. A100656		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

00030

			Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None			
			Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P			
			No. of Container(s)	1	1	1	1	1	1	1			
			Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL			
SAMPLE ANALYSIS				See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 -- Total Sr			
Sample No.	Matrix *	Sample Date	Sample Time										
J1DWL5	SOIL	2/1/11	1340	X	X	X	X						
J1DWL6	SOIL	2/1/11	1350	X	X	X	X						
J1DWL7	SOIL	2/1/11	1400	X	X	X	X						
J1DWL8	SOIL	2/1/11	1405	X	X	X	X						
J1DWL9	SOIL	2/1/11	1215	X	X	X	X						

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From Quincy Stowe	Date/Time 02/01/11 1419	Received By/Stored In Dontte Delberg	Date/Time 1419 2/1/11
Relinquished By/Removed From Dontte Delberg	Date/Time 2/1/11 1600	Received By/Stored In A. Freier	Date/Time 2/1/11 1600
Relinquished By/Removed From WCH A. Freier	Date/Time 1020 2-2-11	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 2/3/11 1000
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 Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

REVIEWED BY JEB DATE 2-2-11

SOGH J01007

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Appendix 5

Data Validation Supporting Documentation

GENERAL ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 300-251			DATA PACKAGE: J01007		
VALIDATOR: ELR		LAB: TAL		DATE: 4/30/11	
			SDG: J01007		
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX:					
J1DWK5	J1DWK6	J1DWK7	J1DWK8	J1DWK9	
J1DWL0	J1DWL1	J1DWL2	J1DWL3	J1DWL4	
J1DWL5	J1DWL6	J1DWL7	J1DWL8	J1DWL9	
					Soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes No N/A

Comments:

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

Initial calibrations acceptable? ..... Yes No N/A

Continuing calibrations acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments:

GENERAL ORGANIC DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) ..... Yes No N/A

Calibration blank results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field/trip blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field/trip blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: no FB

4. ACCURACY (Levels C, D, and E)

Surrogates/system monitoring compounds analyzed? ..... Yes No N/A

Surrogate/system monitoring compound recoveries acceptable? ..... Yes No N/A

Surrogates traceable? (Levels D, E) ..... Yes No N/A

Surrogates expired? (Levels D, E) ..... Yes No N/A

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: L3-07 - diluted out - J all

no PAS

GENERAL ORGANIC DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable? ..... Yes No N/A

Duplicate results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

6. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: _____

GENERAL ORGANIC DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

9. SAMPLE CLEANUP (Levels D and E)

Fluoricil ® (or other aborbant) cleanup performed? ..... Yes No N/A

Lot check performed? ..... Yes No N/A

Check recoveries aceptable? ..... Yes No N/A

Check materials traceable? ..... Yes No N/A

Check materials Expired? ..... Yes No N/A

Analytical batch QC given similar cleanup? ..... Yes No N/A

Transcription/Calculation Errors? ..... Yes No N/A

Comments: _____

Appendix 6

Additional Documentation Requested by Client

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-52686

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID: MB 280-52686/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/15/2011 2125
Date Prepared: 02/10/2011 1350

Analysis Batch: 280-53885
Prep Batch: 280-52686
Units: ug/Kg

Instrument ID: GCS_U
Lab File ID: 025B2501.D
Initial Weight/Volume: 30.3 g
Final Weight/Volume: 1000 uL
Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
C10-C36	990	U	990	4000
C10-C28	670	U	670	4000

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	76	49 - 115

Lab Control Sample - Batch: 280-52686

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID: LCS 280-52686/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/15/2011 2153
Date Prepared: 02/10/2011 1350

Analysis Batch: 280-53885
Prep Batch: 280-52686
Units: ug/Kg

Instrument ID: GCS_U
Lab File ID: 026B2601.D
Initial Weight/Volume: 30.1 g
Final Weight/Volume: 1000 uL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	66400	56000	84	57 - 115	
C10-C28	66400	55900	84	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	80	49 - 115

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-52686

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-12175-1	Analysis Batch: 280-53885	Instrument ID:	GCS_U	
Client Matrix:	Solid	Prep Batch: 280-52686	Lab File ID:	028B2801.D	
Dilution:	1.0		Initial Weight/Volume:	30.2	g
Date Analyzed:	02/15/2011 2249		Final Weight/Volume:	1000	uL
Date Prepared:	02/10/2011 1350		Injection Volume:	1	uL

MSD Lab Sample ID:	280-12175-1	Analysis Batch: 280-53885	Instrument ID:	GCS_U	
Client Matrix:	Solid	Prep Batch: 280-52686	Lab File ID:	029B2901.D	
Dilution:	1.0		Initial Weight/Volume:	30.0	g
Date Analyzed:	02/15/2011 2317		Final Weight/Volume:	1000	uL
Date Prepared:	02/10/2011 1350		Injection Volume:	1	uL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	83	97	57 - 115	15	23		
C10-C28	84	88	56 - 115	5	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	66	59	49 - 115

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-52686

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-12175-15	Analysis Batch: 280-53885	Instrument ID:	GCS_U	
Client Matrix:	Solid	Prep Batch: 280-52686	Lab File ID:	046B4601.D	
Dilution:	1.0		Initial Weight/Volume:	30.2	g
Date Analyzed:	02/16/2011 0711		Final Weight/Volume:	1000	uL
Date Prepared:	02/10/2011 1350		Injection Volume:	1	uL

MSD Lab Sample ID:	280-12175-15	Analysis Batch: 280-53885	Instrument ID:	GCS_U	
Client Matrix:	Solid	Prep Batch: 280-52686	Lab File ID:	047B4701.D	
Dilution:	1.0		Initial Weight/Volume:	30.5	g
Date Analyzed:	02/16/2011 0739		Final Weight/Volume:	1000	uL
Date Prepared:	02/10/2011 1350		Injection Volume:	1	uL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	89	96	57 - 115	5	23		
C10-C28	87	93	56 - 115	5	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	56	71	49 - 115

Date: 2 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol - Waste Site 300-251
Subject: Inorganics - Data Package No. J01007-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01007 prepared by TestAmerica Laboratory Inc. (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1DWK5	2/1/11	Soil	C	See note 1
J1DWK6	2/1/11	Soil	C	See note 1
J1DWK7	2/1/11	Soil	C	See note 1
J1DWK8	2/1/11	Soil	C	See note 1
J1DWK9	2/1/11	Soil	C	See note 1
J1DWL0	2/1/11	Soil	C	See note 1
J1DWL1	2/1/11	Soil	C	See note 1
J1DWL2	2/1/11	Soil	C	See note 1
J1DWL3	2/1/11	Soil	C	See note 1
J1DWL4	2/1/11	Soil	C	See note 1
J1DWL5	2/1/11	Soil	C	See note 1
J1DWL6	2/1/11	Soil	C	See note 1
J1DWL7	2/1/11	Soil	C	See note 1
J1DWL8	2/1/11	Soil	C	See note 1
J1DWL9	2/1/11	Soil	C	See note 1
J1DWM1	2/1/11	Soil	C	See note 1

1 – ICP metals (6010B) and mercury (7471A).

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 300 Area Remedial Action Sampling and Analysis Plan (DOE/RL-2001-48, Rev. 3). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested by Client

DATA QUALITY PARAMETERS

Holding Times

Analytical holding times for metals are assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Soil samples must be analyzed within 28 days for mercury and 6 months for ICP metals.

All holding times were acceptable.

Preparation (Method) Blanks

Preparation Blanks

At least one preparation blank, consisting of deionized distilled water processed through each sample preparation and analysis procedure, must be prepared and analyzed with every sample delivery group. In the case of positive blank results, samples with digestate concentrations less than five times the preparation blank value have had their associated values qualified as non-detected and flagged "UJ". Samples with concentrations of greater than five times the highest blank concentration do not require qualification.

In the case of negative blank results, if the absolute value exceeds the contract required detection limit (CRDL), all nondetects are rejected and flagged "UR" and all detects that are less than ten times the absolute value of the associated preparation blank result are qualified as estimates and flagged "J". If the absolute value of the negative preparation blank is greater than the instrument detection limit (IDL) and less than or equal to the CRDL, all nondetects are qualified as estimates and flagged "UJ" and all detects less than ten times the absolute value of the blank are qualified as estimates and flagged "J". If the sample results are greater than ten times the absolute value of the preparation blank, no qualification is necessary.

All preparation blank results were acceptable.

Field (Equipment) Blank

One field (equipment) blank (J1DWM1) was submitted for analysis. Aluminum, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, silicon, vanadium, zinc and uranium were detected in the equipment blank. Under the WCH statement of work, no qualification is required.

- **Accuracy**

Matrix Spike and Laboratory Control Sample

Matrix spike (MS) and laboratory control sample (LCS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Recoveries must fall within the range of 70% to 130%. Samples with a recovery of less than 30% and a sample result below the IDL are rejected and flagged "UR". Samples with a recovery of 30% to 69% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

Due to a matrix spike recovery outside QC limits, all antimony (52%) and silicon (14%) results were qualified as estimates and flagged "J".

Due to an LCS recovery outside QC limits, all silicon (19%) results were qualified as estimates and flagged "J".

All other accuracy results were acceptable.

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 30%, no qualification is required. If either activity (concentration) is less than five times the CRDL, the RPD control limit is less than or equal to two times the CRDL. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All laboratory duplicate results were acceptable.

Field Duplicate

One set of field duplicates (J1DWK6/J1DWL9) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the 300 Area RQLs to ensure that laboratory detection levels meet the required criteria. All results met the RQL.

- **Completeness**

Data package No. J01007 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiencies were noted:

- Due to a matrix spike recovery outside QC limits, all antimony (52%) and silicon (14%) results were qualified as estimates and flagged "J".

- Due to an LCS recovery outside QC limits, all silicon (19%) results were qualified as estimates and flagged "J".

Data flagged "J" indicates that the associated concentration is an estimate, but under the WCH statement of work, the data may be usable for decision-making purposes. All other validated results are considered accurate within the standard error associated with the methods.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-2001-48, Rev. 3, *300 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, May 2004.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

METALS DATA QUALIFICATION SUMMARY*

SDG: J01007	REVIEWER: ELR	Project: 300-251	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Antimony Silicon	J	All	MS recovery
Silicon	J	All	LCS recovery

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK5**

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1352
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

r 4/30/11

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.12 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6410		1.4	4.7
Arsenic		2.1		0.62	0.93
Barium		69.6		0.071	0.47
Beryllium		0.031	U	0.031	0.19
Boron		0.95	B	0.91	1.9
Cadmium		0.049	B	0.038	0.19
Calcium		4010		13.1	46.6
Chromium		7.1		0.054	0.19
Cobalt		6.1	X	0.093	0.93
Copper		10.1	X	0.20	0.93
Iron		18400		3.5	4.7
Lead		3.3		0.25	0.47
Lithium		6.3		0.28	2.3
Magnesium		3550		3.4	18.6
Manganese		292		0.093	0.93
Molybdenum		0.40	B	0.24	1.9
Nickel		8.3	X	0.11	3.7
Potassium		1210		38.2	280
Selenium		0.96		0.80	0.93
Silicon		290	X N J	2.0	9.3
Silver		0.15	U	0.15	0.19
Sodium		209		55.0	112
Vanadium		46.6		0.088	1.9
Zinc		36.5		0.37	0.93
Zirconium		19.9		0.33	2.3

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1122
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.12 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	B J	0.35	0.56

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0604
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 230AREF.D
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

000010

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK5**

Lab Sample ID: 280-12175-1
Client Matrix: Solid
% Moisture: 4.2

Date Sampled: 02/01/2011 1153
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		19.5		0.0015	0.094

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Date Analyzed:	02/07/2011 2154			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0053	U	0.0053	0.016

4/30/11

000011

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK6**

Lab Sample ID: 280-12175-2
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1401
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

4/30/14

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.09 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7730		1.5	4.9
Arsenic		2.7		0.65	0.98
Barium		85.4		0.074	0.49
Beryllium		0.032	U	0.032	0.20
Boron		1.2	B	0.96	2.0
Cadmium		0.055	B	0.040	0.20
Calcium		4920		13.8	48.9
Chromium		10.9		0.057	0.20
Cobalt		6.8	X	0.098	0.98
Copper		12.9	X	0.21	0.98
Iron		19900		3.7	4.9
Lead		6.2		0.26	0.49
Lithium		7.4		0.29	2.4
Magnesium		4010		3.6	19.6
Manganese		325		0.098	0.98
Molybdenum		0.25	U	0.25	2.0
Nickel		10.6	X	0.12	3.9
Potassium		1600		40.1	294
Selenium		0.84	U	0.84	0.98
Silicon		387	X J	2.1	9.8
Silver		0.16	U	0.16	0.20
Sodium		290		57.7	117
Vanadium		47.4		0.092	2.0
Zinc		42.9		0.39	0.98
Zirconium		20.9		0.35	2.4

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1131
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.09 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	U J	0.37	0.59

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0625
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 237SMPL.D
Initial Weight/Volume: 1.14 g
Final Weight/Volume: 100 mL

000012

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK6**

Lab Sample ID: 280-12175-2
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		3.8		0.0015	0.094

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Date Analyzed:	02/07/2011 2200			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0056	U	0.0056	0.017

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000013

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK7**

Lab Sample ID: 280-12175-3
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-53077		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021111.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Date Analyzed:	02/11/2011 1403			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7740		1.5	4.8
Arsenic		2.4		0.64	0.97
Barium		89.9		0.073	0.48
Beryllium		0.032	U	0.032	0.19
Boron		1.2	B	0.95	1.9
Cadmium		0.070	B	0.040	0.19
Calcium		4740		13.6	48.3
Chromium		10.8		0.056	0.19
Cobalt		6.7	X	0.097	0.97
Copper		13.2	X	0.21	0.97
Iron		19300		3.7	4.8
Lead		7.9		0.26	0.48
Lithium		7.6		0.29	2.4
Magnesium		4130		3.6	19.3
Manganese		311		0.097	0.97
Molybdenum		0.25	U	0.25	1.9
Nickel		10.4	X	0.12	3.9
Potassium		1440		39.6	290
Selenium		0.83	U	0.83	0.97
Silicon		506	X J	2.0	9.7
Silver		0.15	U	0.15	0.19
Sodium		245		57.0	116
Vanadium		46.6		0.091	1.9
Zinc		42.7		0.38	0.97
Zirconium		20.6		0.34	2.4

Method:	6010B	Analysis Batch: 280-53274		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021411.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Date Analyzed:	02/14/2011 1133			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	U J	0.37	0.58

6020 Metals (ICP/MS)

Method:	6020	Analysis Batch: 280-53099		Instrument ID:	MT_024
Preparation:	3050B	Prep Batch: 280-52228		Lab File ID:	238SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.02 g
Date Analyzed:	02/12/2011 0628			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK7**

Lab Sample ID: 280-12175-3
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1230
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		7.6		0.0016	0.10

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.61 g
Date Analyzed:	02/07/2011 2203			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0057	U	0.0057	0.017

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000015

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK8**

Lab Sample ID: 280-12175-4
Client Matrix: Solid
% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-53077		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021111.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Date Analyzed:	02/11/2011 1406			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7030		1.5	4.7
Arsenic		2.7		0.62	0.95
Barium		76.9		0.072	0.47
Beryllium		0.031	U	0.031	0.19
Boron		0.93	U	0.93	1.9
Cadmium		0.060	B	0.039	0.19
Calcium		3780		13.3	47.3
Chromium		8.1		0.055	0.19
Cobalt		6.3	X	0.095	0.95
Copper		10.4	X	0.21	0.95
Iron		19000		3.6	4.7
Lead		3.8		0.26	0.47
Lithium		7.0		0.28	2.4
Magnesium		3790		3.5	18.9
Manganese		319		0.095	0.95
Molybdenum		0.25	U	0.25	1.9
Nickel		8.8	X	0.12	3.8
Potassium		1390		38.8	284
Selenium		0.81	U	0.81	0.95
Silicon		316	X J	2.0	9.5
Silver		0.15	U	0.15	0.19
Sodium		198		55.8	113
Vanadium		46.7		0.089	1.9
Zinc		36.3		0.38	0.95
Zirconium		20.1		0.33	2.4

Method:	6010B	Analysis Batch: 280-53274		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021411.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Date Analyzed:	02/14/2011 1136			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.36	U J	0.36	0.57

6020 Metals (ICP/MS)

Method:	6020	Analysis Batch: 280-53099		Instrument ID:	MT_024
Preparation:	3050B	Prep Batch: 280-52228		Lab File ID:	239SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Date Analyzed:	02/12/2011 0631			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

000016

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK8

Lab Sample ID: 280-12175-4
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/01/2011 1240
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		23.7		0.0016	0.099

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.61 g
Date Analyzed:	02/07/2011 2205			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0057	U	0.0057	0.017

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Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWK9

Lab Sample ID: 280-12175-5
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1408
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.13 g
Final Weight/Volume: 100 mL

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6100		1.4	4.6
Arsenic		2.0		0.61	0.93
Barium		69.4		0.071	0.46
Beryllium		0.031	U	0.031	0.19
Boron		1.2	B	0.91	1.9
Cadmium		0.098	B	0.038	0.19
Calcium		4200		13.1	46.4
Chromium		11.3		0.054	0.19
Cobalt		6.4	X	0.093	0.93
Copper		12.5	X	0.20	0.93
Iron		18300		3.5	4.6
Lead		9.1		0.25	0.46
Lithium		6.4		0.28	2.3
Magnesium		3910		3.4	18.6
Manganese		277		0.093	0.93
Molybdenum		0.24	U	0.24	1.9
Nickel		10.9	X	0.11	3.7
Potassium		1080		38.1	279
Selenium		0.80	U	0.80	0.93
Silicon		450	X J	2.0	9.3
Silver		0.15	U	0.15	0.19
Sodium		200		54.8	111
Vanadium		44.5		0.087	1.9
Zinc		40.7		0.37	0.93
Zirconium		19.2		0.33	2.3

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1138
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.13 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.35	U J	0.35	0 56

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0633
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 240SMPL.D
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWK9**

Lab Sample ID: 280-12175-5
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/01/2011 1250
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		4.3		0.0015	0.097

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Date Analyzed:	02/07/2011 2207			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.062		0.0054	0.017

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Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL0**

Lab Sample ID: 280-12175-6
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1420
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		9290		1.6	5.2
Arsenic		2.3		0.69	1.0
Barium		99.8		0.079	0.52
Beryllium		0.034	U	0.034	0.21
Boron		1.0	B	1.0	2.1
Cadmium		0.074	B	0.043	0.21
Calcium		5150		14.7	52.1
Chromium		10.8		0.060	0.21
Cobalt		9.5	X	0.10	1.0
Copper		17.7	X	0.23	1.0
Iron		25600		4.0	5.2
Lead		5.4		0.28	0.52
Lithium		9.3		0.31	2.6
Magnesium		5190		3.9	20.8
Manganese		365		0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		13.4	X	0.13	4.2
Potassium		1320		42.7	313
Selenium		0.90	U	0.90	1.0
Silicon		690	X J	2.2	10.4
Silver		0.17	U	0.17	0.21
Sodium		344		61.5	125
Vanadium		68.1		0.098	2.1
Zinc		49.0		0.41	1.0
Zirconium		35.5		0.37	2.6

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1150
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.40	U J	0.40	0.63

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0636
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 241SMPL.D
Initial Weight/Volume: 1.05 g
Final Weight/Volume: 100 mL

000020

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL0**

Lab Sample ID: 280-12175-6
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 02/01/2011 1300
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		1.9		0.0016	0.10

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Date Analyzed:	02/07/2011 2210			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0056	U	0.0056	0.017

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Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL1

Lab Sample ID: 280-12175-7
Client Matrix: Solid
% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-53077		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021111.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	02/11/2011 1422			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6690		1.4	4.6
Arsenic		2.2		0.61	0.92
Barium		77.9		0.070	0.46
Beryllium		0.031	U	0.031	0.18
Boron		0.91	U	0.91	1.8
Cadmium		0.30		0.038	0.18
Calcium		4890		13.0	46.2
Chromium		8.5		0.054	0.18
Cobalt		6.2	X	0.092	0.92
Copper		12.5	X	0.20	0.92
Iron		18300		3.5	4.6
Lead		5.1		0.25	0.46
Lithium		6.7		0.28	2.3
Magnesium		3450		3.4	18.5
Manganese		300		0.092	0.92
Molybdenum		0.24	U	0.24	1.8
Nickel		9.0	X	0.11	3.7
Potassium		1330		37.9	277
Selenium		0.79	U	0.79	0.92
Silicon		403	X I	1.9	9.2
Silver		1.7		0.15	0.18
Sodium		224		54.5	111
Vanadium		44.7		0.087	1.8
Zinc		41.5		0.37	0.92
Zirconium		22.1		0.33	2.3

Method:	6010B	Analysis Batch: 280-53274		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021411.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	02/14/2011 1152			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.35	U 5	0.35	0.55

6020 Metals (ICP/MS)

Method:	6020	Analysis Batch: 280-53099		Instrument ID:	MT_024
Preparation:	3050B	Prep Batch: 280-52228		Lab File ID:	242SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Date Analyzed:	02/12/2011 0639			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

000022

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL1**

Lab Sample ID: 280-12175-7
Client Matrix: Solid
% Moisture: 6.7

Date Sampled: 02/01/2011 1307
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		17.0		0.0016	0.10

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Date Analyzed:	02/07/2011 2212			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0056	U	0.0056	0.017

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000023

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL2**

Lab Sample ID: 280-12175-8
Client Matrix: Solid
% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1425
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.13 g
Final Weight/Volume: 100 mL

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6950		1.4	4.6
Arsenic		2.6		0.61	0.93
Barium		78.8		0.071	0.46
Beryllium		0.031	U	0.031	0.19
Boron		0.94	B	0.91	1.9
Cadmium		0.072	B	0.038	0.19
Calcium		3920		13.1	46.5
Chromium		8.2		0.054	0.19
Cobalt		6.6	X	0.093	0.93
Copper		11.2	X	0.20	0.93
Iron		18900		3.5	4.6
Lead		4.1		0.25	0.46
Lithium		6.9		0.28	2.3
Magnesium		3800		3.4	18.6
Manganese		319		0.093	0.93
Molybdenum		0.24	U	0.24	1.9
Nickel		9.1	X	0.11	3.7
Potassium		1330		38.1	279
Selenium		0.80	U	0.80	0.93
Silicon		358	X J	2.0	9.3
Silver		0.18	B	0.15	0.19
Sodium		233		54.8	112
Vanadium		46.3		0.087	1.9
Zinc		42.9		0.37	0.93
Zirconium		20.3		0.33	2.3

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1155
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.13 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.35	U J	0.35	0.56

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0642
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 243SMPL.D
Initial Weight/Volume: 1.12 g
Final Weight/Volume: 100 mL

000024

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL2**

Lab Sample ID: 280-12175-8
Client Matrix: Solid

% Moisture: 4.8

Date Sampled: 02/01/2011 1315
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		21.1		0.0015	0.094

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Date Analyzed:	02/07/2011 2219			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.011	B	0.0055	0.017

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000025

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL3**

Lab Sample ID: 280-12175-9
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-53077		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021111.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	02/11/2011 1427			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7070		1.4	4.5
Arsenic		1.4		0.59	0.90
Barium		67.7		0.068	0.45
Beryllium		0.030	U	0.030	0.18
Boron		1.9		0.88	1.8
Cadmium		0.16	B	0.037	0.18
Calcium		8720		12.7	44.9
Chromium		8.6		0.052	0.18
Cobalt		6.8	X	0.090	0.90
Copper		29.5	X	0.19	0.90
Iron		16800		3.4	4.5
Lead		17.7		0.24	0.45
Lithium		4.4		0.27	2.2
Magnesium		3730		3.3	18.0
Manganese		329		0.090	0.90
Molybdenum		0.50	B	0.23	1.8
Nickel		12.7	X	0.11	3.6
Potassium		886		36.8	270
Selenium		0.77	U	0.77	0.90
Silicon		276	X J	1.9	9.0
Silver		0.14	U	0.14	0.18
Sodium		634		53.0	108
Vanadium		37.8		0.084	1.8
Zinc		80.5		0.36	0.90
Zirconium		22.4		0.32	2.2

Method:	6010B	Analysis Batch: 280-53274		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021411.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	02/14/2011 1157			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.34	U J	0.34	0.54

6020 Metals (ICP/MS)

Method:	6020	Analysis Batch: 280-53099		Instrument ID:	MT_024
Preparation:	3050B	Prep Batch: 280-52228		Lab File ID:	244SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Date Analyzed:	02/12/2011 0645			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

000026

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL3**

Lab Sample ID: 280-12175-9
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 02/01/2011 1320
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		20.0		0.0015	0.093

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Date Analyzed:	02/07/2011 2221			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.010	B	0.0055	0.017

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000027

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL4

Lab Sample ID: 280-12175-10
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1430
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

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Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7450		1.6	5.2
Arsenic		1.7		0.69	1.0
Barium		103		0.080	0.52
Beryllium		0.035	U	0.035	0.21
Boron		1.0	U	1.0	2.1
Cadmium		0.090	B	0.043	0.21
Calcium		6470		14.8	52.4
Chromium		7.6		0.061	0.21
Cobalt		8.8	X	0.10	1.0
Copper		15.2	X	0.23	1.0
Iron		25300		4.0	5.2
Lead		4.3		0.28	0.52
Lithium		7.1		0.31	2.6
Magnesium		4560		3.9	21.0
Manganese		324		0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		10.6	X	0.13	4.2
Potassium		917		43.0	314
Selenium		0.90	U	0.90	1.0
Silicon		430	X J	2.2	10.5
Silver		0.17	U	0.17	0.21
Sodium		303		61.8	126
Vanadium		75.1		0.099	2.1
Zinc		48.1		0.42	1.0
Zirconium		40.3		0.37	2.6

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1159
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.40	U J	0.40	0.63

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0654
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

000028

Instrument ID: MT_024
Lab File ID: 247SMPL.D
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL4**

Lab Sample ID: 280-12175-10
Client Matrix: Solid

% Moisture: 4.6

Date Sampled: 02/01/2011 1335
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		2.3		0.0015	0.097

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234	Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856	Lab File ID:	120207AC.txt
Dilution:	1.0		Initial Weight/Volume:	0.60 g
Date Analyzed:	02/07/2011 2224		Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205			

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0058	U	0.0058	0.018

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000029

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL5**

Lab Sample ID: 280-12175-11
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-53077		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021111.asc
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Date Analyzed:	02/11/2011 1432			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7100		1.4	4.6
Arsenic		2.5		0.61	0.92
Barium		76.9		0.070	0.46
Beryllium		0.030	U	0.030	0.18
Boron		0.90	U	0.90	1.8
Cadmium		0.040	B	0.038	0.18
Calcium		7030		13.0	46.0
Chromium		8.3		0.053	0.18
Cobalt		6.6	X	0.092	0.92
Copper		14.0	X	0.20	0.92
Iron		19700		3.5	4.6
Lead		3.9		0.25	0.46
Lithium		6.6		0.28	2.3
Magnesium		3870		3.4	18.4
Manganese		275		0.092	0.92
Molybdenum		0.24	U	0.24	1.8
Nickel		9.8	X	0.11	3.7
Potassium		1020		37.7	276
Selenium		0.79	U	0.79	0.92
Silicon		415	X J	1.9	9.2
Silver		0.15	U	0.15	0.18
Sodium		303		54.3	110
Vanadium		48.0		0.086	1.8
Zinc		36.4		0.37	0.92
Zirconium		23.2		0.33	2.3

Method:	6010B	Analysis Batch: 280-53274		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021411.asc
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Date Analyzed:	02/14/2011 1202			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.35	U J	0.35	0.55

6020 Metals (ICP/MS)

Method:	6020	Analysis Batch: 280-53099		Instrument ID:	MT_024
Preparation:	3050B	Prep Batch: 280-52228		Lab File ID:	248SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Date Analyzed:	02/12/2011 0657			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

000030

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL5**

Lab Sample ID: 280-12175-11
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 02/01/2011 1340
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		3.9		0.0016	0.10

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Date Analyzed:	02/07/2011 2226			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0054	U	0.0054	0.016

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000031

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL6**

Lab Sample ID: 280-12175-12
Client Matrix: Solid
% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1435
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6640		1.5	4.9
Arsenic		2.2		0.64	0.97
Barium		74.5		0.074	0.49
Beryllium		0.032	U	0.032	0.19
Boron		0.95	U	0.95	1.9
Cadmium		0.064	B	0.040	0.19
Calcium		4880		13.7	48.7
Chromium		8.0		0.056	0.19
Cobalt		6.2	X	0.097	0.97
Copper		11.7	X	0.21	0.97
Iron		18000		3.7	4.9
Lead		4.4		0.26	0.49
Lithium		6.7		0.29	2.4
Magnesium		3820		3.6	19.5
Manganese		269		0.097	0.97
Molybdenum		0.25	U	0.25	1.9
Nickel		9.6	X	0.12	3.9
Potassium		1280		39.9	292
Selenium		0.84	U	0.84	0.97
Silicon		301	X J	2.0	9.7
Silver		0.16	U	0.16	0.19
Sodium		225		57.4	117
Vanadium		47.5		0.091	1.9
Zinc		37.6		0.39	0.97
Zirconium		19.3		0.34	2.4

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1204
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	U J	0.37	0.58

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0700
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 249SMPL.D
Initial Weight/Volume: 1.10 g
Final Weight/Volume: 100 mL

000032

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL6**

Lab Sample ID: 280-12175-12
Client Matrix: Solid
% Moisture: 4.9

Date Sampled: 02/01/2011 1350
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		16.4		0.0015	0.096

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.67 g
Date Analyzed:	02/07/2011 2228			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0052	U	0.0052	0.016

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000033

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: J1DWL7

Lab Sample ID: 280-12175-13
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1437
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

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Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7630		1.6	5.2
Arsenic		2.0		0.68	1.0
Barium		84.2		0.079	0.52
Beryllium		0.034	U	0.034	0.21
Boron		1.0	U	1.0	2.1
Cadmium		0.043	U	0.043	0.21
Calcium		3390		14.6	51.9
Chromium		10.2		0.060	0.21
Cobalt		6.7	X	0.10	1.0
Copper		10.2	X	0.23	1.0
Iron		19500		3.9	5.2
Lead		4.3		0.28	0.52
Lithium		7.2		0.31	2.6
Magnesium		3890		3.8	20.7
Manganese		324		0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		9.6	X	0.13	4.1
Potassium		1720		42.5	311
Selenium		0.89	U	0.89	1.0
Silicon		375	X J	2.2	10.4
Silver		0.17	U	0.17	0.21
Sodium		198		61.2	124
Vanadium		46.9		0.098	2.1
Zinc		38.2		0.41	1.0
Zirconium		21.5		0.37	2.6

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1207
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.39	U J	0.39	0.62

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0703
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 250SMPL.D
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

000034

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL7**

Lab Sample ID: 280-12175-13
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 02/01/2011 1400
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		29.8		0.0016	0.10

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Date Analyzed:	02/07/2011 2230			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0054	U	0.0054	0.017

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000035

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL8**

Lab Sample ID: 280-12175-14
Client Matrix: Solid
% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1439
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

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Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6920		1.5	4.8
Arsenic		2.1		0.63	0.95
Barium		77.7		0.073	0.48
Beryllium		0.032	U	0.032	0.19
Boron		0.94	U	0.94	1.9
Cadmium		0.039	U	0.039	0.19
Calcium		3680		13.5	47.7
Chromium		8.8		0.055	0.19
Cobalt		6.4	X	0.095	0.95
Copper		10.8	X	0.21	0.95
Iron		18800		3.6	4.8
Lead		3.8		0.26	0.48
Lithium		6.7		0.29	2.4
Magnesium		3750		3.5	19.1
Manganese		301		0.095	0.95
Molybdenum		0.25	U	0.25	1.9
Nickel		9.5	X	0.12	3.8
Potassium		1400		39.2	286
Selenium		0.82	U	0.82	0.95
Silicon		396	X J	2.0	9.5
Silver		0.15	U	0.15	0.19
Sodium		197		56.3	115
Vanadium		46.8		0.090	1.9
Zinc		38.5		0.38	0.95
Zirconium		19.6		0.34	2.4

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1209
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.36	U J	0.36	0.57

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0706
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 251SMPL.D
Initial Weight/Volume: 1.14 g
Final Weight/Volume: 100 mL

000036

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL8**

Lab Sample ID: 280-12175-14
Client Matrix: Solid

% Moisture: 5.7

Date Sampled: 02/01/2011 1405
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		22.1		0.0015	0.093

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.61 g
Date Analyzed:	02/07/2011 2233			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0058	U	0.0058	0.018

4/30/11

000037

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL9**

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-53077		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021111.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Date Analyzed:	02/11/2011 1442			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

4/30/11

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7230		1.5	4.7
Arsenic		2.1		0.63	0.95
Barium		80.9		0.072	0.47
Beryllium		0.031	U	0.031	0.19
Boron		1.0	B	0.93	1.9
Cadmium		0.062	B	0.039	0.19
Calcium		4590		13.4	47.5
Chromium		9.1		0.055	0.19
Cobalt		6.7	X	0.095	0.95
Copper		11.7	X	0.21	0.95
Iron		19500		3.6	4.7
Lead		5.4		0.26	0.47
Lithium		6.9		0.28	2.4
Magnesium		3910		3.5	19.0
Manganese		309		0.095	0.95
Molybdenum		0.25	U	0.25	1.9
Nickel		9.5	X	0.12	3.8
Potassium		1500		38.9	285
Selenium		0.82	U	0.82	0.95
Silicon		451	X J	2.0	9.5
Silver		0.15	U	0.15	0.19
Sodium		250		56.0	114
Vanadium		48.5		0.089	1.9
Zinc		41.2		0.38	0.95
Zirconium		21.1		0.34	2.4

Method:	6010B	Analysis Batch: 280-53274		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-52227		Lab File ID:	26a021411.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Date Analyzed:	02/14/2011 1211			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.36	U J	0.36	0.57

6020 Metals (ICP/MS)

Method:	6020	Analysis Batch: 280-53099		Instrument ID:	MT_024
Preparation:	3050B	Prep Batch: 280-52228		Lab File ID:	252SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.09 g
Date Analyzed:	02/12/2011 0709			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

000038

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWL9**

Lab Sample ID: 280-12175-15
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 02/01/2011 1215
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		3.5		0.0015	0.098

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.68 g
Date Analyzed:	02/07/2011 2235			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0052	U	0.0052	0.016

4/30/11

000039

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWM1**

Lab Sample ID: 280-12175-16
Client Matrix: Solid
% Moisture: 0.0

Date Sampled: 02/01/2011 1145
Date Received: 02/03/2011 1000

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/11/2011 1453
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227

4/30/11

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		220		1.4	4.5
Arsenic		0.59	U	0.59	0.90
Barium		2.5		0.068	0.45
Beryllium		0.030	U	0.030	0.18
Boron		0.88	U	0.88	1.8
Cadmium		0.037	U	0.037	0.18
Calcium		47.7		12.7	45.0
Chromium		0.21		0.052	0.18
Cobalt		0.10	B X	0.090	0.90
Copper		0.36	B X	0.20	0.90
Iron		617		3.4	4.5
Lead		0.39	B	0.24	0.45
Lithium		0.27	U	0.27	2.3
Magnesium		30.0		3.3	18.0
Manganese		7.1		0.090	0.90
Molybdenum		0.23	U	0.23	1.8
Nickel		0.17	B X	0.11	3.6
Potassium		64.1	B	36.9	270
Selenium		0.77	U	0.77	0.90
Silicon		152	X J	1.9	9.0
Silver		0.14	U	0.14	0.18
Sodium		53.2	U	53.2	108
Vanadium		0.34	B	0.085	1.8
Zinc		1.2		0.36	0.90
Zirconium		1.1	B	0.32	2.3

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/14/2011 1223
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.34	U J	0.34	0.54

6020 Metals (ICP/MS)

Method: 6020
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/12/2011 0712
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228

Instrument ID: MT_024
Lab File ID: 253SMPL.D
Initial Weight/Volume: 1.07 g
Final Weight/Volume: 100 mL

000040

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Client Sample ID: **J1DWM1**

Lab Sample ID: 280-12175-16
Client Matrix: Solid
% Moisture: 0.0

Date Sampled: 02/01/2011 1145
Date Received: 02/03/2011 1000

6020 Metals (ICP/MS)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		0.11		0.0015	0.093

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-52234		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-51856		Lab File ID:	120207AC.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Date Analyzed:	02/07/2011 2237			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0053	U	0.0053	0.016

4/30/11

000041

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-12175-1

SDG #: J01007
SAF#: RC-148

Date SDG Closed: February 3, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1DWK5	280-12175-1	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK6	280-12175-2	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK7	280-12175-3	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK8	280-12175-4	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWK9	280-12175-5	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL0	280-12175-6	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL1	280-12175-7	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL2	280-12175-8	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL3	280-12175-9	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL4	280-12175-10	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL5	280-12175-11	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL6	280-12175-12	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL7	280-12175-13	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL8	280-12175-14	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWL9	280-12175-15	6010/7471/WTPH-D+/8270A/8082	6010B/6020/7471A/NWTPH-Dx/8270C/8082
J1DWM1	280-12175-16	6010/7471	6010B/6020/7471A

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/3/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.9 C, 3.9 C and 3.1 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in sample J1DWK9 due to matrix interferences. It can be noted that these compounds were adequately resolved in associated standards, indicating the instrument is achieving separation. The combined peak was reported as Benzo(b)fluoranthene, while Benzo(k)fluoranthene was reported as undetected even though it may be present. Associated results have been flagged with a "K".

Low levels of Bis(2-ethylhexyl) phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-52125. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The laboratory noted that samples J1DWK6, J1DWK7, J1DWK9, J1DWL1, J1DWL2, J1DWL3, J1DWL4, J1DWL6, J1DWL8 and J1DWL9 contained more than one Aroclor component. Results should be considered estimated due to shared peaks.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, samples J1DWL1, J1DWL3, J1DWL4 and J1DWL8 had to be analyzed at dilutions, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilutions required.

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 and Aroclor1260 in sample J1DWL2. The results have been flagged with a "P".

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, sample J1DWL3 had to be analyzed at a dilution, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilution required.

The surrogate recovery was not calculated for sample J1DWL3, because the extract was diluted beyond the ability to reliably quantitate a recovery. The recovery has been flagged with a "D".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A

Serial dilution of a digestate in batch 280-52227 indicates that physical and chemical interferences are present for Cobalt, Copper, Nickel and Silicon. Results have been flagged with an "X".

Low levels of Uranium are present in the method blank associated with batch 280-52228. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1DWK5; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the Matrix Spike performed on sample J1DWK5, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

1.9, 3.9, 3.1

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 1 of 4

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: GWS-222-2	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver DH 4/25/11	Offsite Property No.: A100656		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

Preservation			Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None		
Type of Container			G/P	aG	aG	aG	G/P	G/P	G/P		
No. of Container(s)			1	1	1	1	1	1	1		
Volume			60mL	120mL	120mL	120mL	500mL	60mL	60mL		
SAMPLE ANALYSIS			See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions	Isotopic Uranium	Strontium-89,90 – Total Sr		
Sample No.	Matrix *	Sample Date	Sample Time								
J1DWK5	SOIL	2/1/11	1153	X	X	X	X				
J1DWK6	SOIL	2/1/11	1215	X	X	X	X				
J1DWK7	SOIL	2/1/11	1230	X	X	X	X				
J1DWK8	SOIL	2/1/11	1240	X	X	X	X				
J1DWK9	SOIL	2/1/11	1250	X	X	X	X				

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Dorothy Delbeyk	2/1/11 1419
Dorothy Delbeyk	2/1/11 1600	A. Freer	2/1/11 1600
A. Freer (WCH)	2-2-11 1020	Fed Ex	
			2/2/11 1020

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium}; Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

SDG# J01007

REVIEWED BY JBS DATE 2-2-11

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 2 of 4

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 300-251 Verification		SAF No.: RC-148
Ice Chest No.: GWS-222-2	Field Logbook No.: EL-1395-17	COA: R302512000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (JH 1/25/11)	Offsite Property No.: A 1006516		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

Preservation			Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None		
Type of Container			G/P	aG	aG	aG	G/P	G/P	G/P		
No. of Container(s)			1	1	1	1	1	1	1		
Volume			60mL	120mL	120mL	120mL	500mL	60mL	60mL		
SAMPLE ANALYSIS			See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.	Isotopic Uranium	Strontium-89,90 – Total Sr		
Sample No.	Matrix *	Sample Date	Sample Time								
J1DWL0	SOIL	2/1/11	1300	X	X	X	X				
J1DWL1	SOIL	2/1/11	1307	X	X	X	X				
J1DWL2	SOIL	2/1/11	1315	X	X	X	X				
J1DWL3	SOIL	2/1/11	1320	X	X	X	X				
J1DWL4	SOIL	2/1/11	1335	X	X	X	X				

JH 1/25/11

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/01/11 1419	Dottie Delberghe	2/1/11 1414
Dottie Delberghe	2/1/11 1600	A. Freier	2/1/11 1600
A. Freier (WCH)	2-2-11 1020	Fed Ex	
			2/3/11 1090

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

REVIEWED BY JEB DATE 2-2-11

SOGH J01007

Matrix *: S=Soil; SE=Sediment; SO=Solid; Sl=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; Wi=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 3 of 4

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 300 Area Field Remediation - Soil Full Protocol	Sampling Location 300-251 Verification		SAF No. RC-148
Ice Chest No. BWS-222-2	Field Logbook No. EL-1395-17	COA R302512000	Method of Shipment Hand Deliver/Government Vehicle/FedEx
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 1/25/11	Offsite Property No. A100656		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

0000047

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P				
No. of Container(s)	1	1	1	1	1	1	1				
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions	Isotopic Uranium	Strontium-89,90 -- Total Sr				
Sample No. / Matrix * / Sample Date / Sample Time											
J1DWL5 / SOIL / 2/1/11 / 1340	X	X	X	X							
J1DWL6 / SOIL / 2/1/11 / 1350	X	X	X	X							
J1DWL7 / SOIL / 2/1/11 / 1400	X	X	X	X							
J1DWL8 / SOIL / 2/1/11 / 1405	X	X	X	X							
J1DWL9 / SOIL / 2/1/11 / 1215	X	X	X	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	08/01/11 1419	Don Heidelberg	2/1/11 1419
Don Heidelberg	2/1/11 1600	A. Freier	2/1/11 1600
A. Freier (WCH)	2-2-11 1020	Fed Ex	
			2/11 1020

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238}

REVIEWED BY JEB DATE 2-2-11

SDGH J01007

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-022	Page 4 of 4

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 300 Area Field Remediation - Soil Full Protocol	Sampling Location 300-251 Verification		SAF No. RC-148
Ice Chest No. GWS-222-2	Field Logbook No. EL-1395-17	COA R302512000	Method of Shipment Hand Deliver/Government Vehicle/FedEx
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 1/25/11	Offsite Property No. A100656		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	G/P	aG	aG	aG	G/P	G/P	G/P				
No. of Container(s)	1	1	1	1	1	1	1				
Volume	60mL	120mL	120mL	120mL	500mL	60mL	60mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions	Isotopic Uranium	Strontium-89,90 -- Total Sr				

DH 1/25/11

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1DWM0~~ DH 1/25/11	~~SOIL~~												
J1DWM1	SOIL	2/1/11	1145	X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	02/01/11 1419	Don Heidelberg	2/1/11 1419
Don Heidelberg	2/1/11 1600	A. Freier	2/1/11 1600
A. Freier WCH	2-2-11 1030	AP 2-2-11 WCH	Fed Ex
			2-8-11 100

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc, Zirconium); Mercury - 7471 - (CV)

(2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226, Radium-228, Uranium-235, Uranium-238)

SDG# J01007

REVIEWED BY JRB DATE 2-2-11

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

0000048

Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 300-251			DATA PACKAGE: J01007		
VALIDATOR: ELR		LAB: TAL		DATE: 4/30/11	
			SDG: J01007		

ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide		

SAMPLES/MATRIX				
J1DWK5	J1DWK6	J1DWK7	J1DWK8	J1DWK9
J1DWL0	J1DWL1	J1DWL2	J1DWL3	J1DWL4
J1DWL5	J1DWL6	J1DWL7	J1DWL8	J1DWL9
J1DWM1				
				Soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes No N/A

Comments:

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? ..... Yes No N/A

Initial calibrations acceptable? ..... Yes No N/A

ICP interference checks acceptable? ..... Yes No N/A

ICV and CCV checks performed on all instruments? ..... Yes No N/A

ICV and CCV checks acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) ..... Yes No N/A

ICB and CCB results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

FB – 16 detects

4. ACCURACY (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: LCS – silica (197%) – J all

MS – silica (142%) + antimony (52%) – J all

no PAS

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable? ..... Yes No N/A

Duplicate results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

6. ICP QUALITY CONTROL (Levels D and E)

ICP serial dilution samples analyzed? ..... Yes No N/A

ICP serial dilution %D values acceptable? ..... Yes No N/A

ICP post digestion spike required? ..... Yes No N/A

ICP post digestion spike values acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

7. FURNACE AA QUALITY CONTROL (Levels D and E)

Duplicate injections performed as required? ..... Yes No N/A

Duplicate injection %RSD values acceptable? ..... Yes No N/A

Analytical spikes performed as required? ..... Yes No N/A

Analytical spike recoveries acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

MSA performed as required? ..... Yes No N/A

MSA results acceptable? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments: _____

8. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

9. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-52227/1-A	Analysis Batch:	280-53077	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-52227	Lab File ID:	26a021111.asc
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1 g
Date Analyzed:	02/11/2011 1347			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Arsenic	0.66	U	0.66	1.0
Barium	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Lithium	0.30	U	0.30	2.5
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	2.1	U	2.1	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0
Zirconium	0.35	U	0.35	2.5

Method Blank - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-52227/1-A	Analysis Batch:	280-53274	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-52227	Lab File ID:	26a021411.asc
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1 g
Date Analyzed:	02/14/2011 1117			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	Result	Qual	MDL	RL
Antimony	0.38	U	0.38	0.60

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Lab Control Sample - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-52227/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/11/2011 1350
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	180.4	90	82 - 116	
Arsenic	100	92.36	92	85 - 110	
Barium	200	187.1	94	87 - 112	
Beryllium	5.00	4.61	92	84 - 114	
Boron	100	92.04	92	81 - 110	
Cadmium	10.0	9.08	91	87 - 110	
Calcium	5000	4575	92	82 - 114	
Chromium	20.0	18.70	94	84 - 114	
Cobalt	50.0	45.93	92	87 - 110	
Copper	25.0	23.54	94	88 - 110	
Iron	100	94.71	95	87 - 120	
Lead	50.0	48.18	96	86 - 110	
Lithium	100	92.32	92	90 - 110	
Magnesium	5000	4544	91	90 - 110	
Manganese	50.0	46.00	92	88 - 110	
Molybdenum	100	91.53	92	86 - 110	
Nickel	50.0	46.64	93	87 - 110	
Potassium	5000	4718	94	89 - 110	
Selenium	200	190.8	95	83 - 110	
Silicon	1000	190.6	19	10 - 70	
Silver	5.00	4.64	93	87 - 114	
Sodium	5000	4842	97	90 - 112	
Vanadium	50.0	46.10	92	88 - 110	
Zinc	50.0	44.73	89	76 - 114	
Zirconium	50.0	47.99	96	90 - 110	

Lab Control Sample - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-52227/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/14/2011 1120
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	50.0	46.70	93	82 - 110	

000057

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Matrix Spike - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-12175-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/11/2011 1356
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.19 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	6410		175	8469	1175	50 - 200	4
Arsenic	2.1		87.7	78.52	87	76 - 111	
Barium	69.6		175	235.3	94	52 - 159	
Beryllium	0.031	U	4.39	3.62	82	72 - 105	
Boron	0.95	B	87.7	75.57	85	75 - 107	
Cadmium	0.049	B	8.77	7.70	87	40 - 130	
Calcium	4010		4390	8718	107	43 - 165	
Chromium	7.1		17.5	25.29	103	70 - 200	
Cobalt	6.1		43.9	44.35	87	72 - 106	
Copper	10.1		21.9	29.95	90	37 - 187	
Iron	18400		87.7	19480	1231	70 - 200	4
Lead	3.3		43.9	43.62	92	70 - 200	
Lithium	6.3		87.7	86.26	91	84 - 109	
Magnesium	3550		4390	8022	102	64 - 145	
Manganese	292		43.9	353.5	140	40 - 200	4
Molybdenum	0.40	B	87.7	74.24	84	75 - 103	
Nickel	8.3		43.9	48.81	92	61 - 126	
Potassium	1210		4390	5462	97	58 - 172	
Selenium	0.96		175	159.9	91	76 - 104	
Silicon	290		877	412.0	14	20 - 200	N
Silver	0.15	U	4.39	3.95	90	75 - 141	
Sodium	209		4390	4627	101	78 - 111	
Vanadium	46.6		43.9	88.47	95	50 - 169	
Zinc	36.5		43.9	76.45	91	70 - 200	
Zirconium	19.9		43.9	63.12	99	75 - 125	

Matrix Spike - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-12175-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/14/2011 1126
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.19 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Matrix Spike - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-12175-1	Analysis Batch:	280-53274	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-52227	Lab File ID:	26a021411.asc
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.19 g
Date Analyzed:	02/14/2011 1126			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.37	B	43.9	23.16	52	20 - 200	

000059

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Duplicate - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-12175-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/11/2011 1359
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53077
Prep Batch: 280-52227
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a021111.asc
Initial Weight/Volume: 1.10 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	6410		6236	3	40	
Arsenic	2.1		2.25	9	30	
Barium	69.6		73.80	6	30	
Beryllium	0.031	U	0.031	NC	30	U
Boron	0.95	B	0.953	0.5	30	B
Cadmium	0.049	B	0.0579	16	30	B
Calcium	4010		3939	2	30	
Chromium	7.1		8.15	13	40	
Cobalt	6.1		6.24	2	30	
Copper	10.1		10.01	1	30	
Iron	18400		18860	2	40	
Lead	3.3		3.69	12	40	
Lithium	6.3		6.11	3	30	
Magnesium	3550		3600	1	30	
Manganese	292		285.2	2	40	
Molybdenum	0.40	B	0.466	15	30	B
Nickel	8.3		8.83	6	30	
Potassium	1210		1172	3	40	
Selenium	0.96		1.12	15	30	
Silicon	290		293.8	1	40	
Silver	0.15	U	0.15	NC	30	U
Sodium	209		204.3	2	30	
Vanadium	46.6		45.72	2	30	
Zinc	36.5		34.69	5	40	
Zirconium	19.9		20.52	3	30	

Duplicate - Batch: 280-52227

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-12175-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/14/2011 1129
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53274
Prep Batch: 280-52227
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a021411.asc
Initial Weight/Volume: 1.10 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	0.37	B	0.36	NC	40	U

000060

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-52228

Method: 6020
Preparation: 3050B

Lab Sample ID: MB 280-52228/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/12/2011 0558
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228
Units: mg/Kg

Instrument ID: MT_024
Lab File ID: 228_BLK.D
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Uranium	0.00610	B	0.0016	0.10

Lab Control Sample - Batch: 280-52228

Method: 6020
Preparation: 3050B

Lab Sample ID: LCS 280-52228/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/12/2011 0601
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228
Units: mg/Kg

Instrument ID: MT_024
Lab File ID: 229_LCS.D
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Uranium	20.0	20.25	101	85 - 123	

Matrix Spike - Batch: 280-52228

Method: 6020
Preparation: 3050B

Lab Sample ID: 280-12175-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/12/2011 0613
Date Prepared: 02/11/2011 0800

Analysis Batch: 280-53099
Prep Batch: 280-52228
Units: mg/Kg

Instrument ID: MT_024
Lab File ID: 233_MS.D
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Uranium	19.5	20.7	40.23	100	85 - 123	

000061

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Duplicate - Batch: 280-52228

Method: 6020
Preparation: 3050B

Lab Sample ID:	280-12175-1	Analysis Batch:	280-53099	Instrument ID:	MT_024
Client Matrix:	Solid	Prep Batch:	280-52228	Lab File ID:	234_DU.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.07 g
Date Analyzed:	02/12/2011 0616			Final Weight/Volume:	100 mL
Date Prepared:	02/11/2011 0800				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Uranium	19.5	20.22	4	20	

000062

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Method Blank - Batch: 280-51856

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-51856/1-A	Analysis Batch:	280-52234	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-51856	Lab File ID:	120207AC.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.60 g
Date Analyzed:	02/07/2011 2144			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-51856

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-51856/2-A	Analysis Batch:	280-52234	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-51856	Lab File ID:	120207AC.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.60 g
Date Analyzed:	02/07/2011 2147			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.426	102	87 - 111	

Matrix Spike - Batch: 280-51856

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-12175-1	Analysis Batch:	280-52234	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-51856	Lab File ID:	120207AC.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.61 g
Date Analyzed:	02/07/2011 2158			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0053	U	0.428	0.432	101	87 - 111	

000063

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-12175-1
Sdg Number: J01007

Duplicate - Batch: 280-51856

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-12175-1	Analysis Batch:	280-52234	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-51856	Lab File ID:	120207AC.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.61 g
Date Analyzed:	02/07/2011 2156			Final Weight/Volume:	50 mL
Date Prepared:	02/07/2011 1205				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0053	U	0.0057	NC	20	U

000064