0096817

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

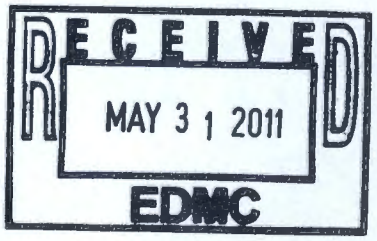
COMPLETE COPY OF FINAL VALIDATION PACKAGE TO:

Kathy Wendt H4-21

COMMENTS:

SDG J01057 SAF-RC-148

Sample Location/Waste Site: 314 Verification



Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: Radiochemistry - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	Soil	C	See note 1

1 – Alpha spectroscopy (isotopic uranium).

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 sample J1H0H6 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 (J1H0J2/J1H0H3) 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. All analytes met the RQL.

· **Completeness**

Data package No. J01057 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 sample J1H0H6 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*.

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: J01057	**REVIEWER: ELR**	**Project: 314 Verification**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Uranium-234 (aspec) Uranium-235 (aspec) Uranium-238 (aspec)	J	J1H0H6	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: 14-Apr-11

TestAmerica TARL

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

Report No. : 46198

5/23/11

SDG No: J01057

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1091094	UISO_IE_PLATE_AEA								
	J1H0F9								
	MGFJ31AA	U-234	3.31E+01 +- 6.8E+00		pCi/g	102%	2.07E-01	1.00E+00	
		U-235	1.39E+00 +- 4.6E-01	J	pCi/g	102%	1.44E-01	1.00E+00	
		U-238	3.52E+01 +- 7.3E+00		pCi/g	102%	2.00E-01	1.00E+00	
	J1H0F9 DUP								
	MGFJ31AC	U-234	3.79E+01 +- 8.1E+00		pCi/g	87%	2.30E-01	1.00E+00	13.7
		U-235	1.52E+00 +- 5.2E-01		pCi/g	87%	1.33E-01	1.00E+00	8.6
		U-238	3.88E+01 +- 8.3E+00		pCi/g	87%	2.13E-01	1.00E+00	9.9
	J1H0H0								
	MGFJ51AA	U-234	9.44E-01 +- 3.8E-01		pCi/g	81%	1.26E-01	1.00E+00	
		U-235	0.00E+00 +- 5.6E-02	U J	pCi/g	81%	1.05E-01	1.00E+00	
		U-238	5.84E-01 +- 2.8E-01		pCi/g	81%	1.05E-01	1.00E+00	
	J1H0H1								
	MGFJ71AA	U-234	1.65E+00 +- 5.2E-01		pCi/g	90%	1.02E-01	1.00E+00	
		U-235	1.20E-01 +- 1.1E-01	J	pCi/g	90%	9.13E-02	1.00E+00	
		U-238	1.97E+00 +- 5.9E-01		pCi/g	90%	1.10E-01	1.00E+00	
	J1H0H2								
	MGFJ81AA	U-234	2.62E+00 +- 7.9E-01		pCi/g	77%	1.12E-01	1.00E+00	
		U-235	8.77E-02 +- 1.0E-01	U J	pCi/g	77%	1.12E-01	1.00E+00	
		U-238	2.55E+00 +- 7.7E-01		pCi/g	77%	1.24E-01	1.00E+00	
	J1H0H3								
	MGFJ91AA	U-234	5.17E+00 +- 1.4E+00		pCi/g	73%	1.34E-01	1.00E+00	
		U-235	2.88E-01 +- 2.0E-01	J	pCi/g	73%	1.17E-01	1.00E+00	
		U-238	6.04E+00 +- 1.6E+00		pCi/g	73%	1.17E-01	1.00E+00	
	J1H0H4								
	MGFKA1AA	U-234	7.02E-01 +- 3.2E-01		pCi/g	95%	1.07E-01	1.00E+00	
		U-235	2.75E-02 +- 5.9E-02	U J	pCi/g	95%	1.13E-01	1.00E+00	
		U-238	7.88E-01 +- 3.5E-01		pCi/g	95%	1.27E-01	1.00E+00	
	J1H0H5								
	MGFKF1AA	U-234	3.06E+00 +- 8.3E-01		pCi/g	97%	1.57E-01	1.00E+00	
		U-235	1.41E-01 +- 1.3E-01	U J	pCi/g	97%	1.48E-01	1.00E+00	
		U-238	3.74E+00 +- 9.8E-01		pCi/g	97%	1.78E-01	1.00E+00	
	J1H0H6								
	MGFKH1AA	U-234	7.87E+00 +- 1.8E+00		pCi/g	109%	1.44E-01	1.00E+00	
		U-235	2.36E-01 +- 1.6E-01	J	pCi/g	109%	1.15E-01	1.00E+00	
		U-238	9.49E+00 +- 2.1E+00		pCi/g	109%	1.31E-01	1.00E+00	
	J1H0H7								
	MGFKL1AA	U-234	3.91E+01 +- 8.0E+00		pCi/g	96%	1.11E-01	1.00E+00	

TestAmerica

rptSTLRchSaSummary2 V5.2.12 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.

Sample Results Summary

Date: 14-Apr-11

TestAmerica TARL

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

Report No. : 46198 **SDG No:** J01057

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1091094	UISO_IE_PLATE_AEA								
	J1H0H7								
	MGFKL1AA	U-235	1.58E+00 +- 4.9E-01	J	pCi/g	96%	8.72E-02	1.00E+00	
		U-238	3.98E+01 +- 8.1E+00		pCi/g	96%	8.72E-02	1.00E+00	
	J1H0H8								
	MGFKN1AA	U-234	4.29E+00 +- 1.1E+00		pCi/g	93%	9.91E-02	1.00E+00	
		U-235	2.12E-01 +- 1.5E-01	J	pCi/g	93%	8.89E-02	1.00E+00	
		U-238	3.77E+00 +- 9.6E-01		pCi/g	93%	1.07E-01	1.00E+00	
	J1H0H9								
	MGFKP1AA	U-234	2.04E+00 +- 5.9E-01		pCi/g	100%	8.58E-02	1.00E+00	
		U-235	9.04E-02 +- 9.3E-02	U J	pCi/g	100%	8.58E-02	1.00E+00	
		U-238	2.19E+00 +- 6.2E-01		pCi/g	100%	9.57E-02	1.00E+00	
	J1H0J0								
	MGFKR1AA	U-234	1.22E+00 +- 4.3E-01		pCi/g	97%	1.00E-01	1.00E+00	
		U-235	4.87E-02 +- 7.1E-02	U J	pCi/g	97%	9.05E-02	1.00E+00	
		U-238	1.99E+00 +- 6.0E-01		pCi/g	97%	8.37E-02	1.00E+00	
	J1H0J1								
	MGFKT1AA	U-234	7.50E+00 +- 1.9E+00		pCi/g	88%	1.47E-01	1.00E+00	
		U-235	2.18E-01 +- 1.7E-01	J	pCi/g	88%	1.21E-01	1.00E+00	
		U-238	8.23E+00 +- 2.0E+00		pCi/g	88%	1.40E-01	1.00E+00	
	J1H0J2								
	MGFKW1AA	U-234	5.63E+00 +- 1.3E+00		pCi/g	101%	1.42E-01	1.00E+00	
		U-235	3.83E-01 +- 2.1E-01	J	pCi/g	101%	1.23E-01	1.00E+00	
		U-238	5.19E+00 +- 1.3E+00		pCi/g	101%	1.46E-01	1.00E+00	

No. of Results: 45

5/23/11

TestAmerica
rptSTLRchSaSummary2 V5.2.12
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.

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.

April 14, 2011

Attention: Joan Kessner

SAF Number	:	RC-148
Date SDG Closed	:	March 31, 2011
Number of Samples	:	Fourteen (14)
Sample Type	:	Soil
SDG Number	:	J01057
Data Deliverable	:	15– Day / Summary

CASE NARRATIVE

I. Introduction

On March 31, 2011 fourteen 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
J1H0F9	MGFJ3	SOIL	3/31/11
J1H0H0	MGFJ5	SOIL	3/31/11
J1H0H1	MGFJ7	SOIL	3/31/11
J1H0H2	MGFJ8	SOIL	3/31/11
J1H0H3	MGFJ9	SOIL	3/31/11
J1H0H4	MGFKA	SOIL	3/31/11
J1H0H5	MGFKF	SOIL	3/31/11
J1H0H6	MGFKH	SOIL	3/31/11
J1H0H7	MGFKL	SOIL	3/31/11
J1H0H8	MGFKM	SOIL	3/31/11
J1H0H9	MGFKP	SOIL	3/31/11
J1H0J0	MGFKR	SOIL	3/31/11
J1H0J1	MGFKT	SOIL	3/31/11
J1H0J2	MGFKW	SOIL	3/31/11

II. Sample Receipt

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

000013

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

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 FWHM for sample J1H0F9 for the Uranium-232 peak is slightly elevated at 103. The sample and sample duplicate (J1H0F9) show acceptable agreement and the tracer yield is within the acceptance criteria. Except as noted; the LCS, batch blank, samples and sample duplicate (J1H0F9) 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.

Reviewed and approved:

Rhonda Wagar
Project Manager

000014

TestAmerica Laboratories, Inc.

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. N/A	Field Logbook No. EL-1395-18	COA R302182000	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

Potential Radioactive ≤ DOT Limit
AJ 3-30-11

Lot# J1C310570
SDG# J01057
Due 4-21-11

Special Handling and/or Storage

~~Cool 4 degrees C~~ AJ 3-30-11
NONE

0000015

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0F9	SOIL	3/30/11	0930							X	MGFJ3	
J1H0H0	SOIL	3/30/11	0925							X	MGFJ5	
J1H0H1	SOIL	3/30/11	0940							X	MGFJ7	
J1H0H2	SOIL	3/30/11	0950							X	MGFJ8	
J1H0H3	SOIL	3/30/11	1010							X	MGFJ9	

CHAIN OF POSSESSION

Sign/Print Names			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 11:05	Dan Heidelberg	3/30/11 1105
Dan Heidelberg	3/30/11 1445	A. Frair	3-30-11 1445
A. Frair	3-31-11 1155	TALR	3/31/11 1155

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)

J1C310570

REVIEWED BY JSB DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. N/A	Field Logbook No. EL-1395-18	COA R302182000	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
Potential Radioactive < DOT Limits
Af 3-30-11

Special Handling and/or Storage
~~Cool 4 degrees C~~ Af 3-30-11
NONE

Lot#J1C310570
SDG#J01057
Due 4.21.11

000016

SAMPLE ANALYSIS	Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
	Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
	No. of Container(s)	1	1	1	1	1	1	1			
	Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
		See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

Sample No.	Matrix *	Sample Date	Sample Time										
J1H0H4	SOIL	3/30/11	1000			MGFKA				X			24885
J1H0H5	SOIL	3/30/11	1015			MGFKF				X			
J1H0H6	SOIL	3/30/11	1025			MGFKH				X			
J1H0H7	SOIL	3/30/11	1030			MGFKL				X			
J1H0H8	SOIL	3/30/11	1040			MGFKN				X			

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Don Heidelberg	3/30/11 1105
Don Heidelberg	3/30/11 1445	A Freier	3-30-11 1445
A Freier	3-31-11 1155	TALP	3/31/11 1155

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)

REVIEWED BY JEB DATE 3-31-11

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

TestAmerica Laboratories, Inc.

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TestAmerica Laboratories, Inc.

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-023	Page 3 of 3

Collector: Q. Stowe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Project Designation: 300 Area Field Remediation - Soil Full Protocol	Sampling Location: 314 Verification		SAF No.: RC-148
Ice Chest No.: N/A	Field Logbook No.: EL-1395-18	COA: R302182000	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

Price Code: 8L

Data Turnaround: 21 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits AJ 3-30-11

Special Handling and/or Storage

~~Cool 4 degrees C~~ AJ 3-30-11 NONE

Lot#J1C310570 SDG#J01057 Due 4-21-11

000017

SAMPLE ANALYSIS	Preservation	Type of Container	No. of Container(s)	Volume	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
	Cool 4C	G/P	1	60mL										
	None	G/P	1	60mL										
	Cool 4C	aG	1	120mL			MGFKP							
	Cool 4C	aG	1	120mL			MGFKR							
	Cool 4C	aG	1	120mL			MGFKT							
	Cool 4C	aG	1	120mL			MGFKM							
	None	G/P	1	60mL										

Sample No.	Matrix *	Sample Date	Sample Time
J1H0H9	SOIL	3/30/11	1045
J1H0J0	SOIL	3/30/11	1050
J1H0J1	SOIL	3/30/11	1055
J1H0J2	SOIL	3/30/11	1010
~~J1H0J3~~ DH 3/30/11	~~SOIL~~	~~3/30/11~~	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Don Heidelberg	3/30/11 1105
Don Heidelberg	3/30/11 1445	A. Freier	3-30-11 1445
A. Freier	3-31-11 1155	TALR Luca Velazquez	3/31/11 1155

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)

REVIEWED BY EEB DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

APPENDIX A

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 314 verification			DATA PACKAGE: J1057		
VALIDATOR: ELR		LAB: TAL		DATE: 5/8/16	
			SDG: J01057		

ANALYSES PERFORMED				
☐ Gross Alpha/Beta	☐ Strontium-90	☐ Technetium-99	☒ Alpha Spectroscopy	☐ Gamma Spectroscopy
☐ Total Uranium	☐ Radium-22	☐ Tritium		

SAMPLES/MATRIX				
J1H0F9	J1H0H0	J1H0H1	J1H0H2	J1H0H3
J1H0H4	J1H0H5	J1H0H6	J1H0H7	J1H0H8
J1H0H9	J1H0J0	J1H0J1	J1H0J2	
				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: _____

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_____

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: _____

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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: _____

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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 alf

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: _____

_____

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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: H6 + 107% - J cell

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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: _____

_____

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_____

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 PS or PSD

J2/H3

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: _____

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Appendix 6

Additional Documentation Requested by Client

QC Results Summary

Date: 14-Apr-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 46198 **SDG No.:** J01057

Batch / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
UISO_IE_PLATE_AEA								
1091094 BLANK QC,								
MGF4G1AA	U-234	-1.35E-02 +- 5.5E-02	U	pCi/g	89%			1.62E-01
	U-235	-5.42E-03 +- 5.4E-02	U	pCi/g	89%			1.30E-01
	U-238	4.19E-02 +- 7.7E-02	U	pCi/g	89%			1.58E-01
1091094 LCS,								
MGF4G1AC	U-234	2.79E+00 +- 7.7E-01		pCi/g	91%	85%	-0.1	9.42E-02
	U-238	3.94E+00 +- 1.0E+00		pCi/g	91%	115%	0.2	9.42E-02

No. of Results: 5

Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: Semivolatile - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	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, all detected bis(2-ethylhexyl)phthalate result 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 duplicate results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1H0J2/J1H0H3) 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. J01057 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 method blank contamination, all detected bis(2-ethylhexyl)phthalate result 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: J01057	**REVIEWER: ELR**	**Project: 314 Verification**	**QC Issue**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Bis(2-ethylhexyl)phthalate	U at RQL	All	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: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4134.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	04/06/2011 1608			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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		660 ~~84~~	~~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		92	U	92	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		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		23	U	23	340
Isophorone		17	U	17	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/14

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid % Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4134.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	04/06/2011 1608			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		51	U	51	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		74	U	74	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		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	78		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	77		50 - 120
Phenol-d5	81		52 - 120
Terphenyl-d14	86		55 - 120
2,4,6-Tribromophenol	77		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4134.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	04/06/2011 1608			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 6

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
1069-53-0	Hexane, 2,3,5-trimethyl-	3.03	160	N J
	Unknown	3.09	230	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	270	N J
	Unknown	3.30	3400	N J
	Unknown	7.53	380	N J
	Unknown	7.89	770	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

% Moisture: 3.5

V 5/9/11

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4135.D
Dilution:	1.0			Initial Weight/Volume:	31.5 g
Analysis Date:	04/06/2011 1628			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		39	U	39	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		660 ~~79~~ V 5/9/11	~~JB~~ U	45	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		42	U	42	330
Carbazole		36	U	36	330
4-Chloroaniline		81	U	81	330
4-Chloro-3-methylphenol		65	U	65	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		13	U	13	330
3,3'-Dichlorobenzidine		89	U	89	650
2,4-Dichlorophenol		9.9	U	9.9	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		65	U	65	330
Dimethyl phthalate		23	U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	650
2,4-Dinitrophenol		330	U	330	810
2,4-Dinitrotoluene		65	U	65	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		49	U	49	330
Hexachloroethane		21	U	21	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: 280-14127-1
Sdg Number: J01057

V 5/23/11

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

% Moisture: 3.5

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4135.D
Dilution:	1.0			Initial Weight/Volume:	31.5 g
Analysis Date:	04/06/2011 1628			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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		49	U	49	330
3-Nitroaniline		72	U	72	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	650
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	650
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	Qualifier	Acceptance Limits
2-Fluorobiphenyl	72		50 - 120
2-Fluorophenol	72		53 - 120
Nitrobenzene-d5	71		50 - 120
Phenol-d5	75		52 - 120
Terphenyl-d14	83		55 - 120
2,4,6-Tribromophenol	70		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/23/11

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

% Moisture: 3.5

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4135.D
Dilution:	1.0			Initial Weight/Volume:	31.5 g
Analysis Date:	04/06/2011 1628			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
1069-53-0	Hexane, 2,3,5-trimethyl-	3.03	140	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	200	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	250	N J
	Unknown	3.30	3100	N J
	Unknown	7.53	170	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid

% Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4136.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	04/06/2011 1647			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		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 ~~87~~	~~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		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		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		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: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid

% Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4136.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	04/06/2011 1647			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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	78		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	76		50 - 120
Phenol-d5	81		52 - 120
Terphenyl-d14	90		55 - 120
2,4,6-Tribromophenol	75		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

V 5/9/11

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid % Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4136.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	04/06/2011 1647			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 6

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.82	150	N J
	Unknown	3.03	190	N J
	Unknown	3.09	240	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.21	300	N J
	Unknown	3.30	3700	N J
100-51-6	Benzyl alcohol	4.95	11	J N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4137.D
Dilution:	1.0			Initial Weight/Volume:	32.5 g
Analysis Date:	04/06/2011 1707			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.9	U	9.9	320
Acenaphthylene		16	U	16	320
Anthracene		16	U	16	320
Benzo[a]anthracene		19	U	19	320
Benzo[a]pyrene		19	U	19	320
Benzo[b]fluoranthene		25	U	25	320
Benzo[ghi]perylene		15	U	15	320
Benzo[k]fluoranthene		38	U	38	320
Bis(2-chloroethoxy)methane		22	U	22	320
Bis(2-chloroethyl)ether		16	U	16	320
bis (2-chloroisopropyl) ether		22	U	22	320
Bis(2-ethylhexyl) phthalate		~~76~~ 460	~~JB~~ U	44	320
4-Bromophenyl phenyl ether		18	U	18	320
Butyl benzyl phthalate		41	U	41	320
Carbazole		35	U	35	320
4-Chloroaniline		79	U	79	320
4-Chloro-3-methylphenol		64	U	64	320
2-Chloronaphthalene		9.6	U	9.6	320
2-Chlorophenol		20	U	20	320
4-Chlorophenyl phenyl ether		20	U	20	320
Chrysene		26	U	26	320
Dibenz(a,h)anthracene		18	U	18	320
Dibenzofuran		19	U	19	320
1,2-Dichlorobenzene		21	U	21	320
1,3-Dichlorobenzene		12	U	12	320
1,4-Dichlorobenzene		13	U	13	320
3,3'-Dichlorobenzidine		87	U	87	640
2,4-Dichlorophenol		9.6	U	9.6	320
Diethyl phthalate		25	U	25	320
2,4-Dimethylphenol		64	U	64	320
Dimethyl phthalate		22	U	22	320
Di-n-butyl phthalate		28	U	28	320
4,6-Dinitro-2-methylphenol		320	U	320	640
2,4-Dinitrophenol		320	U	320	790
2,4-Dinitrotoluene		64	U	64	320
2,6-Dinitrotoluene		27	U	27	320
Di-n-octyl phthalate		14	U	14	320
Fluoranthene		35	U	35	320
Fluorene		17	U	17	320
Hexachlorobenzene		28	U	28	320
Hexachlorobutadiene		9.6	U	9.6	320
Hexachlorocyclopentadiene		48	U	48	320
Hexachloroethane		20	U	20	320
Indeno[1,2,3-cd]pyrene		21	U	21	320
Isophorone		16	U	16	320
2-Methylnaphthalene		18	U	18	320

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4137.D
Dilution:	1.0			Initial Weight/Volume:	32.5 g
Analysis Date:	04/06/2011 1707			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	320
3 & 4 Methylphenol		32	U	32	320
Naphthalene		30	U	30	320
2-Nitroaniline		48	U	48	320
3-Nitroaniline		70	U	70	320
4-Nitroaniline		70	U	70	320
Nitrobenzene		21	U	21	320
2-Nitrophenol		9.6	U	9.6	320
4-Nitrophenol		93	U	93	640
N-Nitrosodi-n-propylamine		30	U	30	320
N-Nitrosodiphenylamine		20	U	20	320
Pentachlorophenol		320	U	320	640
Phenanthrene		16	U	16	320
Phenol		17	U	17	320
Pyrene		12	U	12	320
1,2,4-Trichlorobenzene		27	U	27	320
2,4,5-Trichlorophenol		9.6	U	9.6	320
2,4,6-Trichlorophenol		9.6	U	9.6	320

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	75		50 - 120
Phenol-d5	81		52 - 120
Terphenyl-d14	90		55 - 120
2,4,6-Tribromophenol	76		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/6/11

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4137.D
Dilution:	1.0			Initial Weight/Volume:	32.5 g
Analysis Date:	04/06/2011 1707			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 6

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	3.02	160	N J
	Unknown	3.09	200	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	260	N J
	Unknown	3.30	3500	N J
100-51-6	Benzyl alcohol	4.96	2000	N J
	Unknown	7.90	450	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4138.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/06/2011 1727			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		78	J	21	350
Benzo[a]pyrene		110	J	21	350
Benzo[b]fluoranthene		190	J K	28	350
Benzo[ghi]perylene		67	J	17	350
Benzo[k]fluoranthene		42	U K	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 ~~86~~	~~J B~~ U	49	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		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		92	J	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		95	U	95	700
2,4-Dichlorophenol		11	U	11	350
Diethyl phthalate		27	U	27	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	870
2,4-Dinitrotoluene		70	U	70	350
2,6-Dinitrotoluene		30	U	30	350
Di-n-octyl phthalate		15	U	15	350
Fluoranthene		110	J	38	350
Fluorene		19	U	19	350
Hexachlorobenzene		31	U	31	350
Hexachlorobutadiene		11	U	11	350
Hexachlorocyclopentadiene		53	U	53	350
Hexachloroethane		22	U	22	350
Indeno[1,2,3-cd]pyrene		59	J	23	350
Isophorone		18	U	18	350
2-Methylnaphthalene		20	U	20	350

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4138.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/06/2011 1727			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		77	U	77	350
4-Nitroaniline		76	U	76	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		20	J	19	350
Pyrene		96	J	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	76		50 - 120
2-Fluorophenol	75		53 - 120
Nitrobenzene-d5	73		50 - 120
Phenol-d5	78		52 - 120
Terphenyl-d14	88		55 - 120
2,4,6-Tribromophenol	76		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4138.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/06/2011 1727			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 8

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.81	540	N J
	Unknown	3.03	170	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	210	N J
926-82-9	Heptane, 3,5-dimethyl-	3.21	260	N J
	Unknown	3.30	3500	N J
100-51-6	Benzyl alcohol	4.95	16	J N J
	Unknown	5.22	150	N J
	Unknown	7.89	290	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4139.D
Dilution:	1.0			Initial Weight/Volume:	32.8 g
Analysis Date:	04/06/2011 1746			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.9	U	9.9	320
Acenaphthylene		16	U	16	320
Anthracene		16	U	16	320
Benzo[a]anthracene		19	U	19	320
Benzo[a]pyrene		19	U	19	320
Benzo[b]fluoranthene		25	U	25	320
Benzo[ghi]perylene		15	U	15	320
Benzo[k]fluoranthene		38	U	38	320
Bis(2-chloroethoxy)methane		22	U	22	320
Bis(2-chloroethyl)ether		16	U	16	320
bis (2-chloroisopropyl) ether		22	U	22	320
Bis(2-ethylhexyl) phthalate		660 ~~88~~ 5/9/11	~~JB~~ U	44	320
4-Bromophenyl phenyl ether		18	U	18	320
Butyl benzyl phthalate		41	U	41	320
Carbazole		35	U	35	320
4-Chloroaniline		79	U	79	320
4-Chloro-3-methylphenol		63	U	63	320
2-Chloronaphthalene		9.6	U	9.6	320
2-Chlorophenol		20	U	20	320
4-Chlorophenyl phenyl ether		20	U	20	320
Chrysene		26	U	26	320
Dibenz(a,h)anthracene		18	U	18	320
Dibenzofuran		19	U	19	320
1,2-Dichlorobenzene		21	U	21	320
1,3-Dichlorobenzene		12	U	12	320
1,4-Dichlorobenzene		13	U	13	320
3,3'-Dichlorobenzidine		86	U	86	630
2,4-Dichlorophenol		9.6	U	9.6	320
Diethyl phthalate		25	U	25	320
2,4-Dimethylphenol		63	U	63	320
Dimethyl phthalate		22	U	22	320
Di-n-butyl phthalate		28	U	28	320
4,6-Dinitro-2-methylphenol		320	U	320	630
2,4-Dinitrophenol		320	U	320	790
2,4-Dinitrotoluene		63	U	63	320
2,6-Dinitrotoluene		27	U	27	320
Di-n-octyl phthalate		14	U	14	320
Fluoranthene		35	U	35	320
Fluorene		17	U	17	320
Hexachlorobenzene		28	U	28	320
Hexachlorobutadiene		9.6	U	9.6	320
Hexachlorocyclopentadiene		48	U	48	320
Hexachloroethane		20	U	20	320
Indeno[1,2,3-cd]pyrene		21	U	21	320
Isophorone		16	U	16	320
2-Methylnaphthalene		18	U	18	320

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4139.D
Dilution:	1.0			Initial Weight/Volume:	32.6 g
Analysis Date:	04/06/2011 1746			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		12	U	12	320
3 & 4 Methylphenol		32	U	32	320
Naphthalene		30	U	30	320
2-Nitroaniline		48	U	48	320
3-Nitroaniline		70	U	70	320
4-Nitroaniline		70	U	70	320
Nitrobenzene		21	U	21	320
2-Nitrophenol		9.6	U	9.6	320
4-Nitrophenol		93	U	93	630
N-Nitrosodi-n-propylamine		30	U	30	320
N-Nitrosodiphenylamine		20	U	20	320
Pentachlorophenol		320	U	320	630
Phenanthrene		16	U	16	320
Phenol		17	U	17	320
Pyrene		12	U	12	320
1,2,4-Trichlorobenzene		27	U	27	320
2,4,5-Trichlorophenol		9.6	U	9.6	320
2,4,6-Trichlorophenol		9.6	U	9.6	320

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	75		50 - 120
2-Fluorophenol	73		53 - 120
Nitrobenzene-d5	72		50 - 120
Phenol-d5	77		52 - 120
Terphenyl-d14	87		55 - 120
2,4,6-Tribromophenol	74		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid % Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4139.D
Dilution:	1.0			Initial Weight/Volume:	32.6 g
Analysis Date:	04/06/2011 1746			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 8

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.81	300	N J
	Unknown	3.03	170	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	210	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.21	240	N J
	Unknown	3.30	3300	N J
56-81-5	Glycerin	4.36	270	N J
100-51-6	Benzyl alcohol	4.95	17	J N J
	Unknown	5.23	140	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4140.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	04/06/2011 1806			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		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		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		660 84	JB U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		82	U	82	330
4-Chloro-3-methylphenol		66	U	66	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		90	U	90	660
2,4-Dichlorophenol		10	U	10	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		10	U	10	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	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: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4140.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	04/06/2011 1806			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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		50	U	50	330
3-Nitroaniline		73	U	73	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		97	U	97	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		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	77		50 - 120
2-Fluorophenol	76		53 - 120
Nitrobenzene-d5	74		50 - 120
Phenol-d5	80		52 - 120
Terphenyl-d14	89		55 - 120
2,4,6-Tribromophenol	73		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-7
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4140.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	04/06/2011 1806			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 4

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	3.08	180	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	220	N J
	Unknown	3.30	3300	N J
100-51-6	Benzyl alcohol	4.95	11	J N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4141.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	04/06/2011 1826			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		17	U	17	350
bis (2-chloroisopropyl) ether		24	U	24	350
Bis(2-ethylhexyl) phthalate		660 ~~88~~	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		11	U	11	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		95	U	95	690
2,4-Dichlorophenol		11	U	11	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		11	U	11	350
Hexachlorocyclopentadiene		53	U	53	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: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4141.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	04/06/2011 1826			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		77	U	77	350
4-Nitroaniline		76	U	76	350
Nitrobenzene		23	U	23	350
2-Nitrophenol		11	U	11	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		11	U	11	350
2,4,6-Trichlorophenol		11	U	11	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	74		50 - 120
2-Fluorophenol	73		53 - 120
Nitrobenzene-d5	71		50 - 120
Phenol-d5	76		52 - 120
Terphenyl-d14	88		55 - 120
2,4,6-Tribromophenol	73		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4141.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	04/06/2011 1826			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.82	220	N J
	Unknown	3.03	150	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	210	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.21	230	N J
	Unknown	3.30	3600	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

5/4/11

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4142.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	04/06/2011 1845			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	360
Acenaphthylene		18	U	18	360
Anthracene		18	U	18	360
Benzo[a]anthracene		22	U	22	360
Benzo[a]pyrene		22	U	22	360
Benzo[b]fluoranthene		28	U	28	360
Benzo[ghi]perylene		17	U	17	360
Benzo[k]fluoranthene		43	U	43	360
Bis(2-chloroethoxy)methane		25	U	25	360
Bis(2-chloroethyl)ether		18	U	18	360
bis (2-chloroisopropyl) ether		25	U	25	360
Bis(2-ethylhexyl) phthalate		660 ~~100~~ 5/6/11	~~JB~~ U	50	360
4-Bromophenyl phenyl ether		21	U	21	360
Butyl benzyl phthalate		47	U	47	360
Carbazole		39	U	39	360
4-Chloroaniline		89	U	89	360
4-Chloro-3-methylphenol		72	U	72	360
2-Chloronaphthalene		11	U	11	360
2-Chlorophenol		23	U	23	360
4-Chlorophenyl phenyl ether		23	U	23	360
Chrysene		29	U	29	360
Dibenz(a,h)anthracene		21	U	21	360
Dibenzofuran		22	U	22	360
1,2-Dichlorobenzene		24	U	24	360
1,3-Dichlorobenzene		13	U	13	360
1,4-Dichlorobenzene		15	U	15	360
3,3'-Dichlorobenzidine		98	U	98	720
2,4-Dichlorophenol		11	U	11	360
Diethyl phthalate		28	U	28	360
2,4-Dimethylphenol		72	U	72	360
Dimethyl phthalate		25	U	25	360
Di-n-butyl phthalate		31	U	31	360
4,6-Dinitro-2-methylphenol		360	U	360	720
2,4-Dinitrophenol		360	U	360	890
2,4-Dinitrotoluene		72	U	72	360
2,6-Dinitrotoluene		30	U	30	360
Di-n-octyl phthalate		16	U	16	360
Fluoranthene		39	U	39	360
Fluorene		20	U	20	360
Hexachlorobenzene		31	U	31	360
Hexachlorobutadiene		11	U	11	360
Hexachlorocyclopentadiene		54	U	54	360
Hexachloroethane		23	U	23	360
Indeno[1,2,3-cd]pyrene		24	U	24	360
Isophorone		18	U	18	360
2-Methylnaphthalene		21	U	21	360

Client: Washington Closure Hanford

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Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4142.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	04/06/2011 1845			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	360
3 & 4 Methylphenol		36	U	36	360
Naphthalene		34	U	34	360
2-Nitroaniline		54	U	54	360
3-Nitroaniline		79	U	79	360
4-Nitroaniline		79	U	79	360
Nitrobenzene		24	U	24	360
2-Nitrophenol		11	U	11	360
4-Nitrophenol		110	U	110	720
N-Nitrosodi-n-propylamine		34	U	34	360
N-Nitrosodiphenylamine		23	U	23	360
Pentachlorophenol		360	U	360	720
Phenanthrene		18	U	18	360
Phenol		20	U	20	360
Pyrene		18	J	13	360
1,2,4-Trichlorobenzene		30	U	30	360
2,4,5-Trichlorophenol		11	U	11	360
2,4,6-Trichlorophenol		11	U	11	360

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	65		50 - 120
2-Fluorophenol	64		53 - 120
Nitrobenzene-d5	61		50 - 120
Phenol-d5	68		52 - 120
Terphenyl-d14	86		55 - 120
2,4,6-Tribromophenol	71		51 - 120

Client: Washington Closure Hanford

5/9/11

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4142.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	04/06/2011 1845			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 8

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.81	910	N J
	Unknown	2.89	150	N J
	Unknown	3.03	160	N J
921-47-1	Hexane, 2,3,4-trimethyl-	3.09	210	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	230	N J
	Unknown	3.30	3400	N J
100-51-6	Benzyl alcohol	4.95	12	J N J
	Unknown	5.23	300	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

% Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4143.D
Dilution:	1.0			Initial Weight/Volume:	32.4 g
Analysis Date:	04/06/2011 1905			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		40	U	40	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		660 ~~130~~ slct	~~J B~~ 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		510		29	330
4,6-Dinitro-2-methylphenol		330	U	330	670
2,4-Dinitrophenol		340	U	340	830
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: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

% Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4143.D
Dilution:	1.0			Initial Weight/Volume:	32.4 g
Analysis Date:	04/06/2011 1905			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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	83		50 - 120
2-Fluorophenol	80		53 - 120
Nitrobenzene-d5	79		50 - 120
Phenol-d5	85		52 - 120
Terphenyl-d14	89		55 - 120
2,4,6-Tribromophenol	76		51 - 120

Client: Washington Closure Hanford

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Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

% Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4143.D
Dilution:	1.0			Initial Weight/Volume:	32.4 g
Analysis Date:	04/06/2011 1905			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 10

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.81	910	N J
	Unknown	2.89	180	N J
	Unknown	3.03	200	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	250	N J
926-82-9	Heptane, 3,5-dimethyl-	3.22	270	N J
	Unknown	3.30	3800	N J
56-81-5	Glycerin	4.37	530	N J
100-51-6	Benzyl alcohol	4.95	17	J N J
	Unknown	5.24	240	N J
1120-36-1	1-Tetradecene	9.19	440	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

% Moisture: 7.0

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Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4146.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	04/06/2011 2004			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		660 ~~84~~ V 5/9/11	~~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: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

% Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4146.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	04/06/2011 2004			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		23	J	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	81		50 - 120
2-Fluorophenol	81		53 - 120
Nitrobenzene-d5	79		50 - 120
Phenol-d5	84		52 - 120
Terphenyl-d14	93		55 - 120
2,4,6-Tribromophenol	82		51 - 120

Client: Washington Closure Hanford

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Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid % Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4146.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	04/06/2011 2004			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.80	1000	N J
	Unknown	2.89	140	N J
	Unknown	3.03	190	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	250	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	280	N J
	Unknown	3.30	3800	N J
100-51-6	Benzyl alcohol	4.95	18	J N J
	Unknown	5.23	300	N J
629-96-9	1-Eicosanol	10.90	170	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4147.D
Dilution:	1.0			Initial Weight/Volume:	32.1 g
Analysis Date:	04/06/2011 2024			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		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		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		660 ~~91~~	~~JB~~ U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		82	U	82	330
4-Chloro-3-methylphenol		66	U	66	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		90	U	90	660
2,4-Dichlorophenol		10	U	10	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		10	U	10	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	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: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4147.D
Dilution:	1.0			Initial Weight/Volume:	32.1 g
Analysis Date:	04/06/2011 2024			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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		50	U	50	330
3-Nitroaniline		73	U	73	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		97	U	97	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		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol	77		53 - 120
Nitrobenzene-d5	74		50 - 120
Phenol-d5	80		52 - 120
Terphenyl-d14	89		55 - 120
2,4,6-Tribromophenol	79		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4147.D
Dilution:	1.0			Initial Weight/Volume:	32.1 g
Analysis Date:	04/06/2011 2024			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	3.09	180	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	210	N J
	Unknown	3.30	3200	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

% Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4148.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/06/2011 2043			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		24	U	24	350
Bis(2-chloroethyl)ether		18	U	18	350
bis (2-chloroisopropyl) ether		24	U	24	350
Bis(2-ethylhexyl) phthalate		600 ~~91~~	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		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		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		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: 280-14127-1
Sdg Number: J01057

V 5/9/11

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

% Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4148.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/06/2011 2043			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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	J	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	71		50 - 120
2-Fluorophenol	73		53 - 120
Nitrobenzene-d5	72		50 - 120
Phenol-d5	76		52 - 120
Terphenyl-d14	91		55 - 120
2,4,6-Tribromophenol	77		51 - 120

Client: Washington Closure Hanford

5/9/11

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid % Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4148.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/06/2011 2043			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 6

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.82	290	N J
	Unknown	3.03	160	N J
	Unknown	3.09	210	N J
926-82-9	Heptane, 3,5-dimethyl-	3.22	230	N J
	Unknown	3.30	3600	N J
100-51-6	Benzyl alcohol	4.95	14	J N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/a/11

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

% Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4149.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	04/06/2011 2103			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			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		71	J	21	340
Benzo[a]pyrene		78	J	21	340
Benzo[b]fluoranthene		150	J K	27	340
Benzo[ghi]perylene		52	J	17	340
Benzo[k]fluoranthene		42	U K	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 ~~110~~ 5/6/11	~~J B~~ 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		72	J	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		93	J	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		44	J	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

% Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4149.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	04/06/2011 2103			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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		91	J	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	80		50 - 120
2-Fluorophenol	83		53 - 120
Nitrobenzene-d5	81		50 - 120
Phenol-d5	86		52 - 120
Terphenyl-d14	92		55 - 120
2,4,6-Tribromophenol	78		51 - 120

Client: Washington Closure Hanford

5/9/11

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

% Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-60851	Lab File ID:	B4149.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	04/06/2011 2103			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	3.03	180	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.09	240	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.21	280	N J
	Unknown	3.30	4000	N J
100-51-6	Benzyl alcohol	4.95	15	J N J

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14127-1

SDG #: J01057
SAF#: RC-148

Date SDG Closed: April 1, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H0F9	280-14127-1	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H0	280-14127-2	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H1	280-14127-3	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H2	280-14127-4	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H3	280-14127-5	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H4	280-14127-6	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H5	280-14127-7	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H6	280-14127-8	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H7	280-14127-9	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H8	280-14127-10	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H9	280-14127-11	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J0	280-14127-12	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J1	280-14127-13	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J2	280-14127-14	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J3	280-14127-15	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 4/1/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4 C, 4.2 C and 2.7 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in samples J1H0H3 and J1H0J2 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".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the presence of high concentrations of target analytes, samples J1H0H6, J1H0H8 and J1H0J0 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.

Surrogate recoveries have been "D" flagged in samples J1H0H6, J1H0H8 and J1H0J0, as the recoveries obtained are calculated from a diluted sample and are not considered reliable.

Samples J1H0F9, J1H0H0, J1H0H1, J1H0H2, J1H0H3, J1H0H4, J1H0H5, J1H0H6, J1H0H7, J1H0H8, J1H0H9, J1H0J0, J1H0J1 and J1H0J2 required a sulfuric acid clean-up to reduce matrix interferences and Mercury clean-up to reduce matrix interferences caused by sulfur.

Samples J1H0F9, J1H0H7, J1H0H8, J1H0H9, J1H0J0 and J1H0J1 contained more than one Aroclor component. Results are estimated due to shared peaks.

Spike compound recoveries, RPD data and surrogate recoveries have been "D" flagged in the MS/MSD performed on sample J1H0H6, as the recoveries obtained are calculated from diluted samples and are not considered reliable. The acceptable LCS analysis data indicated that the analytical system was operating within control.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS/MSD performed on sample J1H0H8 exhibited percent recoveries outside the control limits for several compounds, and the associated sample results have been flagged "N". In addition, the RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A
Serial dilution of a digestate in batch 280-60621 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the high abundance of non-target analytes, the Beryllium, Cobalt, Copper, Iron, Lead, Silicon and Vanadium analysis of samples J1H0F9, J1H0H4, J1H0H5 and J1H0J2 had to be performed at a 5X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Chromium are present in the method blank associated with batch 280-60621. Because the concentration in the method blank is not present at levels greater than the reporting limit, corrective action is deemed unnecessary.

Silicon failed the recovery criteria low in the LCS associated with batch 280-60621, and the associated sample result has been flagged "N". Silicon is not controlled on for batch QC because there are not EPA prescribed limits for the LCS and MS recoveries. Limits are given to the client as guidance only; therefore, data are reported as is.

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 J1H0F9; therefore, control limits are not applicable.

Arsenic, Boron and Silicon were recovered outside the control limits in the SW846 6010B Matrix Spike analysis performed on sample J1H0F9, 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.

The SW846 6010B duplicate analysis of sample J1H0F9 exhibited RPD data outside the control limits for Silicon, and the associated sample result has been flagged "M". 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.

The SW846 7471A duplicate analysis of sample J1H0H5 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". 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.

GENERAL CHEMISTRY - SW846 9045C - PH

No anomalies were encountered.

3,4,4-2,2-7

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-023	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: 314 Verification		SAF No.: RC-148		
Ice Chest No.: WCH-08-042	Field Logbook No.: EL-1395-18	COA: R302182000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx		
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (OH 3/28/11)	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7969 3631 4598		

POSSIBLE SAMPLE HAZARDS/REMARKS
Potential Radioactive <DOT Limits JEB 3-30-11

Special Handling and/or Storage
Cool 4 degrees C

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			

950056

SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

Sample No.	Matrix *	Sample Date	Sample Time								
J1H0F9	SOIL	3/30/11	0930	X	X	X	X	X	X		
J1H0H0	SOIL	3/30/11	0925	X	X	X	X	X	X		
J1H0H1	SOIL	3/30/11	0940	X	X	X	X	X	X		
J1H0H2	SOIL	3/30/11	0950	X	X	X	X	X	X		
J1H0H3	SOIL	3/30/11	1010	X	X	X	X	X	X		

for 40 of 48 page

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 11:05	Donte Delbergh	3/30/11 1105
Donte Delbergh	3/30/11 1445	J.E. Beebe	3-30-11 1445
J.E. Beebe WCH	3-31-11 1000	FED EX	
			4/1/11 830

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)

J01057

REVIEWED BY AT DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive DOT Limits SEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

J01057

	Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
	Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
	No. of Container(s)	1	1	1	1	1	1	1			
	Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS		See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time								
J1H0H4	SOIL	3/30/11	1000	X	X	X	X	X	X		
J1H0H5	SOIL	3/30/11	1015	X	X	X	X	X	X		
J1H0H6	SOIL	3/30/11	1025	X	X	X	X	X	X		
J1H0H7	SOIL	3/30/11	1030	X	X	X	X	X	X		
J1H0H8	SOIL	3/30/11	1040	X	X	X	X	X	X		

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Don Hedberg	3/30/11 1105
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Don Hedberg	3/30/11 1445	A. Freier	3-30-11 1445
Relinquished By/Removed From WCH	Date/Time 1000	Received By/Stored In	Date/Time
A. Freier	3-31-11	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
			4/1/11 810
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)

J01057

REVIEWED BY SEB DATE 3-31-11

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-148-023	Page 1 of 1
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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits
At 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

850000

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time							
J1H0H9	SOIL	3/30/11	1045	X	X	X	X	X	X	
J1H0J0	SOIL	3/30/11	1050	X	X	X	X	X	X	
J1H0J1	SOIL	3/30/11	1055	X	X	X	X	X	X	
J1H0J2	SOIL	3/30/11	1010	X	X	X	X	X	X	
J1H0J3	SOIL	3/30/11	0915	X						

Page 1 of 1

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Dan Heilberg	3/30/11 1105
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Dan Heilberg	03/30/11 1445	A. Freier	3-30-11 1445
Relinquished By/Removed From WCH	Date/Time 1000	Received By/Stored In	Date/Time
A. Freier	3-31-11	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
			4/1/11 830
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)

J01057

REVIEWED BY JEB
DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 314 Verification			DATA PACKAGE: J01057		
VALIDATOR: ELR		LAB: TAL		DATE: 5/9/11	
			SDG: J01057		
ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)
SAMPLES/MATRIX					
J1H0F9	J1H0J0	J1H0H1	J1H0H2	J1H0H3	
J1H0H4	J1H0H5	J1H0H6	J1H0H7	J1H0H8	
J1H0H9	J1H0J0	J1H0J1	J1H0J2		
					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 samples

no FD

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: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-60851

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-60851/1-A	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-60851	Lab File ID:	B4129.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	04/06/2011 1430	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.7	U	9.7	310
Acenaphthylene	16	U	16	310
Anthracene	16	U	16	310
Benzo[a]anthracene	19	U	19	310
Benzo[a]pyrene	19	U	19	310
Benzo[b]fluoranthene	25	U	25	310
Benzo[ghi]perylene	15	U	15	310
Benzo[k]fluoranthene	38	U	38	310
Bis(2-chloroethoxy)methane	22	U	22	310
Bis(2-chloroethyl)ether	16	U	16	310
bis (2-chloroisopropyl) ether	22	U	22	310
Bis(2-ethylhexyl) phthalate	76.6	J	43	310
4-Bromophenyl phenyl ether	18	U	18	310
Butyl benzyl phthalate	41	U	41	310
Carbazole	34	U	34	310
4-Chloroaniline	77	U	77	310
4-Chloro-3-methylphenol	62	U	62	310
2-Chloronaphthalene	9.4	U	9.4	310
2-Chlorophenol	20	U	20	310
4-Chlorophenyl phenyl ether	20	U	20	310
Chrysene	25	U	25	310
Dibenz(a,h)anthracene	18	U	18	310
Dibenzofuran	19	U	19	310
1,2-Dichlorobenzene	21	U	21	310
1,3-Dichlorobenzene	11	U	11	310
1,4-Dichlorobenzene	13	U	13	310
3,3'-Dichlorobenzidine	85	U	85	620
2,4-Dichlorophenol	9.4	U	9.4	310
Diethyl phthalate	25	U	25	310
2,4-Dimethylphenol	62	U	62	310
Dimethyl phthalate	22	U	22	310
Di-n-butyl phthalate	27	U	27	310
4,6-Dinitro-2-methylphenol	310	U	310	620
2,4-Dinitrophenol	310	U	310	780
2,4-Dinitrotoluene	62	U	62	310
2,6-Dinitrotoluene	26	U	26	310
Di-n-octyl phthalate	14	U	14	310
Fluoranthene	34	U	34	310
Fluorene	17	U	17	310
Hexachlorobenzene	27	U	27	310
Hexachlorobutadiene	9.4	U	9.4	310
Hexachlorocyclopentadiene	47	U	47	310
Hexachloroethane	20	U	20	310
Indeno[1,2,3-cd]pyrene	21	U	21	310
Isophorone	16	U	16	310

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-60851

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-60851/1-A	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-60851	Lab File ID:	B4129.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	04/06/2011 1430	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	18	U	18	310
2-Methylphenol	12	U	12	310
3 & 4 Methylphenol	31	U	31	310
Naphthalene	29	U	29	310
2-Nitroaniline	47	U	47	310
3-Nitroaniline	69	U	69	310
4-Nitroaniline	68	U	68	310
Nitrobenzene	21	U	21	310
2-Nitrophenol	9.4	U	9.4	310
4-Nitrophenol	92	U	92	620
N-Nitrosodi-n-propylamine	29	U	29	310
N-Nitrosodiphenylamine	20	U	20	310
Pentachlorophenol	310	U	310	620
Phenanthrene	16	U	16	310
Phenol	17	U	17	310
Pyrene	11	U	11	310
1,2,4-Trichlorobenzene	26	U	26	310
2,4,5-Trichlorophenol	9.4	U	9.4	310
2,4,6-Trichlorophenol	9.4	U	9.4	310

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	78	50 - 120
2-Fluorophenol	79	53 - 120
Nitrobenzene-d5	78	50 - 120
Phenol-d5	82	52 - 120
Terphenyl-d14	87	55 - 120
2,4,6-Tribromophenol	77	51 - 120

Method Blank TICs- Batch: 280-60851

Cas Number	Analyte	RT	Est. Result	Qual
2213-23-2	Heptane, 2,4-dimethyl-	3.09	229	N J
2216-30-0	Heptane, 2,5-dimethyl-	3.22	285	N J
1069-53-0	Hexane, 2,3,5-trimethyl-	3.03	167	N J
	Unknown	3.30	3490	N J

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Lab Control Sample - Batch: 280-60851

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-60851/2-A	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-60851	Lab File ID:	B4130.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.2 g
Analysis Date:	04/06/2011 1450	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2650	2130	81	52 - 120	
Anthracene	2650	2250	85	57 - 120	
Carbazole	2650	2240	85	54 - 120	
4-Chloro-3-methylphenol	2650	2180	82	57 - 120	
2-Chlorophenol	2650	2160	81	53 - 120	
1,4-Dichlorobenzene	2650	1930	73	46 - 120	
2,4-Dinitrotoluene	2650	2380	90	53 - 120	
2-Methylnaphthalene	2650	2070	78	55 - 120	
2-Methylphenol	2650	2050	78	51 - 120	
4-Nitrophenol	2650	2230	84	41 - 120	
N-Nitrosodi-n-propylamine	2650	1920	73	51 - 120	
Pentachlorophenol	2650	1770	67	30 - 120	
Phenol	2650	2130	80	54 - 120	
Pyrene	2650	2350	89	50 - 120	
1,2,4-Trichlorobenzene	2650	1890	71	50 - 120	
2,4,6-Trichlorophenol	2650	2240	84	50 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	77	50 - 120
2-Fluorophenol	76	53 - 120
Nitrobenzene-d5	76	50 - 120
Phenol-d5	78	52 - 120
Terphenyl-d14	84	55 - 120
2,4,6-Tribromophenol	77	51 - 120

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-60851

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-14127-10	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-60851	Lab File ID:	B4144.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	04/06/2011 1925			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-14127-10	Analysis Batch:	280-61113	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-60851	Lab File ID:	B4145.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.3 g
Analysis Date:	04/06/2011 1944			Final Weight/Volume:	1000 uL
Prep Date:	04/05/2011 2048			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	87	88	52 - 120	5	30		
Anthracene	92	94	57 - 120	4	30		
Carbazole	90	94	54 - 120	2	30		
4-Chloro-3-methylphenol	92	94	57 - 120	3	30		
2-Chlorophenol	85	85	53 - 120	6	30		
1,4-Dichlorobenzene	75	76	46 - 120	4	30		
2,4-Dinitrotoluene	94	96	53 - 120	3	30		
2-Methylnaphthalene	82	84	55 - 120	3	30		
2-Methylphenol	84	86	51 - 120	3	30		
4-Nitrophenol	90	88	41 - 120	8	30		
N-Nitrosodi-n-propylamine	74	76	51 - 120	2	30		
Pentachlorophenol	64	58	30 - 120	15	30		
Phenol	85	86	54 - 120	4	30		
Pyrene	101	100	50 - 120	6	38		
1,2,4-Trichlorobenzene	74	75	50 - 120	4	30		
2,4,6-Trichlorophenol	89	89	50 - 120	6	30		

Surrogate	MS % Rec	MSD % Rac	Acceptance Limits
2-Fluorobiphenyl	82	83	50 - 120
2-Fluorophenol	81	81	53 - 120
Nitrobenzene-d5	79	79	50 - 120
Phenol-d5	85	85	52 - 120
Terphenyl-d14	94	94	55 - 120
2,4,6-Tribromophenol	81	81	51 - 120

SEMIVOLATILE DATA QUALIFICATION SUMMARY*

SDG: J01057	**REVIEWER: ELR**	**Project: 314 Verification**	**QC Issue**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Bis(2-ethylhexyl)phthalate	U at RQL	All	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.

Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: Diesel range organics - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	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.

Due to matrix spike duplicate results outside QC limits (14% & 45%), all diesel range organic results were qualified as estimates and flagged "J".

All other 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

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.

Due to an RPD outside QC limits (36%), all C10-36 results were qualified as estimates and flagged "J".

All other laboratory results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1H0J2/J1H0H3) 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. J01057 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 matrix spike duplicate results outside QC limits (14% & 45%), all diesel range organic results were qualified as estimates and flagged "J".
- Due to an RPD outside QC limits (36%), all C10-36 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 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: J01057	**REVIEWER: ELR**	**Project: 314 Verification**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All	J	All	MSD recovery
C10-36	J	All	RPD

* - 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: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid % Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	007F0701.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/12/2011 1816			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1000	U J	1000	4200
C10-C28		710	U J	710	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	84		49 - 115

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid % Moisture: 3.5

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	008F0801.D
Dilution:	1.0			Initial Weight/Volume:	31.8 g
Analysis Date:	04/12/2011 1848			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		970	U J	970	3900
C10-C28		660	U J	660	3900

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	84		49 - 115

K
5/2/11

000012

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid

% Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	009F0901.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	04/12/2011 1921			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2700	J J	1000	4000
C10-C28		1100	J J	690	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	89		49 - 115

5/9/11

000013

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid
% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	010F1001.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	04/12/2011 1954			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1000	U J	1000	4000
C10-C28		690	U J	690	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	85		49 - 115

5/9/11

000014

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid % Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	011F1101.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	04/12/2011 2027			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1500	J J	1100	4200
C10-C28		720	U J	720	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	87		49 - 115

5/2/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	012F1201.D
Dilution:	1.0			Initial Weight/Volume:	32.1 g
Analysis Date:	04/12/2011 2059			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1100	J J	970	3900
C10-C28		730	J J	660	3900

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	86		49 - 115

5/6/11

000016

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	013F1301.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	04/12/2011 2132			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1000	U J	1000	4200
C10-C28		700	U J	700	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	86		49 - 115

5/9/11

000017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	014F1401.D
Dilution:	1.0			Initial Weight/Volume:	30.8 g
Analysis Date:	04/12/2011 2205			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2400	J	1000	4100
C10-C28		700	U	700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	88		49 - 115

5/9/11

000018

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	016F1601.D
Dilution:	1.0			Initial Weight/Volume:	31.3 g
Analysis Date:	04/12/2011 2310			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2400	J	1000	4200
C10-C28		740	J	700	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	90		49 - 115

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid % Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	017F1701.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	04/12/2011 2342			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		90000	N J	1100	4300
C10-C28		30000	N J	720	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	91		49 - 115

5/9/14

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid
% Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	020F2001.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Analysis Date:	04/13/2011 0121			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2000	J J	1100	4200
C10-C28		1200	J J	720	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	87		49 - 115

5/a/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid % Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	021F2101.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	04/13/2011 0154			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		17000	J	1100	4200
C10-C28		3400	J	720	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	88		49 - 115

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

% Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	022F2201.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	04/13/2011 0227			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1200	J J	1100	4300
C10-C28		730	U J	730	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	88		49 - 115

5/9/11

000023

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

% Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-61243	Lab File ID:	023F2301.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	04/13/2011 0300			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2800	J J	1000	4200
C10-C28		1400	J J	700	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	94		49 - 115

K
5/9/11

000024

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14127-1

SDG #: J01057
SAF#: RC-148

Date SDG Closed: April 1, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H0F9	280-14127-1	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H0	280-14127-2	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H1	280-14127-3	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H2	280-14127-4	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H3	280-14127-5	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H4	280-14127-6	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H5	280-14127-7	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H6	280-14127-8	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H7	280-14127-9	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H8	280-14127-10	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H9	280-14127-11	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J0	280-14127-12	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J1	280-14127-13	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J2	280-14127-14	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J3	280-14127-15	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 4/1/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4 C, 4.2 C and 2.7 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in samples J1H0H3 and J1H0J2 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".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the presence of high concentrations of target analytes, samples J1H0H6, J1H0H8 and J1H0J0 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.

Surrogate recoveries have been "D" flagged in samples J1H0H6, J1H0H8 and J1H0J0, as the recoveries obtained are calculated from a diluted sample and are not considered reliable.

Samples J1H0F9, J1H0H0, J1H0H1, J1H0H2, J1H0H3, J1H0H4, J1H0H5, J1H0H6, J1H0H7, J1H0H8, J1H0H9, J1H0J0, J1H0J1 and J1H0J2 required a sulfuric acid clean-up to reduce matrix interferences and Mercury clean-up to reduce matrix interferences caused by sulfur.

Samples J1H0F9, J1H0H7, J1H0H8, J1H0H9, J1H0J0 and J1H0J1 contained more than one Aroclor component. Results are estimated due to shared peaks.

Spike compound recoveries, RPD data and surrogate recoveries have been "D" flagged in the MS/MSD performed on sample J1H0H6, as the recoveries obtained are calculated from diluted samples and are not considered reliable. The acceptable LCS analysis data indicated that the analytical system was operating within control.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS/MSD performed on sample J1H0H8 exhibited percent recoveries outside the control limits for several compounds, and the associated sample results have been flagged "N". In addition, the RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A
Serial dilution of a digestate in batch 280-60621 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the high abundance of non-target analytes, the Beryllium, Cobalt, Copper, Iron, Lead, Silicon and Vanadium analysis of samples J1H0F9, J1H0H4, J1H0H5 and J1H0J2 had to be performed at a 5X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Chromium are present in the method blank associated with batch 280-60621. Because the concentration in the method blank is not present at levels greater than the reporting limit, corrective action is deemed unnecessary.

Silicon failed the recovery criteria low in the LCS associated with batch 280-60621, and the associated sample result has been flagged "N". Silicon is not controlled on for batch QC because there are not EPA prescribed limits for the LCS and MS recoveries. Limits are given to the client as guidance only; therefore, data are reported as is.

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 J1H0F9; therefore, control limits are not applicable.

Arsenic, Boron and Silicon were recovered outside the control limits in the SW846 6010B Matrix Spike analysis performed on sample J1H0F9, 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.

The SW846 6010B duplicate analysis of sample J1H0F9 exhibited RPD data outside the control limits for Silicon, and the associated sample result has been flagged "M". 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.

The SW846 7471A duplicate analysis of sample J1H0H5 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". 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.

GENERAL CHEMISTRY - SW846 9045C - PH
No anomalies were encountered.

3.4, 4.2, 2-7

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-023	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: 314 Verification		SAF No.: RC-148
Ice Chest No.: WCH-08-042	Field Logbook No.: EL-1395-18	COA: R302182000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7969 3631 4598

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive <DOT Limits JEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

620029

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0F9	SOIL	3/30/11	0930	X	X	X	X	X	X			
J1H0H0	SOIL	3/30/11	0925	X	X	X	X	X	X			
J1H0H1	SOIL	3/30/11	0940	X	X	X	X	X	X			
J1H0H2	SOIL	3/30/11	0950	X	X	X	X	X	X			
J1H0H3	SOIL	3/30/11	1010	X	X	X	X	X	X			

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 11:05	Dontie Delbergh	3/30/11 1105
Dontie Delbergh	3/30/11 1445	J.E. Beahl	3-30-11 1445
J.E. Beahl	WCH 3-31-11 1000	FED EX	
			4/1/11 830
			J01057

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)

REVIEWED BY AT DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-042	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive LDET Limits SEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D+	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0H4	SOIL	3/30/11	1000	X	X	X	X	X	X			
J1H0H5	SOIL	3/30/11	1015	X	X	X	X	X	X			
J1H0H6	SOIL	3/30/11	1025	X	X	X	X	X	X			
J1H0H7	SOIL	3/30/11	1030	X	X	X	X	X	X			
J1H0H8	SOIL	3/30/11	1040	X	X	X	X	X	X			

0000030

Page 2 of 3

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Don Heidelberg	3/30/11 1105
Don Heidelberg	3/30/11 1445	A. Freier	3-30-11 1445
A. Freier	3-31-11 1000	FED EX	
			4/1/11 830

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)

REVIEWED BY SEB DATE 3-31-11

J01057

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-148-023	Page 1 of 1
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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits At 3-30-1

Special Handling and/or Storage

Cool 4 degrees C

0000031

	Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
	Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
	No. of Container(s)	1	1	1	1	1	1	1			
	Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS		See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range -, WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time								
J1H0H9	SOIL	3/30/11	1045	X	X	X	X	X	X		
J1H0J0	SOIL	3/30/11	1050	X	X	X	X	X	X		
J1H0J1	SOIL	3/30/11	1055	X	X	X	X	X	X		
J1H0J2	SOIL	3/30/11	1010	X	X	X	X	X	X		
J1H0J3	SOIL	3/30/11	0915	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From Quincy Stowe	Date/Time 03/30/11 11:05	Received By/Stored In Dan Heidelberg for	Date/Time 1105 3/30/11
Relinquished By/Removed From Dan Heidelberg for	Date/Time 03/30/11 1445	Received By/Stored In A. Freier Q. Freier	Date/Time 1445 3-30-11
Relinquished By/Removed From WCH A. Freier Q. Freier	Date/Time 1000 3-31-11	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 4/11/11 830
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)

J01057

REVIEWED BY JEB DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

GENERAL ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	(C)	D	E
PROJECT: 314 Verification			DATA PACKAGE: J01057		
VALIDATOR: ELR		LAB: TAL		DATE: 5/9/11	
			SDG: J01057		
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX:					
J1H0F9	J1H0H0	J1H0H1	J1H0H2		
J1H0H3	J1H0H4	J1H0H5	J1H0H6		
J1H0H7	J1H0H8	J1H0H9	J1H0J0		
J1H0J1	J1H0J2				
				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: MSD – 14% +45% – 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: C10-C36 - RPD 362. - J all

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

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-61243

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-61243/1-A	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-61243	Lab File ID:	005F0501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	04/12/2011 1710	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	990	U	990	4000
C10-C28	670	U	670	4000

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	88	49 - 115

Lab Control Sample - Batch: 280-61243

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-61243/2-A	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-61243	Lab File ID:	006F0601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	04/12/2011 1743	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	63300	56700	90	57 - 115	
C10-C28	63300	56600	89	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	75	49 - 115

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-61243

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-14127-10	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-61243	Lab File ID:	018F1801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	04/13/2011 0015			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-14127-10	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-61243	Lab File ID:	019F1901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	04/13/2011 0048			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	77	14	57 - 115	36	23		N *
C10-C28	68	45	56 - 115	23	23		N

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	62	59	49 - 115

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-61243

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-14127-14	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-61243	Lab File ID:	024F2401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	04/13/2011 0334			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-14127-14	Analysis Batch:	280-62203	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-61243	Lab File ID:	025F2501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	04/13/2011 0406			Final Weight/Volume:	1000 uL
Prep Date:	04/07/2011 2215			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	78	80	57 - 115	3	23		
C10-C28	78	80	56 - 115	4	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	81	80	49 - 115

Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: Inorganics - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	Soil	C	See note 1
J1H0J3	3/30/11	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.

Due to method blank contamination, the chromium results in sample J1H0J3 was qualified as undetected and flagged "UJ".

All other preparation blank results were acceptable.

Field (Equipment) Blank

One field (equipment) blank (J1H0J3) was submitted for analysis. Aluminum, barium, calcium, cobalt, iron, lead, magnesium, manganese, 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 (43%) and silicon (2%) results were qualified as estimates and flagged "J".

Due to an LCS recovery outside QC limits, all silicon (7%) 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.

Due to an RPD outside QC limits (46%), all silicon results were qualified as estimates and flagged "J".

All laboratory duplicate results were acceptable.

Field Duplicate

One set of field duplicates (J1H0J2/J1H0H3) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. The RPD for silicon (57%) was outside QC limits. Under the WCH statement of work, no qualification is required. All other 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. J01057 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 method blank contamination, the chromium results in sample J1H0J3 was qualified as undetected and flagged "UJ".
- Due to a matrix spike recovery outside QC limits, all antimony (43%) and silicon (2%) results were qualified as estimates and flagged "J".
- Due to an LCS recovery outside QC limits, all silicon (7%) results were qualified as estimates and flagged "J".
- Due to an RPD outside QC limits (46%), all silicon 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: J01057	**REVIEWER: ELR**	**Project: 314 Verification**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Chromium	UJ	J1H0J3	Method blank contamination
Antimony Silicon	J	All	MS recovery
Silicon	J	All	LCS recovery
Silicon	J	All	RPD

* - 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: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid % Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.09 g
Analysis Date:	04/11/2011 2020			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6540		1.5	4.9
Antimony		0.37	U J	0.37	0.59
Arsenic		2.7	N	0.65	0.98
Barium		73.5		0.074	0.49
Boron		0.96	U N	0.96	2.0
Cadmium		0.055	B	0.040	0.20
Calcium		5940	X	13.8	49.0
Chromium		6.5	X	0.057	0.20
Lithium		6.6		0.29	2.4
Magnesium		4110	X	3.6	19.6
Manganese		330	X	0.098	0.98
Molybdenum		0.25	U	0.25	2.0
Nickel		8.8	X	0.12	3.9
Potassium		1080		40.2	294
Selenium		0.84	U	0.84	0.98
Silver		0.16	U	0.16	0.20
Sodium		239		57.8	118
Zinc		51.0	X	0.39	0.98

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	1.09 g
Analysis Date:	04/12/2011 1857			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.16	U	0.16	0.98
Cobalt		10.5		0.49	4.9
Copper		18.8		1.1	4.9
Iron		26200		18.6	24.5
Lead		4.6		1.3	2.4
Silicon		368	N M J	27.7	49.0
Vanadium		69.8		0.46	9.8

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	167AREF D
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	04/14/2011 0241			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		22.3		0.0015	0.097

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.67 g
Analysis Date:	04/05/2011 1904			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.030		0.0053	0.016

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

% Moisture: 3.5

5/9/11

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	04/11/2011 2029			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5220		1.5	4.8
Antimony		0.36	U J	0.36	0.58
Arsenic		1.9		0.63	0.96
Barium		67.9		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		4550	X	13.5	48.0
Chromium		4.9	X	0.056	0.19
Cobalt		8.1		0.096	0.96
Copper		13.5		0.21	0.96
Lithium		5.3		0.29	2.4
Magnesium		3550	X	3.5	19.2
Manganese		292	X	0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		6.8	X	0.12	3.8
Potassium		689		39.3	288
Selenium		0.82	U	0.82	0.96
Silver		0.15	U	0.15	0.19
Sodium		291		56.6	115
Vanadium		58.5		0.090	1.9
Zinc		38.1	X	0.38	0.96

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	04/12/2011 1906			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		20600		3.6	4.8
Lead		2.2		0.26	0.48
Silicon		207	N J	5.4	9.6

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	174SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	04/14/2011 0300			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		1.1		0.0014	0.089

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

% Moisture: 3.5

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Analysis Date:	04/05/2011 1906			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0055	U	0.0055	0.017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid

% Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	04/11/2011 2032			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6010		1.6	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		2.9		0.66	1.0
Barium		79.0		0.077	0.50
Beryllium		0.033	U	0.033	0.20
Boron		0.99	U	0.99	2.0
Cadmium		0.049	B	0.041	0.20
Calcium		7840	X	14.2	50.4
Chromium		7.0	X	0.058	0.20
Cobalt		8.2		0.10	1.0
Copper		17.1		0.22	1.0
Lithium		6.7		0.30	2.5
Magnesium		3900	X	3.7	20.1
Manganese		303	X	0.10	1.0
Molybdenum		0.48	B	0.26	2.0
Nickel		11.1	X	0.12	4.0
Potassium		811		41.3	302
Selenium		0.87	U	0.87	1.0
Silver		0.16	U	0.16	0.20
Sodium		236		59.4	121
Vanadium		57.1		0.095	2.0
Zinc		38.6	X	0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	04/12/2011 1909			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		22000		3.8	5.0
Lead		3.2		0.27	0.50
Silicon		285	N J	5.7	10.1

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	175SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/14/2011 0303			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		2.4		0.0016	0.10

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid

% Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.69 g
Analysis Date:	04/05/2011 1908			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0077	B	0.0051	0.016

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	04/11/2011 2034			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6270		1.5	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		2.7		0.66	0.99
Barium		80.3		0.075	0.50
Beryllium		0.033	U	0.033	0.20
Boron		0.97	U	0.97	2.0
Cadmium		0.041	U	0.041	0.20
Calcium		6580	X	14.0	49.6
Chromium		7.2	X	0.058	0.20
Cobalt		8.9		0.099	0.99
Copper		14.6		0.22	0.99
Lithium		6.2		0.30	2.5
Magnesium		4110	X	3.7	19.9
Manganese		316	X	0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		8.3	X	0.12	4.0
Potassium		885		40.7	298
Selenium		0.85	U	0.85	0.99
Silver		0.16	U	0.16	0.20
Sodium		262		58.6	119
Vanadium		64.9		0.093	2.0
Zinc		42.8	X	0.40	0.99

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	04/12/2011 1911			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		22800		3.8	5.0
Lead		2.8		0.27	0.50
Silicon		292	N J	5.6	9.9

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	176SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	04/14/2011 0306			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		2.5		0.0015	0.097

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.61 g
Analysis Date:	04/05/2011 1911			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0068	B	0.0057	0.017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid % Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	04/11/2011 2037			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7720		1.6	5.1
Antimony		0.39	U J	0.39	0.62
Arsenic		3.3		0.68	1.0
Barium		99.6		0.078	0.51
Beryllium		0.034	U	0.034	0.21
Boron		1.0	U	1.0	2.1
Cadmium		0.060	B	0.042	0.21
Calcium		6210	X	14.5	51.4
Chromium		8.4	X	0.060	0.21
Cobalt		9.7		0.10	1.0
Copper		17.4		0.22	1.0
Lithium		8.0		0.31	2.6
Magnesium		4610	X	3.8	20.6
Manganese		372	X	0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		10.5	X	0.13	4.1
Potassium		1210		42.1	308
Selenium		0.88	U	0.88	1.0
Silver		0.16	U	0.16	0.21
Sodium		199		60.6	123
Vanadium		69.3		0.097	2.1
Zinc		51.9	X	0.41	1.0

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	04/12/2011 1914			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		25500		3.9	5.1
Lead		4.6		0.28	0.51
Silicon		272	N J	5.8	10.3

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	177SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	04/14/2011 0309			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		7.0		0.0015	0.097

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.69 g
Analysis Date:	04/05/2011 1913			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0084	B	0.0052	0.016

Client: Washington Closure Hanford

5/9/11

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.09 g
Analysis Date:	04/11/2011 2048			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4450		1.5	4.8
Antimony		0.36	U J	0.38	0.57
Arsenic		2.1		0.63	0.96
Barium		61.2		0.073	0.48
Boron		0.94	U	0.94	1.9
Cadmium		0.039	U	0.039	0.19
Calcium		5350	X	13.5	47.9
Chromium		5.6	X	0.056	0.19
Lithium		4.2		0.29	2.4
Magnesium		3800	X	3.5	19.1
Manganese		292	X	0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		7.5	X	0.12	3.8
Potassium		658		39.2	287
Selenium		0.82	U	0.82	0.96
Silver		0.15	U	0.15	0.19
Sodium		202		56.5	115
Zinc		44.1	X	0.38	0.96

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	1.09 g
Analysis Date:	04/12/2011 1926			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.16	U	0.16	0.96
Cobalt		11.0		0.48	4.8
Copper		16.7		1.0	4.8
Iron		26900		18.2	23.9
Lead		2.1	B	1.3	2.4
Silicon		156	N J	27.1	47.9
Vanadium		87.1		0.45	9.6

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	178SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.20 g
Analysis Date:	04/14/2011 0311			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		1.6		0.0014	0.087

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Analysis Date:	04/05/2011 1915			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0052	U	0.0052	0.016

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid % Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/11/2011 2051			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6880		1.6	5.1
Antimony		0.38	U J	0.38	0.61
Arsenic		3.0		0.67	1.0
Barium		79.6		0.077	0.51
Boron		0.99	U	0.99	2.0
Cadmium		0.041	U	0.041	0.20
Calcium		6650	X	14.3	50.6
Chromium		7.5	X	0.059	0.20
Lithium		7.0		0.30	2.5
Magnesium		4530	X	3.7	20.2
Manganese		362	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		10.6	X	0.12	4.0
Potassium		842		41.5	303
Selenium		0.87	U	0.87	1.0
Silver		0.16	U	0.16	0.20
Sodium		229		59.7	121
Zinc		46.3	X	0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/12/2011 1928			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.17	U	0.17	1.0
Cobalt		11.9		0.51	5.1
Copper		19.1		1.1	5.1
Iron		28700		19.2	25.3
Lead		3.3		1.4	2.5
Silicon		186	N J	28.6	50.6
Vanadium		83.5		0.48	10.1

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	179SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	04/14/2011 0314			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		4.0		0.0016	0.10

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Analysis Date:	04/05/2011 1922			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.023	M	0.0054	0.017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	04/11/2011 2053			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7050		1.5	4.7
Antimony		0.36	U J	0.36	0.57
Arsenic		2.9		0.62	0.94
Barium		89.2		0.072	0.47
Beryllium		0.031	U	0.031	0.19
Boron		0.92	U	0.92	1.9
Cadmium		0.077	B	0.039	0.19
Calcium		6120	X	13.3	47.1
Chromium		8.8	X	0.055	0.19
Cobalt		7.7		0.094	0.94
Copper		66.5		0.20	0.94
Lithium		7.1		0.28	2.4
Magnesium		4070	X	3.5	18.8
Manganese		335	X	0.094	0.94
Molybdenum		0.24	U	0.24	1.9
Nickel		10.2	X	0.12	3.8
Potassium		1270		38.6	283
Selenium		0.81	U	0.81	0.94
Silver		0.15	U	0.15	0.19
Sodium		239		55.6	113
Vanadium		56.0		0.089	1.9
Zinc		45.9	X	0.38	0.94

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	04/12/2011 1930			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		20700		3.6	4.7
Lead		4.6		0.25	0.47
Silicon		249	N J	5.3	9.4

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	180SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	04/14/2011 0317			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		5.8		0.0016	0.10

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

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Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	04/05/2011 1929			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.014	B	0.0055	0.017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	04/11/2011 2056			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7080		1.6	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		2.9		0.66	1.0
Barium		85.1		0.076	0.50
Beryllium		0.033	U	0.033	0.20
Boron		0.98	U	0.98	2.0
Cadmium		0.080	B	0.041	0.20
Calcium		6520	X	14.2	50.2
Chromium		8.4	X	0.058	0.20
Cobalt		8.6		0.10	1.0
Copper		15.8		0.22	1.0
Lithium		7.7		0.30	2.5
Magnesium		4440	X	3.7	20.1
Manganese		346	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		10.2	X	0.12	4.0
Potassium		1170		41.2	301
Selenium		0.86	U	0.86	1.0
Silver		0.16	U	0.16	0.20
Sodium		192		59.2	120
Vanadium		64.0		0.094	2.0
Zinc		45.1	X	0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	04/12/2011 1933			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		22700		3.8	5.0
Lead		3.6		0.27	0.50
Silicon		317	N J	5.7	10.0

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	183SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	04/14/2011 0325			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		19.0		0.0015	0.098

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.69 g
Analysis Date:	04/05/2011 1932			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0099	B	0.0052	0.016

Client: Washington Closure Hanford

5/9/11

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid % Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/11/2011 2058			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7450		1.6	5.3
Antimony		0.40	U J	0.40	0.63
Arsenic		2.8		0.69	1.1
Barium		195		0.080	0.53
Beryllium		0.035	U	0.035	0.21
Boron		2.3		1.0	2.1
Cadmium		0.16	B	0.043	0.21
Calcium		26300	X	14.8	52.5
Chromium		11.0	X	0.061	0.21
Cobalt		6.6		0.11	1.1
Copper		14.7		0.23	1.1
Lithium		6.9		0.32	2.6
Magnesium		3510	X	3.9	21.0
Manganese		294	X	0.11	1.1
Molybdenum		0.27	B	0.27	2.1
Nickel		9.6	X	0.13	4.2
Potassium		1480		43.1	315
Selenium		0.90	U	0.90	1.1
Silver		0.17	U	0.17	0.21
Sodium		314		62.0	126
Vanadium		54.1		0.099	2.1
Zinc		59.8	X	0.42	1.1

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/12/2011 1936			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		17900		4.0	5.3
Lead		15.8		0.28	0.53
Silicon		249	N J	5.9	10.5

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	184SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/14/2011 0328			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		7.9		0.0016	0.11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

% Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.61 g
Analysis Date:	04/05/2011 1934			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.15		0.0059	0.018

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

% Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	04/11/2011 2101			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5480		1.4	4.6
Antimony		0.35	U J	0.35	0.56
Arsenic		2.3		0.61	0.93
Barium		57.6		0.070	0.46
Beryllium		0.031	U	0.031	0.19
Boron		0.91	U	0.91	1.9
Cadmium		0.042	B	0.038	0.19
Calcium		6730	X	13.1	46.4
Chromium		7.9	X	0.054	0.19
Cobalt		8.8		0.093	0.93
Copper		13.8		0.20	0.93
Lithium		5.5		0.28	2.3
Magnesium		4250	X	3.4	18.5
Manganese		289	X	0.093	0.93
Molybdenum		0.24	U	0.24	1.9
Nickel		9.5	X	0.11	3.7
Potassium		913		38.0	278
Selenium		0.80	U	0.80	0.93
Silver		0.15	U	0.15	0.19
Sodium		213		54.7	111
Vanadium		65.1		0.087	1.9
Zinc		40.5	X	0.37	0.93

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	04/12/2011 1938			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		21500		3.5	4.6
Lead		2.4		0.25	0.46
Silicon		217	N J	5.2	9.3

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	185SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	04/14/2011 0331			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		2.8		0.0015	0.093

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

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Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

% Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	04/05/2011 1936			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0065	B	0.0056	0.017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

K 5/9/11

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	04/11/2011 2103			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6560		1.4	4.6
Antimony		0.35	U J	0.35	0.56
Arsenic		2.5		0.61	0.93
Barium		79.4		0.070	0.46
Beryllium		0.031	U	0.031	0.19
Boron		0.91	U	0.91	1.9
Cadmium		0.082	B	0.038	0.19
Calcium		5600	X	13.1	46.3
Chromium		8.3	X	0.054	0.19
Cobalt		7.6		0.093	0.93
Copper		13.4		0.20	0.93
Lithium		7.0		0.28	2.3
Magnesium		3960	X	3.4	18.5
Manganese		331	X	0.093	0.93
Molybdenum		0.25	B	0.24	1.9
Nickel		8.9	X	0.11	3.7
Potassium		1290		38.0	278
Selenium		0.80	U	0.80	0.93
Silver		0.15	U	0.15	0.19
Sodium		194		54.7	111
Vanadium		54.6		0.087	1.9
Zinc		47.3	X	0.37	0.93

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	04/12/2011 1941			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		20200		3.5	4.6
Lead		5.6		0.25	0.46
Silicon		272	N J	5.2	9.3

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	186SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	04/14/2011 0333			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		5.1		0.0016	0.10

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/2/11

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.61 g
Analysis Date:	04/05/2011 1938			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.019		0.0058	0.018

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

% Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	04/11/2011 2106			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7510		1.5	5.0
Antimony		0.38	U J	0.38	0.59
Arsenic		2.8		0.65	0.99
Barium		105		0.075	0.50
Beryllium		0.033	U	0.033	0.20
Boron		1.1	B	0.97	2.0
Cadmium		0.21		0.041	0.20
Calcium		5860	X	14.0	49.5
Chromium		8.9	X	0.057	0.20
Cobalt		7.6		0.099	0.99
Copper		12.6		0.22	0.99
Lithium		7.9		0.30	2.5
Magnesium		3950	X	3.7	19.8
Manganese		327	X	0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		9.5	X	0.12	4.0
Potassium		1580		40.6	297
Selenium		0.85	U	0.85	0.99
Silver		0.16	U	0.16	0.20
Sodium		251		58.5	119
Vanadium		52.7		0.093	2.0
Zinc		49.1	X	0.39	0.99

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	04/12/2011 1943			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		20400		3.8	5.0
Lead		5.5		0.27	0.50
Silicon		320	N J	5.6	9.9

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	187SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	04/14/2011 0336			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		15.0		0.0016	0.10

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

% Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Analysis Date:	04/05/2011 1941			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0070	B	0.0056	0.017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

5/9/11

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid % Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Analysis Date:	04/11/2011 2108			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7400		1.6	5.3
Antimony		0.40	U J	0.40	0.64
Arsenic		2.8		0.70	1.1
Barium		96.3		0.081	0.53
Boron		1.0	U	1.0	2.1
Cadmium		0.066	B	0.044	0.21
Calcium		6070	X	15.0	53.1
Chromium		8.2	X	0.062	0.21
Lithium		7.6		0.32	2.7
Magnesium		4450	X	3.9	21.2
Manganese		349	X	0.11	1.1
Molybdenum		0.28	U	0.28	2.1
Nickel		11.5	X	0.13	4.2
Potassium		1090		43.5	319
Selenium		0.91	U	0.91	1.1
Silver		0.17	U	0.17	0.21
Sodium		209		62.7	127
Zinc		48.6	X	0.42	1.1

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	1.01 g
Analysis Date:	04/12/2011 1946			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.18	U	0.18	1.1
Cobalt		11.6		0.53	5.3
Copper		19.5		1.2	5.3
Iron		28800		20.2	26.5
Lead		5.9		1.4	2.7
Silicon		492	N J	30.1	53.1
Vanadium		82.7		0.50	10.6

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	188SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	04/14/2011 0339			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		7.8		0.0016	0.099

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

% Moisture: 6.8

5/9/11

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.69 g
Analysis Date:	04/05/2011 1943			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0083	B	0.0052	0.016

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J3

Lab Sample ID: 280-14127-15
Client Matrix: Solid % Moisture: 0.1

Date Sampled: 03/30/2011 0915
Date Received: 04/01/2011 0830

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-61751	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	04/11/2011 2110			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		172		1.3	4.3
Antimony		0.33	U J	0.33	0.52
Arsenic		0.57	U	0.57	0.86
Barium		2.2		0.066	0.43
Beryllium		0.028	U	0.028	0.17
Boron		0.85	U	0.85	1.7
Cadmium		0.035	U	0.035	0.17
Calcium		40.2	B X	12.2	43.1
Chromium		0.12	B X C UJ	0.050	0.17
Cobalt		0.10	B	0.086	0.86
Copper		0.19	U	0.19	0.86
Lithium		0.26	U	0.26	2.2
Magnesium		22.9	X	3.2	17.3
Manganese		5.5	X	0.086	0.86
Molybdenum		0.22	U	0.22	1.7
Nickel		0.11	U X	0.11	3.5
Potassium		49.2	B	35.4	259
Selenium		0.74	U	0.74	0.86
Silver		0.14	U	0.14	0.17
Sodium		50.9	U	50.9	104
Vanadium		0.30	B	0.081	1.7
Zinc		1.0	X	0.34	0.86

Analysis Method:	6010B	Analysis Batch:	280-61968	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	04/12/2011 1948			Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Iron		216		3.3	4.3
Lead		0.37	B	0.23	0.43
Silicon		111	N J	4.9	8.6

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	280-62300	Instrument ID:	MT_024
Prep Method:	3050B	Prep Batch:	280-60622	Lab File ID:	189SMPL.D
Dilution:	1.0			Initial Weight/Volume:	1.09 g
Analysis Date:	04/14/2011 0342			Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Uranium		0.17		0.0014	0.092

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J3

Lab Sample ID: 280-14127-15
Client Matrix: Solid

% Moisture: 0.1

Date Sampled: 03/30/2011 0915
Date Received: 04/01/2011 0830

6020 Metals (ICP/MS)

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	04/05/2011 1950			Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0052	U	0.0052	0.016

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14127-1

SDG #: J01057
SAF#: RC-148

Date SDG Closed: April 1, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H0F9	280-14127-1	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H0	280-14127-2	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H1	280-14127-3	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H2	280-14127-4	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H3	280-14127-5	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H4	280-14127-6	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H5	280-14127-7	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H6	280-14127-8	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H7	280-14127-9	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H8	280-14127-10	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H9	280-14127-11	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J0	280-14127-12	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J1	280-14127-13	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J2	280-14127-14	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J3	280-14127-15	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 appropnate.

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 4/1/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4 C, 4.2 C and 2.7 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in samples J1H0H3 and J1H0J2 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".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the presence of high concentrations of target analytes, samples J1H0H6, J1H0H8 and J1H0J0 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.

Surrogate recoveries have been "D" flagged in samples J1H0H6, J1H0H8 and J1H0J0, as the recoveries obtained are calculated from a diluted sample and are not considered reliable.

Samples J1H0F9, J1H0H0, J1H0H1, J1H0H2, J1H0H3, J1H0H4, J1H0H5, J1H0H6, J1H0H7, J1H0H8, J1H0H9, J1H0J0, J1H0J1 and J1H0J2 required a sulfuric acid clean-up to reduce matrix interferences and Mercury clean-up to reduce matrix interferences caused by sulfur.

Samples J1H0F9, J1H0H7, J1H0H8, J1H0H9, J1H0J0 and J1H0J1 contained more than one Aroclor component. Results are estimated due to shared peaks.

Spike compound recoveries, RPD data and surrogate recoveries have been "D" flagged in the MS/MSD performed on sample J1H0H6, as the recoveries obtained are calculated from diluted samples and are not considered reliable. The acceptable LCS analysis data indicated that the analytical system was operating within control.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS/MSD performed on sample J1H0H8 exhibited percent recoveries outside the control limits for several compounds, and the associated sample results have been flagged "N". In addition, the RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A
Serial dilution of a digestate in batch 280-60621 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the high abundance of non-target analytes, the Beryllium, Cobalt, Copper, Iron, Lead, Silicon and Vanadium analysis of samples J1H0F9, J1H0H4, J1H0H5 and J1H0J2 had to be performed at a 5X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Chromium are present in the method blank associated with batch 280-60621. Because the concentration in the method blank is not present at levels greater than the reporting limit, corrective action is deemed unnecessary.

Silicon failed the recovery criteria low in the LCS associated with batch 280-60621, and the associated sample result has been flagged "N". Silicon is not controlled on for batch QC because there are not EPA prescribed limits for the LCS and MS recoveries. Limits are given to the client as guidance only; therefore, data are reported as is.

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 J1H0F9; therefore, control limits are not applicable.

Arsenic, Boron and Silicon were recovered outside the control limits in the SW846 6010B Matrix Spike analysis performed on sample J1H0F9, 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.

The SW846 6010B duplicate analysis of sample J1H0F9 exhibited RPD data outside the control limits for Silicon, and the associated sample result has been flagged "M". 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.

The SW846 7471A duplicate analysis of sample J1H0H5 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". 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.

GENERAL CHEMISTRY - SW846 9045C - PH

No anomalies were encountered.

3.4, 4.2, 2.7

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-023	Page 1 of 1

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: 314 Verification		SAF No.: RC-148
Ice Chest No.: WCH-08-047	Field Logbook No.: EL-1395-18	COA: R302182000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver OH 3/29/11	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7969 3631 4598

POSSIBLE SAMPLE HAZARDS/REMARKS
Potential Radioactive <DOT Limits JEG 3-30-11

Special Handling and/or Storage
Cool ~~degrees~~ C

000044

SAMPLE ANALYSIS	Preservation	Type of Container	No. of Container(s)	Volume	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
	Cool 4C	G/P	1	60mL										
	None	G/P	1	60mL										
	Cool 4C	aG	1	120mL										
	Cool 4C	aG	1	120mL										
	Cool 4C	aG	1	120mL										
	Cool 4C	aG	1	120mL										
	None	G/P	1	60mL										

Sample No.	Matrix *	Sample Date	Sample Time										
J1H0F9	SOIL	3/30/11	0930	X	X	X	X	X	X				
J1H0H0	SOIL	3/30/11	0925	X	X	X	X	X	X				
J1H0H1	SOIL	3/30/11	0940	X	X	X	X	X	X				
J1H0H2	SOIL	3/30/11	0950	X	X	X	X	X	X				
J1H0H3	SOIL	3/30/11	1010	X	X	X	X	X	X				

Page 1 of 2

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 11:05	Dontie Delbergh	3/30/11 1105
Dontie Delbergh	3/30/11 1445	J.E. Beebe	3-30-11 1445
J.E. Beebe WCH	3-31-11 1000	FED EX	
			3/31/11 830

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)

J01057

REVIEWED BY AT DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-042	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, Richland DH 3/29/11 Denver	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits SEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

000045

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time							
J1H0H4	SOIL	3/30/11	1000	X	X	X	X	X	X	
J1H0H5	SOIL	3/30/11	1015	X	X	X	X	X	X	
J1H0H6	SOIL	3/30/11	1025	X	X	X	X	X	X	
J1H0H7	SOIL	3/30/11	1030	X	X	X	X	X	X	
J1H0H8	SOIL	3/30/11	1040	X	X	X	X	X	X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From / Date/Time	Received By/Stored In / Date/Time		
Quincy Stowe 03/30/11 1105	Don Heidelberg 3/30/11 1105		
Relinquished By/Removed From / Date/Time	Received By/Stored In / Date/Time		
Don Heidelberg 3/30/11 1445	A. Frier 3-30-11 1445		
Relinquished By/Removed From / Date/Time	Received By/Stored In / Date/Time		
A. Frier 3-31-11 WCH 1000	FED EX		
Relinquished By/Removed From / Date/Time	Received By/Stored In / Date/Time		
	4/11/11 810		
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)

J01057

REVIEWED BY SEB DATE 3-31-11

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-148-023	Page 1 of 1
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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive LDOT Limits At 9-30-1

Special Handling and/or Storage

Cool 4 degrees C

0000046

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D+	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time							
J1H0H9	SOIL	3/30/11	1045	X	X	X	X	X	X	
J1H0J0	SOIL	3/30/11	1050	X	X	X	X	X	X	
J1H0J1	SOIL	3/30/11	1055	X	X	X	X	X	X	
J1H0J2	SOIL	3/30/11	1010	X	X	X	X	X	X	
J1H0J3	SOIL	3/30/11	0915	X						

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Quincy Stowe — Date/Time: 03/30/11 11:05	Received By/Stored In: Dottie Ostberg — Date/Time: 3/30/11 1105	
Relinquished By/Removed From: Dottie Ostberg — Date/Time: 03/30/11 1445	Received By/Stored In: A. Freier A. Freier — Date/Time: 3-30-11 1445	
Relinquished By/Removed From: WCH A. Freier A. Freier 3-31-11 — Date/Time: 1000	Received By/Stored In: FED EX — Date/Time:	
Relinquished By/Removed From — Date/Time:	Received By/Stored In — Date/Time: 4/1/11 830	
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)

J01057

REVIEWED BY DEB DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 314 Verification			DATA PACKAGE: J01057		
VALIDATOR: ELR		LAB: TAL		DATE: 5/8/11	
			SDG: J01057		
ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide		
SAMPLES/MATRIX					
J1H0F9	J1H0H0	J1H0H1	J1H0H2	J1H0H3	
J1H0H4	J1H0H5	J1H0H6	J1H0H7	J1H0H8	
J1H0H9	J1H0J0	J1H0J1	J1H0J2	J1H0J3	
				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: MB - Chromium - J3

FB - 13 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 - silicon 7% - J all
MS - antimony (43%) silicon (27%) - J all

no Pots

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: Silicon - 46% - J cell

FD Silica - 52%

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: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-60621/1-A	Analysis Batch:	280-61751	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/11/2011 2015	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
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	0.0690	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
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
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

Method Blank - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-60621/1-A	Analysis Batch:	280-61968	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/12/2011 1853	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Silicon	5.7	U	5.7	10.0

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Lab Control Sample - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-60621/2-A	Analysis Batch:	280-61751	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/11/2011 2018	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	167.8	84	82 - 116	
Antimony	50.0	44.83	90	82 - 110	
Arsenic	100	85.60	86	85 - 110	
Barium	200	197.6	99	87 - 112	
Beryllium	5.00	4.35	87	84 - 114	
Boron	100	85.06	85	81 - 110	
Cadmium	10.0	9.38	94	87 - 110	
Calcium	5000	4476	90	82 - 114	
Chromium	20.0	18.97	95	84 - 114	
Cobalt	50.0	45.31	91	87 - 110	
Copper	25.0	22.00	88	88 - 110	
Lithium	100	95.95	96	90 - 110	
Magnesium	5000	4540	91	90 - 110	
Manganese	50.0	48.69	97	88 - 110	
Molybdenum	100	97.52	98	86 - 110	
Nickel	50.0	45.49	91	87 - 110	
Potassium	5000	4912	98	89 - 110	
Selenium	200	182.7	91	83 - 110	
Silver	5.00	5.08	102	87 - 114	
Sodium	5000	4968	99	90 - 112	
Vanadium	50.0	49.02	98	88 - 110	
Zinc	50.0	45.66	91	76 - 114	

Lab Control Sample - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-60621/2-A	Analysis Batch:	280-61968	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/12/2011 1855	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Iron	100	90.41	90	87 - 120	
Lead	50.0	45.07	90	86 - 110	
Silicon	1000	70.58	7	10 - 70	N

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Matrix Spike - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14127-1	Analysis Batch:	280-61751	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.12 g
Analysis Date:	04/11/2011 2027	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	6540		191	8728	1147	50 - 200	4
Antimony	0.37	U	47.7	20.71	43	20 - 200	
Arsenic	2.7		95.3	71.62	72	76 - 111	N
Barium	73.5		191	259.3	97	52 - 159	
Boron	0.96	U	95.3	69.54	73	75 - 107	N
Cadmium	0.055	B	9.53	8.20	85	40 - 130	
Calcium	5940		4770	11850	124	43 - 165	
Chromium	6.5		19.1	25.92	102	70 - 200	
Lithium	6.6		95.3	92.61	90	84 - 109	
Magnesium	4110		4770	8962	102	64 - 145	
Manganese	330		47.7	440.7	233	40 - 200	4
Molybdenum	0.25	U	95.3	78.41	82	75 - 103	
Nickel	8.8		47.7	48.84	84	61 - 126	
Potassium	1080		4770	5694	97	56 - 172	
Selenium	0.84	U	191	149.3	78	76 - 104	
Silver	0.16	U	4.77	4.49	94	75 - 141	
Sodium	239		4770	4782	95	78 - 111	
Zinc	51.0		47.7	95.07	93	70 - 200	

Matrix Spike - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14127-1	Analysis Batch:	280-61968	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	1.12 g
Analysis Date:	04/12/2011 1904	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	0.16	U	4.77	4.42	93	72 - 105	
Cobalt	10.5		47.7	57.27	98	72 - 106	
Copper	18.8		23.8	41.20	94	37 - 187	
Iron	26200		95.3	30200	4159	70 - 200	4
Lead	4.6		47.7	49.82	95	70 - 200	
Silicon	368		953	392.2	2	20 - 200	N
Vanadium	69.8		47.7	129.9	126	50 - 169	

000056

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Duplicate - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14127-1	Analysis Batch:	280-61751	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	25A5041111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.07 g
Analysis Date:	04/11/2011 2024	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	6540		7824	18	40	
Antimony	0.37	U	0.38	NC	40	U
Arsenic	2.7		2.82	5	30	
Barium	73.5		87.67	18	30	
Boron	0.96	U	0.98	NC	30	U
Cadmium	0.055	B	0.0509	7	30	B
Calcium	5940		6984	16	30	
Chromium	6.5		8.88	31	40	
Lithium	6.6		7.79	17	30	
Magnesium	4110		4582	11	30	
Manganese	330		355.7	8	40	
Molybdenum	0.25	U	0.26	NC	30	U
Nickel	8.8		10.45	18	30	
Potassium	1080		1344	21	40	
Selenium	0.84	U	0.86	NC	30	U
Silver	0.16	U	0.16	NC	30	U
Sodium	239		305.3	25	30	
Zinc	51.0		54.85	7	40	

Duplicate - Batch: 280-60621

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14127-1	Analysis Batch:	280-61968	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-60621	Lab File ID:	N/A
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	1.07 g
Analysis Date:	04/12/2011 1902	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/11/2011 0930				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Beryllium	0.16	U	0.16	NC	30	U
Cobalt	10.5		11.16	6	30	
Copper	18.8		19.03	1	30	
Iron	26200		27820	6	40	
Lead	4.6		5.27	14	40	
Silicon	368		230.5	46	40	N M
Vanadium	69.8		73.75	6	30	

000057

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-60622

Method: 6020
Preparation: 3050B

Lab Sample ID:	MB 280-60622/1-A	Analysis Batch:	280-62300	Instrument ID:	MT_024
Client Matrix:	Solid	Prep Batch:	280-60622	Lab File ID:	165_BLK.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/14/2011 0236	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Uranium	0.00812	B	0.0016	0.10

Lab Control Sample - Batch: 280-60622

Method: 6020
Preparation: 3050B

Lab Sample ID:	LCS 280-60622/2-A	Analysis Batch:	280-62300	Instrument ID:	MT_024
Client Matrix:	Solid	Prep Batch:	280-60622	Lab File ID:	166_LCS.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/14/2011 0238	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Uranium	20.0	20.45	102	85 - 123	

Matrix Spike - Batch: 280-60622

Method: 6020
Preparation: 3050B

Lab Sample ID:	280-14127-1	Analysis Batch:	280-62300	Instrument ID:	MT_024
Client Matrix:	Solid	Prep Batch:	280-60622	Lab File ID:	171_MS.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.18 g
Analysis Date:	04/14/2011 0252	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Uranium	22.3	18.1	41.77	108	85 - 123	

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Duplicate - Batch: 280-60622

Method: 6020
Preparation: 3050B

Lab Sample ID:	280-14127-1	Analysis Batch:	280-62300	Instrument ID:	MT_024
Client Matrix:	Solid	Prep Batch:	280-60622	Lab File ID:	170_DU.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.09 g
Analysis Date:	04/14/2011 0249	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/13/2011 0800				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Uranium	22.3	21.64	3	20	

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-60728

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-60728/1-A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	04/05/2011 1859	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-60728

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-60728/2-A	Analysis Batch:	280-61031	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	04/05/2011 1902	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.407	98	87 - 111	

Matrix Spike - Batch: 280-60728

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-14127-7	Analysis Batch:	280-61031	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.64 g
Analysis Date:	04/05/2011 1927	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.023	0.411	0.397	91	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Duplicate - Batch: 280-60728

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-14127-7	Analysis Batch:	280-61031	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60728	Lab File ID:	110405AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.64 g
Analysis Date:	04/05/2011 1925	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	04/05/2011 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.023	0.0104	75	20	B M

Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: Polyaromatic Hydrocarbon - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	Soil	C	See note 1

1 – PAH by 8310.

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 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 (J1H0J2/J1H0H3) 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**

No RQLs were specified.

- **Completeness**

Data Package No. J01057 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

POLYAROMATIC HYDROCARBON DATA QUALIFICATION SUMMARY*

SDG: J01057	REVIEWER: ELR	Project: 314 Verification	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: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid % Moisture: 6.3.

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/14/2011 2300			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.5	U	9.5	110
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		3.4	U	3.4	16
Benzo[a]pyrene		6.8	U	6.8	16
Benzo[b]fluoranthene		4.4	U	4.4	16
Benzo[g,h,i]perylene		7.6	U	7.6	32
Benzo[k]fluoranthene		4.2	U	4.2	16
Chrysene		5.1	U	5.1	42
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		14	U	14	42
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		13	U	13	32
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	42
Pyrene		13	U	13	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	98		72 - 115

5/4/11

000010

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid % Moisture: 3.5

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	31.4 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/14/2011 2331			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.9	U	9.9	99
Acenaphthylene		8.9	U	8.9	99
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.1	U	7.1	30
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
Fluorene		5.2	U	5.2	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	99
Phenanthrene		12	U	12	40
Pyrene		12	U	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

5/9/11

000011

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid % Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0002			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.5	U	9.5	110
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		3.4	U	3.4	16
Benzo[a]pyrene		6.8	U	6.8	16
Benzo[b]fluoranthene		4.4	U	4.4	16
Benzo[g,h,i]perylene		7.6	U	7.6	32
Benzo[k]fluoranthene		4.2	U	4.2	16
Chrysene		5.1	U	5.1	42
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		14	U	14	42
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		13	U	13	32
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	42
Pyrene		13	U	13	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

5/9/11

000012

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid % Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	32.0 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0032			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.0	U	7.0	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.7	U	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0103			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.4	U	9.4	100
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		63		3.3	16
Benzo[a]pyrene		68		6.7	16
Benzo[b]fluoranthene		80		4.4	16
Benzo[g,h,i]perylene		42		7.5	31
Benzo[k]fluoranthene		40		4.1	16
Chrysene		73		5.1	42
Dibenzo(a,h)anthracene		12	U	12	31
Fluoranthene		88		14	42
Fluorene		5.5	U	5.5	31
Indeno[1,2,3-cd]pyrene		55		13	31
Naphthalene		13	U	13	100
Phenanthrene		13	U	13	42
Pyrene		94		13	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	100		72 - 115

5/9/11

000014

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0133			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.1	U	9.1	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.5	U	6.5	15
Benzo[b]fluoranthene		4.3	U	4.3	15
Benzo[g,h,i]perylene		7.3	U	7.3	30
Benzo[k]fluoranthene		4.0	U	4.0	15
Chrysene		4.9	U	4.9	41
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	41
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	41
Pyrene		12	U	12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	94		72 - 115

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid

% Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0204			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.1	U	9.1	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.5	U	6.5	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.3	U	7.3	30
Benzo[k]fluoranthene		4.0	U	4.0	15
Chrysene		4.9	U	4.9	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	40
Pyrene		12	U	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0234			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.3	U	9.3	100
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		3.3	U	3.3	16
Benzo[a]pyrene		6.6	U	6.6	16
Benzo[b]fluoranthene		4.4	U	4.4	16
Benzo[g,h,i]perylene		7.5	U	7.5	31
Benzo[k]fluoranthene		4.1	U	4.1	16
Chrysene		5.0	U	5.0	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		13	U	13	41
Fluorene		5.5	U	5.5	31
Indeno[1,2,3-cd]pyrene		12	U	12	31
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	41
Pyrene		12	U	12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	94		72 - 115

5/9/11

000017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid % Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	32.6 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0335			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.0	U	9.0	100
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		12	J	3.2	15
Benzo[a]pyrene		12	J	6.4	15
Benzo[b]fluoranthene		15		4.2	15
Benzo[g,h,i]perylene		7.2	U	7.2	30
Benzo[k]fluoranthene		7.3	J	3.9	15
Chrysene		12	J	4.8	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		28	J	13	40
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	40
Pyrene		24	J	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	95		72 - 115

5/9/11

000018

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

% Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0406			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.7	U	9.7	110
Anthracene		3.3	U	3.3	22
Benzo[a]anthracene		3.4	U	3.4	16
Benzo[a]pyrene		6.9	U	6.9	16
Benzo[b]fluoranthene		4.5	U	4.5	16
Benzo[g,h,i]perylene		7.8	U	7.8	32
Benzo[k]fluoranthene		4.2	U	4.2	16
Chrysene		5.2	U	5.2	43
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		14	U	14	43
Fluorene		5.7	U	5.7	32
Indeno[1,2,3-cd]pyrene		13	U	13	32
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	43
Pyrene		13	U	13	43

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	98		72 - 115

5/2/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

% Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	31.0 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0537			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.4	U	9.4	100
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		3.3	U	3.3	16
Benzo[a]pyrene		6.7	U	6.7	16
Benzo[b]fluoranthene		4.4	U	4.4	16
Benzo[g,h,i]perylene		7.5	U	7.5	31
Benzo[k]fluoranthene		4.1	U	4.1	16
Chrysene		5.0	U	5.0	42
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		14	U	14	42
Fluorene		5.5	U	5.5	31
Indeno[1,2,3-cd]pyrene		12	U	12	31
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	42
Pyrene		12	U	12	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

5/9/11

000020

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.1 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0608			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.6	U	9.6	110
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		3.4	U	3.4	16
Benzo[a]pyrene		6.8	U	6.8	16
Benzo[b]fluoranthene		4.5	U	4.5	16
Benzo[g,h,i]perylene		7.6	U	7.6	32
Benzo[k]fluoranthene		4.2	U	4.2	16
Chrysene		5.1	U	5.1	42
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		14	U	14	42
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		13	U	13	32
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	42
Pyrene		13	U	13	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	91		72 - 115

5/4/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid % Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.0 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0638			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.8	U	9.8	110
Anthracene		3.3	U	3.3	22
Benzo[a]anthracene		3.5	U	3.5	16
Benzo[a]pyrene		7.0	U	7.0	16
Benzo[b]fluoranthene		8.8	J	4.6	16
Benzo[g,h,i]perylene		7.8	U	7.8	33
Benzo[k]fluoranthene		4.3	U	4.3	16
Chrysene		6.4	J	5.3	44
Dibenzo(a,h)anthracene		12	U	12	33
Fluoranthene		14	U	14	44
Fluorene		5.8	U	5.8	33
Indeno[1,2,3-cd]pyrene		13	U	13	33
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	44
Pyrene		13	U	13	44

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	93		72 - 115

5/9/11

000022

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

% Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-61776	Initial Weight/Volume:	30.1 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/15/2011 0709			Injection Volume:	20 uL
Prep Date:	04/12/2011 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.6	U	9.6	110
Anthracene		3.3	U	3.3	21
Benzo[a]anthracene		60		3.4	16
Benzo[a]pyrene		55		6.9	16
Benzo[b]fluoranthene		83		4.5	16
Benzo[g,h,i]perylene		44		7.7	32
Benzo[k]fluoranthene		32		4.2	16
Chrysene		60		5.2	43
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		88		14	43
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		53		13	32
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	43
Pyrene		93		13	43

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	97		72 - 115

5/9/11

000023

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14127-1

SDG #: J01057
SAF#: RC-148

Date SDG Closed: April 1, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H0F9	280-14127-1	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H0	280-14127-2	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H1	280-14127-3	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H2	280-14127-4	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H3	280-14127-5	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H4	280-14127-6	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H5	280-14127-7	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H6	280-14127-8	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H7	280-14127-9	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H8	280-14127-10	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H9	280-14127-11	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J0	280-14127-12	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J1	280-14127-13	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J2	280-14127-14	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J3	280-14127-15	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 4/1/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4 C, 4.2 C and 2.7 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in samples J1H0H3 and J1H0J2 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".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the presence of high concentrations of target analytes, samples J1H0H6, J1H0H8 and J1H0J0 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.

Surrogate recoveries have been "D" flagged in samples J1H0H6, J1H0H8 and J1H0J0, as the recoveries obtained are calculated from a diluted sample and are not considered reliable.

Samples J1H0F9, J1H0H0, J1H0H1, J1H0H2, J1H0H3, J1H0H4, J1H0H5, J1H0H6, J1H0H7, J1H0H8, J1H0H9, J1H0J0, J1H0J1 and J1H0J2 required a sulfuric acid clean-up to reduce matrix interferences and Mercury clean-up to reduce matrix interferences caused by sulfur.

Samples J1H0F9, J1H0H7, J1H0H8, J1H0H9, J1H0J0 and J1H0J1 contained more than one Aroclor component. Results are estimated due to shared peaks.

Spike compound recoveries, RPD data and surrogate recoveries have been "D" flagged in the MS/MSD performed on sample J1H0H6, as the recoveries obtained are calculated from diluted samples and are not considered reliable. The acceptable LCS analysis data indicated that the analytical system was operating within control.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS/MSD performed on sample J1H0H8 exhibited percent recoveries outside the control limits for several compounds, and the associated sample results have been flagged "N". In addition, the RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A
Serial dilution of a digestate in batch 280-60621 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the high abundance of non-target analytes, the Beryllium, Cobalt, Copper, Iron, Lead, Silicon and Vanadium analysis of samples J1H0F9, J1H0H4, J1H0H5 and J1H0J2 had to be performed at a 5X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Chromium are present in the method blank associated with batch 280-60621. Because the concentration in the method blank is not present at levels greater than the reporting limit, corrective action is deemed unnecessary.

Silicon failed the recovery criteria low in the LCS associated with batch 280-60621, and the associated sample result has been flagged "N". Silicon is not controlled on for batch QC because there are not EPA prescribed limits for the LCS and MS recoveries. Limits are given to the client as guidance only; therefore, data are reported as is.

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 J1H0F9; therefore, control limits are not applicable.

Arsenic, Boron and Silicon were recovered outside the control limits in the SW846 6010B Matrix Spike analysis performed on sample J1H0F9, 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.

The SW846 6010B duplicate analysis of sample J1H0F9 exhibited RPD data outside the control limits for Silicon, and the associated sample result has been flagged "M". 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.

The SW846 7471A duplicate analysis of sample J1H0H5 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". 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.

GENERAL CHEMISTRY - SW846 9045C - PH

No anomalies were encountered.

3-4, 4-2, 2-7

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-023	Page 1 of 1

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: 314 Verification		SAF No.: RC-148
Ice Chest No.: WCH-08-042	Field Logbook No.: EL-1395-18	COA: R302182000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (04/3/29/11)	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7969 3631 4598

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits JEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

820028

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time							
J1H0F9	SOIL	3/30/11	0930	X	X	X	X	X	X			
J1H0H0	SOIL	3/30/11	0925	X	X	X	X	X	X			
J1H0H1	SOIL	3/30/11	0940	X	X	X	X	X	X			
J1H0H2	SOIL	3/30/11	0950	X	X	X	X	X	X			
J1H0H3	SOIL	3/30/11	1010	X	X	X	X	X	X			

Page 1 of 1

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Quincy Stowe	Date/Time: 03/30/11 11:05	Received By/Stored In: Donnie Delbergh	Date/Time: 3/30/11 1105
Relinquished By/Removed From: Donnie Delbergh	Date/Time: 3/30/11 1445	Received By/Stored In: J.E. Beebe	Date/Time: 3-30-11 1445
Relinquished By/Removed From: J.E. Beebe WCH	Date/Time: 3-31-11 1000	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time: 4/1/11 830
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)

J01057

REVIEWED BY AT DATE 3-31-11

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-148-023	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: 314 Verification	SAF No.: RC-148	
Ice Chest No.: WCH-08-049	Field Logbook No.: EL-1395-18; COA: R302182000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (DH 3/29/11)	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive LDET limits SEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

620029

SAMPLE ANALYSIS	Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
	Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
	No. of Container(s)	1	1	1	1	1	1	1			
	Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
		See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	Matrix *	Sample Date	Sample Time								
J1H0H4	SOIL	3/30/11	1000	X	X	X	X	X	X		
J1H0H5	SOIL	3/30/11	1015	X	X	X	X	X	X		
J1H0H6	SOIL	3/30/11	1025	X	X	X	X	X	X		
J1H0H7	SOIL	3/30/11	1030	X	X	X	X	X	X		
J1H0H8	SOIL	3/30/11	1040	X	X	X	X	X	X		

Page 1 of 3

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Quincy Stowe	Date/Time: 03/30/11 1105	Received By/Stored In: Don Heidelberg	Date/Time: 3/30/11 1105
Relinquished By/Removed From: Don Heidelberg	Date/Time: 3/30/11 1445	Received By/Stored In: A. Freier	Date/Time: 3-30-11 1445
Relinquished By/Removed From: A. Freier WCH	Date/Time: 3-31-11 1000	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time: 4/1/11 830
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)

J01057

REVIEWED BY SEB DATE 3-31-11

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-148-023	Page 1 of 1
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 314 Verification		SAF No. RC-148		
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx		
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598		

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits At 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

000030

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0H9	SOIL	3/30/11	1045	X	X	X	X	X	X			
J1H0J0	SOIL	3/30/11	1050	X	X	X	X	X	X			
J1H0J1	SOIL	3/30/11	1055	X	X	X	X	X	X			
J1H0J2	SOIL	3/30/11	1010	X	X	X	X	X	X			
J1H0J3	SOIL	3/30/11	0915	X								

Page 2 of 3

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Dan Heilberg	3/30/11 1105
Dan Heilberg	03/30/11 1445	A. Freier A. Freier	3-30-11 1445
WCH A. Freier A. Freier	3-31-11 1000	FED EX	
~~Relinquished By/Removed From~~	~~Date/Time~~	~~Received By/Stored In~~	~~Date/Time~~ 4/1/11 830
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)

J01057

REVIEWED BY JEB DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

GENERAL ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 314 Verification			DATA PACKAGE: J01057		
VALIDATOR: ELR		LAB: TAL		DATE: 5/9/11	
			SDG: J01057		
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	8310
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX:					
J1H0F9	J1H0K0	J1H0H1	J1H0H2	J1H0H3	
J1H0H4	J1H0K5	J1H0K6	J1H0H7	J1H0H8	
J1H0K9	J1H0J0	J1H0J1	J1H0J2		
				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: _____

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: no Pols

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: no RQL specified

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

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-61776

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-61776/1-A	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-61776	Lab File ID:	G0414022.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.2 g
Analysis Date:	04/14/2011 2159	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	04/12/2011 1105			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.9	U	9.9	99
Acenaphthylene	8.9	U	8.9	99
Anthracene	3.0	U	3.0	20
Benzo[a]anthracene	3.2	U	3.2	15
Benzo[a]pyrene	6.4	U	6.4	15
Benzo[b]fluoranthene	4.2	U	4.2	15
Benzo[g,h,i]perylene	7.2	U	7.2	30
Benzo[k]fluoranthene	3.9	U	3.9	15
Chrysene	4.8	U	4.8	40
Dibenzo(a,h)anthracene	11	U	11	30
Fluoranthene	13	U	13	40
Fluorene	5.2	U	5.2	30
Indeno[1,2,3-cd]pyrene	12	U	12	30
Naphthalene	12	U	12	99
Phenanthrene	12	U	12	40
Pyrene	12	U	12	40

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	96	72 - 115

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Lab Control Sample - Batch: 280-61776

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-61776/2-A	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-61776	Lab File ID:	G0414023.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	04/14/2011 2230	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	04/12/2011 1105			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1960	2070	105	72 - 115	
Acenaphthylene	1960	1900	97	60 - 115	
Anthracene	1960	1780	91	61 - 115	
Benzo[a]anthracene	1960	2130	108	76 - 115	
Benzo[a]pyrene	1960	1780	91	69 - 115	
Benzo[b]fluoranthene	1960	2010	103	81 - 115	
Benzo[g,h,i]perylene	1960	2000	102	71 - 115	
Benzo[k]fluoranthene	1960	1930	98	85 - 115	
Chrysene	1960	2020	103	70 - 115	
Dibenzo(a,h)anthracene	1960	2030	103	79 - 115	
Fluoranthene	1960	1990	101	67 - 115	
Fluorene	1960	1950	99	72 - 115	
Indeno[1,2,3-cd]pyrene	1960	2130	109	76 - 115	
Naphthalene	1960	1960	100	77 - 115	
Phenanthrene	1960	1990	101	79 - 115	
Pyrene	1960	1990	102	77 - 115	

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	95	72 - 115

000038

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-61776

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-14127-10	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-61776	Lab File ID:	G0414035.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	04/15/2011 0436			Final Weight/Volume:	4000 uL
Prep Date:	04/12/2011 1105			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-14127-10	Analysis Batch:	280-62220	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-61776	Lab File ID:	G0414036.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	04/15/2011 0507			Final Weight/Volume:	4000 uL
Prep Date:	04/12/2011 1105			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	110	109	72 - 115	0	20		
Acenaphthylene	103	100	60 - 115	1	21		
Anthracene	98	98	61 - 115	3	20		
Benzo[a]anthracene	114	112	76 - 115	0	20		
Benzo[a]pyrene	94	96	69 - 115	4	20		
Benzo[b]fluoranthene	103	104	81 - 115	3	20		
Benzo[g,h,i]perylene	101	104	71 - 115	5	20		
Benzo[k]fluoranthene	101	103	85 - 115	4	20		
Chrysene	105	102	70 - 115	1	20		
Dibenzo(a,h)anthracene	104	105	79 - 115	3	20		
Fluoranthene	105	104	67 - 115	1	20		
Fluorene	106	104	72 - 115	1	20		
Indeno[1,2,3-cd]pyrene	106	106	76 - 115	2	20		
Naphthalene	104	104	77 - 115	2	20		
Phenanthrene	106	106	79 - 115	1	20		
Pyrene	108	106	77 - 115	0	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	101	96	72 - 115

000039

Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: Wet Chemistry - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	Soil	C	See note 1

1 – pH by 9045C.

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 immediately (24 hours) for pH.

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".

Due to the holding time being exceeded by greater than twice the limit, all pH results were qualified as estimates and flagged "J".

All other holding times were acceptable.

- **Method Blanks**

Method Blanks

Method blank analyses are performed 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. All blank results must fall below the contract required detection limit (CRQL) to be acceptable.

Method blank analysis is not applicable for pH.

Field (Equipment) Blank

No field blanks were submitted for analysis.

- **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 80% to 120%. 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 79% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 120% or less than 80% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 120% and a sample result less than the IDL, no qualification is required.

All 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 20%, 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 (J1H0J2/J1H0H3) 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 (RQLs) to ensure that laboratory detection levels meet the required criteria. All analytes met the RQL.

- **Completeness**

Data package J01057 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 holding time being exceeded by greater than twice the limit, all pH 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*.

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

WET CHEMISTRY DATA QUALIFICATION SUMMARY*

SDG: J01057	**REVIEWER: ELR**	**Project: 314 Verification**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
pH	J	All	Hold time

* - 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: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.38	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0922						DryWt Corrected: N
Percent Moisture	6.3		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

General Chemistry

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.48	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0929						DryWt Corrected: N
Percent Moisture	3.5		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

000011

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid

V 5/9/11

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.38	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0931						DryWt Corrected: N
Percent Moisture	6.4		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

000012

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

V 5/9/11

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.47	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0933						DryWt Corrected: N
Percent Moisture	4.1		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

General Chemistry

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.25	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0935						DryWt Corrected: N
Percent Moisture	7.3		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid

5/9/14

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.36	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0936						DryWt Corrected: N
Percent Moisture	4.1		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

General Chemistry

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-7
Client Matrix: Solid

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.35	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0938						DryWt Corrected: N
Percent Moisture	4.9		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.35	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0940						DryWt Corrected: N
Percent Moisture	6.1		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60384	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

000017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.22	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0941						DryWt Corrected: N
Percent Moisture	7.8		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

000018

General Chemistry

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.25	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0946						DryWt Corrected: N
Percent Moisture	8.5		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL		Dil	Method
pH adj. to 25 deg C-Soluble	9.46	J	SU	0.0100	0.0100	--	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0949							DryWt Corrected: N
Percent Moisture	7.0		%	0.10	0.10		1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157							DryWt Corrected: N

000020

General Chemistry

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

V 5/9/11

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.25	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0950						DryWt Corrected: N
Percent Moisture	6.1		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

5/9/14

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	8.96	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0952						DryWt Corrected: N
Percent Moisture	8.2		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

000022

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

General Chemistry

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid

5/9/11

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.19	J	SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60497	Analysis Date: 04/02/2011 0953						DryWt Corrected: N
Percent Moisture	6.8		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60364	Analysis Date: 04/01/2011 1157						DryWt Corrected: N

000023

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14127-1

SDG #: J01057
SAF#: RC-148

Date SDG Closed: April 1, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H0F9	280-14127-1	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H0	280-14127-2	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H1	280-14127-3	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H2	280-14127-4	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H3	280-14127-5	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H4	280-14127-6	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H5	280-14127-7	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H6	280-14127-8	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H7	280-14127-9	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H8	280-14127-10	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H9	280-14127-11	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J0	280-14127-12	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J1	280-14127-13	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J2	280-14127-14	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J3	280-14127-15	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 4/1/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4 C, 4.2 C and 2.7 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in samples J1H0H3 and J1H0J2 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".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the presence of high concentrations of target analytes, samples J1H0H6, J1H0H8 and J1H0J0 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.

Surrogate recoveries have been "D" flagged in samples J1H0H6, J1H0H8 and J1H0J0, as the recoveries obtained are calculated from a diluted sample and are not considered reliable.

Samples J1H0F9, J1H0H0, J1H0H1, J1H0H2, J1H0H3, J1H0H4, J1H0H5, J1H0H6, J1H0H7, J1H0H8, J1H0H9, J1H0J0, J1H0J1 and J1H0J2 required a sulfuric acid clean-up to reduce matrix interferences and Mercury clean-up to reduce matrix interferences caused by sulfur.

Samples J1H0F9, J1H0H7, J1H0H8, J1H0H9, J1H0J0 and J1H0J1 contained more than one Aroclor component. Results are estimated due to shared peaks.

Spike compound recoveries, RPD data and surrogate recoveries have been "D" flagged in the MS/MSD performed on sample J1H0H6, as the recoveries obtained are calculated from diluted samples and are not considered reliable. The acceptable LCS analysis data indicated that the analytical system was operating within control.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS/MSD performed on sample J1H0H8 exhibited percent recoveries outside the control limits for several compounds, and the associated sample results have been flagged "N". In addition, the RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A
Serial dilution of a digestate in batch 280-60621 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the high abundance of non-target analytes, the Beryllium, Cobalt, Copper, Iron, Lead, Silicon and Vanadium analysis of samples J1H0F9, J1H0H4, J1H0H5 and J1H0J2 had to be performed at a 5X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Chromium are present in the method blank associated with batch 280-60621. Because the concentration in the method blank is not present at levels greater than the reporting limit, corrective action is deemed unnecessary.

Silicon failed the recovery criteria low in the LCS associated with batch 280-60621, and the associated sample result has been flagged "N". Silicon is not controlled on for batch QC because there are not EPA prescribed limits for the LCS and MS recoveries. Limits are given to the client as guidance only; therefore, data are reported as is.

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 J1H0F9; therefore, control limits are not applicable.

Arsenic, Boron and Silicon were recovered outside the control limits in the SW846 6010B Matrix Spike analysis performed on sample J1H0F9, 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.

The SW846 6010B duplicate analysis of sample J1H0F9 exhibited RPD data outside the control limits for Silicon, and the associated sample result has been flagged "M". 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.

The SW846 7471A duplicate analysis of sample J1H0H5 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". 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.

GENERAL CHEMISTRY - SW846 9045C - PH

No anomalies were encountered.

3.4, 4.2, 2.7

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-148-023 | 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** 314 Verification		**SAF No.** RC-148
Ice Chest No. WCH-08-042	**Field Logbook No.** EL-1395-18	**COA** R302182000	**Method of Shipment** Hand Deliver/Government Vehicle/FedEx
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** 7969 3631 4598

POSSIBLE SAMPLE HAZARDS/REMARKS
Potential Radioactive <DOT Limits JEG 3-30-11

Special Handling and/or Storage
Cool 4 degrees C

820000

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
Sample No.	**Matrix***	**Sample Date**	**Sample Time**							
J1H0F9	SOIL	3/30/11	0930	X	X	X	X	X	X	
J1H0H0	SOIL	3/30/11	0925	X	X	X	X	X	X	
J1H0H1	SOIL	3/30/11	0940	X	X	X	X	X	X	
J1H0H2	SOIL	3/30/11	0950	X	X	X	X	X	X	
J1H0H3	SOIL	3/30/11	1010	X	X	X	X	X	X	

Page 1 of 2

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 11:05	Don Heidelberg	3/30/11 1105
Don Heidelberg	3/30/11 1445	J.E. Beehl	3-30-11 1445
J.E. Beehl WCH	3-31-11 1000	FED EX	
			4/1/11 830

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)

J01057

REVIEWED BY AT DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver OH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive LDR Limits SEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D+	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

620029

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0H4	SOIL	3/30/11	1000	X	X	X	X	X	X			
J1H0H5	SOIL	3/30/11	1015	X	X	X	X	X	X			
J1H0H6	SOIL	3/30/11	1025	X	X	X	X	X	X			
J1H0H7	SOIL	3/30/11	1030	X	X	X	X	X	X			
J1H0H8	SOIL	3/30/11	1040	X	X	X	X	X	X			

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Don Heidelberg	3/30/11 1105
Don Heidelberg	3/30/11 1445	A. Frazer	3-30-11 1445
A. Frazer	WCH 3-31-11 1000	FED EX	

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)

REVIEWED BY SEB DATE 3-31-11

J01057

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-148-023	Page 1 of 1
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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-042	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits
At 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D+	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

000030

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0H9	SOIL	3/30/11	1045	X	X	X	X	X	X			
J1H0J0	SOIL	3/30/11	1050	X	X	X	X	X	X			
J1H0J1	SOIL	3/30/11	1055	X	X	X	X	X	X			
J1H0J2	SOIL	3/30/11	1010	X	X	X	X	X	X			
J1H0J3	SOIL	3/30/11	0915	X								

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Dan Delberg	3/30/11 1105
Dan Delberg	03/30/11 1445	A. Freier	3-30-11 1445
A. Freier	WCH 3-31-11 1000	FED EX	
			4/1/11 830

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).

J01057

REVIEWED BY JEB DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	(C)	D	E
PROJECT: 314 Verificat			DATA PACKAGE: J0105		
VALIDATOR: ELR		LAB: TAL		DATE: 5/2/11	
			SDG: J01057		

ANALYSES PERFORMED					
Anions/IC	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI	(pH)	NO_3/NO_2
Sulfate	TDS	TKN	Phosphate		

SAMPLES/MATRIX				
J1H0F9	J1H0H0	J1H0H1	J1H0H2	J1H0H3
J1H0H4	J1H0H5	J1H0H6	J1H0H7	J1H0H8
J1H0H9	J1H0J0	J1H0J1	J1H0J2	
				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)

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: _____

_____

GENERAL CHEMISTRY 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: NO PB

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

Spike samples analyzed? ..... Yes No N/A

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

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

Spike 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

GENERAL CHEMISTRY 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. HOLDING TIMES (all levels)

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

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

Comments: >2x - J all

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

7. 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: 280-14127-1
Sdg Number: J01057

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-60497

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-60497/4	Analysis Batch:	280-60497	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	04/02/2011 0917	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-60497/5	Analysis Batch:	280-60497	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	04/02/2011 0918	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C-Soluble	100	100	97 - 103	0	5		

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-60497

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-60497/17	Analysis Batch:	280-60497	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	04/02/2011 0944	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-60497/18	Analysis Batch:	280-60497	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	04/02/2011 0944	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C-Soluble	101	101	97 - 103	0	5		

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Duplicate - Batch: 280-60497

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-14127-1	Analysis Batch:	280-60497	Instrument ID:	WC_pH Probe
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-60471	Initial Weight/Volume:	1.0 mL
Analysis Date:	04/02/2011 0925	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	04/02/2011 0810				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	9.36	9.380	0.2	5	

Duplicate - Batch: 280-60497

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-14127-10	Analysis Batch:	280-60497	Instrument ID:	WC_pH Probe
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-60471	Initial Weight/Volume:	1.0 mL
Analysis Date:	04/02/2011 0948	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	04/02/2011 0810				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	9.25	9.230	0.2	5	

Date: 10 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 300 Area Field Remediation – Soil Full Protocol – 314 Verification
Subject: PCB - Data Package No. J01057-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01057 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
J1H0F9	3/30/11	Soil	C	See note 1
J1H0H0	3/30/11	Soil	C	See note 1
J1H0H1	3/30/11	Soil	C	See note 1
J1H0H2	3/30/11	Soil	C	See note 1
J1H0H3	3/30/11	Soil	C	See note 1
J1H0H4	3/30/11	Soil	C	See note 1
J1H0H5	3/30/11	Soil	C	See note 1
J1H0H6	3/30/11	Soil	C	See note 1
J1H0H7	3/30/11	Soil	C	See note 1
J1H0H8	3/30/11	Soil	C	See note 1
J1H0H9	3/30/11	Soil	C	See note 1
J1H0J0	3/30/11	Soil	C	See note 1
J1H0J1	3/30/11	Soil	C	See note 1
J1H0J2	3/30/11	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.

Due to matrix spike and matrix spike duplicate results outside QC limits, all detected PCB results were qualified as estimates and flagged "J".

All other 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.

Due to surrogate recoveries outside QC limits, all PCB results in samples J1H0H6, J1H0H8 and J1H0J0 were qualified as estimates and flagged "J".

All other 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.

All field duplicate results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1H0J2/J1H0H3) 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. Eleven analytes

exceeded the RQL. Under the WCH statement of work, no qualification is required. All other results met the RQL.

- **Completeness**

Data Package No. J01057 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 matrix spike and matrix spike duplicate results outside QC limits, all detected PCB results were qualified as estimates and flagged "J".
- Due to surrogate recoveries outside QC limits, all PCB results in samples J1H0H6, J1H0H8 and J1H0J0 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.

Eleven 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*, 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: J01057	REVIEWER: ELR	Project: 314 Verification	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All	J	J1H0H6,JIH0H8 J1H0J0	Surrogate recovery
All detected analytes	J	All	MS 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: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0F9

Lab Sample ID: 280-14127-1
Client Matrix: Solid % Moisture: 6.3

Date Sampled: 03/30/2011 0930
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1607			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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		16	J	2.7	10
Aroclor 1260		8.3	J	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	99		59 - 130
Tetrachloro-m-xylene	98		53 - 128

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H0

Lab Sample ID: 280-14127-2
Client Matrix: Solid

% Moisture: 3.5

Date Sampled: 03/30/2011 0925
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1628			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		2.6	U	2.6	10
Aroclor 1260		2.6	U	2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	112		59 - 130
Tetrachloro-m-xylene	92		53 - 128

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H1

Lab Sample ID: 280-14127-3
Client Matrix: Solid % Moisture: 6.4

Date Sampled: 03/30/2011 0940
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.0 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1650			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.6	U	8.6	18
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		5.0	U	5.0	11
Aroclor 1248		5.0	U	5.0	11
Aroclor 1254		2.8	U	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	93		59 - 130
Tetrachloro-m-xylene	96		53 - 128

5/9/11

000012

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H2

Lab Sample ID: 280-14127-4
Client Matrix: Solid

% Moisture: 4.1

Date Sampled: 03/30/2011 0950
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62625	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.6 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1732			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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	96		59 - 130
Tetrachloro-m-xylene	101		53 - 128

5/9/11

000013

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H3

Lab Sample ID: 280-14127-5
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62625	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1754			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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	18
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		4.9	U	4.9	11
Aroclor 1248		4.9	U J	4.9	11
Aroclor 1254		5.6	J P J	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	102		59 - 130
Tetrachloro-m-xylene	102		53 - 128

5/6/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H4

Lab Sample ID: 280-14127-6
Client Matrix: Solid % Moisture: 4.1

Date Sampled: 03/30/2011 1000
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1815			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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	99		59 - 130
Tetrachloro-m-xylene	94		53 - 128

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H5

Lab Sample ID: 280-14127-7
Client Matrix: Solid % Moisture: 4.9

Date Sampled: 03/30/2011 1015
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 1837			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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	103		59 - 130
Tetrachloro-m-xylene	108		53 - 128

5/9/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H6

Lab Sample ID: 280-14127-8
Client Matrix: Solid % Moisture: 6.1

Date Sampled: 03/30/2011 1025
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62627	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.0 g
Dilution:	5.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/15/2011 1528			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		15	U D J	15	53
Aroclor 1221		43	U D	43	88
Aroclor 1232		11	U D	11	53
Aroclor 1242		25	U D	25	53
Aroclor 1248		25	U D	25	53
Aroclor 1254		320	D	14	53
Aroclor 1260		14	U D	14	53

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	115	D	59 - 130
Tetrachloro-m-xylene	112	D	53 - 128

5/2/11

000017

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H7

Lab Sample ID: 280-14127-9
Client Matrix: Solid

% Moisture: 7.8

Date Sampled: 03/30/2011 1030
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 2002			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.6	U	8.6	18
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		5.0	U	5.0	11
Aroclor 1248		5.0	U	5.0	11
Aroclor 1254		12	J	2.8	11
Aroclor 1260		7.2	J J	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	87		59 - 130
Tetrachloro-m-xylene	90		53 - 128

5/9/11

000018

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H8

Lab Sample ID: 280-14127-10
Client Matrix: Solid

% Moisture: 8.5

Date Sampled: 03/30/2011 1040
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62627	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.7 g
Dilution:	2.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/15/2011 1633			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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		4.3	U D	4.3	21
Aroclor 1242		10	U D	10	21
Aroclor 1248		160	D	10	21
Aroclor 1254		5.6	U D	5.6	21
Aroclor 1260		31	D	5.6	21

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	73	D	59 - 130
Tetrachloro-m-xylene	94	D	53 - 128

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5/2/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0H9

Lab Sample ID: 280-14127-11
Client Matrix: Solid

% Moisture: 7.0

Date Sampled: 03/30/2011 1045
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	31.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 2045			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			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		57	J	2.7	10
Aroclor 1260		41	J	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	100		59 - 130
Tetrachloro-m-xylene	105		53 - 128

5/2/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J0

Lab Sample ID: 280-14127-12
Client Matrix: Solid

% Moisture: 6.1

Date Sampled: 03/30/2011 1050
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62627	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.1 g
Dilution:	10			Final Weight/Volume:	5000 uL
Analysis Date:	04/15/2011 1654			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		29	U D J	29	110
Aroclor 1221		85	U D	85	180
Aroclor 1232		21	U D	21	110
Aroclor 1242		49	U D	49	110
Aroclor 1248		49	U D	49	110
Aroclor 1254		920	D	28	110
Aroclor 1260		730	D	28	110

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	107	D	59 - 130
Tetrachloro-m-xylene	93	D	53 - 128

5/2/11

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J1

Lab Sample ID: 280-14127-13
Client Matrix: Solid

% Moisture: 8.2

Date Sampled: 03/30/2011 1055
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 2128			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.6	U	8.6	18
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		5.0	U	5.0	11
Aroclor 1248		5.0	U	5.0	11
Aroclor 1254		12	HJ	2.8	11
Aroclor 1260		15	J	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	89		59 - 130
Tetrachloro-m-xylene	94		53 - 128

5/9/11

000022

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Client Sample ID: J1H0J2

Lab Sample ID: 280-14127-14
Client Matrix: Solid % Moisture: 6.8

Date Sampled: 03/30/2011 1010
Date Received: 04/01/2011 0830

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-62625	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-61775	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/13/2011 2232			Injection Volume:	1 uL
Prep Date:	04/12/2011 1440			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.5	U	8.5	18
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		5.0	U	5.0	11
Aroclor 1248		5.0	U	5.0	11
Aroclor 1254		2.8	U	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	101		59 - 130
Tetrachloro-m-xylene	95		53 - 128

5/9/11

000023

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14127-1

SDG #: J01057
SAF#: RC-148

Date SDG Closed: April 1, 2011
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H0F9	280-14127-1	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H0	280-14127-2	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H1	280-14127-3	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H2	280-14127-4	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H3	280-14127-5	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H4	280-14127-6	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H5	280-14127-7	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H6	280-14127-8	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H7	280-14127-9	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H8	280-14127-10	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0H9	280-14127-11	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J0	280-14127-12	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J1	280-14127-13	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J2	280-14127-14	6010/7471/9045/ NWTPH-Dx/ 8270A/8082/8310	6010B/6020/7471A/9045C/ NWTPH-Dx/ 8270C/8082/8310
J1H0J3	280-14127-15	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 4/1/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4 C, 4.2 C and 2.7 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in samples J1H0H3 and J1H0J2 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".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the presence of high concentrations of target analytes, samples J1H0H6, J1H0H8 and J1H0J0 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.

Surrogate recoveries have been "D" flagged in samples J1H0H6, J1H0H8 and J1H0J0, as the recoveries obtained are calculated from a diluted sample and are not considered reliable.

Samples J1H0F9, J1H0H0, J1H0H1, J1H0H2, J1H0H3, J1H0H4, J1H0H5, J1H0H6, J1H0H7, J1H0H8, J1H0H9, J1H0J0, J1H0J1 and J1H0J2 required a sulfuric acid clean-up to reduce matrix interferences and Mercury clean-up to reduce matrix interferences caused by sulfur.

Samples J1H0F9, J1H0H7, J1H0H8, J1H0H9, J1H0J0 and J1H0J1 contained more than one Aroclor component. Results are estimated due to shared peaks.

Spike compound recoveries, RPD data and surrogate recoveries have been "D" flagged in the MS/MSD performed on sample J1H0H6, as the recoveries obtained are calculated from diluted samples and are not considered reliable. The acceptable LCS analysis data indicated that the analytical system was operating within control.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS/MSD performed on sample J1H0H8 exhibited percent recoveries outside the control limits for several compounds, and the associated sample results have been flagged "N". In addition, the RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/6020/7471A
Serial dilution of a digestate in batch 280-60621 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to the high abundance of non-target analytes, the Beryllium, Cobalt, Copper, Iron, Lead, Silicon and Vanadium analysis of samples J1H0F9, J1H0H4, J1H0H5 and J1H0J2 had to be performed at a 5X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Chromium are present in the method blank associated with batch 280-60621. Because the concentration in the method blank is not present at levels greater than the reporting limit, corrective action is deemed unnecessary.

Silicon failed the recovery criteria low in the LCS associated with batch 280-60621, and the associated sample result has been flagged "N". Silicon is not controlled on for batch QC because there are not EPA prescribed limits for the LCS and MS recoveries. Limits are given to the client as guidance only; therefore, data are reported as is.

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 J1H0F9; therefore, control limits are not applicable.

Arsenic, Boron and Silicon were recovered outside the control limits in the SW846 6010B Matrix Spike analysis performed on sample J1H0F9, 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.

The SW846 6010B duplicate analysis of sample J1H0F9 exhibited RPD data outside the control limits for Silicon, and the associated sample result has been flagged "M". 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.

The SW846 7471A duplicate analysis of sample J1H0H5 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". 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.

GENERAL CHEMISTRY - SW846 9045C - PH

No anomalies were encountered.

3.4, 4.2, 2.7

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-023	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: 314 Verification		SAF No.: RC-148		
Ice Chest No.: WCH-08-042	Field Logbook No.: EL-1395-18	COA: R302182000	Method of Shipment: Hand Deliver/Government Vehicle/FedEx		
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver 04/3/29/11	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7969 3631 4598		

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive <DOT Limits JEG 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

000028

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
J1H0F9	SOIL	3/30/11	0930	X	X	X	X	X	X				
J1H0H0	SOIL	3/30/11	0925	X	X	X	X	X	X				
J1H0H1	SOIL	3/30/11	0940	X	X	X	X	X	X				
J1H0H2	SOIL	3/30/11	0950	X	X	X	X	X	X				
J1H0H3	SOIL	3/30/11	1010	X	X	X	X	X	X				

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 1105	Dontie Delbergh	3/30/11 1105
Dontie Delbergh	3/30/11 1445	J.E. Beebe	3-30-11 1445
J.E. Beebe WCH	3-31-11 1000	FED EX	
			4/1/11 830

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)

J01057

REVIEWED BY AT DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148		
Ice Chest No. WCH-08-042	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx		
Shipped To TestAmerica Incorporated, Richland DH 3/29/11 Denver	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598		

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive < DOT Limits SEB 3-30-11

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			

620029

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			
J1H0H4	SOIL	3/30/11	1000	X	X	X	X	X	X				
J1H0H5	SOIL	3/30/11	1015	X	X	X	X	X	X				
J1H0H6	SOIL	3/30/11	1025	X	X	X	X	X	X				
J1H0H7	SOIL	3/30/11	1030	X	X	X	X	X	X				
J1H0H8	SOIL	3/30/11	1040	X	X	X	X	X	X				

CHAIN OF POSSESSION

Sign/Print Names			
Relinquished By/Removed From Quincy Stowe	Date/Time 03/30/11 11:05	Received By/Stored In Dan Heidelberg	Date/Time 1105 3/30/11
Relinquished By/Removed From Dan Heidelberg	Date/Time 3/30/11 1445	Received By/Stored In A. Freier	Date/Time 1445 3-30-11
Relinquished By/Removed From WCH A. Freier	Date/Time 1000 3-31-11	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 4/1/11 830
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)

J01057

REVIEWED BY SEB DATE 3-31-11

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-148-023	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 314 Verification		SAF No. RC-148	
Ice Chest No. WCH-08-049	Field Logbook No. EL-1395-18	COA R302182000	Method of Shipment Hand Deliver/Government Vehicle/FedEx	
Shipped To TestAmerica Incorporated, ~~Richland~~ Denver DH 3/29/11	Offsite Property No. NA		Bill of Lading/Air Bill No. 7969 3631 4598	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive 2 DOT Lrm,Fs
AF 3-30-1

Special Handling and/or Storage

Cool 4 degrees C

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None			
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	60mL	60mL	120mL	120mL	120mL	120mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D+	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Isotopic Uranium			

0030000

Sample No.	Matrix *	Sample Date	Sample Time									
J1H0H9	SOIL	3/30/11	1045	X	X	X	X	X	X			
J1H0J0	SOIL	3/30/11	1050	X	X	X	X	X	X			
J1H0J1	SOIL	3/30/11	1055	X	X	X	X	X	X			
J1H0J2	SOIL	3/30/11	1010	X	X	X	X	X	X			
J1H0J3	SOIL	3/30/11	0915	X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/30/11 11:05	Dan Heidelberg	3/30/11 1105
Dan Heidelberg	03/30/11 1445	A. Freier	3-30-11 1445
A. Freier	3-31-11 1000	FED EX	
			4/1/11 830

J01057

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)

REVIEWED BY JEB DATE 3-31-11

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

Appendix 5

Data Validation Supporting Documentation

PCB DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 3100 Verification			DATA PACKAGE: J01057		
VALIDATOR: ELR		LAB: TAL		DATE: 5/9/11	
			SDG: J01057		
ANALYSES PERFORMED					
SW-846 8081	SW-846 8081 (TCLP)	SW-846 8082	SW-846 8081 (TCLP)		
SAMPLES/MATRIX					
J1HGF9	J1H0HC	J1H0H1	J1H0H2	J1H0H3	
J1H0H4	J1H0H5	J1H0H6	J1H0H7	J1H0H8	
J1H0H9	J1H0J0	J1H0J1	J1H0J2		
				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: no FB

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: Surr - H6 H8 J0 - diluted out - J all

MS/MSD - high - J all detects

no PFs

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: 11 error

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: 280-14127-1
Sdg Number: J01057

Method Blank - Batch: 280-61775

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-61775/1-A	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-61775	Lab File ID:	007F0701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	04/13/2011 1524	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	04/12/2011 1440			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	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	2.6	U	2.6	9.8
Aroclor 1260	2.6	U	2.6	9.8

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	101	59 - 130
Tetrachloro-m-xylene	108	53 - 128

Lab Control Sample - Batch: 280-61775

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-61775/2-A	Analysis Batch:	280-62624	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-61775	Lab File ID:	008F0801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	04/13/2011 1545	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	04/12/2011 1440			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.6	33.7	103	54 - 132	
Aroclor 1260	32.6	36.6	112	62 - 129	

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

Client: Washington Closure Hanford

Job Number: 280-14127-1
Sdg Number: J01057

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-61775

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-14127-8	Analysis Batch:	280-62627	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-61775	Lab File ID:	010F1001.D
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	04/15/2011 1550			Final Weight/Volume:	5000 uL
Prep Date:	04/12/2011 1440			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-14127-8	Analysis Batch:	280-62627	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-61775	Lab File ID:	011F1101.D
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	04/15/2011 1611			Final Weight/Volume:	5000 uL
Prep Date:	04/12/2011 1440			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	351	287	54 - 132	21	26	D	D
Aroclor 1260	497	673	62 - 129	29	26	D	D

Surrogate	MS % Rec		MSD % Rec		Acceptance Limits
Decachlorobiphenyl	148	D	112	D	59 - 130
Tetrachloro-m-xylene	144	D	107	D	53 - 128