0096809

SAF-RC-107
100-H Remaining Sites Burial Grounds – Soil Full Protocol
FINAL VALIDATION PACKAGE

COMPLETE COPY OF FINAL VALIDATION PACKAGE TO:

Kathy Wendt H4-21

COMMENTS:

SDG JP0171 SAF-RC-107

Waste Site: 600-151

RECEIVED
MAY 3 1 2011
EDMC

Date: 16 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-H Remaining Sites Burial Grounds – Soil Full Protocol - Waste Site 600-151
Subject: Wet Chemistry - Data Package No. JP0171-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. JP0171 prepared by TestAmerica Laboratories 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
J1HK23	4/26/11	Soil	C	See note 1
J1HK24	4/26/11	Soil	C	See note 1
J1HK25	4/26/11	Soil	C	See note 1
J1HK26	4/26/11	Soil	C	See note 1
J1HK27	4/26/11	Soil	C	See note 1
J1HK28	4/26/11	Soil	C	See note 1
J1HK29	4/26/11	Soil	C	See note 1
J1HK30	4/26/11	Soil	C	See note 1
J1HK31	4/26/11	Soil	C	See note 1
J1HK32	4/26/11	Soil	C	See note 1
J1HK33	4/26/11	Soil	C	See note 1
J1HK34	4/26/11	Soil	C	See note 1
J1HK35	4/26/11	Soil	C	See note 1
J1HK36	4/26/11	Soil	C	See note 1
J1HK37	4/26/11	Soil	C	See note 1
J1HK38	4/26/11	Soil	C	See note 1
J1HK39	4/26/11	Soil	C	See note 1
J1HK40	4/26/11	Soil	C	See note 1
J1HK41	4/26/11	Soil	C	See note 1

1 – Chromium VI by 7196A.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, Rev. 5, September 2009). 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 30 days for chromium VI.

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 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.

All method blank results were acceptable.

Field Blanks

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 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 (56%), all hexavalent chromium results were qualified as estimates and flagged "J".

All other accuracy results were acceptable.

- **Precision**

Laboratory Duplicate Samples

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

All laboratory duplicate results were acceptable.

Field Duplicate

One set of field duplicates (J1HK25/J1HK41) 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 JP0171 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 a matrix spike recovery outside QC limits (56%), all hexavalent chromium 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-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

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: JP0171	REVIEWER: ELR	Project: 600-151	PAGE_1_OF_1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Hexavalent chromium	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

Sample Results Summary

TestAmerica TARL

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

Date: 04-May-11

Report No. : 46459

r 5/11/11

SDG No: JP0171

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1118340	7196_CR6								
J1HK23									
	MHKQE1AA	HEXCHROME	1.53E-01 +- 0.0E+00	J	mg/kg	N/A	1.53E-01	1.55E-01	
	MHKQE1AD	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	3.50E-01	0.7
J1HK24									
	MHKQQ1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U J	mg/kg	N/A	1.55E-01	1.55E-01	
J1HK25									
	MHKQR1AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	
J1HK26									
	MHKQT1AA	HEXCHROME	1.93E-01 +- 0.0E+00		mg/kg	N/A	1.53E-01	1.55E-01	
J1HK27									
	MHKQ11AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK28									
	MHKQ41AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK29									
	MHKQ71AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1HK30									
	MHKQ91AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	
J1HK31									
	MHKRL1AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK32									
	MHKRN1AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	
J1HK33									
	MHKKR1AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01		
J1HK34									
	MHKR91AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK35									
	MHKTJ1AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK36									
	MHKTW1AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	
J1HK37									
	MHKT21AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK38									
	MHKTE1AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01		
J1HK39									
	MHKVL1AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
J1HK40									
	MHKVV1AA	HEXCHROME	3.19E-01 +- 0.0E+00		mg/kg	N/A	1.53E-01	1.55E-01	
J1HK41									
	MHKV31AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	

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.

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

May 4, 2011

Attention: Joan Kessner

SAF Number	:	RC-107
Date SDG Closed	:	April 27, 2011
Number of Samples	:	Nineteen (19)
Sample Type	:	Soil
SDG Number	:	JP0171
Data Deliverable	:	7 Day Summary

CASE NARRATIVE

I. Introduction

On April 27, 2011, nineteen soil samples were received at TestAmerica for chemistry 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
J1HK23	MHKQE	SOIL	4/27/11
J1HK24	MHKQQ	SOIL	4/27/11
J1HK25	MHKQR	SOIL	4/27/11
J1HK26	MHKQT	SOIL	4/27/11
J1HK27	MHKQ1	SOIL	4/27/11
J1HK28	MHKQ4	SOIL	4/27/11
J1HK29	MHKQ7	SOIL	4/27/11
J1HK30	MHKQ9	SOIL	4/27/11
J1HK31	MHKRL	SOIL	4/27/11
J1HK32	MHKRN	SOIL	4/27/11
J1HK33	MHKR2	SOIL	4/27/11
J1HK34	MHKR9	SOIL	4/27/11
J1HK35	MHKTJ	SOIL	4/27/11
J1HK36	MHKTW	SOIL	4/27/11
J1HK37	MHKT2	SOIL	4/27/11
J1HK38	MHKVE	SOIL	4/27/11

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

J1HK39	MHKVL	SOIL	4/27/11
J1HK40	MHKVV	SOIL	4/27/11
J1HK41	MHKV3	SOIL	4/27/11

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The requested analyses were:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

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

Chemical Analysis
Hexavalent Chromium by EPA method 7196A:
The matrix spike recovered low at 55.8%. The post digestive matrix spike recovered at 56.9% and the insoluble matrix spike recovered at 84.4%. This implies strong reducing capacity in the sample, but not enough to exhaust the insoluble matrix spike. Except as noted, the LCS, batch blank, sample, sample duplicate (J1HK23) and sample matrix spike (J1HK23) 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:

for Whitney Katari
Rhonda Wagar
Project Manager

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Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-18286
NCM Initiated By: Hooshang Rahavi
Date Opened: 05/04/2011
Date Closed:

Classification: Anomaly
Status: PMREVIEW
Production Area: Classical Chemistry
Tests: 7196A
Lot #'s (Sample #'s): J1D270569 (1,10,11,12,13,14,15,16,17,18,19,2,3,4,5,6,7,8,9), J1D280000 (340),
QC Batches: 1118340,

Nonconformance: QC data exceeded criteria
Subcategory: MS/MSD accuracy and/or precision out of control

Problem Description / Root Cause

Name	Date	Description
Hooshang Rahavi	05/04/2011	The MS recovered low at 55.8%. PDMS recovered also low at 56.9%. The insoluble MS recovered at 84.4%. Suspect substantial reducing capacity in the sample.

Corrective Action

Name	Date	Corrective Action
Hooshang Rahavi	05/04/2011	report data

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

000014

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 1 of ~~10~~ 4

Collector: M. Blankenship / J. Kuepfer	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ 8B — Data Turnaround: ~~21~~ 7 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: NA	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx — Hand-Deliver	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

00001 5

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

J1D270569

Sample No.	Matrix *	Sample Date	Sample Time								
J1HK23	SOIL	4/26/11	1225		X			MHKQE			
J1HK24	SOIL	4/26/11	1010		X			MHKQQ			
J1HK25	SOIL	4/26/11	1235		X			MHKQR			
J1HK26	SOIL	4/26/11	1000		X			MHKQT			
J1HK27	SOIL	4/26/11	1300		X			MHKQ1			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MATT BANOWSKI	4-26-11 1435	JV Fullmer	4/26/11 1455
JV Fullmer	4/26/11 1600	J.E. Beckl	4-26-11 1600
J.E. Beckl	4-27-11 1130	TALR camera Krana	4-27-11 1130

SPECIAL INSTRUCTIONS

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

J1D270569

SDG #

JP0171

DLC 5-04-11

REVIEWED BY AJ DATE 4-27-11

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-107-070	Page 2 of 4

Collector: M Blankenship / J Kuepfer	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L, 8S	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: NA	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx Hand-Deliver
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000016

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

J1D270569

Sample No.	Matrix *	Sample Date	Sample Time								
J1HK28	SOIL	4/26/11	1305		X			MHKQ4			
J1HK29	SOIL	4/26/11	0935		X			MHKQ7			
J1HK30	SOIL	4/26/11	0850		X			MHKQ9			
J1HK31	SOIL	4/26/11	0855		X			MHKRL			
J1HK32	SOIL	4/26/11	0930		X			MHKRN			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Matt Blankenship	4-26-11 1435	JV Fullmer	4/26/11 1435
JV Fullmer	4/26/11 1600	J. E. Beall	4-26-11 1600
J.E. Beall WCH	4-27-11 1130	TALR Carmen Krapa	4-27-11 1130

SPECIAL INSTRUCTIONS

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

WCH
J1D270569
SDG#
JP0171

REVIEWED BY AJ
DATE 4-27-11

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
Ve=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-107-070	Page 3 of 14

Collector: M Blankingship / J. Knepper	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 81 / 813	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: NA	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx — Hand-Deliver
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

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Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D+	VOA - 5035/8260 (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK33 / SOIL / 4/26/11 / 0840		X			MHKR2					
J1HK34 / SOIL / 4/26/11 / 0900		X			MHKR9					
J1HK35 / SOIL / 4/26/11 / 0825		X			MHKT0					
J1HK36 / SOIL / 4/26/11 / 0830		X			MHKT0					
J1HK37 / SOIL / 4/26/11 / 0850		X			MHKT2					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MHBlankingship	1435 4-26-11	JV Fullmer	1435 4/26/11
JV Fullmer	1600 4/26/11	J. E. Bahl	1600 4-26-11
J. E. Bahl	1130 4-27-11	PHLP / Carmen Kropa	1130 4.27.11

SPECIAL INSTRUCTIONS

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

WCH.
J1D270569

REVIEWED BY A7
DATE 4-27-11

JP0171
SDG#

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-107-070	Page 4 of 14

Collector: M. Blankenship / J. Kuepper	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L, 8B — Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: NA	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx — Hand-Deliver	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000018

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C				
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG				
No. of Container(s)	1	1	1	5	1	1	1				
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				
Sample No. / Matrix * / Sample Date / Sample Time											
J1HK38 / SOIL / 4/26/11 / 0955		X			MHKVE						
J1HK39 / SOIL / 4/26/11 / 1320		X			MHKVL						
J1HK40 / SOIL / 4/26/11 / 1335		X			MHKVN						
J1HK41 / SOIL / 4/26/11 / 1235		X			MHKV3						
~~J1HK42 / SOIL~~ / AJ 4-22-11											

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Matt Blankenship	1435 4-26-11	JV Fullmer	1435 4/26/11
JV Fullmer	1600 4/26/11	J.E. Beck	1600 4-26-11
J.E. Beck	1130 4-27-11	TALP Carmen Krapa	1130 4.27.11

SPECIAL INSTRUCTIONS

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

REVIEWED BY AJ
DATE 4-27-11

J1D270569
SDG#
JP0171
DUE: 5/04/11

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:	600-151		DATA PACKAGE:	JP0171	
VALIDATOR:	ELR	LAB: TAL		DATE: 5/13/11	
			SDG:	JP0171	

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				
J1HK23	J1HK24	J1HK25	J1HK26	J1HK27
J1HK28	J1HK29	J1HK30	J1HK31	J1HK32
J1HK33	J1HK34	J1HK35	J1HK36	J1HK37
J1HK38	J1HK39	J1HK40	J1HK41	
				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 FB

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: MS - SL70 - J all

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: _____

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

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 04-May-11

Report No. : 46459

SDG No.: JP0171

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
1118340 MATRIX SPIKE, J1HK23								
MHKQE1AC	HEXCHROME	5.88E+00 +- 0.0E+00		mg/kg	N/A	56%	-0.4	1.54E-01
1118340 LCS,								
MHM061AC	HEXCHROME	1.89E+01 +- 0.0E+00		mg/kg	N/A	95%	-0.1	1.55E-01
1118340 BLANK QC,								
MHM061AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 3

Date: 16 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-H Remaining Sites Burial Grounds – Soil Full Protocol - Waste Site 600-151
Subject: Volatile Organic - Data Package No. JP0171-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. JP0171 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
J1HK23	4/26/11	Soil	C	See note 1
J1HK24	4/26/11	Soil	C	See note 1
J1HK25	4/26/11	Soil	C	See note 1
J1HK26	4/26/11	Soil	C	See note 1
J1HK27	4/26/11	Soil	C	See note 1
J1HK28	4/26/11	Soil	C	See note 1
J1HK29	4/26/11	Soil	C	See note 1
J1HK30	4/26/11	Soil	C	See note 1
J1HK31	4/26/11	Soil	C	See note 1
J1HK32	4/26/11	Soil	C	See note 1
J1HK33	4/26/11	Soil	C	See note 1
J1HK34	4/26/11	Soil	C	See note 1
J1HK35	4/26/11	Soil	C	See note 1
J1HK36	4/26/11	Soil	C	See note 1
J1HK37	4/26/11	Soil	C	See note 1
J1HK38	4/26/11	Soil	C	See note 1
J1HK39	4/26/11	Soil	C	See note 1
J1HK40	4/26/11	Soil	C	See note 1
J1HK41	4/26/11	Soil	C	See note 1
J1HKF5	4/26/11	Soil	C	See note 1

1 – Volatile organics by 8260B.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). 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 analyzed within 14 days of the date of sample collection.

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

One field (trip) blank (J1HKF5) was submitted for analysis. 2-butanone was detected in the trip blank. Under the WCH statement of work, no qualification is required.

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.

Due to RPDs outside QC limits, all carbon tetrachloride (45%), 1,1-dichloroethane (32%), 1,2-dichloroethene (37%), 1,1-dichlorethene (45%), methylene chloride (33%), tetrachloroethene (33%), 1,1,1-trichloroethane (55%) and trichloroethene (34%) results were qualified as estimates and flagged "J".

All other duplicate results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1HK25/J1HK41) 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. One analyte exceeded the RQL. Under the WCH statement of work, no qualification is required. All other analytes met the RQL.

Completeness

Data package No. JP0171 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 RPDs outside QC limits, all carbon tetrachloride (45%), 1,1-dichloroethane (32%), 1,2-dichloroethene (37%), 1,1-dichlorethene (45%), methylene chloride (33%), tetrachloroethene (33%), 1,1,1-trichloroethane (55%) and trichloroethene (34%) 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.

One analyte 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-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

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

VOLATILE ORGANIC DATA QUALIFICATION SUMMARY*

SDG: JP0171	REVIEWER: ELR	Project: 600-151	PAGE_1_OF_1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
carbon tetrachloride 1,1-dichloroethane 1,2-dichloroethene 1,1-dichlorethene methylene chloride tetrachloroethene 1,1,1-trichloroethane trichloroethene	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: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK23**

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6246.D
Dilution:	1.0			Initial Weight/Volume:	4.487 g
Analysis Date:	04/29/2011 1447			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

µ 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.4	U	6.4	24
Benzene		0.56	U	0.56	5.9
Bromodichloromethane		0.26	U	0.26	5.9
Bromoform		0.27	U	0.27	5.9
Bromomethane		0.59	U	0.59	12
2-Butanone (MEK)		2.2	U	2.2	12
Carbon disulfide		0.50	U	0.50	5.9
Carbon tetrachloride		0.75	U J	0.75	5.9
Chlorobenzene		0.64	U	0.64	5.9
Dibromochloromethane		0.68	U	0.68	5.9
Chloroethane		1.1	U	1.1	12
Chloroform		0.34	U	0.34	5.9
Chloromethane		0.92	U	0.92	12
1,1-Dichloroethane		0.25	U J	0.25	5.9
1,2-Dichloroethane		0.83	U	0.83	5.9
1,1-Dichloroethene		0.70	U J	0.70	5.9
1,2-Dichloroethene, Total		0.46	U J	0.46	5.9
1,2-Dichloropropane		0.65	U	0.65	5.9
cis-1,3-Dichloropropene		1.5	U	1.5	5.9
trans-1,3-Dichloropropene		0.80	U	0.80	5.9
Ethylbenzene		0.80	U	0.80	5.9
2-Hexanone		5.8	U	5.8	24
Methylene Chloride		0.89	U J	0.89	5.9
4-Methyl-2-pentanone (MIBK)		5.2	U	5.2	12
Styrene		0.75	U	0.75	5.9
1,1,2,2-Tetrachloroethane		0.73	U	0.73	5.9
Tetrachloroethene		0.70	U J	0.70	5.9
Toluene		0.82	U	0.82	5.9
1,1,1-Trichloroethane		0.62	U J	0.62	5.9
1,1,2-Trichloroethane		1.0	U	1.0	5.9
Trichloroethene		0.27	U J	0.27	5.9
Vinyl chloride		1.6	U	1.6	5.9
Xylenes, Total		0.73	U	0.73	5.9

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		58 - 140
Toluene-d8 (Surr)	114		80 - 126
4-Bromofluorobenzene (Surr)	124		76 - 127
Dibromofluoromethane (Surr)	99		75 - 121

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK23**

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6246.D
Dilution:	1.0			Initial Weight/Volume:	4.487 g
Analysis Date:	04/29/2011 1447			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/4/11

000012

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK24

Lab Sample ID: 280-15156-2
Client Matrix: Solid

% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6303.D
Dilution:	1.0			Initial Weight/Volume:	4.321 g
Analysis Date:	04/30/2011 1810			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

r 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		13	J	6.7	25
Benzene		0.59	U	0.59	6.3
Bromodichloromethane		0.28	U	0.28	6.3
Bromoform		0.29	U	0.29	6.3
Bromomethane		0.63	U	0.63	13
2-Butanone (MEK)		2.3	U	2.3	13
Carbon disulfide		0.53	U	0.53	6.3
Carbon tetrachloride		0.79	U J	0.79	6.3
Chlorobenzene		0.68	U	0.68	6.3
Dibromochloromethane		0.71	U	0.71	6.3
Chloroethane		1.1	U	1.1	13
Chloroform		0.36	U	0.36	6.3
Chloromethane		0.96	U	0.96	13
1,1-Dichloroethane		0.26	U J	0.26	6.3
1,2-Dichloroethane		0.88	U	0.88	6.3
1,1-Dichloroethene		0.74	U J	0.74	6.3
1,2-Dichloroethene, Total		0.49	U J	0.49	6.3
1,2-Dichloropropane		0.69	U	0.69	6.3
cis-1,3-Dichloropropene		1.6	U	1.6	6.3
trans-1,3-Dichloropropene		0.84	U	0.84	6.3
Ethylbenzene		0.84	U	0.84	6.3
2-Hexanone		6.1	U	6.1	25
Methylene Chloride		0.94	U J	0.94	6.3
4-Methyl-2-pentanone (MIBK)		5.5	U	5.5	13
Styrene		0.79	U	0.79	6.3
1,1,2,2-Tetrachloroethane		0.76	U	0.76	6.3
Tetrachloroethene		0.74	U J	0.74	6.3
Toluene		0.86	U	0.86	6.3
1,1,1-Trichloroethane		0.65	U J	0.65	6.3
1,1,2-Trichloroethane		1.1	U	1.1	6.3
Trichloroethene		0.29	U J	0.29	6.3
Vinyl chloride		1.7	U	1.7	6.3
Xylenes, Total		0.76	U	0.76	6.3

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	85		58 - 140
Toluene-d8 (Surr)	121		80 - 126
4-Bromofluorobenzene (Surr)	133	*	76 - 127
Dibromofluoromethane (Surr)	94		75 - 121

000013

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK24**

Lab Sample ID: 280-15156-2
Client Matrix: Solid
% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6303.D
Dilution:	1.0			Initial Weight/Volume:	4.321 g
Analysis Date:	04/30/2011 1810			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/19/11

000014

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK25

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6248.D
Dilution:	1.0			Initial Weight/Volume:	4.036 g
Analysis Date:	04/29/2011 1533			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		7.0	U	7.0	26
Benzene		0.61	U	0.61	6.5
Bromodichloromethane		0.29	U	0.29	6.5
Bromoform		0.30	U	0.30	6.5
Bromomethane		0.65	U	0.65	13
2-Butanone (MEK)		2.4	U	2.4	13
Carbon disulfide		0.55	U	0.55	6.5
Carbon tetrachloride		0.82	U J	0.82	6.5
Chlorobenzene		0.70	U	0.70	6.5
Dibromochloromethane		0.74	U	0.74	6.5
Chloroethane		1.2	U	1.2	13
Chloroform		0.38	U	0.38	6.5
Chloromethane		1.0	U	1.0	13
1,1-Dichloroethane		0.27	U J	0.27	6.5
1,2-Dichloroethane		0.91	U	0.91	6.5
1,1-Dichloroethene		0.77	U J	0.77	6.5
1,2-Dichloroethene, Total		0.51	U J	0.51	6.5
1,2-Dichloropropane		0.71	U	0.71	6.5
cis-1,3-Dichloropropene		1.7	U	1.7	6.5
trans-1,3-Dichloropropene		0.87	U	0.87	6.5
Ethylbenzene		0.87	U	0.87	6.5
2-Hexanone		6.4	U	6.4	26
Methylene Chloride		0.97	U J	0.97	6.5
4-Methyl-2-pentanone (MIBK)		5.7	U	5.7	13
Styrene		0.82	U	0.82	6.5
1,1,2,2-Tetrachloroethane		0.79	U	0.79	6.5
Tetrachloroethene		0.77	U J	0.77	6.5
Toluene		0.90	U	0.90	6.5
1,1,1-Trichloroethane		0.68	U J	0.68	6.5
1,1,2-Trichloroethane		1.1	U	1.1	6.5
Trichloroethene		0.30	U J	0.30	6.5
Vinyl chloride		1.7	U	1.7	6.5
Xylenes, Total		0.79	U	0.79	6.5

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108		58 - 140
Toluene-d8 (Surr)	122		80 - 126
4-Bromofluorobenzene (Surr)	118		76 - 127
Dibromofluoromethane (Surr)	111		75 - 121

000015

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK25**

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6248.D
Dilution:	1.0			Initial Weight/Volume:	4.036 g
Analysis Date:	04/29/2011 1533			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/17/11

000016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK26**

Lab Sample ID: 280-15156-4
Client Matrix: Solid
% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6249.D
Dilution:	1.0			Initial Weight/Volume:	4.38 g
Analysis Date:	04/29/2011 1556			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

r 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.7	U	6.7	25
Benzene		0.59	U	0.59	6.3
Bromodichloromethane		0.28	U	0.28	6.3
Bromoform		0.29	U	0.29	6.3
Bromomethane		0.63	U	0.63	13
2-Butanone (MEK)		2.3	U	2.3	13
Carbon disulfide		0.53	U	0.53	6.3
Carbon tetrachloride		0.79	U J	0.79	6.3
Chlorobenzene		0.68	U	0.68	6.3
Dibromochloromethane		0.71	U	0.71	6.3
Chloroethane		1.1	U	1.1	13
Chloroform		0.36	U	0.36	6.3
Chloromethane		0.96	U	0.96	13
1,1-Dichloroethane		0.26	U J	0.26	6.3
1,2-Dichloroethane		0.88	U	0.88	6.3
1,1-Dichloroethene		0.74	U J	0.74	6.3
1,2-Dichloroethene, Total		0.49	U J	0.49	6.3
1,2-Dichloropropane		0.69	U	0.69	6.3
cis-1,3-Dichloropropene		1.6	U	1.6	6.3
trans-1,3-Dichloropropene		0.84	U	0.84	6.3
Ethylbenzene		0.84	U	0.84	6.3
2-Hexanone		6.1	U	6.1	25
Methylene Chloride		0.94	U J	0.94	6.3
4-Methyl-2-pentanone (MIBK)		5.5	U	5.5	13
Styrene		0.79	U	0.79	6.3
1,1,2,2-Tetrachloroethane		0.76	U	0.76	6.3
Tetrachloroethene		0.74	U J	0.74	6.3
Toluene		0.86	U	0.86	6.3
1,1,1-Trichloroethane		0.65	U J	0.65	6.3
1,1,2-Trichloroethane		1.1	U	1.1	6.3
Trichloroethene		0.29	U J	0.29	6.3
Vinyl chloride		1.7	U	1.7	6.3
Xylenes, Total		0.76	U	0.76	6.3

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96		58 - 140
Toluene-d8 (Surr)	113		80 - 126
4-Bromofluorobenzene (Surr)	119		76 - 127
Dibromofluoromethane (Surr)	100		75 - 121

000017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK26**

Lab Sample ID: 280-15156-4
Client Matrix: Solid
% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6249.D
Dilution:	1.0			Initial Weight/Volume:	4.38 g
Analysis Date:	04/29/2011 1556			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/04/11

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK27

Lab Sample ID: 280-15156-5
Client Matrix: Solid

% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6250.D
Dilution:	1.0			Initial Weight/Volume:	4.151 g
Analysis Date:	04/29/2011 1619			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

✓ 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		7.0	U	7.0	26
Benzene		0.61	U	0.61	6.5
Bromodichloromethane		0.28	U	0.28	6.5
Bromoform		0.30	U	0.30	6.5
Bromomethane		0.65	U	0.65	13
2-Butanone (MEK)		2.4	U	2.4	13
Carbon disulfide		0.54	U	0.54	6.5
Carbon tetrachloride		0.81	U J	0.81	6.5
Chlorobenzene		0.70	U	0.70	6.5
Dibromochloromethane		0.74	U	0.74	6.5
Chloroethane		1.2	U	1.2	13
Chloroform		0.37	U	0.37	6.5
Chloromethane		1.0	U	1.0	13
1,1-Dichloroethane		0.27	U J	0.27	6.5
1,2-Dichloroethane		0.90	U	0.90	6.5
1,1-Dichloroethene		0.76	U J	0.76	6.5
1,2-Dichloroethene, Total		0.50	U J	0.50	6.5
1,2-Dichloropropane		0.71	U	0.71	6.5
cis-1,3-Dichloropropene		1.7	U	1.7	6.5
trans-1,3-Dichloropropene		0.87	U	0.87	6.5
Ethylbenzene		0.87	U	0.87	6.5
2-Hexanone		6.3	U	6.3	26
Methylene Chloride		0.97	U J	0.97	6.5
4-Methyl-2-pentanone (MIBK)		5.6	U	5.6	13
Styrene		0.81	U	0.81	6.5
1,1,2,2-Tetrachloroethane		0.79	U	0.79	6.5
Tetrachloroethene		0.76	U J	0.76	6.5
Toluene		0.89	U	0.89	6.5
1,1,1-Trichloroethane		0.67	U J	0.67	6.5
1,1,2-Trichloroethane		1.1	U	1.1	6.5
Trichloroethene		0.30	U J	0.30	6.5
Vinyl chloride		1.7	U	1.7	6.5
Xylenes, Total		0.79	U	0.79	6.5

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		58 - 140
Toluene-d8 (Surr)	116		80 - 126
4-Bromofluorobenzene (Surr)	123		76 - 127
Dibromofluoromethane (Surr)	99		75 - 121

000019

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK27**

Lab Sample ID: 280-15156-5
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6250.D
Dilution:	1.0			Initial Weight/Volume:	4.151 g
Analysis Date:	04/29/2011 1619			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/04/11

000020

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK28

Lab Sample ID: 280-15156-6
Client Matrix: Solid
% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6304.D
Dilution:	1.0			Initial Weight/Volume:	2.877 g
Analysis Date:	04/30/2011 1833			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

✓ 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		11	U	11	39
Benzene		0.92	U	0.92	9.8
Bromodichloromethane		0.43	U	0.43	9.8
Bromoform		0.45	U	0.45	9.8
Bromomethane		0.98	U	0.98	20
2-Butanone (MEK)		3.6	U	3.6	20
Carbon disulfide		0.82	U	0.82	9.8
Carbon tetrachloride		1.2	U J	1.2	9.8
Chlorobenzene		1.1	U	1.1	9.8
Dibromochloromethane		1.1	U	1.1	9.8
Chloroethane		1.7	U	1.7	20
Chloroform		0.57	U	0.57	9.8
Chloromethane		1.5	U	1.5	20
1,1-Dichloroethane		0.41	U J	0.41	9.8
1,2-Dichloroethane		1.4	U	1.4	9.8
1,1-Dichloroethene		1.2	U J	1.2	9.8
1,2-Dichloroethene, Total		0.76	U J	0.76	9.8
1,2-Dichloropropane		1.1	U	1.1	9.8
cis-1,3-Dichloropropene		2.5	U	2.5	9.8
trans-1,3-Dichloropropene		1.3	U	1.3	9.8
Ethylbenzene		1.3	U	1.3	9.8
2-Hexanone		9.5	U	9.5	39
Methylene Chloride		1.5	U J	1.5	9.8
4-Methyl-2-pentanone (MIBK)		8.5	U	8.5	20
Styrene		1.2	U	1.2	9.8
1,1,2,2-Tetrachloroethane		1.2	U	1.2	9.8
Tetrachloroethene		1.2	U J	1.2	9.8
Toluene		1.3	U	1.3	9.8
1,1,1-Trichloroethane		1.0	U J	1.0	9.8
1,1,2-Trichloroethane		1.7	U	1.7	9.8
Trichloroethene		0.45	U J	0.45	9.8
Vinyl chloride		2.6	U	2.6	9.8
Xylenes, Total		1.2	U	1.2	9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88		58 - 140
Toluene-d8 (Surr)	118		80 - 126
4-Bromofluorobenzene (Surr)	128		76 - 127
Dibromofluoromethane (Surr)	95		75 - 121

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK28**

Lab Sample ID: 280-15156-6
Client Matrix: Solid
% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6304.D
Dilution:	1.0			Initial Weight/Volume:	2.877 g
Analysis Date:	04/30/2011 1833			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/04/11

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

000022

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK29**

Lab Sample ID: 280-15156-7
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6252.D
Dilution:	1.0			Initial Weight/Volume:	4.301 g
Analysis Date:	04/29/2011 1734			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/04/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.7	U	6.7	25
Benzene		0.58	U	0.58	6.2
Bromodichloromethane		0.27	U	0.27	6.2
Bromoform		0.29	U	0.29	6.2
Bromomethane		0.62	U	0.62	12
2-Butanone (MEK)		2.3	U	2.3	12
Carbon disulfide		0.52	U	0.52	6.2
Carbon tetrachloride		0.78	U J	0.78	6.2
Chlorobenzene		0.67	U	0.67	6.2
Dibromochloromethane		0.71	U	0.71	6.2
Chloroethane		1.1	U	1.1	12
Chloroform		0.36	U	0.36	6.2
Chloromethane		0.95	U	0.95	12
1,1-Dichloroethane		0.26	U J	0.26	6.2
1,2-Dichloroethane		0.87	U	0.87	6.2
1,1-Dichloroethene		0.73	U J	0.73	6.2
1,2-Dichloroethene, Total		0.48	U J	0.48	6.2
1,2-Dichloropropane		0.68	U	0.68	6.2
cis-1,3-Dichloropropene		1.6	U	1.6	6.2
trans-1,3-Dichloropropene		0.83	U	0.83	6.2
Ethylbenzene		0.83	U	0.83	6.2
2-Hexanone		6.1	U	6.1	25
Methylene Chloride		0.93	U J	0.93	6.2
4-Methyl-2-pentanone (MIBK)		5.4	U	5.4	12
Styrene		0.78	U	0.78	6.2
1,1,2,2-Tetrachloroethane		0.76	U	0.76	6.2
Tetrachloroethene		0.73	U J	0.73	6.2
Toluene		0.86	U	0.86	6.2
1,1,1-Trichloroethane		0.64	U J	0.64	6.2
1,1,2-Trichloroethane		1.1	U	1.1	6.2
Trichloroethene		0.29	U J	0.29	6.2
Vinyl chloride		1.7	U	1.7	6.2
Xylenes, Total		0.76	U	0.76	6.2

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		58 - 140
Toluene-d8 (Surr)	115		80 - 126
4-Bromofluorobenzene (Surr)	117		76 - 127
Dibromofluoromethane (Surr)	99		75 - 121

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK29**

Lab Sample ID: 280-15156-7
Client Matrix: Solid % Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6252.D
Dilution:	1.0			Initial Weight/Volume:	4.301 g
Analysis Date:	04/29/2011 1734			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/04/11

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK30

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6253.D
Dilution:	1.0			Initial Weight/Volume:	4.324 g
Analysis Date:	04/29/2011 1757			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.9	U	6.9	26
Benzene		0.60	U	0.60	6.4
Bromodichloromethane		0.28	U	0.28	6.4
Bromoform		0.29	U	0.29	6.4
Bromomethane		0.64	U	0.64	13
2-Butanone (MEK)		2.3	U	2.3	13
Carbon disulfide		0.54	U	0.54	6.4
Carbon tetrachloride		0.81	U J	0.81	6.4
Chlorobenzene		0.69	U	0.69	6.4
Dibromochloromethane		0.73	U	0.73	6.4
Chloroethane		1.1	U	1.1	13
Chloroform		0.37	U	0.37	6.4
Chloromethane		0.99	U	0.99	13
1,1-Dichloroethane		0.27	U J	0.27	6.4
1,2-Dichloroethane		0.90	U	0.90	6.4
1,1-Dichloroethene		0.76	U J	0.76	6.4
1,2-Dichloroethene, Total		0.50	U J	0.50	6.4
1,2-Dichloropropane		0.70	U	0.70	6.4
cis-1,3-Dichloropropene		1.7	U	1.7	6.4
trans-1,3-Dichloropropene		0.86	U	0.86	6.4
Ethylbenzene		0.86	U	0.86	6.4
2-Hexanone		6.3	U	6.3	26
Methylene Chloride		0.96	U J	0.96	6.4
4-Methyl-2-pentanone (MIBK)		5.6	U	5.6	13
Styrene		0.81	U	0.81	6.4
1,1,2,2-Tetrachloroethane		0.78	U	0.78	6.4
Tetrachloroethene		0.76	U J	0.76	6.4
Toluene		0.88	U	0.88	6.4
1,1,1-Trichloroethane		0.67	U J	0.67	6.4
1,1,2-Trichloroethane		1.1	U	1.1	6.4
Trichloroethene		0.29	U J	0.29	6.4
Vinyl chloride		1.7	U	1.7	6.4
Xylenes, Total		0.78	U	0.78	6.4

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		58 - 140
Toluene-d8 (Surr)	108		80 - 126
4-Bromofluorobenzene (Surr)	108		76 - 127
Dibromofluoromethane (Surr)	97		75 - 121

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK30

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6253.D
Dilution:	1.0			Initial Weight/Volume:	4.324 g
Analysis Date:	04/29/2011 1757			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK31

Lab Sample ID: 280-15156-9
Client Matrix: Solid
% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6254.D
Dilution:	1.0			Initial Weight/Volume:	4.147 g
Analysis Date:	04/29/2011 1820			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

K 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		7.2	U	7.2	27
Benzene		0.63	U	0.63	6.7
Bromodichloromethane		0.30	U	0.30	6.7
Bromoform		0.31	U	0.31	6.7
Bromomethane		0.67	U	0.67	13
2-Butanone (MEK)		2.5	U	2.5	13
Carbon disulfide		0.56	U	0.56	6.7
Carbon tetrachloride		0.85	U J	0.85	6.7
Chlorobenzene		0.73	U	0.73	6.7
Dibromochloromethane		0.77	U	0.77	6.7
Chloroethane		1.2	U	1.2	13
Chloroform		0.39	U	0.39	6.7
Chloromethane		1.0	U	1.0	13
1,1-Dichloroethane		0.28	U J	0.28	6.7
1,2-Dichloroethane		0.94	U	0.94	6.7
1,1-Dichloroethene		0.79	U J	0.79	6.7
1,2-Dichloroethene, Total		0.52	U J	0.52	6.7
1,2-Dichloropropane		0.74	U	0.74	6.7
cis-1,3-Dichloropropene		1.7	U	1.7	6.7
trans-1,3-Dichloropropene		0.90	U	0.90	6.7
Ethylbenzene		0.90	U	0.90	6.7
2-Hexanone		6.6	U	6.6	27
Methylene Chloride		1.0	U J	1.0	6.7
4-Methyl-2-pentanone (MIBK)		5.9	U	5.9	13
Styrene		0.85	U	0.85	6.7
1,1,2,2-Tetrachloroethane		0.82	U	0.82	6.7
Tetrachloroethene		0.79	U J	0.79	6.7
Toluene		0.93	U	0.93	6.7
1,1,1-Trichloroethane		0.70	U J	0.70	6.7
1,1,2-Trichloroethane		1.2	U	1.2	6.7
Trichloroethene		0.31	U J	0.31	6.7
Vinyl chloride		1.8	U	1.8	6.7
Xylenes, Total		0.82	U	0.82	6.7

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		58 - 140
Toluene-d8 (Surr)	115		80 - 126
4-Bromofluorobenzene (Surr)	121		76 - 127
Dibromofluoromethane (Surr)	101		75 - 121

000027

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK31**

Lab Sample ID: 280-15156-9
Client Matrix: Solid
% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6254.D
Dilution:	1.0			Initial Weight/Volume:	4.147 g
Analysis Date:	04/29/2011 1820			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK32

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7 8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6305.D
Dilution:	1.0			Initial Weight/Volume:	4.857 g
Analysis Date:	04/30/2011 1856			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.0	U	6.0	22
Benzene		0.52	U	0.52	5.6
Bromodichloromethane		0.25	U	0.25	5.6
Bromoform		0.26	U	0.26	5.6
Bromomethane		0.56	U	0.56	11
2-Butanone (MEK)		2.0	U	2.0	11
Carbon disulfide		0.47	U	0.47	5.6
Carbon tetrachloride		0.70	U T J	0.70	5.6
Chlorobenzene		0.60	U	0.60	5.6
Dibromochloromethane		0.64	U	0.64	5.6
Chloroethane		0.99	U	0.99	11
Chloroform		0.32	U	0.32	5.6
Chloromethane		0.86	U	0.86	11
1,1-Dichloroethane		0.23	U J	0.23	5.6
1,2-Dichloroethane		0.78	U	0.78	5.6
1,1-Dichloroethene		0.66	U T J	0.66	5.6
1,2-Dichloroethene, Total		0.44	U T J	0.44	5.6
1,2-Dichloropropane		0.61	U	0.61	5.6
cis-1,3-Dichloropropene		1.4	U	1.4	5.6
trans-1,3-Dichloropropene		0.75	U	0.75	5.6
Ethylbenzene		0.75	U T	0.75	5.6
2-Hexanone		5.5	U	5.5	22
Methylene Chloride		0.84	U J	0.84	5.6
4-Methyl-2-pentanone (MIBK)		4.9	U	4.9	11
Styrene		0.70	U	0.70	5.6
1,1,2,2-Tetrachloroethane		0.68	U	0.68	5.6
Tetrachloroethene		0.66	U T J	0.66	5.6
Toluene		0.77	U	0.77	5.6
1,1,1-Trichloroethane		0.58	U J	0.58	5.6
1,1,2-Trichloroethane		0.98	U	0.98	5.6
Trichloroethene		0.26	U T J	0.26	5.6
Vinyl chloride		1.5	U	1.5	5.6
Xylenes, Total		0.68	U	0.68	5.6

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		58 - 140
Toluene-d8 (Surr)	117		80 - 126
4-Bromofluorobenzene (Surr)	112		76 - 127
Dibromofluoromethane (Surr)	98		75 - 121

000029

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK32**

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7.8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6305.D
Dilution:	1.0			Initial Weight/Volume:	4.857 g
Analysis Date:	04/30/2011 1856			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK33

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6256.D
Dilution:	1.0			Initial Weight/Volume:	5.324 g
Analysis Date:	04/29/2011 1906			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.5	U	5.5	20
Benzene		0.48	U	0.48	5.1
Bromodichloromethane		0.23	U	0.23	5.1
Bromoform		0.24	U	0.24	5.1
Bromomethane		0.51	U	0.51	10
2-Butanone (MEK)		1.9	U	1.9	10
Carbon disulfide		0.43	U	0.43	5.1
Carbon tetrachloride		0.64	U J	0.64	5.1
Chlorobenzene		0.55	U	0.55	5.1
Dibromochloromethane		0.58	U	0.58	5.1
Chloroethane		0.91	U	0.91	10
Chloroform		0.30	U	0.30	5.1
Chloromethane		0.79	U	0.79	10
1,1-Dichloroethane		0.21	U J	0.21	5.1
1,2-Dichloroethane		0.72	U	0.72	5.1
1,1-Dichloroethene		0.60	U J	0.60	5.1
1,2-Dichloroethene, Total		0.40	U J	0.40	5.1
1,2-Dichloropropane		0.56	U	0.56	5.1
cis-1,3-Dichloropropene		1.3	U	1.3	5.1
trans-1,3-Dichloropropene		0.69	U	0.69	5.1
Ethylbenzene		0.69	U	0.69	5.1
2-Hexanone		5.0	U	5.0	20
Methylene Chloride		0.77	U J	0.77	5.1
4-Methyl-2-pentanone (MIBK)		4.5	U	4.5	10
Styrene		0.64	U	0.64	5.1
1,1,2,2-Tetrachloroethane		0.62	U	0.62	5.1
Tetrachloroethene		0.60	U J	0.60	5.1
Toluene		0.71	U	0.71	5.1
1,1,1-Trichloroethane		0.53	U J	0.53	5.1
1,1,2-Trichloroethane		0.90	U	0.90	5.1
Trichloroethene		0.24	U J	0.24	5.1
Vinyl chloride		1.4	U	1.4	5.1
Xylenes, Total		0.62	U	0.62	5.1

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		58 - 140
Toluene-d8 (Surr)	118		80 - 126
4-Bromofluorobenzene (Surr)	123		76 - 127
Dibromofluoromethane (Surr)	101		75 - 121

000031

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK33

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6256.D
Dilution:	1.0			Initial Weight/Volume:	5.324 g
Analysis Date:	04/29/2011 1906			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK34**

Lab Sample ID: 280-15156-12
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6257.D
Dilution:	1.0			Initial Weight/Volume:	4.241 g
Analysis Date:	04/29/2011 1929			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.8	U	6.8	25
Benzene		0.60	U	0.60	6.3
Bromodichloromethane		0.28	U	0.28	6.3
Bromoform		0.29	U	0.29	6.3
Bromomethane		0.63	U	0.63	13
2-Butanone (MEK)		2.3	U	2.3	13
Carbon disulfide		0.53	U	0.53	6.3
Carbon tetrachloride		0.80	U J	0.80	6.3
Chlorobenzene		0.68	U	0.68	6.3
Dibromochloromethane		0.72	U	0.72	6.3
Chloroethane		1.1	U	1.1	13
Chloroform		0.37	U	0.37	6.3
Chloromethane		0.97	U	0.97	13
1,1-Dichloroethane		0.27	U J	0.27	6.3
1,2-Dichloroethane		0.89	U	0.89	6.3
1,1-Dichloroethene		0.75	U J	0.75	6.3
1,2-Dichloroethene, Total		0.49	U J	0.49	6.3
1,2-Dichloropropane		0.70	U	0.70	6.3
cis-1,3-Dichloropropene		1.6	U	1.6	6.3
trans-1,3-Dichloropropene		0.85	U	0.85	6.3
Ethylbenzene		0.85	U	0.85	6.3
2-Hexanone		6.2	U	6.2	25
Methylene Chloride		0.95	U J	0.95	6.3
4-Methyl-2-pentanone (MIBK)		5.5	U	5.5	13
Styrene		0.80	U	0.80	6.3
1,1,2,2-Tetrachloroethane		0.77	U	0.77	6.3
Tetrachloroethene		0.75	U J	0.75	6.3
Toluene		0.87	U	0.87	6.3
1,1,1-Trichloroethane		0.66	U J	0.66	6.3
1,1,2-Trichloroethane		1.1	U	1.1	6.3
Trichloroethene		0.29	U J	0.29	6.3
Vinyl chloride		1.7	U	1.7	6.3
Xylenes, Total		0.77	U	0.77	6.3

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		58 - 140
Toluene-d8 (Surr)	116		80 - 126
4-Bromofluorobenzene (Surr)	113		76 - 127
Dibromofluoromethane (Surr)	101		75 - 121

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK34

Lab Sample ID: 280-15156-12
Client Matrix: Solid
% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6257.D
Dilution:	1.0			Initial Weight/Volume:	4.241 g
Analysis Date:	04/29/2011 1929			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK35

Lab Sample ID: 280-15156-13
Client Matrix: Solid
% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6308.D
Dilution:	1.0			Initial Weight/Volume:	4.858 g
Analysis Date:	04/30/2011 2005			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.1	U	6.1	23
Benzene		0.53	U	0.53	5.6
Bromodichloromethane		0.25	U	0.25	5.6
Bromoform		0.26	U	0.26	5.6
Bromomethane		0.56	U	0.56	11
2-Butanone (MEK)		2.1	U	2.1	11
Carbon disulfide		0.47	U	0.47	5.6
Carbon tetrachloride		0.71	U J	0.71	5.6
Chlorobenzene		0.61	U	0.61	5.6
Dibromochloromethane		0.64	U	0.64	5.6
Chloroethane		1.0	U	1.0	11
Chloroform		0.33	U	0.33	5.6
Chloromethane		0.87	U	0.87	11
1,1-Dichloroethane		0.24	U J	0.24	5.6
1,2-Dichloroethane		0.79	U	0.79	5.6
1,1-Dichloroethene		0.67	U J	0.67	5.6
1,2-Dichloroethene, Total		0.44	U J	0.44	5.6
1,2-Dichloropropane		0.62	U	0.62	5.6
cis-1,3-Dichloropropene		1.5	U	1.5	5.6
trans-1,3-Dichloropropene		0.76	U	0.76	5.6
Ethylbenzene		0.76	U	0.76	5.6
2-Hexanone		5.5	U	5.5	23
Methylene Chloride		0.85	U J	0.85	5.6
4-Methyl-2-pentanone (MIBK)		4.9	U	4.9	11
Styrene		0.71	U	0.71	5.6
1,1,2,2-Tetrachloroethane		0.69	U	0.69	5.6
Tetrachloroethene		0.67	U J	0.67	5.6
Toluene		0.78	U	0.78	5.6
1,1,1-Trichloroethane		0.59	U J	0.59	5.6
1,1,2-Trichloroethane		0.99	U	0.99	5.6
Trichloroethene		0.26	U J	0.26	5.6
Vinyl chloride		1.5	U	1.5	5.6
Xylenes, Total		0.69	U	0.69	5.6

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		58 - 140
Toluene-d8 (Surr)	121		80 - 126
4-Bromofluorobenzene (Surr)	127		76 - 127
Dibromofluoromethane (Surr)	100		75 - 121

000035

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK35

Lab Sample ID: 280-15156-13
Client Matrix: Solid

% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6308.D
Dilution:	1.0			Initial Weight/Volume:	4.858 g
Analysis Date:	04/30/2011 2005			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

K 5/1/11

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

000036

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK36**

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6309.D
Dilution:	1.0			Initial Weight/Volume:	3.544 g
Analysis Date:	04/30/2011 2028			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

✓ 5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		8.0	U	8.0	30
Benzene		0.70	U	0.70	7.4
Bromodichloromethane		0.33	U	0.33	7.4
Bromoform		0.34	U	0.34	7.4
Bromomethane		0.74	U	0.74	15
2-Butanone (MEK)		2.7	U	2.7	15
Carbon disulfide		0.62	U	0.62	7.4
Carbon tetrachloride		0.94	U J	0.94	7.4
Chlorobenzene		0.80	U	0.80	7.4
Dibromochloromethane		0.85	U	0.85	7.4
Chloroethane		1.3	U	1.3	15
Chloroform		0.43	U	0.43	7.4
Chloromethane		1.1	U	1.1	15
1,1-Dichloroethane		0.31	U J	0.31	7.4
1,2-Dichloroethane		1.0	U	1.0	7.4
1,1-Dichloroethene		0.88	U J	0.88	7.4
1,2-Dichloroethene, Total		0.58	U J	0.58	7.4
1,2-Dichloropropane		0.82	U	0.82	7.4
cis-1,3-Dichloropropene		1.9	U	1.9	7.4
trans-1,3-Dichloropropene		1.0	U	1.0	7.4
Ethylbenzene		1.0	U	1.0	7.4
2-Hexanone		7.3	U	7.3	30
Methylene Chloride		1.1	U J	1.1	7.4
4-Methyl-2-pentanone (MIBK)		6.5	U	6.5	15
Styrene		0.94	U	0.94	7.4
1,1,2,2-Tetrachloroethane		0.91	U	0.91	7.4
Tetrachloroethene		0.88	U J	0.88	7.4
Toluene		1.0	U	1.0	7.4
1,1,1-Trichloroethane		0.77	U J	0.77	7.4
1,1,2-Trichloroethane		1.3	U	1.3	7.4
Trichloroethene		0.34	U J	0.34	7.4
Vinyl chloride		2.0	U	2.0	7.4
Xylenes, Total		0.91	U	0.91	7.4

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		58 - 140
Toluene-d8 (Surr)	126		80 - 126
4-Bromofluorobenzene (Surr)	132	*	76 - 127
Dibromofluoromethane (Surr)	98		75 - 121

000037

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK36

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6309.D
Dilution:	1.0			Initial Weight/Volume:	3.544 g
Analysis Date:	04/30/2011 2028			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/12/11

000038

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK37

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65478	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6265.D
Dilution:	1.0			Initial Weight/Volume:	4.544 g
Analysis Date:	04/29/2011 2310			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.8	J	6.4	24
Benzene		0.56	U	0.56	5.9
Bromodichloromethane		0.26	U	0.26	5.9
Bromoform		0.27	U	0.27	5.9
Bromomethane		0.59	U	0.59	12
2-Butanone (MEK)		2.2	U	2.2	12
Carbon disulfide		0.50	U	0.50	5.9
Carbon tetrachloride		0.75	U J	0.75	5.9
Chlorobenzene		0.64	U	0.64	5.9
Dibromochloromethane		0.68	U	0.68	5.9
Chloroethane		1.1	U	1.1	12
Chloroform		0.34	U	0.34	5.9
Chloromethane		0.91	U	0.91	12
1,1-Dichloroethane		0.25	U J	0.25	5.9
1,2-Dichloroethane		0.83	U	0.83	5.9
1,1-Dichloroethene		0.70	U J	0.70	5.9
1,2-Dichloroethene, Total		0.46	U J	0.46	5.9
1,2-Dichloropropane		0.65	U	0.65	5.9
cis-1,3-Dichloropropene		1.5	U	1.5	5.9
trans-1,3-Dichloropropene		0.80	U	0.80	5.9
Ethylbenzene		0.80	U	0.80	5.9
2-Hexanone		5.8	U	5.8	24
Methylene Chloride		0.89	U J	0.89	5.9
4-Methyl-2-pentanone (MIBK)		5.2	U	5.2	12
Styrene		0.75	U	0.75	5.9
1,1,2,2-Tetrachloroethane		0.72	U	0.72	5.9
Tetrachloroethene		0.70	U J	0.70	5.9
Toluene		0.82	U	0.82	5.9
1,1,1-Trichloroethane		0.62	U J	0.62	5.9
1,1,2-Trichloroethane		1.0	U	1.0	5.9
Trichloroethene		0.27	U J	0.27	5.9
Vinyl chloride		1.6	U	1.6	5.9
Xylenes, Total		0.72	U	0.72	5.9

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		58 - 140
Toluene-d8 (Surr)	111		80 - 126
4-Bromofluorobenzene (Surr)	112		76 - 127
Dibromofluoromethane (Surr)	103		75 - 121

000039

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK37**

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65478	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6265.D
Dilution:	1.0			Initial Weight/Volume:	4.544 g
Analysis Date:	04/29/2011 2310			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

000040

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK38**

Lab Sample ID: 280-15156-16
Client Matrix: Solid
% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6239.D
Dilution:	1.0			Initial Weight/Volume:	5.011 g
Analysis Date:	04/29/2011 1205			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.9	U	5.9	22
Benzene		0.52	U	0.52	5.5
Bromodichloromethane		0.24	U	0.24	5.5
Bromoform		0.25	U	0.25	5.5
Bromomethane		0.55	U	0.55	11
2-Butanone (MEK)		2.0	U	2.0	11
Carbon disulfide		0.46	U	0.46	5.5
Carbon tetrachloride		0.69	U J	0.69	5.5
Chlorobenzene		0.59	U	0.59	5.5
Dibromochloromethane		0.63	U	0.63	5.5
Chloroethane		0.98	U	0.98	11
Chloroform		0.32	U	0.32	5.5
Chloromethane		0.85	U	0.85	11
1,1-Dichloroethane		0.23	U J	0.23	5.5
1,2-Dichloroethane		0.77	U	0.77	5.5
1,1-Dichloroethene		0.65	U J	0.65	5.5
1,2-Dichloroethene, Total		0.43	U T J	0.43	5.5
1,2-Dichloropropane		0.60	U	0.60	5.5
cis-1,3-Dichloropropene		1.4	U	1.4	5.5
trans-1,3-Dichloropropene		0.74	U	0.74	5.5
Ethylbenzene		0.74	U	0.74	5.5
2-Hexanone		5.4	U	5.4	22
Methylene Chloride		0.82	U J	0.82	5.5
4-Methyl-2-pentanone (MIBK)		4.8	U	4.8	11
Styrene		0.69	U	0.69	5.5
1,1,2,2-Tetrachloroethane		0.67	U	0.67	5.5
Tetrachloroethene		0.65	U J	0.65	5.5
Toluene		0.76	U	0.76	5.5
1,1,1-Trichloroethane		0.57	U J	0.57	5.5
1,1,2-Trichloroethane		0.97	U	0.97	5.5
Trichloroethene		0.25	U J	0.25	5.5
Vinyl chloride		1.5	U	1.5	5.5
Xylenes, Total		0.67	U	0.67	5.5

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94		58 - 140
Toluene-d8 (Surr)	114		80 - 126
4-Bromofluorobenzene (Surr)	118		76 - 127
Dibromofluoromethane (Surr)	98		75 - 121

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK38**

Lab Sample ID: 280-15156-16
Client Matrix: Solid

% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6239.D
Dilution:	1.0			Initial Weight/Volume:	5.011 g
Analysis Date:	04/29/2011 1205			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/14/11

000042

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK39

Lab Sample ID: 280-15156-17
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6242.D
Dilution:	1.0			Initial Weight/Volume:	5.118 g
Analysis Date:	04/29/2011 1314			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

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Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.5	U	5.5	20
Benzene		0.48	U	0.48	5.1
Bromodichloromethane		0.23	U	0.23	5.1
Bromoform		0.24	U	0.24	5.1
Bromomethane		0.51	U	0.51	10
2-Butanone (MEK)		1.9	U	1.9	10
Carbon disulfide		0.43	U	0.43	5.1
Carbon tetrachloride		0.65	U J	0.65	5.1
Chlorobenzene		0.55	U	0.55	5.1
Dibromochloromethane		0.58	U	0.58	5.1
Chloroethane		0.91	U	0.91	10
Chloroform		0.30	U	0.30	5.1
Chloromethane		0.79	U	0.79	10
1,1-Dichloroethane		0.22	U J	0.22	5.1
1,2-Dichloroethane		0.72	U	0.72	5.1
1,1-Dichloroethene		0.60	U J	0.60	5.1
1,2-Dichloroethene, Total		0.40	U J	0.40	5.1
1,2-Dichloropropane		0.56	U	0.56	5.1
cis-1,3-Dichloropropene		1.3	U	1.3	5.1
trans-1,3-Dichloropropene		0.69	U	0.69	5.1
Ethylbenzene		0.69	U	0.69	5.1
2-Hexanone		5.0	U	5.0	20
Methylene Chloride		0.77	U J	0.77	5.1
4-Methyl-2-pentanone (MIBK)		4.5	U	4.5	10
Styrene		0.65	U	0.65	5.1
1,1,2,2-Tetrachloroethane		0.63	U	0.63	5.1
Tetrachloroethene		0.60	U J	0.60	5.1
Toluene		0.71	U	0.71	5.1
1,1,1-Trichloroethane		0.53	U J	0.53	5.1
1,1,2-Trichloroethane		0.90	U	0.90	5.1
Trichloroethene		0.24	U J	0.24	5.1
Vinyl chloride		1.4	U	1.4	5.1
Xylenes, Total		0.63	U	0.63	5.1

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		58 - 140
Toluene-d8 (Surr)	108		80 - 126
4-Bromofluorobenzene (Surr)	106		76 - 127
Dibromofluoromethane (Surr)	97		75 - 121

000043

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK39**

Lab Sample ID: 280-15156-17
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6242.D
Dilution:	1.0			Initial Weight/Volume:	5.118 g
Analysis Date:	04/29/2011 1314			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

5/24/11

000044

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK40

Lab Sample ID: 280-15156-18
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6243.D
Dilution:	1.0			Initial Weight/Volume:	5.039 g
Analysis Date:	04/29/2011 1337			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.7	U	5.7	21
Benzene		0.50	U	0.50	5.3
Bromodichloromethane		0.23	U	0.23	5.3
Bromoform		0.24	U	0.24	5.3
Bromomethane		0.53	U	0.53	11
2-Butanone (MEK)		1.9	U	1.9	11
Carbon disulfide		0.44	U	0.44	5.3
Carbon tetrachloride		0.66	U J	0.66	5.3
Chlorobenzene		0.57	U	0.57	5.3
Dibromochloromethane		0.60	U	0.60	5.3
Chloroethane		0.94	U	0.94	11
Chloroform		0.31	U	0.31	5.3
Chloromethane		0.81	U	0.81	11
1,1-Dichloroethane		0.22	U J	0.22	5.3
1,2-Dichloroethane		0.74	U	0.74	5.3
1,1-Dichloroethene		0.62	U J	0.62	5.3
1,2-Dichloroethene, Total		0.41	U J	0.41	5.3
1,2-Dichloropropane		0.58	U	0.58	5.3
cis-1,3-Dichloropropene		1.4	U	1.4	5.3
trans-1,3-Dichloropropene		0.71	U	0.71	5.3
Ethylbenzene		0.71	U	0.71	5.3
2-Hexanone		5.2	U	5.2	21
Methylene Chloride		0.79	U J	0.79	5.3
4-Methyl-2-pentanone (MIBK)		4.6	U	4.6	11
Styrene		0.66	U	0.66	5.3
1,1,2,2-Tetrachloroethane		0.64	U	0.64	5.3
Tetrachloroethene		0.62	U J	0.62	5.3
Toluene		0.73	U	0.73	5.3
1,1,1-Trichloroethane		0.55	U J	0.55	5.3
1,1,2-Trichloroethane		0.93	U	0.93	5.3
Trichloroethene		0.24	U J	0.24	5.3
Vinyl chloride		1.4	U	1.4	5.3
Xylenes, Total		0.64	U	0.64	5.3

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		58 - 140
Toluene-d8 (Surr)	111		80 - 126
4-Bromofluorobenzene (Surr)	118		76 - 127
Dibromofluoromethane (Surr)	98		75 - 121

000045

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK40**

Lab Sample ID: 280-15156-18
Client Matrix: Solid

% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6243.D
Dilution:	1.0			Initial Weight/Volume:	5.039 g
Analysis Date:	04/29/2011 1337			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

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Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

000046

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK41**

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6244.D
Dilution:	1.0			Initial Weight/Volume:	5.261 g
Analysis Date:	04/29/2011 1400			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

5/14/11

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.4	U	5.4	20
Benzene		0.47	U	0.47	5.0
Bromodichloromethane		0.22	U	0.22	5.0
Bromoform		0.23	U	0.23	5.0
Bromomethane		0.50	U	0.50	10
2-Butanone (MEK)		1.8	U	1.8	10
Carbon disulfide		0.42	U	0.42	5.0
Carbon tetrachloride		0.64	U J	0.64	5.0
Chlorobenzene		0.55	U	0.55	5.0
Dibromochloromethane		0.58	U	0.58	5.0
Chloroethane		0.90	U	0.90	10
Chloroform		0.29	U	0.29	5.0
Chloromethane		0.78	U	0.78	10
1,1-Dichloroethane		0.21	U J	0.21	5.0
1,2-Dichloroethane		0.71	U	0.71	5.0
1,1-Dichloroethene		0.60	U J	0.60	5.0
1,2-Dichloroethene, Total		0.39	U J	0.39	5.0
1,2-Dichloropropane		0.56	U	0.56	5.0
cis-1,3-Dichloropropene		1.3	U	1.3	5.0
trans-1,3-Dichloropropene		0.68	U	0.68	5.0
Ethylbenzene		0.68	U	0.68	5.0
2-Hexanone		4.9	U	4.9	20
Methylene Chloride		0.76	U J	0.76	5.0
4-Methyl-2-pentanone (MIBK)		4.4	U	4.4	10
Styrene		0.64	U	0.64	5.0
1,1,2,2-Tetrachloroethane		0.62	U	0.62	5.0
Tetrachloroethene		0.60	U J	0.60	5.0
Toluene		0.70	U	0.70	5.0
1,1,1-Trichloroethane		0.53	U J	0.53	5.0
1,1,2-Trichloroethane		0.89	U	0.89	5.0
Trichloroethene		0.23	U J	0.23	5.0
Vinyl chloride		1.4	U	1.4	5.0
Xylenes, Total		0.62	U	0.62	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96		58 - 140
Toluene-d8 (Surr)	106		80 - 126
4-Bromofluorobenzene (Surr)	105		76 - 127
Dibromofluoromethane (Surr)	100		75 - 121

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK41**

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6244.D
Dilution:	1.0			Initial Weight/Volume:	5.261 g
Analysis Date:	04/29/2011 1400			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

K 5/14/11

000048

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HKF5**

Lab Sample ID: 280-15156-20
Client Matrix: Solid
% Moisture: 0.0

Date Sampled: 04/26/2011 0805
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6245.D
Dilution:	1.0			Initial Weight/Volume:	3.814 g
Analysis Date:	04/29/2011 1424			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

r slulli

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		41		7.1	26
Benzene		0.62	U	0.62	6.6
Bromodichloromethane		0.29	U	0.29	6.6
Bromoform		0.30	U	0.30	6.6
Bromomethane		0.66	U	0.66	13
2-Butanone (MEK)		9.0	J	2.4	13
Carbon disulfide		0.55	U	0.55	6.6
Carbon tetrachloride		0.83	U J	0.83	6.6
Chlorobenzene		0.71	U	0.71	6.6
Dibromochloromethane		0.75	U	0.75	6.6
Chloroethane		1.2	U	1.2	13
Chloroform		0.38	U	0.38	6.6
Chloromethane		1.0	U	1.0	13
1,1-Dichloroethane		0.28	U J	0.28	6.6
1,2-Dichloroethane		0.92	U	0.92	6.6
1,1-Dichloroethene		0.77	U J	0.77	6.6
1,2-Dichloroethene, Total		0.51	U J	0.51	6.6
1,2-Dichloropropane		0.72	U	0.72	6.6
cis-1,3-Dichloropropene		1.7	U	1.7	6.6
trans-1,3-Dichloropropene		0.88	U	0.88	6.6
Ethylbenzene		0.88	U	0.88	6.6
2-Hexanone		6.4	U	6.4	26
Methylene Chloride		0.98	U J	0.98	6.6
4-Methyl-2-pentanone (MIBK)		5.7	U	5.7	13
Styrene		0.83	U	0.83	6.6
1,1,2,2-Tetrachloroethane		0.80	U	0.80	6.6
Tetrachloroethene		0.77	U J	0.77	6.6
Toluene		0.90	U	0.90	6.6
1,1,1-Trichloroethane		0.68	U J	0.68	6.6
1,1,2-Trichloroethane		1.2	U	1.2	6.6
Trichloroethene		0.30	U J	0.30	6.6
Vinyl chloride		1.8	U	1.8	6.6
Xylenes, Total		0.80	U	0.80	6.6

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		58 - 140
Toluene-d8 (Surr)	109		80 - 126
4-Bromofluorobenzene (Surr)	103		76 - 127
Dibromofluoromethane (Surr)	98		75 - 121

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HKF5**

Lab Sample ID: 280-15156-20
Client Matrix: Solid

% Moisture: 0.0

Date Sampled: 04/26/2011 0805
Date Received: 04/28/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-64690	Lab File ID:	J6245.D
Dilution:	1.0			Initial Weight/Volume:	3.814 g
Analysis Date:	04/29/2011 1424			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				

✓ 5/14/11

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-15156-1

SDG #: JP0171
SAF#: RC-107

Date SDG Closed: April 28, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1HK23	280-15156-1	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK24	280-15156-2	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK25	280-15156-3	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK26	280-15156-4	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK27	280-15156-5	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK28	280-15156-6	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK29	280-15156-7	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK30	280-15156-8	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK31	280-15156-9	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK32	280-15156-10	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK33	280-15156-11	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK34	280-15156-12	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK35	280-15156-13	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK36	280-15156-14	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK37	280-15156-15	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK38	280-15156-16	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK39	280-15156-17	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK40	280-15156-18	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK41	280-15156-19	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HKF5	280-15156-20	8260	8260B

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 4/28/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 4.6 C, 3.8 C and 4.8 C.

Samples J1HK35, J1HK36 and J1HKF5, requesting 5035/8260 VOA analysis, were received at the laboratory after the recommended 48 hour sample holding time had expired. The client was notified on 4/29/2011.

000052

GC/MS VOLATILES - SW846 8260B

The 5035 prep for the samples presented in this report were performed after the recommended 48 hour sample holding times had expired. The samples were received at the laboratory with insufficient time remaining for the laboratory to perform the prep within the holding times. It is TestAmerica's policy to analyze all samples within holding times; however, the laboratory cannot guarantee that hold times will be met when samples are received with less than half the hold time remaining. The client was notified on 4/29/2011.

Surrogate 4-Bromofluorobenzene was recovered outside the control limits, biased high, in samples J1HK24, J1HK28 and J1HK36. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the samples, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK38 exhibited a spike compound recovery outside the control limits, and the associated sample result has been flagged "T". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK32 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition, 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 other anomalies were encountered.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased high, in sample J1HK24. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the sample, corrective action is deemed unnecessary.

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Low levels of Heptachlor are present in the method blank associated with batch 280-64708. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-65424 exhibited the percent recovery outside the control limits for Endrin aldehyde, and the associated sample result has been flagged "N". In addition, the RPD limit was exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-64708 exhibited spike compound recoveries outside the control limits. In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Continuing Calibration Verification (CCV) standards associated with samples in batch 280-64708 exhibited %Difference (%D) values >15%, biased low, as detailed below. The overall mean %D is ≤15%; therefore, method criteria have been met and corrective action is deemed unnecessary. It can be noted that a bracketing RL standard was used to demonstrate acceptable instrument sensitivity, despite %D values greater than 30% negative drift. The sequence is as follows: CCV1, LCS, J1HK28, MB, J1HK29, J1HK30, J1HK31, CCV2, J1HK32, J1HK33, J1HK34, J1HK38, J1HK40, J1HK41, CCV3, J1HK27, J1HK35, J1HK36, J1HK37, J1HK39, CCV4, J1HK23, J1HK24, J1HK26.

CCV1 = OK
CCV2 = 4,4'-DDT -18%, Methoxychlor -18%, Toxaphene -19%
CCV3 = OK
CCV4 = 4,4'-DDT -25%, Methoxychlor -18%
CCV5 = 4,4'-DDT -52%, Methoxychlor -44%, Toxaphene -22%

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 in sample J1HK27. The result has been flagged with a "P".

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased low, in sample J1HK38. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary. The laboratory noted that a Sulfuric Acid clean-up was performed on sample J1HK38 to reduce matrix interferences.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

The MS/MSD performed on sample J1HK24 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "N". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The laboratory noted that due to a system "linking" issue, a new lab ID had to be created for both the LCS and LCSD. This resulted in a prep date/time that followed the analysis date, which is not accurate. The LCS and LCSD were prepped at the same time the rest of the samples in batch 280-64721 were prepped.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs

In some cases the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Surrogate Terphenyl-d14 was recovered outside the control limits, biased high, in sample J1HK26. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-64750 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Serial dilution of a digestate in batch 280-65544 indicates that physical and chemical interferences are present for Cobalt, Lead, Manganese and Nickel. Results have been flagged with an "X".

Low levels of Calcium, Chromium, Iron and Manganese are present in the method blank associated with batch 280-64750. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, Lead and Manganese in the Matrix Spike performed on sample J1HK23 in batch 280-64750; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the SW846 6010B Matrix Spike performed on sample J1HK23, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

4.6, 3.8, 4.8

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 1 of 4

Collector: M. Blankenship / J. Kuepler	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L, 8B — Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, Richland — Dawer	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 7970345159 78	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000055

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time									
J1HK23	SOIL	4/26/11	1225	X		X	X	X	X	X		
J1HK24	SOIL	4/26/11	1010	X		X	X	X	X	X		
J1HK25	SOIL	4/26/11	1235	X		X	X	X	X	X		
J1HK26	SOIL	4/26/11	1000	X		X	X	X	X	X		
J1HK27	SOIL	4/26/11	1300	X		X	X	X	X	X		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: M. Blankenship	Date/Time 1435 4-26-11	Received By/Stored In: JV Fullmer	Date/Time 1435 4/26/11
Relinquished By/Removed From: JV Fullmer	Date/Time 1615 4/26/11	Received By/Stored In: A. Freier	Date/Time 1615 4-26-11
Relinquished By/Removed From: WCH A. Freier	Date/Time 1000 4-27-11	Received By/Stored In: FED EX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 4/28/11
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

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

* 20 ml vial – % moisture

** Freeze upon receipt
A# 4-26-11

JP0171

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

REVIEWED BY TEB DATE 4-27-11

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 2 of 4

Collector: M. Blankingship / J. Kuepfer	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 88	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 797034515978

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK28 / SOIL / 4/26/11 / 1305	X		X	X	X	X	X			
J1HK29 / SOIL / 4/26/11 / 0935	X		X	X	X	X	X			
J1HK30 / SOIL / 4/26/11 / 0850	X		X	X	X	X	X			
J1HK31 / SOIL / 4/26/11 / 0855	X		X	X	X	X	X			
J1HK32 / SOIL / 4/26/11 / 0930	X		X	X	X	X	X			

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	4-26-11 1435	JV Fullmer [signature]	4/26/11 1435
JV Fullmer [signature]	4/26/11 1615	A. Freier [signature]	4-26-11 1615
WCH A. Freier [signature]	4-27-11 1000	FED EX	
		[signature]	4/28/11

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

** freeze upon receipt AF 4-26-11

JP0171

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

REVIEWED BY JEB 4-27-11

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 3 of 30 4

Collector: M. Blankenship / J. Kuepper	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ 8B	Data Turnaround: ~~21~~ 7 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107		
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx		
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 797034515978		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

2500057

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
J1HK33	SOIL	4/26/11	0840	X		X	X	X	X	X			
J1HK34	SOIL	4/26/11	0900	X		X	X	X	X	X			
J1HK35	SOIL	4/26/11	0825	X		X	X	X	X	X			
J1HK36	SOIL	4/26/11	0830	X		X	X	X	X	X			
J1HK37	SOIL	4/26/11	0950	X		X	X	X	X	X			

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MAT Blankenship	1435 4-26-11	JV Fullmer	1435 4/26/11
JV Fullmer	1615 4/26/11	A. Freier	1615 4-26-11
A. Freier (WCH)	1000 4-27-11	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

* * freeze upon receipt

AS 4-26-11

JP0171

REVIEWED BY SEB DATE 4-27-11

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-107-070	Page 1 of ~~10~~ 4

Collector: M. Blankingship / J. Kuepper	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8D~~ 8B (ovr 4/25/11) — Data Turnaround: ~~21~~ 7 Days (ovr 4/25/11)
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (ovr 4/25/11)	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 79703451 5978	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196 (ovr 4/25/11)	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK38 / SOIL / 4/26/11 / 0955	X		X	X	X	X	X			
J1HK39 / SOIL / 4/26/11 / 1320	X		X	X	X	X	X			
J1HK40 / SOIL / 4/26/11 / 1335	X		X	X	X	X	X			
J1HK41 / SOIL / 4/26/11 / 1235	X		X	X	X	X	X			
~~J1HK42 / SOIL / / (ovr 4/26/11)~~										

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MATT BLANKINGSHIP	4-26-11 1435	Received By/Stored In: JV Fullmer	4/26/11 1435
Relinquished By/Removed From: JV Fullmer	4/26/11 1615	Received By/Stored In: A. Freier	4-26-11 1615
Relinquished By/Removed From: WCH A. Freier	4-27-11 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	4/28/11 930
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

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

* 20% 20 ml vial → % moisture (AJ 4-26-11)

** freeze upon receipt (AJ 4-26-11)

JPD171

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

REVIEWED BY SEB DATE 4-27-11

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-107-071	Page 1 of 1

Collector: M. Blankingship	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~8L~~ 8B (on 4/26/11)	Data Turnaround: ~~21 Days~~ 7 (on 4/26/11)		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver (AJ 4-26-11)	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 797034515978

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Freeze

650059

Preservation	Freeze											
Type of Container	Gs*											
No. of Container(s)	5											
Volume	40mL											
SAMPLE ANALYSIS	VOA - 5035/8260 (TCL) * **											
Sample No.	Matrix *	Sample Date	Sample Time									
J1HKF5	SOIL	4/26/11	0805	X								
J1HKF6	SOIL	(on 4/26/11)										
J1HKF7	SOIL	(on 4/26/11)										
J1HKF8	SOIL	(on 4/26/11)										

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MA Demerworth	4-26-11 1435	Received By/Stored In: JV Fulton	4-26-11 1435
Relinquished By/Removed From: JV Fulton	4/26/11 1600	Received By/Stored In: A. Freier	4-26-11 1600
Relinquished By/Removed From: WCH A. Freier	4-27-11 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	4/28/11 930
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

* 20ml vial → % moisture

** freeze upon receipt

AJ 4-26-11

REVIEWED BY JEB DATE 4-27-11

JP0171

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

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 600-151			DATA PACKAGE: JP0171		
VALIDATOR: ELR		LAB: TAL		DATE: 5/13/14	
			SDG: JP0171		
ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	~~SW-846 8270~~ SIM		SW-846 8270 (TCLP)
SAMPLES/MATRIX					
JIHK23	JIHK24	JIHK25	JIHK26	JIHK27	
JIHK28	JIHK29	JIHK30	JIHK31	JIHK32	
JIHK33	JIHK34	JIHK35	JIHK36	JIHK37	
JIHK38	JIHK39	JIHK40	JIHK41	JIHK42	
				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: no FB slight

2-butanone in 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? (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: Carbon tetrachloride (45%) 1,1-dichloroethane (32%)
1,2-dichloroethene (37%) 1,1-dichloroethane (45%)
methylene chloride (33%) tetrachloroethene (33%)
1,1,1-trichloroethane (55%) trichloroethene (34%) — Jalf

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: 1 over

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: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-64690

Method: 8260B
Preparation: 5035

Lab Sample :D:	MB 280-64690/1-A	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6238.D
Dilution:	1 0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	04/29/2011 1142	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acetone	5.4	U	5.4	20
Benzene	0.47	U	0.47	5.0
Bromodichloromethane	0.22	U	0.22	5.0
Bromoform	0.23	U	0.23	5.0
Bromomethane	0.50	U	0.50	10
2-Butanone (MEK)	1.8	U	1.8	10
Carbon disulfide	0.42	U	0.42	5.0
Carbon tetrachloride	0.63	U	0.63	5.0
Chlorobenzene	0.54	U	0.54	5.0
Dibromochloromethane	0.57	U	0.57	5.0
Chloroethane	0.89	U	0.89	10
Chloroform	0.29	U	0.29	5.0
Chloromethane	0.77	U	0.77	10
1,3-Dichlorobenzene	0.48	U	0.48	5.0
1,1-Dichloroethane	0.21	U	0.21	5.0
1,2-Dichloroethane	0.70	U	0.70	5.0
trans-1,2-Dichloroethene	0.39	U	0.39	2.5
1,1-Dichloroethene	0.59	U	0.59	5.0
1,2-Dichloroethene, Total	0.39	U	0.39	5.0
1,2-Dichloropropane	0.55	U	0.55	5.0
cis-1,3-Dichloropropene	1.3	U	1.3	5.0
trans-1,3-Dichloropropene	0.67	U	0.67	5.0
Ethylbenzene	0.67	U	0.67	5.0
2-Hexanone	4.9	U	4.9	20
Methylene Chloride	0.75	U	0.75	5.0
4-Methyl-2-pentanone (MIBK)	4.4	U	4.4	10
Styrene	0.63	U	0.63	5.0
1,1,2,2-Tetrachloroethane	0.61	U	0.61	5.0
Tetrachloroethene	0.59	U	0.59	5.0
Toluene	0.69	U	0.69	5.0
1,1,1-Trichloroethane	0.52	U	0.52	5.0
1,1,2-Trichloroethane	0.88	U	0.88	5.0
Trichloroethene	0.23	U	0.23	5.0
Vinyl chloride	1.3	U	1.3	5.0
Xylenes, Total	0.61	U	0.61	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89	58 - 140
Toluene-d8 (Surr)	103	80 - 126
4-Bromofluorobenzene (Surr)	102	76 - 127
Dibromofluoromethane (Surr)	93	75 - 121

000066

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank TICs- Batch: 280-64690

Cas Number	Analyte	RT	Est. Result	Qual
124-19-6	Nonanal	14.20	11.7	N J
	Unknown	16.29	5.57	J N
	Unknown	14.01	7.19	J N

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-64690

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-64690/84-A	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6234.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	04/29/2011 1000	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	50.0	49.8	100	76 - 120	
Bromodichloromethane	50.0	48.5	97	74 - 125	
Carbon tetrachloride	50.0	50.1	100	69 - 147	
Chlorobenzene	50.0	49.6	99	74 - 120	
Chloroform	50.0	47.0	94	77 - 125	
1,3-Dichlorobenzene	50.0	49.5	99	74 - 120	
1,1-Dichloroethane	50.0	47.1	94	74 - 120	
trans-1,2-Dichloroethene	50.0	47.9	96	80 - 127	
1,1-Dichloroethene	50.0	53.8	108	77 - 143	
1,2-Dichloropropane	50.0	47.9	96	74 - 120	
Ethylbenzene	50.0	50.0	100	78 - 120	
Methylene Chloride	50.0	50.6	101	76 - 137	
Tetrachloroethene	50.0	50.6	101	71 - 120	
Toluene	50.0	49.0	98	72 - 120	
1,1,1-Trichloroethane	50.0	51.5	103	67 - 143	
Trichloroethene	50.0	49.9	100	78 - 120	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94	58 - 140
Toluene-d8 (Surr)	112	80 - 126
4-Bromofluorobenzene (Surr)	96	76 - 127
Dibromofluoromethane (Surr)	90	75 - 121

Lab Control Sample - Batch: 280-64690

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-64690/84-A	Analysis Batch:	280-65478	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6261.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	04/29/2011 2138	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	50.0	53.6	107	76 - 120	
Bromodichloromethane	50.0	52.2	104	74 - 125	
Carbon tetrachloride	50.0	57.5	115	69 - 147	
Chlorobenzene	50.0	54.5	109	74 - 120	
Chloroform	50.0	52.2	104	77 - 125	
1,3-Dichlorobenzene	50.0	55.8	112	74 - 120	

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Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-64690

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-64690/84-A	Analysis Batch:	280-65478	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6261.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	04/29/2011 2138	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	50.0	51.4	103	74 - 120	
trans-1,2-Dichloroethene	50.0	52.8	106	80 - 127	
1,1-Dichloroethene	50.0	61.9	124	77 - 143	
1,2-Dichloropropane	50.0	51.1	102	74 - 120	
Ethylbenzene	50.0	54.7	109	78 - 120	
Methylene Chloride	50.0	55.9	112	76 - 137	
Tetrachloroethene	50.0	56.3	113	71 - 120	
Toluene	50.0	53.8	108	72 - 120	
1,1,1-Trichloroethane	50.0	54.2	108	67 - 143	
Trichloroethene	50.0	56.4	113	78 - 120	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96	58 - 140
Toluene-d8 (Surr)	119	80 - 126
4-Bromofluorobenzene (Surr)	103	76 - 127
Dibromofluoromethane (Surr)	94	75 - 121

Lab Control Sample - Batch: 280-64690

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-64690/84-A	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6292.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	04/30/2011 1321	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	50.0	51.7	103	76 - 120	
Bromodichloromethane	50.0	49.6	99	74 - 125	
Carbon tetrachloride	50.0	50.7	101	69 - 147	
Chlorobenzene	50.0	49.7	99	74 - 120	
Chloroform	50.0	50.2	100	77 - 125	
1,3-Dichlorobenzene	50.0	50.2	100	74 - 120	
1,1-Dichloroethane	50.0	48.0	96	74 - 120	
trans-1,2-Dichloroethene	50.0	50.6	101	80 - 127	
1,1-Dichloroethene	50.0	53.4	107	77 - 143	
1,2-Dichloropropane	50.0	48.2	96	74 - 120	
Ethylbenzene	50.0	50.8	102	78 - 120	
Methylene Chloride	50.0	54.6	109	76 - 137	

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-64690

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-64690/84-A	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6292.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	04/30/2011 1321	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Tetrachloroethene	50.0	50.9	102	71 - 120	
Toluene	50.0	50.3	101	72 - 120	
1.1.1-Trichloroethane	50.0	48.4	97	67 - 143	
Trichloroethene	50.0	50.1	100	78 - 120	

Surrogate	% Rec	Acceptance Limits
1.2-Dichloroethane-d4 (Surr)	94	58 - 140
Toluene-d8 (Surr)	120	80 - 126
4-Bromofluorobenzene (Surr)	99	76 - 127
Dibromofluoromethane (Surr)	96	75 - 121

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64690

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	280-15156-16	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6240.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	4.983 g
Analysis Date:	04/29/2011 1228			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

MSD Lab Sample ID:	280-15156-16	Analysis Batch:	280-65265	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6241.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	3.725 g
Analysis Date:	04/29/2011 1252			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	88	84	76 - 120	24	20		*
Bromodichloromethane	93	94	74 - 125	29	20		*
Carbon tetrachloride	82	70	69 - 147	14	20		
Chlorobenzene	94	91	74 - 120	26	20		*
Chloroform	91	86	77 - 125	24	20		*
1,3-Dichlorobenzene	94	89	74 - 120	24	20		*
1,1-Dichloroethane	85	83	74 - 120	27	20		*
trans-1,2-Dichloroethene	83	78	80 - 127	23	20		T *
1,1-Dichloroethene	86	79	77 - 143	20	20		
1,2-Dichloropropane	91	90	74 - 120	28	20		*
Ethylbenzene	90	86	78 - 120	24	20		*
Methylene Chloride	101	95	76 - 137	23	21		*
Tetrachloroethene	84	79	71 - 120	22	20		*
Toluene	89	86	72 - 120	26	20		*
1,1,1-Trichloroethane	81	77	67 - 143	24	20		*
Trichloroethene	86	82	78 - 120	25	20		*

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96	99	58 - 140
Toluene-d8 (Surr)	119	117	80 - 126
4-Bromofluorobenzene (Surr)	109	111	76 - 127
Dibromofluoromethane (Surr)	94	95	75 - 121

000071

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64690

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	280-15156-I-13-A MS	Analysis Batch:	280-65478	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6266.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.838 g
Analysis Date:	04/29/2011 2333			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

MSD Lab Sample ID:	280-15156-J-13-A MSD	Analysis Batch:	280-65478	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6267.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.557 g
Analysis Date:	04/29/2011 2356			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	92	88	76 - 120	0	20		
Bromodichloromethane	98	100	74 - 125	7	20		
Carbon tetrachloride	93	84	69 - 147	5	20		
Chlorobenzene	99	98	74 - 120	4	20		
Chloroform	96	93	77 - 125	2	20		
1,3-Dichlorobenzene	99	105	74 - 120	11	20		
1,1-Dichloroethane	93	88	74 - 120	0	20		
trans-1,2-Dichloroethene	91	84	80 - 127	2	20		
1,1-Dichloroethene	99	87	77 - 143	8	20		
1,2-Dichloropropane	96	93	74 - 120	3	20		
Ethylbenzene	98	94	78 - 120	0	20		
Methylene Chloride	106	101	76 - 137	0	21		
Tetrachloroethene	96	89	71 - 120	3	20		
Toluene	94	90	72 - 120	0	20		
1,1,1-Trichloroethane	92	84	67 - 143	4	20		
Trichloroethene	94	90	78 - 120	1	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100	102	58 - 140
Toluene-d8 (Surr)	123	123	80 - 126
4-Bromofluorobenzene (Surr)	120	123	76 - 127
Dibromofluoromethane (Surr)	96	98	75 - 121

000072

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64690

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	280-15156-10	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6306.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	4.846 g
Analysis Date:	04/30/2011 1919			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

MSD Lab Sample ID:	280-15156-10	Analysis Batch:	280-65166	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-64690	Lab File ID:	J6307.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.263 g
Analysis Date:	04/30/2011 1942			Final Weight/Volume:	5 mL
Prep Date:	04/28/2011 1704				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	95	78	76 - 120	28	20		*
Bromodichloromethane	91	82	74 - 125	18	20		
Carbon tetrachloride	95	65	69 - 147	45	20		T *
Chlorobenzene	86	76	74 - 120	20	20		
Chloroform	95	78	77 - 125	28	20		*
1,3-Dichlorobenzene	78	80	74 - 120	5	20		
1,1-Dichloroethane	94	74	74 - 120	32	20		*
trans-1,2-Dichloroethene	91	68	80 - 127	37	20		T *
1,1-Dichloroethene	103	71	77 - 143	45	20		T *
1,2-Dichloropropane	93	81	74 - 120	23	20		*
Ethylbenzene	89	74	78 - 120	26	20		T *
Methylene Chloride	114	88	76 - 137	33	21		*
Tetrachloroethene	88	68	71 - 120	33	20		T *
Toluene	86	73	72 - 120	25	20		*
1,1,1-Trichloroethane	108	67	67 - 143	55	20		*
Trichloroethene	90	69	78 - 120	34	20		T *

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89	88	58 - 140
Toluene-d8 (Surr)	122	120	80 - 126
4-Bromofluorobenzene (Surr)	111	108	76 - 127
Dibromofluoromethane (Surr)	92	91	75 - 121

000073

Date: 16 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-H Remaining Sites Burial Grounds – Soil Full Protocol - Waste Site 600-151
Subject: Pesticide/PCB - Data Package No. JP0171-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. JP0171 prepared by TestAmerica Laboratories 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
J1HK23	4/26/11	Soil	C	See note 1
J1HK24	4/26/11	Soil	C	See note 1
J1HK25	4/26/11	Soil	C	See note 1
J1HK26	4/26/11	Soil	C	See note 1
J1HK27	4/26/11	Soil	C	See note 1
J1HK28	4/26/11	Soil	C	See note 1
J1HK29	4/26/11	Soil	C	See note 1
J1HK30	4/26/11	Soil	C	See note 1
J1HK31	4/26/11	Soil	C	See note 1
J1HK32	4/26/11	Soil	C	See note 1
J1HK33	4/26/11	Soil	C	See note 1
J1HK34	4/26/11	Soil	C	See note 1
J1HK35	4/26/11	Soil	C	See note 1
J1HK36	4/26/11	Soil	C	See note 1
J1HK37	4/26/11	Soil	C	See note 1
J1HK38	4/26/11	Soil	C	See note 1
J1HK39	4/26/11	Soil	C	See note 1
J1HK40	4/26/11	Soil	C	See note 1
J1HK41	4/26/11	Soil	C	See note 1

1 – Pesticides by 8081A and PCBs by 8082.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). 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 OBJECTIVES

Holding Times

Sample data were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Pesticide samples must be extracted within 14 days of the date of sample collection and analyzed within 40 days from the date of extraction. Holding times are not applicable for PCB analysis.

If holding times are exceeded by less 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 detected 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 50% to 150%. 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 duplicate recoveries outside QC limits, all endosulfan II (46%) and endosulfan sulfate (26%) results (except J1HK25) were qualified as estimates and flagged "J".

Due to a matrix spike duplicate recovery outside QC limits, the endrin aldehyde (7%) result in sample J1HK25 was qualified as estimates and flagged "J".

Due to the lack of a matrix spike, matrix spike duplicate and LCS analysis, all toxaphene 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 a surrogate recovery outside QC limits, the 4,4-DDT result in sample J1HK24 was qualified as an estimate and flagged "J".

Due to a surrogate recovery outside QC limits, all PCB results in sample J1HK38 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.
Due to RPDs outside QC limits, all endosulfan II (59%) and endosulfan sulfate (99%) results (except J1HK25) were qualified as estimates and flagged "J".

Due to an RPD outside QC limits, the endrin aldehyde (164%) result in sample J1HK25 was qualified as estimates and flagged "J".

Due to the lack of a matrix spike and matrix spike duplicate, all toxaphene results were qualified as estimates and flagged "J".

All other precision results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1HK25/J1HK41) 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 100 Area RQLs to ensure that laboratory detection levels meet the required criteria. All results met the RQL.

- **Completeness**

Data Package No. JP0171 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 recoveries outside QC limits, all endosulfan II (46%), endosulfan sulfate (26%) results (except J1HK25) were qualified as estimates and flagged "J".

- Due to a matrix spike duplicate recovery outside QC limits, the endrin aldehyde (7%) result in sample J1HK25 was qualified as estimates and flagged "J".

- Due to the lack of a matrix spike, matrix spike duplicate and LCS analysis, all toxaphene results were qualified as estimates and flagged "J".

- Due to a surrogate recovery outside QC limits, the 4,4-DDT result in sample J1HK24 was qualified as an estimate and flagged "J".

- Due to a surrogate recovery outside QC limits, all PCB results in sample J1HK38 were qualified as estimates and flagged "J".

- Due to RPDs outside QC limits, all endosulfan II (59%) and endosulfan sulfate (99%) results (except J1HK25) were qualified as estimates and flagged "J".

- Due to an RPD outside QC limits, the endrin aldehyde (164%) result in sample J1HK25 was 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-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

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

PESTICIDE/PCB DATA QUALIFICATION SUMMARY*

SDG: JP0171	**REVIEWER: ELR**	**Project: 600-151**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Endosulfan II Endosulfan sulfate	J	All (except J1HK25)	MSD recovery & RPD
Endrin ketone	J	J1HK25	MSD recovery & RPD
Toxaphene	J	All	No MS, MSD or LCS analysis
4,4-DDT	J	J1HK24	Surrogate recovery
All PCBs	J	J1HK38	Surrogate recovery

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

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK23**

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/03/2011 0007			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.58	U	0.58	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.89	J	0.62	1.8
Aldrin		0.27	U	0.27	1.7
alpha-BHC		0.23	U	0.23	1.7
beta-BHC		0.70	U	0.70	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.23	U	0.23	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.19	U	0.19	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.52	U	0.52	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.48	U	0.48	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	90		59 - 115
Decachlorobiphenyl	113		63 - 124

5/14/11

000011

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK24

Lab Sample ID: 280-15156-2
Client Matrix: Solid
% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	32.7 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/03/2011 0023			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.54	U	0.54	1.7
4,4'-DDE		0.24	U	0.24	1.7
4,4'-DDT		1.2	J J	0.58	1.7
Aldrin		0.25	U	0.25	1.6
alpha-BHC		0.21	U	0.21	1.6
beta-BHC		0.66	U	0.66	1.6
delta-BHC		0.40	U	0.40	1.6
gamma-BHC (Lindane)		0.46	U	0.46	1.6
Heptachlor		0.21	U	0.21	1.6
Heptachlor epoxide		0.42	U	0.42	1.6
Endosulfan I		0.17	U	0.17	1.6
Endosulfan II		0.28	U J	0.28	1.7
Endosulfan sulfate		0.27	U J	0.27	1.7
Endrin		0.30	U	0.30	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.48	U	0.48	1.7
gamma-Chlordane		0.26	U	0.26	1.7
Methoxychlor		0.45	U	0.45	3.3
alpha-Chlordane		0.32	U	0.32	1.7
Dieldrin		0.21	U	0.21	1.7
Toxaphene		16	U J	16	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	82		59 - 115
Decachlorobiphenyl	138		63 - 124

5/14/11

000012

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK25**

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65939	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-65424	Initial Weight/Volume:	32.9 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/06/2011 1000			Injection Volume:	1 uL
Prep Date:	05/03/2011 1619			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.52	U	0.52	1.6
4,4'-DDE		0.23	U	0.23	1.6
4,4'-DDT		0.56	U	0.56	1.6
Aldrin		0.24	U	0.24	1.6
alpha-BHC		0.20	U	0.20	1.6
beta-BHC		0.63	U	0.63	1.6
delta-BHC		0.38	U	0.38	1.6
gamma-BHC (Lindane)		0.44	U	0.44	1.6
Heptachlor		0.20	U	0.20	1.6
Heptachlor epoxide		0.41	U	0.41	1.6
Endosulfan I		0.17	U	0.17	1.6
Endosulfan II		0.27	U	0.27	1.6
Endosulfan sulfate		0.26	U	0.26	1.6
Endrin		0.29	U	0.29	1.6
Endrin aldehyde		0.16	U N	0.16	1.6
Endrin ketone		0.47	U J	0.47	1.6
gamma-Chlordane		0.25	U	0.25	1.6
Methoxychlor		0.43	U	0.43	3.2
alpha-Chlordane		0.31	U	0.31	1.6
Dieldrin		0.20	U	0.20	1.6
Toxaphene		15	U J	15	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	97		59 - 115
Decachlorobiphenyl	98		63 - 124

✓ 5/14/11

000013

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK26**

Lab Sample ID: 280-15156-4
Client Matrix: Solid

% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	31.6 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/03/2011 0040			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		1.1	J X	0.61	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.69	U	0.69	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.48	U	0.48	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.44	U	0.44	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.4
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		16	U J	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	76		59 - 115
Decachlorobiphenyl	96		63 - 124

5/14/11

000014

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK27

Lab Sample ID: 280-15156-5
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 2104			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		1.2	J	0.62	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.70	U	0.70	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	82		59 - 115
Decachlorobiphenyl	112		63 - 124

5/14/11

000015

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK28

Lab Sample ID: 280-15156-6
Client Matrix: Solid

% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1427			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.61	U	0.61	1.9
4,4'-DDE		1.6	J X	0.27	1.9
4,4'-DDT		0.88	J	0.66	1.9
Aldrin		0.28	U	0.28	1.8
alpha-BHC		0.24	U	0.24	1.8
beta-BHC		0.74	U	0.74	1.8
delta-BHC		0.45	U	0.45	1.8
gamma-BHC (Lindane)		0.52	U	0.52	1.8
Heptachlor		0.24	U	0.24	1.8
Heptachlor epoxide		0.48	U	0.48	1.8
Endosulfan I		0.20	U	0.20	1.8
Endosulfan II		0.32	U J	0.32	1.9
Endosulfan sulfate		0.31	U J	0.31	1.9
Endrin		0.34	U	0.34	1.9
Endrin aldehyde		0.19	U	0.19	1.9
Endrin ketone		0.55	U	0.55	1.9
gamma-Chlordane		0.30	U	0.30	1.9
Methoxychlor		0.50	U	0.50	3.7
alpha-Chlordane		0.36	U	0.36	1.9
Dieldrin		0.23	U	0.23	1.9
Toxaphene		18	U J	18	180

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	72		59 - 115
Decachlorobiphenyl	83		63 - 124

✓ 5/14/11

000016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK29

Lab Sample ID: 280-15156-7
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1550			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.61	U	0.61	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.69	U	0.69	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.48	U	0.48	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.44	U	0.44	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.4
alpha-Chlordane		0.33	U	0.33	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		16	U J	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	76		59 - 115
Decachlorobiphenyl	98		63 - 124

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000017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK30

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1606			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.60	U	0.60	1.9
4,4'-DDE		1.2	J	0.26	1.9
4,4'-DDT		0.88	J	0.65	1.9
Aldrin		0.27	U	0.27	1.8
alpha-BHC		0.23	U	0.23	1.8
beta-BHC		0.73	U	0.73	1.8
delta-BHC		0.44	U	0.44	1.8
gamma-BHC (Lindane)		0.51	U	0.51	1.8
Heptachlor		0.23	U	0.23	1.8
Heptachlor epoxide		0.47	U	0.47	1.8
Endosulfan I		0.19	U	0.19	1.8
Endosulfan II		0.31	U J	0.31	1.9
Endosulfan sulfate		0.30	U J	0.30	1.9
Endrin		0.33	U	0.33	1.9
Endrin aldehyde		0.19	U	0.19	1.9
Endrin ketone		0.53	U	0.53	1.9
gamma-Chlordane		0.29	U	0.29	1.9
Methoxychlor		0.49	U	0.49	3.6
alpha-Chlordane		0.35	U	0.35	1.9
Dieldrin		0.23	U	0.23	1.9
Toxaphene		17	U J	17	180

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	75		59 - 115
Decachlorobiphenyl	94		63 - 124

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000018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK31**

Lab Sample ID: 280-15156-9
Client Matrix: Solid
% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	32.1 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1623			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		1.8	X	0.25	1.8
4,4'-DDT		0.67	J	0.61	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.69	U	0.69	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.48	U	0.48	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.44	U	0.44	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.4
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		16	U J	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	74		59 - 115
Decachlorobiphenyl	93		63 - 124

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000019

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK32

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7.8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.6 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1746			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.58	U	0.58	1.8
4,4'-DDE		0.76	J X	0.25	1.8
4,4'-DDT		0.63	U	0.63	1.8
Aldrin		0.27	U	0.27	1.8
alpha-BHC		0.23	U	0.23	1.8
beta-BHC		0.71	U	0.71	1.8
delta-BHC		0.43	U	0.43	1.8
gamma-BHC (Lindane)		0.49	U	0.49	1.8
Heptachlor		0.23	U	0.23	1.8
Heptachlor epoxide		0.45	U	0.45	1.8
Endosulfan I		0.19	U	0.19	1.8
Endosulfan II		0.31	U J	0.31	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.33	U	0.33	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.52	U	0.52	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.48	U	0.48	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	180

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	76		59 - 115
Decachlorobiphenyl	92		63 - 124

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000020

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK33

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1802			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.63	J X	0.25	1.8
4,4'-DDT		0.62	U	0.62	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.70	U	0.70	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	75		59 - 115
Decachlorobiphenyl	94		63 - 124

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000021

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK34

Lab Sample ID: 280-15156-12
Client Matrix: Solid
% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1819			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.62	U	0.62	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.69	U	0.69	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	93		59 - 115
Decachlorobiphenyl	89		63 - 124

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000022

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK35**

Lab Sample ID: 280-15156-13
Client Matrix: Solid

% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	31.8 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 2121			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.61	U	0.61	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.69	U	0.69	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.48	U	0.48	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.44	U	0.44	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.4
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		16	U J	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	95		59 - 115
Decachlorobiphenyl	85		63 - 124

5/14/11

000023

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK36

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 2137			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.56	U	0.56	1.7
4,4'-DDE		0.31	J X	0.24	1.7
4,4'-DDT		0.60	U	0.60	1.7
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.68	U	0.68	1.7
delta-BHC		0.41	U	0.41	1.7
gamma-BHC (Lindane)		0.47	U	0.47	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.44	U	0.44	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.29	U J	0.29	1.7
Endosulfan sulfate		0.28	U J	0.28	1.7
Endrin		0.31	U	0.31	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.50	U	0.50	1.7
gamma-Chlordane		0.27	U	0.27	1.7
Methoxychlor		0.46	U	0.46	3.4
alpha-Chlordane		0.33	U	0.33	1.7
Dieldrin		0.21	U	0.21	1.7
Toxaphene		16	U J	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	92		59 - 115
Decachlorobiphenyl	90		63 - 124

5/14/11

000024

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK37

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 2154			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.58	U	0.58	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.62	U	0.62	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.23	U	0.23	1.7
beta-BHC		0.70	U	0.70	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.23	U	0.23	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.19	U	0.19	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.52	U	0.52	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	89		59 - 115
Decachlorobiphenyl	93		63 - 124

5/23/11

000025

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK38**

Lab Sample ID: 280-15156-16
Client Matrix: Solid
% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1835			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.60	U	0.60	1.9
4,4'-DDE		0.26	J X	0.26	1.9
4,4'-DDT		0.65	U	0.65	1.9
Aldrin		0.27	U	0.27	1.8
alpha-BHC		0.23	U	0.23	1.8
beta-BHC		0.73	U	0.73	1.8
delta-BHC		0.44	U	0.44	1.8
gamma-BHC (Lindane)		0.51	U	0.51	1.8
Heptachlor		0.23	U	0.23	1.8
Heptachlor epoxide		0.47	U	0.47	1.8
Endosulfan I		0.19	U	0.19	1.8
Endosulfan II		0.31	U J	0.31	1.9
Endosulfan sulfate		0.30	U J	0.30	1.9
Endrin		0.33	U	0.33	1.9
Endrin aldehyde		0.19	U	0.19	1.9
Endrin ketone		0.53	U	0.53	1.9
gamma-Chlordane		0.29	U	0.29	1.9
Methoxychlor		0.49	U	0.49	3.6
alpha-Chlordane		0.35	U	0.35	1.9
Dieldrin		0.23	U	0.23	1.9
Toxaphene		17	U J	17	180

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	75		59 - 115
Decachlorobiphenyl	86		63 - 124

5/12/11

000026

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK39

Lab Sample ID: 280-15156-17
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	31.7 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 2211			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.54	U	0.54	1.7
4,4'-DDE		0.24	U	0.24	1.7
4,4'-DDT		0.59	U	0.59	1.7
Aldrin		0.25	U	0.25	1.6
alpha-BHC		0.21	U	0.21	1.6
beta-BHC		0.66	U	0.66	1.6
delta-BHC		0.40	U	0.40	1.6
gamma-BHC (Lindane)		0.46	U	0.46	1.6
Heptachlor		0.21	U	0.21	1.6
Heptachlor epoxide		0.42	U	0.42	1.6
Endosulfan I		0.17	U	0.17	1.6
Endosulfan II		0.28	U J	0.28	1.7
Endosulfan sulfate		0.27	U J	0.27	1.7
Endrin		0.30	U	0.30	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.49	U	0.49	1.7
gamma-Chlordane		0.26	U	0.26	1.7
Methoxychlor		0.45	U	0.45	3.3
alpha-Chlordane		0.32	U	0.32	1.7
Dieldrin		0.21	U	0.21	1.7
Toxaphene		16	U J	16	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	94		59 - 115
Decachlorobiphenyl	89		63 - 124

5/14/11

000027

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK40**

Lab Sample ID: 280-15156-18
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1852			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.58	U	0.58	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.62	U	0.62	1.8
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.23	U	0.23	1.7
beta-BHC		0.70	U	0.70	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.23	U	0.23	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.19	U	0.19	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.52	U	0.52	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U J	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	73		59 - 115
Decachlorobiphenyl	92		63 - 124

5/12/11

000028

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK41

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5 9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-64708	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/02/2011 1909			Injection Volume:	1 uL
Prep Date:	04/28/2011 2125			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.57	U	0.57	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.61	U	0.61	1.8
Aldrin		0.26	U	0 26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.69	U	0.69	1.7
delta-BHC		0.41	U	0.41	1.7
gamma-BHC (Lindane)		0.48	U	0.48	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.44	U	0.44	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.30	U J	0.30	1.8
Endosulfan sulfate		0.29	U J	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.51	U	0.51	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.47	U	0.47	3.4
alpha-Chlordane		0.33	U	0.33	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		16	U J	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	89		59 - 115
Decachlorobiphenyl	86		63 - 124

5/14/11

000029

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK23

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/02/2011 2056			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			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		2.1	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	79		59 - 130
Tetrachloro-m-xylene	86		53 - 128

5/10/11

000030

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK24

Lab Sample ID: 280-15156-2
Client Matrix: Solid
% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/02/2011 2128			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	61		59 - 130
Tetrachloro-m-xylene	93		53 - 128

5/14/11

000031

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK25**

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/02/2011 2159			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			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	85		59 - 130
Tetrachloro-m-xylene	90		53 - 128

5/14/11

000032

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK26

Lab Sample ID: 280-15156-4
Client Matrix: Solid
% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/02/2011 2231			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	63		59 - 130
Tetrachloro-m-xylene	88		53 - 128

5/14/11

000033

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK27**

Lab Sample ID: 280-15156-5
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/02/2011 2303			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			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		4.2	J P	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	69		59 - 130
Tetrachloro-m-xylene	92		53 - 128

5/12/11

000034

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK28**

Lab Sample ID: 280-15156-6
Client Matrix: Solid
% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/02/2011 2335			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.1	U	3.1	11
Aroclor 1221		8.9	U	8.9	18
Aroclor 1232		2.2	U	2.2	11
Aroclor 1242		5.2	U	5.2	11
Aroclor 1248		5.2	U	5.2	11
Aroclor 1254		2.9	U	2.9	11
Aroclor 1260		2.9	U	2.9	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	72		59 - 130
Tetrachloro-m-xylene	89		53 - 128

5/14/11

000035

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK29

Lab Sample ID: 280-15156-7
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0006			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			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	82		59 - 130
Tetrachloro-m-xylene	94		53 - 128

V 5/14/11

000036

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK30

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0038			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.7	U	8.7	18
Aroclor 1232		2.2	U	2.2	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	85		59 - 130
Tetrachloro-m-xylene	93		53 - 128

K 5/14/11

000037

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK31

Lab Sample ID: 280-15156-9
Client Matrix: Solid
% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0142			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.7	U	8.7	18
Aroclor 1232		2.2	U	2.2	11
Aroclor 1242		5.1	U	5.1	11
Aroclor 1248		5.1	U	5.1	11
Aroclor 1254		2.8	U	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	77		59 - 130
Tetrachloro-m-xylene	96		53 - 128

5/14/11

000038

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK32

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7.8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0214			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	11
Aroclor 1221		8.5	U	8.5	17
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		4.9	U	4.9	11
Aroclor 1248		4.9	U	4.9	11
Aroclor 1254		2.8	U	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	86		59 - 130
Tetrachloro-m-xylene	94		53 - 128

5/14/11

000039

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK33

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0245			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	79		59 - 130
Tetrachloro-m-xylene	92		53 - 128

5/14/11

000040

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK34**

Lab Sample ID: 280-15156-12
Client Matrix: Solid
% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0317			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	11
Aroclor 1221		8.5	U	8.5	17
Aroclor 1232		2.1	U	2.1	11
Aroclor 1242		4.9	U	4.9	11
Aroclor 1248		4.9	U	4.9	11
Aroclor 1254		2.8	U	2.8	11
Aroclor 1260		2.8	U	2.8	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	84		59 - 130
Tetrachloro-m-xylene	95		53 - 128

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK35

Lab Sample ID: 280-15156-13
Client Matrix: Solid
% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	31.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0349			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			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	81		59 - 130
Tetrachloro-m-xylene	93		53 - 128

5/14/11

000042

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK36**

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	31.8 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0421			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	9.9
Aroclor 1221		8.0	U	8.0	16
Aroclor 1232		2.0	U	2.0	9.9
Aroclor 1242		4.6	U	4.6	9.9
Aroclor 1248		4.6	U	4.6	9.9
Aroclor 1254		2.6	U	2.6	9.9
Aroclor 1260		2.6	U	2.6	9.9

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	76		59 - 130
Tetrachloro-m-xylene	91		53 - 128

5/14/11

000043

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK37

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0835			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.9
Aroclor 1221		7.9	U	7.9	16
Aroclor 1232		2.0	U	2.0	9.9
Aroclor 1242		4.6	U	4.6	9.9
Aroclor 1248		4.6	U	4.6	9.9
Aroclor 1254		2.6	U	2.6	9.9
Aroclor 1260		2.6	U	2.6	9.9

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	85		59 - 130
Tetrachloro-m-xylene	96		53 - 128

5/14/11

000044

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK38

Lab Sample ID: 280-15156-16
Client Matrix: Solid % Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.4 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0453			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U J	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	49	*	59 - 130
Tetrachloro-m-xylene	89		53 - 128

5/14/11

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK39

Lab Sample ID: 280-15156-17
Client Matrix: Solid
% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0524			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	80		59 - 130
Tetrachloro-m-xylene	87		53 - 128

5/14/11

000046

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK40**

Lab Sample ID: 280-15156-18
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0556			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.9
Aroclor 1221		7.9	U	7.9	16
Aroclor 1232		2.0	U	2.0	9.9
Aroclor 1242		4.6	U	4.6	9.9
Aroclor 1248		4.6	U	4.6	9.9
Aroclor 1254		2.6	U	2.6	9.9
Aroclor 1260		2.6	U	2.6	9.9

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	75		59 - 130
Tetrachloro-m-xylene	94		53 - 128

5/14/11

000047

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK41**

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-64701	Initial Weight/Volume:	32.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/03/2011 0628			Injection Volume:	1 uL
Prep Date:	04/28/2011 1950			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.7
Aroclor 1221		7.8	U	7.8	16
Aroclor 1232		1.9	U	1.9	9.7
Aroclor 1242		4.5	U	4.5	9.7
Aroclor 1248		4.5	U	4.5	9.7
Aroclor 1254		2.5	U	2.5	9.7
Aroclor 1260		2.5	U	2.5	9.7

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	78		59 - 130
Tetrachloro-m-xylene	85		53 - 128

5/14/11

000048

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-15156-1

SDG #: JP0171
SAF#: RC-107

Date SDG Closed: April 28, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1HK23	280-15156-1	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK24	280-15156-2	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK25	280-15156-3	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK26	280-15156-4	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK27	280-15156-5	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK28	280-15156-6	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK29	280-15156-7	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK30	280-15156-8	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK31	280-15156-9	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK32	280-15156-10	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK33	280-15156-11	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK34	280-15156-12	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK35	280-15156-13	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK36	280-15156-14	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK37	280-15156-15	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK38	280-15156-16	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK39	280-15156-17	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK40	280-15156-18	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK41	280-15156-19	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HKF5	280-15156-20	8260	8260B

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 4/28/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 4.6 C, 3.8 C and 4.8 C.

Samples J1HK35, J1HK36 and J1HKF5, requesting 5035/8260 VOA analysis, were received at the laboratory after the recommended 48 hour sample holding time had expired. The client was notified on 4/29/2011.

GC/MS VOLATILES - SW846 8260B

The 5035 prep for the samples presented in this report were performed after the recommended 48 hour sample holding times had expired. The samples were received at the laboratory with insufficient time remaining for the laboratory to perform the prep within the holding times. It is TestAmerica's policy to analyze all samples within holding times; however, the laboratory cannot guarantee that hold times will be met when samples are received with less than half the hold time remaining. The client was notified on 4/29/2011.

Surrogate 4-Bromofluorobenzene was recovered outside the control limits, biased high, in samples J1HK24, J1HK28 and J1HK36. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the samples, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK38 exhibited a spike compound recovery outside the control limits, and the associated sample result has been flagged "T". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK32 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition, 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 other anomalies were encountered.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased high, in sample J1HK24. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the sample, corrective action is deemed unnecessary.

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Low levels of Heptachlor are present in the method blank associated with batch 280-64708. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-65424 exhibited the percent recovery outside the control limits for Endrin aldehyde, and the associated sample result has been flagged "N". In addition, the RPD limit was exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-64708 exhibited spike compound recoveries outside the control limits. In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Continuing Calibration Verification (CCV) standards associated with samples in batch 280-64708 exhibited %Difference (%D) values >15%, biased low, as detailed below. The overall mean %D is ≤15%; therefore, method criteria have been met and corrective action is deemed unnecessary. It can be noted that a bracketing RL standard was used to demonstrate acceptable instrument sensitivity, despite %D values greater than 30% negative drift. The sequence is as follows: CCV1, LCS, J1HK28, MB, J1HK29, J1HK30, J1HK31, CCV2, J1HK32, J1HK33, J1HK34, J1HK38, J1HK40, J1HK41, CCV3, J1HK27, J1HK35, J1HK36, J1HK37, J1HK39, CCV4, J1HK23, J1HK24, J1HK26.

CCV1 = OK
CCV2 = 4,4'-DDT -18%, Methoxychlor -18%, Toxaphene -19%
CCV3 = OK
CCV4 = 4,4'-DDT -25%, Methoxychlor -18%
CCV5 = 4,4'-DDT -52%, Methoxychlor -44%, Toxaphene -22%

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 in sample J1HK27. The result has been flagged with a "P".

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased low, in sample J1HK38. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary. The laboratory noted that a Sulfuric Acid clean-up was performed on sample J1HK38 to reduce matrix interferences.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

The MS/MSD performed on sample J1HK24 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "N". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The laboratory noted that due to a system "linking" issue, a new lab ID had to be created for both the LCS and LCSD. This resulted in a prep date/time that followed the analysis date, which is not accurate. The LCS and LCSD were prepped at the same time the rest of the samples in batch 280-64721 were prepped.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Surrogate Terphenyl-d14 was recovered outside the control limits, biased high, in sample J1HK26. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-64750 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Serial dilution of a digestate in batch 280-65544 indicates that physical and chemical interferences are present for Cobalt, Lead, Manganese and Nickel. Results have been flagged with an "X".

Low levels of Calcium, Chromium, Iron and Manganese are present in the method blank associated with batch 280-64750. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, Lead and Manganese in the Matrix Spike performed on sample J1HK23 in batch 280-64750; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the SW846 6010B Matrix Spike performed on sample J1HK23, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

4.6, 3.8, 4.8

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 1 of 4

Collector: A. Blankenship / J. Kuplin	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L, 8B — Data Turnaround: 21 Days, 7
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 7970345159 78	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000053

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK23 / SOIL / 4/26/11 / 1225	X		X	X	X	X	X			
J1HK24 / SOIL / 4/26/11 / 1010	X		X	X	X	X	X			
J1HK25 / SOIL / 4/26/11 / 1235	X		X	X	X	X	X			
J1HK26 / SOIL / 4/26/11 / 1000	X		X	X	X	X	X			
J1HK27 / SOIL / 4/26/11 / 1300	X		X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Matt Blankenship	1435 4-26-11	JV Fullmer	1435 4/26/11
JV Fullmer	1615 4/26/11	A. Freier	1615 4-26-11
A. Freier (WCH)	1000 4-27-11	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* 20 ml vial - % moisture

** freeze upon receipt
AJ 4-26-11

JP0171

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

REVIEWED BY TEB DATE 4-27-11

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 2 of 4

Collector: M. Blankingship / J. Kuepfer	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~81~~ 88 — Data Turnaround: ~~21~~ 7 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 797034515978	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000054

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C				
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG				
No. of Container(s)	1	1	1	5	1	1	1				
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120uL				
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081				
Sample No. / Matrix * / Sample Date / Sample Time											
J1HK28 / SOIL / 4/26/11 / 1305	X		X	X	X	X	X				
J1HK29 / SOIL / 4/26/11 / 0935	X		X	X	X	X	X				
J1HK30 / SOIL / 4/26/11 / 0850	X		X	X	X	X	X				
J1HK31 / SOIL / 4/26/11 / 0855	X		X	X	X	X	X				
J1HK32 / SOIL / 4/26/11 / 0930	X		X	X	X	X	X				

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	4-26-11 1435	JV Fullmer	4/26/11 1435
JV Fullmer	4/26/11 1615	A. Freier	4-26-11 1615
A. Freier (WCH)	4-27-11 1000	FED EX	
			4/28/11

SPECIAL INSTRUCTIONS

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

* 20ml vial → % moisture

** freeze upon receipt AF 4-26-11

JP0171

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

REVIEWED BY JEB 4-27-11

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-107-070	Page 1 of 4

Collector: M. Blankenship / J. Kuepker	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8B	Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107		
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx		
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 797034515978		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

SAMPLE ANALYSIS

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
	See item (1) in Special Instructions	Chromium Hex - 196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1HK33	SOIL	4/26/11	0840	X		X	X	X	X	X			
J1HK34	SOIL	4/26/11	0900	X		X	X	X	X	X			
J1HK35	SOIL	4/26/11	0825	X		X	X	X	X	X			
J1HK36	SOIL	4/26/11	0830	X		X	X	X	X	X			
J1HK37	SOIL	4/26/11	0950	X		X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MA Blankenship	4-26-11 1435	JV Fullmer	4/26/11 1435
JV Fullmer	4/26/11 1615	A. Freier	4-26-11 1615
A. Freier (WCH)	4-27-11 1000	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

* * freeze upon receipt

AF 4-26-11

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

REVIEWED BY JEB DATE 4-27-11

JP0171

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-107-070	Page 1 of ~~14~~ 4
Collector: M. Blankingship / J. Kuepher	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~81~~ 83
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	Data Turnaround: ~~21~~ 7 Days
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05; COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 79703451 5978	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

950056

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK38 / SOIL / 4/26/11 / 0955	X		X	X	X	X	X			
J1HK39 / SOIL / 4/26/11 / 1320	X		X	X	X	X	X			
J1HK40 / SOIL / 4/26/11 / 1335	X		X	X	X	X	X			
J1HK41 / SOIL / 4/26/11 / 1235	X		X	X	X	X	X			
~~J1HK42 / SOIL~~										

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
WATER MANAGEMENT	4-26-11 1435	SV Fullmer	4/26/11 1435
SV Fullmer	4/26/11 1615	A. Freier	4-26-11 1615
A. Freier (WCH)	4-27-11 1000	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* 20% 20 ml vial → % moisture AJ 4-26-11

** freeze upon receipt AJ 4-26-11

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

REVIEWED BY SEB DATE 4-27-11

JP0171

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: 600-151			DATA PACKAGE: JP0171		
VALIDATOR: ELR		LAB: TAL		DATE: 5/13/11	
			SDG: JP0171		
ANALYSES PERFORMED					
SW-846 8081	SW-846 8081 (TCLP)	SW-846 8082	SW-846 8081 (TCLP)		
SAMPLES/MATRIX					
J1HK23	J1HK24	J1HK25	J1HK26	J1HK27	
J1HK28	J1HK29	J1HK30	J1HK31	J1HK32	
J1HK33	J1HK34	J1HK35	J1HK36	J1HK37	
J1HK38	J1HK39	J1HK40	J1HK41		
				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

25

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: MSD endosulfan II + endosulfan sulfate – J (all but 25)

MSD – endrin aldehyde – J 14 & 25 – J

no tox MS/MSD/LCS – J all

Surr – 24 – J 4,4 DDT 38 – PCB – J all

no DAS

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: endosulfan sulfate endosulfan II - RPD - J all but 25
endrin aldehyde - 164% - J 25
no tox MS/MSD - J all

6. SYSTEM PERFORMANCE (Levels D and E)

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

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

Comments:

7. HOLDING TIMES (all levels)

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

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

Comments:

PCB DATA VALIDATION CHECKLIST

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

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

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

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

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

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

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

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

Comments:

9. SAMPLE CLEANUP (Levels D and E)

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

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

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

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

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

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

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

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

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

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

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

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

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

Comments:

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-64708

Method: 8081A
Preparation: 3550C

Lab Sample ID:	MB 280-64708/1-A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-64708	Lab File ID:	009F0901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	05/02/2011 1443	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	04/28/2011 2125			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.52	U	0.52	1.6
4,4'-DDE	0.22	U	0.22	1.6
4,4'-DDT	0.56	U	0.56	1.6
Aldrin	0.24	U	0.24	1.6
alpha-BHC	0.20	U	0.20	1.6
beta-BHC	0.63	U	0.63	1.6
delta-BHC	0.38	U	0.38	1.6
gamma-BHC (Lindane)	0.44	U	0.44	1.6
Heptachlor	0.228	J	0.20	1.6
Heptachlor epoxide	0.40	U	0.40	1.6
Endosulfan I	0.17	U	0.17	1.6
Endosulfan II	0.27	U	0.27	1.6
Endosulfan sulfate	0.26	U	0.26	1.6
Endrin	0.29	U	0.29	1.6
Endrin aldehyde	0.16	U	0.16	1.6
Endrin ketone	0.48	U	0.46	1.6
gamma-Chlordane	0.25	U	0.25	1.6
Methoxychlor	0.42	U	0.42	3.1
alpha-Chlordane	0.30	U	0.30	1.6
Dieldrin	0.20	U	0.20	1.6
Toxaphene	15	U	15	160

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	63	59 - 115
Decachlorobiphenyl	81	63 - 124

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-64708

Method: 8081A
Preparation: 3550C

Lab Sample ID:	LCS 280-64708/2-A	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-64708	Lab File ID:	007F0701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	05/02/2011 1410	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	04/28/2011 2125			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	15.7	9.32	59	57 - 118	
4,4'-DDE	15.7	10.8	68	61 - 115	
4,4'-DDT	15.7	9.77	62	53 - 125	
Aldrin	15.7	10.7	68	60 - 115	
alpha-BHC	15.7	10.6	67	54 - 115	
beta-BHC	15.7	11.5	73	58 - 115	
delta-BHC	15.7	12.3	78	62 - 115	
gamma-BHC (Lindane)	15.7	10.9	69	59 - 115	
Heptachlor	15.7	11.4	72	61 - 115	
Heptachlor epoxide	15.7	11.6	74	62 - 112	
Endosulfan I	15.7	11.2	71	55 - 115	
Endosulfan II	15.7	12.9	82	60 - 115	
Endosulfan sulfate	15.7	12.9	82	58 - 118	
Endrin	15.7	14.3	91	61 - 121	
Endrin aldehyde	15.7	10.8	68	54 - 115	
Endrin ketone	15.7	11.4	73	61 - 118	
gamma-Chlordane	15.7	11.4	72	60 - 115	
Methoxychlor	15.7	12.5	79	52 - 123	
alpha-Chlordane	15.7	11.2	71	60 - 115	
Dieldrin	15.7	12.1	77	63 - 117	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	62	59 - 115
Decachlorobiphenyl	86	63 - 124

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64708

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-15156-3	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-64708	Lab File ID:	030F3001.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	05/02/2011 2031			Final Weight/Volume:	10000 uL
Prep Date:	04/28/2011 2125			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-15156-3	Analysis Batch:	280-65318	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-64708	Lab File ID:	031F3101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	05/02/2011 2048			Final Weight/Volume:	10000 uL
Prep Date:	04/28/2011 2125			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	84	82	57 - 118	4	20		
4,4'-DDE	87	85	61 - 115	2	15		
4,4'-DDT	76	74	53 - 125	3	29		
Aldrin	91	91	60 - 115	1	50		
alpha-BHC	92	90	54 - 115	2	17		
beta-BHC	90	86	58 - 115	4	17		
delta-BHC	90	77	62 - 115	15	19		
gamma-BHC (Lindane)	92	91	59 - 115	1	24		
Heptachlor	93	92	61 - 115	2	18		
Heptachlor epoxide	94	94	62 - 112	0	18		
Endosulfan I	90	90	55 - 115	0	26		
Endosulfan II	84	46	60 - 115	59	20		N *
Endosulfan sulfate	78	26	58 - 118	99	22		N *
Endrin	112	109	61 - 121	3	30		
Endrin aldehyde	74	55	54 - 115	28	29		
Endrin ketone	75	62	61 - 118	20	20		
gamma-Chlordane	92	91	60 - 115	1	21		
Methoxychlor	73	55	52 - 123	29	23		*
alpha-Chlordane	93	92	60 - 115	1	18		
Dieldrin	92	92	63 - 117	0	25		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	96	94	59 - 115
Decachlorobiphenyl	100	92	63 - 124

000065

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-65424

Method: 8081A
Preparation: 3550C

Lab Sample ID:	MB 280-65424/1-A	Analysis Batch:	280-65939	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-65424	Lab File ID:	073F7301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.4 g
Analysis Date:	05/06/2011 1050	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	05/03/2011 1619			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.52	U	0.52	1.6
4,4'-DDE	0.23	U	0.23	1.6
4,4'-DDT	0.56	U	0.56	1.6
Aldrin	0.24	U	0.24	1.6
alpha-BHC	0.20	U	0.20	1.6
beta-BHC	0.63	U	0.63	1.6
delta-BHC	0.38	U	0.38	1.6
gamma-BHC (Lindane)	0.44	U	0.44	1.6
Heptachlor	0.20	U	0.20	1.6
Heptachlor epoxide	0.41	U	0.41	1.6
Endosulfan I	0.17	U	0.17	1.6
Endosulfan II	0.27	U	0.27	1.6
Endosulfan sulfate	0.26	U	0.26	1.6
Endrin	0.29	U	0.29	1.6
Endrin aldehyde	0.16	U	0.16	1.6
Endrin ketone	0.47	U	0.47	1.6
gamma-Chlordane	0.25	U	0.25	1.6
Methoxychlor	0.43	U	0.43	3.2
alpha-Chlordane	0.31	U	0.31	1.6
Dieldrin	0.20	U	0.20	1.6
Toxaphene	15	U	15	160

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	96	59 - 115
Decachlorobiphenyl	93	63 - 124

000066

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-65424

Method: 8081A
Preparation: 3550C

Lab Sample ID:	LCS 280-65424/2-A	Analysis Batch:	280-65939	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-65424	Lab File ID:	011F1101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	05/05/2011 1619	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	05/03/2011 1619			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	16.3	12.8	79	57 - 118	
4,4'-DDE	16.3	14.2	87	61 - 115	
4,4'-DDT	16.3	14.4	88	53 - 125	
Aldrin	16.3	13.6	84	60 - 115	
alpha-BHC	16.3	13.7	84	54 - 115	
beta-BHC	16.3	14.3	88	58 - 115	
delta-BHC	16.3	14.2	87	62 - 115	
gamma-BHC (Lindane)	16.3	13.8	85	59 - 115	
Heptachlor	16.3	14.3	88	61 - 115	
Heptachlor epoxide	16.3	14.4	88	62 - 112	
Endosulfan I	16.3	13.8	85	55 - 115	
Endosulfan II	16.3	14.2	87	60 - 115	
Endosulfan sulfate	16.3	14.3	88	58 - 118	
Endrin	16.3	16.9	104	61 - 121	
Endrin aldehyde	16.3	12.4	76	54 - 115	
Endrin ketone	16.3	12.6	77	61 - 118	
gamma-Chlordane	16.3	14.3	88	60 - 115	
Methoxychlor	16.3	14.1	87	52 - 123	
alpha-Chlordane	16.3	14.2	87	60 - 115	
Dieldrin	16.3	14.2	87	63 - 117	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	89	59 - 115
Decachlorobiphenyl	100	63 - 124

000067

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-65424

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-15156-3	Analysis Batch:	280-65939	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-65424	Lab File ID:	071F7101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	05/06/2011 1017			Final Weight/Volume:	10000 uL
Prep Date:	05/03/2011 1619			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-15156-3	Analysis Batch:	280-65939	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-65424	Lab File ID:	072F7201.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	05/06/2011 1033			Final Weight/Volume:	10000 uL
Prep Date:	05/03/2011 1932			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	78	78	57 - 118	4	20		
4,4'-DDE	81	81	61 - 115	4	15		
4,4'-DDT	87	83	53 - 125	8	29		
Aldrin	86	85	60 - 115	6	50		
alpha-BHC	86	86	54 - 115	4	17		
beta-BHC	87	86	58 - 115	4	17		
delta-BHC	85	86	62 - 115	2	19		
gamma-BHC (Lindane)	87	86	59 - 115	5	24		
Heptachlor	91	89	61 - 115	5	18		
Heptachlor epoxide	89	87	62 - 112	6	18		
Endosulfan I	85	83	55 - 115	6	26		
Endosulfan II	78	87	60 - 115	7	20		
Endosulfan sulfate	69	85	58 - 118	18	22		
Endrin	106	111	61 - 121	0	30		
Endrin aldehyde	71	7	54 - 115	164	29		J N *
Endrin ketone	74	76	61 - 118	0	20		
gamma-Chlordane	87	84	60 - 115	7	21		
Methoxychlor	80	83	52 - 123	0	23		
alpha-Chlordane	88	85	60 - 115	7	18		
Dieldrin	88	86	63 - 117	6	25		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	92	94	59 - 115
Decachlorobiphenyl	107	113	63 - 124

000068

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-64701

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-64701/1-A	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-64701	Lab File ID:	021F2101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	05/02/2011 1953	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	04/28/2011 1950			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.6	U	2.6	9.5
Aroclor 1221	7.6	U	7.6	16
Aroclor 1232	1.9	U	1.9	9.5
Aroclor 1242	4.4	U	4.4	9.5
Aroclor 1248	4.4	U	4.4	9.5
Aroclor 1254	2.5	U	2.5	9.5
Aroclor 1260	2.5	U	2.5	9.5

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	88	59 - 130
Tetrachloro-m-xylene	85	53 - 128

Lab Control Sample - Batch: 280-64701

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-64701/2-A	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-64701	Lab File ID:	022F2201.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	05/02/2011 2024	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	04/28/2011 1950			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	31.9	29.4	92	54 - 132	
Aroclor 1260	31.9	31.5	99	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	90	59 - 130
Tetrachloro-m-xylene	92	53 - 128

000069

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64701

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-15156-19	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-64701	Lab File ID:	043F4301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	05/03/2011 0731			Final Weight/Volume:	5000 uL
Prep Date:	04/28/2011 1950			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-15156-19	Analysis Batch:	280-65374	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-64701	Lab File ID:	044F4401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.7 g
Analysis Date:	05/03/2011 0803			Final Weight/Volume:	5000 uL
Prep Date:	04/28/2011 1950			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	99	93	54 - 132	6	26		
Aroclor 1260	98	92	62 - 129	4	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	88	85	59 - 130
Tetrachloro-m-xylene	95	92	53 - 128

Date: 16 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-H Remaining Sites Burial Grounds – Soil Full Protocol - Waste Site 600-151
Subject: Diesel Range Organics - Data Package No. JP0171-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. JP0171 prepared by TestAmerica Laboratories 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
J1HK23	4/26/11	Soil	C	See note 1
J1HK24	4/26/11	Soil	C	See note 1
J1HK25	4/26/11	Soil	C	See note 1
J1HK26	4/26/11	Soil	C	See note 1
J1HK27	4/26/11	Soil	C	See note 1
J1HK28	4/26/11	Soil	C	See note 1
J1HK29	4/26/11	Soil	C	See note 1
J1HK30	4/26/11	Soil	C	See note 1
J1HK31	4/26/11	Soil	C	See note 1
J1HK32	4/26/11	Soil	C	See note 1
J1HK33	4/26/11	Soil	C	See note 1
J1HK34	4/26/11	Soil	C	See note 1
J1HK35	4/26/11	Soil	C	See note 1
J1HK36	4/26/11	Soil	C	See note 1
J1HK37	4/26/11	Soil	C	See note 1
J1HK38	4/26/11	Soil	C	See note 1
J1HK39	4/26/11	Soil	C	See note 1
J1HK40	4/26/11	Soil	C	See note 1
J1HK41	4/26/11	Soil	C	See note 1

1 – Diesel range organics by NWTPH-Dx.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). 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 blank was 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 (460% & 235%) and matrix spike duplicate (-158% & 11%) recoveries outside QC limits, 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 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.

Due to RPDs outside QC limits (54% & 39%), all diesel range organic results were qualified as estimates and flagged "J".

All other duplicate results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1HK25/J1HK41) 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 analytes met the RQL.

- **Completeness**

Data package No. JP0171 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 (460% & 235%) and matrix spike duplicate (-158% & 11%) recoveries outside QC limits, all diesel range organic results were qualified as estimates and flagged "J".

- Due to RPDs outside QC limits (54% & 39%), all diesel range organic 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-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

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 ORGANIC DATA QUALIFICATION SUMMARY*

SDG: JP0171	REVIEWER: ELR	Project: 600-151	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All	J	All	MS/MSD recovery & 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: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK23

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	011B1101.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	05/03/2011 1428			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		11000	J	1100	4300
C10-C28		4300	J	720	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		49 - 115

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK24

Lab Sample ID: 280-15156-2
Client Matrix: Solid
% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	012B1201.D
Dilution:	1.0			Initial Weight/Volume:	31.2 g
Analysis Date:	05/03/2011 1456			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		690000	N J	1000	4200
C10-C28		310000	N J	700	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	113		49 - 115

5/14/11

000012

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK25**

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	015B1501.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	05/03/2011 1620			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		4800	J	1000	4100
C10-C28		1500	J J	700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	76		49 - 115

5/14/11

000013

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK26**

Lab Sample ID: 280-15156-4
Client Matrix: Solid

% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	016B1601.D
Dilution:	1.0			Initial Weight/Volume:	31.8 g
Analysis Date:	05/03/2011 1648			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		77000	J	1000	4100
C10-C28		49000	J	700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	109		49 - 115

5/14/11

000014

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK27**

Lab Sample ID: 280-15156-5
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	017B1701.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	05/03/2011 1716			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		42000	J	1100	4200
C10-C28		21000	J	720	4200

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

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK28**

Lab Sample ID: 280-15156-6
Client Matrix: Solid
% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	018B1801.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	05/03/2011 1744			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		40000	J	1100	4300
C10-C28		13000	J	740	4300

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

5/14/11

000016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK29

Lab Sample ID: 280-15156-7
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	020B2001.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	05/03/2011 1840			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		18000	J	1000	4200
C10-C28		6600	J	710	4200

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		49 - 115

5/14/11

000017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK30**

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	021B2101.D
Dilution:	1.0			Initial Weight/Volume:	31.8 g
Analysis Date:	05/03/2011 1908			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		26000	J	1000	4200
C10-C28		6300	J	710	4200

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

5/14/11

000018

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK31

Lab Sample ID: 280-15156-9
Client Matrix: Solid

% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	022B2201.D
Dilution:	1.0			Initial Weight/Volume:	31.3 g
Analysis Date:	05/03/2011 1935			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

DryWt Corrected: Y

Analyte	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36	33000	J	1100	4300
C10-C28	8900	J	720	4300

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

5/12/11

000019

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK32**

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7.8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	023B2301.D
Dilution:	1.0			Initial Weight/Volume:	32.3 g
Analysis Date:	05/03/2011 2003			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		17000	J	1000	4000
C10-C28		7000	J	680	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	96		49 - 115

5/14/11

000020

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK33

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	024B2401.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	05/03/2011 2031			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		13000	J	1100	4300
C10-C28		5300	J	720	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	72		49 - 115

5/14/11

000021

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK34**

Lab Sample ID: 280-15156-12
Client Matrix: Solid
% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	025B2501.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	05/03/2011 2058			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		5600	J	1000	4200
C10-C28		2000	J J	700	4200

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

5/14/11

000022

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK35

Lab Sample ID: 280-15156-13
Client Matrix: Solid
% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	026B2601.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	05/03/2011 2126			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		12000	J	1100	4400
C10-C28		4000	J J	740	4400

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

5/14/11

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK36**

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	027B2701.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Analysis Date:	05/03/2011 2153			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		11000	J	1000	4100
C10-C28		2900	J J	700	4100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	67		49 - 115

K
5/14/11

000024

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK37**

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	028B2801.D
Dilution:	1.0			Initial Weight/Volume:	30.7 g
Analysis Date:	05/03/2011 2221			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		6700	J	1100	4200
C10-C28		3100	J J	720	4200

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

5/04/11

000025

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK38**

Lab Sample ID: 280-15156-16
Client Matrix: Solid
% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	029B2901.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	05/03/2011 2248			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

DryWt Corrected: Y

Analyte	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36	66000	J	1100	4300
C10-C28	44000	J	730	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	73		49 - 115

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK39**

Lab Sample ID: 280-15156-17
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65573	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	003B0301.D
Dilution:	1.0			Initial Weight/Volume:	32.1 g
Analysis Date:	05/04/2011 0957			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		7800		980	3900
C10-C28		3000	J J	660	3900

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

5/14/11

000027

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK40**

Lab Sample ID: 280-15156-18
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65573	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	004B0401.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	05/04/2011 1025			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		46000	J	1100	4300
C10-C28		20000	J	720	4300

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		49 - 115

K
5/14/11

000028

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK41**

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-65573	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-64721	Lab File ID:	005B0501.D
Dilution:	1.0			Initial Weight/Volume:	29.9 g
Analysis Date:	05/04/2011 1053			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		7600	J	1100	4300
C10-C28		3600	J J	720	4300

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

5/24/11

000029

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-15156-1

SDG #: JP0171
SAF#: RC-107

Date SDG Closed: April 28, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1HK23	280-15156-1	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK24	280-15156-2	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK25	280-15156-3	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK26	280-15156-4	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK27	280-15156-5	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK28	280-15156-6	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK29	280-15156-7	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK30	280-15156-8	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK31	280-15156-9	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK32	280-15156-10	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK33	280-15156-11	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK34	280-15156-12	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK35	280-15156-13	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK36	280-15156-14	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK37	280-15156-15	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK38	280-15156-16	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK39	280-15156-17	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK40	280-15156-18	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK41	280-15156-19	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HKF5	280-15156-20	8260	8260B

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 4/28/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 4.6 C, 3.8 C and 4.8 C.

Samples J1HK35, J1HK36 and J1HKF5, requesting 5035/8260 VOA analysis, were received at the laboratory after the recommended 48 hour sample holding time had expired. The client was notified on 4/29/2011.

000031

GC/MS VOLATILES - SW846 8260B

The 5035 prep for the samples presented in this report were performed after the recommended 48 hour sample holding times had expired. The samples were received at the laboratory with insufficient time remaining for the laboratory to perform the prep within the holding times. It is TestAmerica's policy to analyze all samples within holding times; however, the laboratory cannot guarantee that hold times will be met when samples are received with less than half the hold time remaining. The client was notified on 4/29/2011.

Surrogate 4-Bromofluorobenzene was recovered outside the control limits, biased high, in samples J1HK24, J1HK28 and J1HK36. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the samples, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK38 exhibited a spike compound recovery outside the control limits, and the associated sample result has been flagged "T". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK32 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition, 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 other anomalies were encountered.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased high, in sample J1HK24. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the sample, corrective action is deemed unnecessary.

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Low levels of Heptachlor are present in the method blank associated with batch 280-64708. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-65424 exhibited the percent recovery outside the control limits for Endrin aldehyde, and the associated sample result has been flagged "N". In addition, the RPD limit was exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-64708 exhibited spike compound recoveries outside the control limits. In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Continuing Calibration Verification (CCV) standards associated with samples in batch 280-64708 exhibited %Difference (%D) values >15%, biased low, as detailed below. The overall mean %D is ≤15%; therefore, method criteria have been met and corrective action is deemed unnecessary. It can be noted that a bracketing RL standard was used to demonstrate acceptable instrument sensitivity, despite %D values greater than 30% negative drift. The sequence is as follows: CCV1, LCS, J1HK28, MB, J1HK29, J1HK30, J1HK31, CCV2, J1HK32, J1HK33, J1HK34, J1HK38, J1HK40, J1HK41, CCV3, J1HK27, J1HK35, J1HK36, J1HK37, J1HK39, CCV4, J1HK23, J1HK24, J1HK26.

CCV1 = OK
CCV2 = 4,4'-DDT -18%, Methoxychlor -18%, Toxaphene -19%
CCV3 = OK
CCV4 = 4,4'-DDT -25%, Methoxychlor -18%
CCV5 = 4,4'-DDT -52%, Methoxychlor -44%, Toxaphene -22%

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 in sample J1HK27. The result has been flagged with a "P".

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased low, in sample J1HK38. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary. The laboratory noted that a Sulfuric Acid clean-up was performed on sample J1HK38 to reduce matrix interferences.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

The MS/MSD performed on sample J1HK24 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "N". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The laboratory noted that due to a system "linking" issue, a new lab ID had to be created for both the LCS and LCSD. This resulted in a prep date/time that followed the analysis date, which is not accurate. The LCS and LCSD were prepped at the same time the rest of the samples in batch 280-64721 were prepped.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Surrogate Terphenyl-d14 was recovered outside the control limits, biased high, in sample J1HK26. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-64750 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Serial dilution of a digestate in batch 280-65544 indicates that physical and chemical interferences are present for Cobalt, Lead, Manganese and Nickel. Results have been flagged with an "X".

Low levels of Calcium, Chromium, Iron and Manganese are present in the method blank associated with batch 280-64750. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, Lead and Manganese in the Matrix Spike performed on sample J1HK23 in batch 280-64750; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the SW846 6010B Matrix Spike performed on sample J1HK23, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

4.6, 3.8, 4.8

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 1 of 4

Collector: H. Blankenship / J. Kuepler	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L 88 — Data Turnaround: 21 Days 7
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 7970345159 78	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK23 / SOIL / 4/26/11 / 1225	X		X	X	X	X	X			
J1HK24 / SOIL / 4/26/11 / 1010	X		X	X	X	X	X			
J1HK25 / SOIL / 4/26/11 / 1235	X		X	X	X	X	X			
J1HK26 / SOIL / 4/26/11 / 1000	X		X	X	X	X	X			
J1HK27 / SOIL / 4/26/11 / 1300	X		X	X	X	X	X			

CHAIN OF POSSESSION	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Blankenship	1435 4-26-11	Received By/Stored In: JV Fullmer	1435 4/26/11
Relinquished By/Removed From: JV Fullmer	1615 4/26/11	Received By/Stored In: A. Freier	1615 4-26-11
Relinquished By/Removed From: WCH A. Freier	1000 4-27-11	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	4/28/11 9:30
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

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

* 20 ml vial - % moisture

** Freeze upon receipt
AJ 4-26-11

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

JP0171

REVIEWED BY JEB DATE 4-27-11

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

WCH-EE-011

0000.34

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 2 of 4

Collector: M. Blackingship / J. Kuepfer	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 88	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7970345159 78

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

0000.35

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1HK28	SOIL	4/26/11	1305	X		X	X	X	X	X			
J1HK29	SOIL	4/26/11	0935	X		X	X	X	X	X			
J1HK30	SOIL	4/26/11	0850	X		X	X	X	X	X			
J1HK31	SOIL	4/26/11	0855	X		X	X	X	X	X			
J1HK32	SOIL	4/26/11	0930	X		X	X	X	X	X			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M. Blackingship / J. Kuepfer	1435 4-26-11	JV Fullmer	1435 4/26/11
JV Fullmer	1615 4/26/11	A. Freier	1615 4-26-11
A. Freier (WCH)	1000 4-27-11	FED EX	
			4/28/11

SPECIAL INSTRUCTIONS

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

* 20ml vial → % moisture

** freeze upon receipt AF 4-26-11

JP0171

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

REVIEWED BY JEB DATE 4-27-11

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 1 of 10 4

Collector: M. Blankenship / J. Kaufer	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L 8B	Data Turnaround: 21 Days 7
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107		
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx		
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 7970345159 78		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000036

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No.	Matrix *	Sample Date	Sample Time									
J1HK33	SOIL	4/26/11	0840	X		X	X	X	X	X		
J1HK34	SOIL	4/26/11	0900	X		X	X	X	X	X		
J1HK35	SOIL	4/26/11	0825	X		X	X	X	X	X		
J1HK36	SOIL	4/26/11	0830	X		X	X	X	X	X		
J1HK37	SOIL	4/26/11	0950	X		X	X	X	X	X		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MAT Blankenship	1435 4-26-11	JV Fullmer	1435 4/26/11
JV Fullmer	1615 4/26/11	A. Freier	1615 4-26-11
A. Freier (WCH)	1000 4-27-11	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

** freeze upon receipt

AF 4-26-11

JP0171

REVIEWED BY SEB DATE 4-27-11

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
Ve=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-107-070	Page 4 of ~~10~~ 4
Collector: M. Blankingship / J. Kuepper	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8D~~ 8B; Data Turnaround: ~~21~~ 7 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05; COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 79703451 5978	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Page 224 of 229

Sample No.	Matrix *	Sample Date	Sample Time										
J1HK38	SOIL	4/26/11	0955	X		X	X	X	X	X			
J1HK39	SOIL	4/26/11	1320	X		X	X	X	X	X			
J1HK40	SOIL	4/26/11	1335	X		X	X	X	X	X			
J1HK41	SOIL	4/26/11	1235	X		X	X	X	X	X			
~~J1HK42~~	~~SOIL~~												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MATERIALS MANAGEMENT	4-26-11 1435	Received By/Stored In: JV Fullmer	4/26/11 1435
Relinquished By/Removed From: JV Fullmer	4/26/11 1615	Received By/Stored In: A. Freier	4-26-11 1615
Relinquished By/Removed From: WCH A. Freier	4-27-11 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	4/28/11 930
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

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

* 20% 20 ml vial → % moisture
AJ 4-26-11

** freeze upon receipt
AJ 4-26-11

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

JP0171

REVIEWED BY SEB DATE 4-27-11

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: 600-151			DATA PACKAGE: JP0171		
VALIDATOR: FLR		LAB: TAL		DATE: 5/13/11	
			SDG: JP0171		

ANALYSES PERFORMED					
8015	8021	8141	8151	8315	
		WTPH-HCID	WTPH-G	WTPH-D	

SAMPLES/MATRIX:				
J1HK23	J1HK24	J1HK25	J1HK26	J1HK27
J1HK28	J1HK29	J1HK30	J1HK31	J1HK32
J1HK33	J1HK34	J1HK35	J1HK36	J1HK37
J1HK38	J1HK39	J1HK40	J1HK41	
				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: MS/MSD - J all no BS

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: J- all RPD

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: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-64721

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-64721/1-A	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-64721	Lab File ID:	009B0901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	05/03/2011 1332	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	980	U	980	3900
C10-C28	660	U	660	3900

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	81	49 - 115

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-64721

Method: NWTPH-Dx
Preparation: 3550C

LCS Lab Sample ID:	LCS 280-64721/25-A	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-64721	Lab File ID:	010B1001.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	05/03/2011 1400	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	05/04/2011 1328			Injection Volume:	1 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-64721/26-A	Analysis Batch:	280-65573	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-64721	Lab File ID:	006B0601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 g
Analysis Date:	05/04/2011 1121	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	05/04/2011 1328			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
C10-C36	98	92	57 - 115	1	23		
C10-C28	98	92	53 - 115	1	23		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	83	88	49 - 115

000044

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64721

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-15156-2	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-64721	Lab File ID:	013B1301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	05/03/2011 1524			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-15156-2	Analysis Batch:	280-65571	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-64721	Lab File ID:	014B1401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.4 g
Analysis Date:	05/03/2011 1552			Final Weight/Volume:	1000 uL
Prep Date:	04/29/2011 0058			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	460	-158	57 - 115	54	23	N	*N
C10-C28	235	11	56 - 115	39	23	N	*N

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	92	113	49 - 115

000045

Date: 16 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-H Remaining Sites Burial Grounds – Soil Full Protocol - Waste Site 600-151
Subject: Polyaromatic Hydrocarbons - Data Package No. JP0171-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. JP0171 prepared by TestAmerica Laboratories 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
J1HK23	4/26/11	Soil	C	See note 1
J1HK24	4/26/11	Soil	C	See note 1
J1HK25	4/26/11	Soil	C	See note 1
J1HK26	4/26/11	Soil	C	See note 1
J1HK27	4/26/11	Soil	C	See note 1
J1HK28	4/26/11	Soil	C	See note 1
J1HK29	4/26/11	Soil	C	See note 1
J1HK30	4/26/11	Soil	C	See note 1
J1HK31	4/26/11	Soil	C	See note 1
J1HK32	4/26/11	Soil	C	See note 1
J1HK33	4/26/11	Soil	C	See note 1
J1HK34	4/26/11	Soil	C	See note 1
J1HK35	4/26/11	Soil	C	See note 1
J1HK36	4/26/11	Soil	C	See note 1
J1HK37	4/26/11	Soil	C	See note 1
J1HK38	4/26/11	Soil	C	See note 1
J1HK39	4/26/11	Soil	C	See note 1
J1HK40	4/26/11	Soil	C	See note 1
J1HK41	4/26/11	Soil	C	See note 1

1 – Polyaromatic hydrocarbons by 8310.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). 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 (equipment) Blanks

No field blanks were submitted for analysis.

Accuracy

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

Matrix spike/matrix spike duplicate analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike/matrix spike duplicate analyses are performed in

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

All accuracy results were acceptable.

Surrogate Recovery

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

Due to a surrogate recovery outside QC limits (147%), all detected PAH results in sample J1HK26 were qualified as estimates and flagged "J".

All other surrogate results were acceptable.

- **Precision**

Matrix Spike/Matrix Spike Duplicate Samples

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

All laboratory results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1HK25/J1HK41) 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 analytes met the RQL.

Completeness

Data package No. JP0171 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 a surrogate recovery outside QC limits (147%), all detected PAH results in sample J1HK26 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-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

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

POLYAROMATIC HYDROCARBON DATA QUALIFICATION SUMMARY*

SDG: JP0171	REVIEWER: ELR	Project: 600-151	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All detected PAHs	J	J1HK26	Surrogate recovery

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

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK23**

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.1 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1428			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		3.1	U	3.1	21
Benzo[a]anthracene		27	X	3.3	15
Benzo[a]pyrene		43		6.6	15
Benzo[b]fluoranthene		31		4.3	15
Benzo[g,h,i]perylene		25	J	7.4	31
Benzo[k]fluoranthene		20		4.1	15
Chrysene		38	J	5.0	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		66		13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		35		12	31
Naphthalene		12	U	12	100
Phenanthrene		25	J	12	41
Pyrene		78		12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	99		72 - 115

5/12/11

000010

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK24**

Lab Sample ID: 280-15156-2
Client Matrix: Solid

% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	33.0 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1458			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			Result Type:	PRIMARY

DryWt Corrected: Y

Analyte	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	410		3.1	15
Benzo[a]pyrene	520		6.3	15
Benzo[b]fluoranthene	410		4.1	15
Benzo[g,h,i]perylene	340		7.1	29
Benzo[k]fluoranthene	220		3.9	15
Chrysene	530		4.8	39
Dibenzo(a,h)anthracene	11	U	11	29
Fluoranthene	740		13	39
Fluorene	15	J X	5.2	29
Indeno[1,2,3-cd]pyrene	390		12	29
Naphthalene	12	U	12	98
Phenanthrene	300		12	39
Pyrene	940		12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	102		72 - 115

5/12/11

000011

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK25**

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.1 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1529			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		31	X	3.2	15
Benzo[a]pyrene		64		6.5	15
Benzo[b]fluoranthene		46		4.2	15
Benzo[g,h,i]perylene		45		7.3	30
Benzo[k]fluoranthene		23	X	4.0	15
Chrysene		39	J	4.9	40
Dibenzo(a,h)anthracene		23	J X	11	30
Fluoranthene		43	X	13	40
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		56		12	30
Naphthalene		12	U	12	100
Phenanthrene		15	J	12	40
Pyrene		58		12	40

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

5/14/11

000012

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK26**

Lab Sample ID: 280-15156-4
Client Matrix: Solid
% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1559			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		110	X J	3.3	21
Benzo[a]anthracene		1200		3.4	16
Benzo[a]pyrene		1400		6.8	16
Benzo[b]fluoranthene		1000		4.5	16
Benzo[g,h,i]perylene		960		7.7	32
Benzo[k]fluoranthene		560		4.2	16
Chrysene		1300		5.2	43
Dibenzo(a,h)anthracene		190	X	12	32
Fluoranthene		2800		14	43
Fluorene		170		5.6	32
Indeno[1,2,3-cd]pyrene		990		13	32
Naphthalene		13	U	13	110
Phenanthrene		1300	J	13	43
Pyrene		3000	J	13	43

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	147	*	72 - 115

5/14/11

000013

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK27**

Lab Sample ID: 280-15156-5
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1630			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		340		3.4	16
Benzo[a]pyrene		460		6.8	16
Benzo[b]fluoranthene		360	X	4.4	16
Benzo[g,h,i]perylene		310		7.6	32
Benzo[k]fluoranthene		200		4.2	16
Chrysene		470		5.1	42
Dibenzo(a,h)anthracene		99	X	12	32
Fluoranthene		690		14	42
Fluorene		46		5.6	32
Indeno[1,2,3-cd]pyrene		440		13	32
Naphthalene		13	U	13	110
Phenanthrene		340		13	42
Pyrene		800		13	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	103		72 - 115

5/14/11

000014

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK28**

Lab Sample ID: 280-15156-6
Client Matrix: Solid

% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.9 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1700			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		18	J X	9.5	110
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		340	X	3.4	16
Benzo[a]pyrene		320		6.8	16
Benzo[b]fluoranthene		230		4.4	16
Benzo[g,h,i]perylene		240	X	7.6	32
Benzo[k]fluoranthene		130		4.2	16
Chrysene		300		5.1	42
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		520		14	42
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		210		13	32
Naphthalene		13	U	13	110
Phenanthrene		230		13	42
Pyrene		630		13	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	110		72 - 115

5/14/11

000015

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK29

Lab Sample ID: 280-15156-7
Client Matrix: Solid
% Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	32.6 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1731			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		54		3.1	15
Benzo[a]pyrene		68		6.3	15
Benzo[b]fluoranthene		54		4.1	15
Benzo[g,h,i]perylene		7.1	U	7.1	29
Benzo[k]fluoranthene		22		3.9	15
Chrysene		67		4.8	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		110		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		51		12	39
Pyrene		140		12	39

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

5/24/11

000016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK30**

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	32.7 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1801			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.2	U	9.2	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		25		3.2	15
Benzo[a]pyrene		31		6.5	15
Benzo[b]fluoranthene		22		4.3	15
Benzo[g,h,i]perylene		14	J	7.3	31
Benzo[k]fluoranthene		9.3	J	4.0	15
Chrysene		32	J	4.9	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		40	J	13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		12	U	12	31
Naphthalene		12	U	12	100
Phenanthrene		18	J	12	41
Pyrene		62		12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	93		72.- 115

5/14/11

000017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK31**

Lab Sample ID: 280-15156-9
Client Matrix: Solid
% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	32.8 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1902			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.2	U	9.2	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		170		3.3	15
Benzo[a]pyrene		230		6.5	15
Benzo[b]fluoranthene		170		4.3	15
Benzo[g,h,i]perylene		150		7.3	31
Benzo[k]fluoranthene		97		4.0	15
Chrysene		220		4.9	41
Dibenzo(a,h)anthracene		20	J X	11	31
Fluoranthene		420		13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		160		12	31
Naphthalene		12	U	12	100
Phenanthrene		220		12	41
Pyrene		470		12	41

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

5/24/11

000018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK32

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7.8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.3 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 1933			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		38	X	3.3	16
Benzo[a]pyrene		35		6.7	16
Benzo[b]fluoranthene		27		4.4	16
Benzo[g,h,i]perylene		24	J	7.5	31
Benzo[k]fluoranthene		12	J	4.1	16
Chrysene		42		5.0	42
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		52		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		23	J	12	42
Pyrene		69		12	42

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	93		72 - 115

5/14/11

000019

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK33**

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 2004			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		91		3.4	16
Benzo[a]pyrene		120		6.9	16
Benzo[b]fluoranthene		86		4.5	16
Benzo[g,h,i]perylene		73		7.7	32
Benzo[k]fluoranthene		51		4.2	16
Chrysene		120		5.2	43
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		170		14	43
Fluorene		6.7	J	5.7	32
Indeno[1,2,3-cd]pyrene		13	U	13	32
Naphthalene		13	U	13	110
Phenanthrene		85		13	43
Pyrene		220		13	43

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

5/14/11

000020

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK34

Lab Sample ID: 280-15156-12
Client Matrix: Solid
% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	32.5 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 2034			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		6.4	U	6.4	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)	94		72 - 115

5/14/11

000021

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK35

Lab Sample ID: 280-15156-13
Client Matrix: Solid

% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 2206			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			Result Type:	PRIMARY

DryWt Corrected: Y

Analyte	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	7.4	J X	3.4	16
Benzo[a]pyrene	14	J	6.8	16
Benzo[b]fluoranthene	8.2	J	4.4	16
Benzo[g,h,i]perylene	7.6	U	7.6	32
Benzo[k]fluoranthene	4.5	J	4.2	16
Chrysene	13	J	5.1	42
Dibenzo(a,h)anthracene	12	U	12	32
Fluoranthene	16	J	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	22	J	13	42

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

5/24/11

000022

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK36

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.0 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 2236			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.2	U	9.2	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		25		3.3	15
Benzo[a]pyrene		25		6.5	15
Benzo[b]fluoranthene		19		4.3	15
Benzo[g,h,i]perylene		19	J	7.3	31
Benzo[k]fluoranthene		7.9	J	4.0	15
Chrysene		27	J	4.9	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		36	J	13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		12	U	12	31
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	41
Pyrene		51		12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	97		72 - 115

5/24/11

000023

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK37**

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.5 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 2307			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		3.1	U	3.1	21
Benzo[a]anthracene		9.5	J	3.3	15
Benzo[a]pyrene		11	J	6.6	15
Benzo[b]fluoranthene		8.3	J X	4.3	15
Benzo[g,h,i]perylene		7.4	U	7.4	31
Benzo[k]fluoranthene		4.0	U	4.0	15
Chrysene		12	J	5.0	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		25	J	13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		12	U	12	31
Naphthalene		12	U	12	100
Phenanthrene		19	J	12	41
Pyrene		28	J	12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	91		72 - 115

5/14/11

000024

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK38**

Lab Sample ID: 280-15156-16
Client Matrix: Solid

% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	31.4 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/29/2011 2337			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		4.7	J X	3.2	21
Benzo[a]anthracene		86		3.4	16
Benzo[a]pyrene		6.7	U	6.7	16
Benzo[b]fluoranthene		82		4.4	16
Benzo[g,h,i]perylene		71		7.6	32
Benzo[k]fluoranthene		37		4.1	16
Chrysene		110		5.1	42
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		160		14	42
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		83		13	32
Naphthalene		13	U	13	110
Phenanthrene		63		13	42
Pyrene		200		13	42

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

5/24/11

000025

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK39**

Lab Sample ID: 280-15156-17
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	30.6 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/30/2011 0038			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		3.1	U	3.1	21
Benzo[a]anthracene		39	X	3.3	15
Benzo[a]pyrene		38		6.6	15
Benzo[b]fluoranthene		30		4.3	15
Benzo[g,h,i]perylene		25	J	7.4	31
Benzo[k]fluoranthene		12	J	4.1	15
Chrysene		36	J	5.0	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		34	J	13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		32		12	31
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	41
Pyrene		54		12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	101		72 - 115

5/11/11

000026

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK40

Lab Sample ID: 280-15156-18
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	30.8 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/30/2011 0109			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		150		3.3	16
Benzo[a]pyrene		210		6.6	16
Benzo[b]fluoranthene		150		4.3	16
Benzo[g,h,i]perylene		140		7.5	31
Benzo[k]fluoranthene		94		4.1	16
Chrysene		190		5.0	41
Dibenzo(a,h)anthracene		22	J X	11	31
Fluoranthene		250		13	41
Fluorene		5.5	U	5.5	31
Indeno[1,2,3-cd]pyrene		160		12	31
Naphthalene		12	U	12	100
Phenanthrene		100		12	41
Pyrene		360		12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	99		72 - 115

5/14/11

000027

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK41

Lab Sample ID: 280-15156-19
Client Matrix: Solid

% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-64712	Initial Weight/Volume:	32.6 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	04/30/2011 0139			Injection Volume:	20 uL
Prep Date:	04/28/2011 2253			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		32		3.1	15
Benzo[a]pyrene		44		6.3	15
Benzo[b]fluoranthene		36		4.1	15
Benzo[g,h,i]perylene		42		7.0	29
Benzo[k]fluoranthene		15		3.9	15
Chrysene		38	J	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		59		13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		44		12	29
Naphthalene		12	U	12	98
Phenanthrene		23	J	12	39
Pyrene		75		12	39

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

5/14/11

000028

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-15156-1

SDG #: JP0171
SAF#: RC-107

Date SDG Closed: April 28, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1HK23	280-15156-1	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK24	280-15156-2	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK25	280-15156-3	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK26	280-15156-4	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK27	280-15156-5	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK28	280-15156-6	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK29	280-15156-7	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK30	280-15156-8	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK31	280-15156-9	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK32	280-15156-10	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK33	280-15156-11	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK34	280-15156-12	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK35	280-15156-13	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK36	280-15156-14	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK37	280-15156-15	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK38	280-15156-16	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK39	280-15156-17	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK40	280-15156-18	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK41	280-15156-19	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HKF5	280-15156-20	8260	8260B

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 4/28/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 4.6 C, 3.8 C and 4.8 C.

Samples J1HK35, J1HK36 and J1HKF5, requesting 5035/8260 VOA analysis, were received at the laboratory after the recommended 48 hour sample holding time had expired. The client was notified on 4/29/2011.

000030

GC/MS VOLATILES - SW846 8260B

The 5035 prep for the samples presented in this report were performed after the recommended 48 hour sample holding times had expired. The samples were received at the laboratory with insufficient time remaining for the laboratory to perform the prep within the holding times. It is TestAmerica's policy to analyze all samples within holding times; however, the laboratory cannot guarantee that hold times will be met when samples are received with less than half the hold time remaining. The client was notified on 4/29/2011.

Surrogate 4-Bromofluorobenzene was recovered outside the control limits, biased high, in samples J1HK24, J1HK28 and J1HK36. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the samples, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK38 exhibited a spike compound recovery outside the control limits, and the associated sample result has been flagged "T". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK32 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition, 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 other anomalies were encountered.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased high, in sample J1HK24. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the sample, corrective action is deemed unnecessary.

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Low levels of Heptachlor are present in the method blank associated with batch 280-64708. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-65424 exhibited the percent recovery outside the control limits for Endrin aldehyde, and the associated sample result has been flagged "N". In addition, the RPD limit was exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-64708 exhibited spike compound recoveries outside the control limits. In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Continuing Calibration Verification (CCV) standards associated with samples in batch 280-64708 exhibited %Difference (%D) values >15%, biased low, as detailed below. The overall mean %D is ≤15%; therefore, method criteria have been met and corrective action is deemed unnecessary. It can be noted that a bracketing RL standard was used to demonstrate acceptable instrument sensitivity, despite %D values greater than 30% negative drift. The sequence is as follows: CCV1, LCS, J1HK28, MB, J1HK29, J1HK30, J1HK31, CCV2, J1HK32, J1HK33, J1HK34, J1HK38, J1HK40, J1HK41, CCV3, J1HK27, J1HK35, J1HK36, J1HK37, J1HK39, CCV4, J1HK23, J1HK24, J1HK26.

CCV1 = OK
CCV2 = 4,4'-DDT -18%, Methoxychlor -18%, Toxaphene -19%
CCV3 = OK
CCV4 = 4,4'-DDT -25%, Methoxychlor -18%
CCV5 = 4,4'-DDT -52%, Methoxychlor -44%, Toxaphene -22%

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 in sample J1HK27. The result has been flagged with a "P".

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased low, in sample J1HK38. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary. The laboratory noted that a Sulfuric Acid clean-up was performed on sample J1HK38 to reduce matrix interferences.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

000031

The MS/MSD performed on sample J1HK24 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "N". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The laboratory noted that due to a system "linking" issue, a new lab ID had to be created for both the LCS and LCSD. This resulted in a prep date/time that followed the analysis date, which is not accurate. The LCS and LCSD were prepped at the same time the rest of the samples in batch 280-64721 were prepped.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Surrogate Terphenyl-d14 was recovered outside the control limits, biased high, in sample J1HK26. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-64750 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Serial dilution of a digestate in batch 280-65544 indicates that physical and chemical interferences are present for Cobalt, Lead, Manganese and Nickel. Results have been flagged with an "X".

Low levels of Calcium, Chromium, Iron and Manganese are present in the method blank associated with batch 280-64750. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, Lead and Manganese in the Matrix Spike performed on sample J1HK23 in batch 280-64750; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the SW846 6010B Matrix Spike performed on sample J1HK23, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

4.6, 3.8, 4.8

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 1 of 4

Collector: M. Blankenship / J. Kuepfer	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L 88	Data Turnaround: 21 Days 7		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7970345159 78

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1HK23	SOIL	4/26/11	1225	X		X	X	X	X	X			
J1HK24	SOIL	4/26/11	1010	X		X	X	X	X	X			
J1HK25	SOIL	4/26/11	1235	X		X	X	X	X	X			
J1HK26	SOIL	4/26/11	1000	X		X	X	X	X	X			
J1HK27	SOIL	4/26/11	1300	X		X	X	X	X	X			

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: MT Blankenship	Date/Time: 4-26-11 1435	Received By/Stored In: JV Fuller	Date/Time: 4/26/11 1435
Relinquished By/Removed From: JV Fuller	Date/Time: 4/26/11 1615	Received By/Stored In: A. Freier	Date/Time: 4-26-11 1615
Relinquished By/Removed From: WCH A. Freier	Date/Time: 4-27-11 1000	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time: 4/28/11 930
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 (Close-out List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

* 20 ml vial - % moisture

** Freeze upon receipt A# 4-26-11

JP0171

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

REVIEWED BY TEB DATE 4-27-11

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 2 of 4

Collector: M. Blankinship / J. Knopfe	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~81~~ 88	Date Turnaround: ~~21 Days~~ 7		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 797034515978

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

00000.34

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			

SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK28 / SOIL / 4/26/11 / 1305	X		X	X	X	X	X			
J1HK29 / SOIL / 4/26/11 / 0935	X		X	X	X	X	X			
J1HK30 / SOIL / 4/26/11 / 0850	X		X	X	X	X	X			
J1HK31 / SOIL / 4/26/11 / 0855	X		X	X	X	X	X			
J1HK32 / SOIL / 4/26/11 / 0930	X		X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	4-26-11 1435	JV Fullmer [signature]	1435 4/26/11
JV Fullmer [signature]	4/26/11 1615	A. Freier [signature]	1615 4-26-11
A. Freier [signature] (WCH)	1000 4-27-11	FED EX	
		[signature]	4/28/11 938

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

** freeze upon receipt AF 4-26-11

JP0171

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

REVIEWED BY JEB 4-27-11

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-107-070	Page 3 of ~~10~~ 7

Collector: M. Blankenship / J. Kuepker	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ 8B — Data Turnaround: 21 Days 7
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05 — COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 797034515978	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000035

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK33 / SOIL / 4/26/11 / 0840	X		X	X	X	X	X			
J1HK34 / SOIL / 4/26/11 / 0900	X		X	X	X	X	X			
J1HK35 / SOIL / 4/26/11 / 0825	X		X	X	X	X	X			
J1HK36 / SOIL / 4/26/11 / 0830	X		X	X	X	X	X			
J1HK37 / SOIL / 4/26/11 / 0950	X		X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MATT BLANKENSHIP	4-26-11 1435	JV Fullmer	4/26/11 1435
JV Fullmer	4/26/11 1615	A. Freier	4-26-11 1615
A. Freier (WCH)	4-27-11 1000	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

* * freeze upon receipt

AF 4-26-11

REVIEWED BY SEB DATE 4-27-11

JP0171

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-107-070	Page 1 of 4
Collector: M. Blankingship / J. Kuepher	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8D 8B; Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05; COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, Richland Denver	Offsite Property No.: NA	Bill of Lading/Air Bill No.: 79703451 5978	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000036

SAMPLE ANALYSIS

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
	See item (1) in Special Instructions.	Chromium Hex 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1HK38	SOIL	4/26/11	0955	X		X	X	X	X	X			
J1HK39	SOIL	4/26/11	1320	X		X	X	X	X	X			
J1HK40	SOIL	4/26/11	1335	X		X	X	X	X	X			
J1HK41	SOIL	4/26/11	1235	X		X	X	X	X	X			
~~J1HK42~~	~~SOIL~~		~~4/26/11~~										

CHAIN OF POSSESSION	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From: WASTE MANAGEMENT	1435 4-26-11	Received By/Stored In: JV Fullmer	1435 4/26/11
Relinquished By/Removed From: JV Fullmer	1615 4/26/11	Received By/Stored In: A. Freier	1615 4-26-11
Relinquished By/Removed From: WCH A. Freier	1000 4-27-11	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	4/28/11 930
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

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

* 20% 20 ml vial → % moisture
AJ 4-26-11

** freeze upon receipt
AJ 4-26-11

JP0171

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

REVIEWED BY JEB DATE 4-27-11

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: 600-151			DATA PACKAGE: JP0171		
VALIDATOR: ELR		LAB: TAL		DATE: 5/13/11	
			SDG: JP0171		
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	8310
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX:					
J1HK23	J1HK24	J1HK25	J1HK26	J1HK27	
J1HK28	J1HK29	J1HK30	J1HK31	J1HK32	
J1HK33	J1HK34	J1HK35	J1HK36	J1HK37	
J1HK38	J1HK39	J1HK40	J1HK41		
					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: Surr - 24 - J all detect

no PBS

GENERAL ORGANIC DATA VALIDATION CHECKLIST

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

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

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

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

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

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

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

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

Comments: _____

6. HOLDING TIMES (all levels)

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

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

Comments: _____

GENERAL ORGANIC DATA VALIDATION CHECKLIST

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

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

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

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

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

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

Comments: _____

9. SAMPLE CLEANUP (Levels D and E)

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

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

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

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

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

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

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

Comments: _____

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-64712

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-64712/1-A	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-64712	Lab File ID:	G0429008.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	04/29/2011 1327	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	04/28/2011 2253			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	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	Acceptance Limits
Terphenyl-d14 (SUR)	87	72 - 115

000043

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-64712

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-64712/2-A	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-64712	Lab File ID:	G0429009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	04/29/2011 1357	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	04/28/2011 2253			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1920	1800	94	72 - 115	
Acenaphthylene	1920	1630	85	60 - 115	
Anthracene	1920	1520	79	61 - 115	
Benzo[a]anthracene	1920	1970	103	76 - 115	
Benzo[a]pyrene	1920	1580	82	69 - 115	
Benzo[b]fluoranthene	1920	2010	105	81 - 115	
Benzo[g,h,i]perylene	1920	1790	93	71 - 115	
Benzo[k]fluoranthene	1920	1800	94	85 - 115	
Chrysene	1920	1850	96	70 - 115	
Dibenzo(a,h)anthracene	1920	1820	95	79 - 115	
Fluoranthene	1920	1740	91	67 - 115	
Fluorene	1920	1650	86	72 - 115	
Indeno[1,2,3-cd]pyrene	1920	1960	102	76 - 115	
Naphthalene	1920	1650	86	77 - 115	
Phenanthrene	1920	1710	89	79 - 115	
Pyrene	1920	1740	91	77 - 115	

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	90	72 - 115

000044

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-64712

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-15156-12	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-64712	Lab File ID:	G0429023.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.9 g
Analysis Date:	04/29/2011 2105			Final Weight/Volume:	4000 uL
Prep Date:	04/28/2011 2253			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-15156-12	Analysis Batch:	280-64775	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-64712	Lab File ID:	G0429024.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	04/29/2011 2135			Final Weight/Volume:	4000 uL
Prep Date:	04/28/2011 2253			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	99	103	72 - 115	3	20		
Acenaphthylene	92	95	60 - 115	3	21		
Anthracene	84	88	61 - 115	3	20		
Benzo[a]anthracene	108	111	76 - 115	2	20		
Benzo[a]pyrene	88	90	69 - 115	1	20		
Benzo[b]fluoranthene	101	103	81 - 115	1	20		
Benzo[g,h,i]perylene	101	104	71 - 115	2	20		
Benzo[k]fluoranthene	97	99	85 - 115	1	20		
Chrysene	99	102	70 - 115	2	20		
Dibenzo(a,h)anthracene	102	104	79 - 115	2	20		
Fluoranthene	98	101	67 - 115	3	20		
Fluorene	92	95	72 - 115	3	20		
Indeno[1,2,3-cd]pyrene	109	112	76 - 115	2	20		
Naphthalene	92	96	77 - 115	4	20		
Phenanthrene	95	99	79 - 115	3	20		
Pyrene	98	101	77 - 115	3	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	97	100	72 - 115

000045

Date: 16 May 2011
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-H Remaining Sites Burial Grounds – Soil Full Protocol - Waste Site 600-151
Subject: Metals - Data Package No. JP0171-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. JP0171 prepared by TestAmerica Laboratories 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
J1HK23	4/26/11	Soil	C	See note 1
J1HK24	4/26/11	Soil	C	See note 1
J1HK25	4/26/11	Soil	C	See note 1
J1HK26	4/26/11	Soil	C	See note 1
J1HK27	4/26/11	Soil	C	See note 1
J1HK28	4/26/11	Soil	C	See note 1
J1HK29	4/26/11	Soil	C	See note 1
J1HK30	4/26/11	Soil	C	See note 1
J1HK31	4/26/11	Soil	C	See note 1
J1HK32	4/26/11	Soil	C	See note 1
J1HK33	4/26/11	Soil	C	See note 1
J1HK34	4/26/11	Soil	C	See note 1
J1HK35	4/26/11	Soil	C	See note 1
J1HK36	4/26/11	Soil	C	See note 1
J1HK37	4/26/11	Soil	C	See note 1
J1HK38	4/26/11	Soil	C	See note 1
J1HK39	4/26/11	Soil	C	See note 1
J1HK40	4/26/11	Soil	C	See note 1
J1HK41	4/26/11	Soil	C	See note 1

1 - ICP metals (6010B) and mercury by 7471A.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). 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 6 months for ICP metals and 28 days for mercury.

All holding times were acceptable.

- **Preparation (Method) Blanks**

Preparation Blanks

At least one preparation blank, consisting of deionized distilled water processed through each sample preparation and analysis procedure, must be prepared and analyzed with every sample delivery group. In the case of positive blank results, samples with digestate concentrations less than five times the preparation blank value have had their associated values qualified as non-detected and flagged "UJ". Samples with concentrations of greater than five times the highest blank concentration do not require qualification.

In the case of negative blank results, if the absolute value exceeds the contract required detection limit (CRDL), all nondetects are rejected and flagged "UR" and all detects that are less than ten times the absolute value of the associated preparation blank result are qualified as estimates and flagged "J". If the absolute value of the negative preparation blank is greater than the instrument detection limit (IDL) and less than or equal to the CRDL, all nondetects are qualified as estimates and flagged "UJ" and all detects less than ten times the absolute value of the blank are qualified as estimates and flagged "J". If the sample results are greater than ten times the absolute value of the preparation blank, no qualification is necessary.

All preparation blank results were acceptable.

Field (Equipment) Blank

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 75% to 125%. 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 74% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 125% or less than 74% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 125% and a sample result less than the IDL, no qualification is required.

Due to matrix spike recoveries outside QC limits, all antimony (34% & 45%) and silicon (16% & 12%) results were qualified as estimates and flagged "J".

Due to an LCS recovery outside QC limits (12% & 15%), all silicon results were qualified as estimates and flagged "J".

All other accuracy results were acceptable

- **Precision**

Laboratory Duplicate Samples

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

All laboratory duplicate results were acceptable.

Field Duplicate

One set of field duplicates (J1HK25/J1HK41) 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 100 Area RQLs to ensure that laboratory detection levels meet the required criteria. All results met the RQL.

- **Completeness**

Data package No. JP0171 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 recoveries outside QC limits, all antimony (34% & 45%) and silicon (16% & 12%) results were qualified as estimates and flagged "J".
- Due to an LCS recovery outside QC limits (12% & 15%), 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-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

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: JP0171	REVIEWER: ELR	Project: 600-151	PAGE_1_OF_1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Antimony Silicon	J	All	MS recovery
Silicon	J	All	LCS recovery

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

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK23

Lab Sample ID: 280-15156-1
Client Matrix: Solid
% Moisture: 6.2

Date Sampled: 04/26/2011 1225
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	05/02/2011 1820			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11100	X	1.4	4.6
Antimony		0.35	U J	0.35	0.55
Arsenic		74.4		0.61	0.92
Barium		101	X	0.070	0.46
Beryllium		0.15	B	0.030	0.18
Boron		2.6		0.90	1.8
Calcium		4270	X	13.0	46.0
Chromium		13.0		0.053	0.18
Cobalt		8.2	X	0.092	0.92
Copper		15.2		0.20	0.92
Iron		20800	X	3.5	4.6
Lead		682	X	0.25	0.46
Magnesium		4720		3.4	18.4
Manganese		400	X	0.092	0.92
Molybdenum		0.37	B	0.24	1.8
Nickel		12.3	X	0.11	3.7
Potassium		2400		37.7	276
Selenium		0.79	U	0.79	0.92
Silicon		278	X N J	5.2	9.2
Silver		0.15	U	0.15	0.18
Sodium		244		54.3	110
Vanadium		40.5		0.086	1.8
Zinc		55.9		0.37	0.92

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Analysis Date:	05/05/2011 0124			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.45		0.038	0.19

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Analysis Date:	05/02/2011 1602			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.013	B	0.0057	0.018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK24

Lab Sample ID: 280-15156-2
Client Matrix: Solid
% Moisture: 7.5

Date Sampled: 04/26/2011 1010
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211 asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	05/02/2011 1829			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		9690	X	1.4	4.7
Antimony		0.35	U J	0.35	0.56
Arsenic		4.9		0.61	0.93
Barium		111	X	0.071	0.47
Beryllium		0.14	B	0.031	0.19
Boron		4.2		0.91	1.9
Calcium		5620	X	13.1	46.6
Chromium		13.5		0.054	0.19
Cobalt		7.2	X	0.093	0.93
Copper		19.6		0.20	0.93
Iron		19400	X	3.5	4.7
Lead		47.7	X	0.25	0.47
Magnesium		4470		3.4	18.6
Manganese		340	X	0.093	0.93
Molybdenum		0.24	U	0.24	1.9
Nickel		11.5	X	0.11	3.7
Potassium		2610		38.2	279
Selenium		0.80	U	0.80	0.93
Silicon		249	X J	5.3	9.3
Silver		0.21		0.15	0.19
Sodium		275		55.0	112
Vanadium		37.5		0.088	1.9
Zinc		101		0.37	0.93

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	05/05/2011 0134			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.32		0.039	0.19

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Analysis Date:	05/02/2011 1604			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.017	B	0.0058	0.018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK25**

Lab Sample ID: 280-15156-3
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.02 g
Analysis Date:	05/02/2011 1831			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11900	X	1.6	5.1
Antimony		0.39	U J	0.39	0.62
Arsenic		3.9		0.68	1.0
Barium		101	X	0.078	0.51
Beryllium		0.18	B	0.034	0.21
Boron		3.8		1.0	2.1
Calcium		4490	X	14.5	51.4
Chromium		13.9		0.060	0.21
Cobalt		7.8	X	0.10	1.0
Copper		14.8		0.22	1.0
Iron		22800	X	3.9	5.1
Lead		6.8	X	0.28	0.51
Magnesium		5120		3.8	20.6
Manganese		386	X	0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		12.2	X	0.13	4.1
Potassium		4630		42.1	308
Selenium		0.88	U	0.88	1.0
Silicon		299	X J	5.8	10.3
Silver		0.16	U	0.16	0.21
Sodium		235		60.7	123
Vanadium		44.0		0.097	2.1
Zinc		49.9		0.41	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1 0			Initial Weight/Volume:	1.18 g
Analysis Date:	05/05/2011 0136			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.13	B	0.036	0.18

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1 0			Initial Weight/Volume:	0.65 g
Analysis Date:	05/02/2011 1611			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0069	B	0.0054	0.016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK26

Lab Sample ID: 280-15156-4
Client Matrix: Solid
% Moisture: 8.7

Date Sampled: 04/26/2011 1000
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	05/02/2011 1833			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		9750	X	1.5	4.9
Antimony		0.37	U J	0.37	0.59
Arsenic		7.8		0.65	0.99
Barium		86.9	X	0.075	0.49
Beryllium		0.13	B	0.033	0.20
Boron		3.2		0.97	2.0
Calcium		4410	X	13.9	49.3
Chromium		11.8		0.057	0.20
Cobalt		6.5	X	0.099	0.99
Copper		15.5		0.21	0.99
Iron		19500	X	3.7	4.9
Lead		26.2	X	0.27	0.49
Magnesium		4300		3.7	19.7
Manganese		241	X	0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		10.5	X	0.12	3.9
Potassium		2810		40.5	296
Selenium		0.85	U	0.85	0.99
Silicon		263	X J	5.6	9.9
Silver		0.16	U	0.16	0.20
Sodium		210		58.2	118
Vanadium		37.5		0.093	2.0
Zinc		65.9		0.39	0.99

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Analysis Date:	05/05/2011 0139			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.22		0.044	0.22

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Analysis Date:	05/02/2011 1614			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.014	B	0.0058	0.018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK27

Lab Sample ID: 280-15156-5
Client Matrix: Solid
% Moisture: 6.8

Date Sampled: 04/26/2011 1300
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	05/02/2011 1844			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10700	X	1.6	5.1
Antimony		0.38	U J	0.38	0.61
Arsenic		109		0.67	1.0
Barium		109	X	0.077	0.51
Beryllium		0.15	B	0.033	0.20
Boron		3.0		0.99	2.0
Calcium		5600	X	14.3	50.6
Chromium		13.5		0.059	0.20
Cobalt		8.3	X	0.10	1.0
Copper		18.6		0.22	1.0
Iron		21500	X	3.8	5.1
Lead		468	X	0.27	0.51
Magnesium		4650		3.7	20.3
Manganese		416	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		12.7	X	0.12	4.1
Potassium		2550		41.5	304
Selenium		0.87	U	0.87	1.0
Silicon		318	X J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		240		59.7	122
Vanadium		41.0		0.095	2.0
Zinc		135		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	05/05/2011 0141			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.70		0.038	0.19

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Analysis Date:	05/02/2011 1616			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

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

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK28

Lab Sample ID: 280-15156-6
Client Matrix: Solid
% Moisture: 11.0

Date Sampled: 04/26/2011 1305
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	05/02/2011 1847			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10600	X	1.5	4.9
Antimony		0.37	U J	0.37	0.59
Arsenic		111		0.64	0.98
Barium		114	X	0.074	0.49
Beryllium		0.15	B	0.032	0.20
Boron		3.4		0.96	2.0
Calcium		4690	X	13.8	48.8
Chromium		13.6		0.057	0.20
Cobalt		7.9	X	0.098	0.98
Copper		16.9		0.21	0.98
Iron		20300	X	3.7	4.9
Lead		1240	X	0.26	0.49
Magnesium		4710		3.6	19.5
Manganese		442	X	0.098	0.98
Molybdenum		0.25	U	0.25	2.0
Nickel		12.0	X	0.12	3.9
Potassium		2680		40.1	293
Selenium		0.84	U	0.84	0.98
Silicon		285	X J	5.5	9.8
Silver		0.16	U	0.16	0.20
Sodium		236		57.6	117
Vanadium		40.5		0.092	2.0
Zinc		103		0.39	0.98

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	05/05/2011 0152			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0 83		0.043	0.21

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Analysis Date:	05/02/2011 1618			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.022		0.0056	0.017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

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Client Sample ID: J1HK29

Lab Sample ID: 280-15156-7
Client Matrix: Solid

% Moisture: 6.3

Date Sampled: 04/26/2011 0935
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Analysis Date:	05/02/2011 1849			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		9980	X	1.6	5.3
Antimony		0.40	U J	0.40	0.63
Arsenic		7.1		0.70	1.1
Barium		135	X	0.080	0.53
Beryllium		0.14	B	0.035	0.21
Boron		3.5		1.0	2.1
Calcium		5910	X	14.9	52.8
Chromium		13.3		0.061	0.21
Cobalt		7.6	X	0.11	1.1
Copper		20.6		0.23	1.1
Iron		20100	X	4.0	5.3
Lead		49.3	X	0.29	0.53
Magnesium		4600		3.9	21.1
Manganese		359	X	0.11	1.1
Molybdenum		0.27	U	0.27	2.1
Nickel		12.0	X	0.13	4.2
Potassium		2390		43.3	317
Selenium		0.91	U	0.91	1.1
Silicon		358	X J	6.0	10.6
Silver		0.17	U	0.17	0.21
Sodium		248		62.3	127
Vanadium		38.3		0.099	2.1
Zinc		113		0.42	1.1

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	05/05/2011 0155			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.27		0.038	0.18

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Analysis Date:	05/02/2011 1621			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.022		0.0054	0.016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK30

Lab Sample ID: 280-15156-8
Client Matrix: Solid
% Moisture: 9.8

Date Sampled: 04/26/2011 0850
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	05/02/2011 1851			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		9490	X	1.5	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		4.1		0.66	1.0
Barium		98.0	X	0.076	0.50
Beryllium		0.036	B	0.033	0.20
Boron		2.8		0.98	2.0
Calcium		5550	X	14.1	49.9
Chromium		11.9		0.058	0.20
Cobalt		7.9	X	0.10	1.0
Copper		18.8		0.22	1.0
Iron		19900	X	3.8	5.0
Lead		108	X	0.27	0.50
Magnesium		5010		3.7	20.0
Manganese		343	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		11.6	X	0.12	4.0
Potassium		1950		40.9	300
Selenium		0.86	U	0.86	1.0
Silicon		318	X J	5.7	10
Silver		0.16	U	0.16	0.20
Sodium		294		58.9	120
Vanadium		43.4		0.094	2.0
Zinc		68.3		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	05/05/2011 0157			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.20	B	0.042	0.21

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Analysis Date:	05/02/2011 1628			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

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

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK31

Lab Sample ID: 280-15156-9
Client Matrix: Solid

% Moisture: 10.3

Date Sampled: 04/26/2011 0855
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	05/02/2011 1854			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11300	X	1.6	5.1
Antimony		0.39	U J	0.39	0.61
Arsenic		5.3		0.67	1.0
Barium		130	X	0.077	0.51
Beryllium		0.21		0.033	0.20
Boron		6.4		0.99	2.0
Calcium		4930	X	14.3	50.7
Chromium		13.6		0.059	0.20
Cobalt		7.9	X	0.10	1.0
Copper		17.5		0.22	1.0
Iron		20600	X	3.9	5.1
Lead		69.0	X	0.27	0.51
Magnesium		4660		3.7	20.3
Manganese		366	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		12.0	X	0.12	4.1
Potassium		2710		41.6	304
Selenium		0.87	U	0.87	1.0
Silicon		235	X J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		270		59.8	122
Vanadium		41.1		0.095	2.0
Zinc		73.3		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	05/05/2011 0200			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.28		0.042	0.21

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Analysis Date:	05/02/2011 1630			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.029		0.0059	0.018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK32

Lab Sample ID: 280-15156-10
Client Matrix: Solid
% Moisture: 7.8

Date Sampled: 04/26/2011 0930
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	05/02/2011 1856			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11200	X	1.6	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		5.3		0.66	1.0
Barium		112	X	0.076	0.50
Beryllium		0.25		0.033	0.20
Boron		6.1		0.98	2.0
Calcium		4980	X	14.2	50.2
Chromium		13.7		0.058	0.20
Cobalt		8.3	X	0.10	1.0
Copper		54.6		0.22	1.0
Iron		21100	X	3.8	5.0
Lead		56.8	X	0.27	0.50
Magnesium		4910		3.7	20.1
Manganese		364	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		16.9	X	0.12	4.0
Potassium		2500		41.2	301
Selenium		0.86	U	0.86	1.0
Silicon		324	X J	5.7	10.0
Silver		0.16	U	0.16	0.20
Sodium		257		59.2	120
Vanadium		41.3		0.094	2.0
Zinc		99.8		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	05/05/2011 0202			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.66		0.040	0.20

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.68 g
Analysis Date:	05/02/2011 1632			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.014	B	0.0053	0.016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK33

Lab Sample ID: 280-15156-11
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 04/26/2011 0840
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	05/02/2011 1858			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11000	X	1.5	4.8
Antimony		0.37	U J	0.37	0.58
Arsenic		4.9		0.64	0.96
Barium		105	X	0.073	0.48
Beryllium		0.15	B	0.032	0.19
Boron		3.1		0.94	1.9
Calcium		4610	X	13.6	48.2
Chromium		13.8		0.056	0.19
Cobalt		8.0	X	0.096	0.96
Copper		16.4		0.21	0.96
Iron		20800	X	3.7	4.8
Lead		20.2	X	0.26	0.48
Magnesium		4870		3.6	19.3
Manganese		357	X	0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		12.4	X	0.12	3.9
Potassium		2550		39.5	289
Selenium		0.83	U	0.83	0.96
Silicon		322	X J	5.5	9.6
Silver		0.15	U	0.15	0.19
Sodium		238		56.9	116
Vanadium		41.5		0.091	1.9
Zinc		63.0		0.38	0.96

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.09 g
Analysis Date:	05/05/2011 0205			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.23		0.041	0.20

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Analysis Date:	05/02/2011 1635			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.014	B	0.0056	0.017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK34

Lab Sample ID: 280-15156-12
Client Matrix: Solid
% Moisture: 6.9

Date Sampled: 04/26/2011 0900
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.17 g
Analysis Date:	05/02/2011 1900			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		8880	X	1.4	4.6
Antimony		0.35	U J	0.35	0.55
Arsenic		4.2		0.61	0.92
Barium		90.3	X	0.070	0.46
Beryllium		0.12	B	0.030	0.18
Boron		16.4		0.90	1.8
Calcium		6000	X	12.9	45.9
Chromium		12.1		0.053	0.18
Cobalt		7.7	X	0.092	0.92
Copper		18.2		0.20	0.92
Iron		18600	X	3.5	4.6
Lead		10.0	X	0.25	0.46
Magnesium		4840		3.4	18.4
Manganese		350	X	0.092	0.92
Molybdenum		0.24	U	0.24	1.8
Nickel		12.6	X	0.11	3.7
Potassium		1740		37.6	275
Selenium		0.79	U	0.79	0.92
Silicon		286	X J	5.2	9.2
Silver		0.15	U	0.15	0.18
Sodium		285		54.1	110
Vanadium		38.4		0.086	1.8
Zinc		41.5		0.37	0.92

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	05/05/2011 0207			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.11	B	0.040	0.19

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Analysis Date	05/02/2011 1637			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

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

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK35

Lab Sample ID: 280-15156-13
Client Matrix: Solid
% Moisture: 8.8

Date Sampled: 04/26/2011 0825
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	05/02/2011 1912			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10500	X	1.6	5.1
Antimony		0.39	U J	0.39	0.61
Arsenic		4.8		0.67	1.0
Barium		96.4	X	0.077	0.51
Beryllium		0.16	B	0.033	0.20
Boron		3.0		0.99	2.0
Calcium		4630	X	14.3	50.7
Chromium		13.1		0.059	0.20
Cobalt		8.0	X	0.10	1.0
Copper		17.2		0.22	1.0
Iron		20300	X	3.9	5.1
Lead		24.1	X	0.27	0.51
Magnesium		4770		3.8	20.3
Manganese		361	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		12.4	X	0.12	4.1
Potassium		2500		41.6	304
Selenium		0.87	U	0.87	1.0
Silicon		280	X J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		225		59.9	122
Vanadium		39.7		0.095	2.0
Zinc		55.4		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	05/05/2011 0209			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.22		0.043	0.21

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	05/02/2011 1639			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.016	B	0.0057	0.017

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK36

Lab Sample ID: 280-15156-14
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 04/26/2011 0830
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	05/02/2011 1914			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10400	X	1.6	5.1
Antimony		0.38	U J	0.38	0.61
Arsenic		5.8		0.67	1.0
Barium		115	X	0.077	0.51
Beryllium		0.20		0.033	0.20
Boron		7.2		0.99	2.0
Calcium		4520	X	14.3	50.6
Chromium		12.9		0.059	0.20
Cobalt		7.7	X	0.10	1.0
Copper		15.7		0.22	1.0
Iron		19600	X	3.8	5.1
Lead		40.7	X	0.27	0.51
Magnesium		4540		3.7	20.3
Manganese		350	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		11.8	X	0.12	4.1
Potassium		2290		41.5	304
Selenium		0.87	U	0.87	1.0
Silicon		309	X J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		227		59.7	122
Vanadium		39.6		0.095	2.0
Zinc		61.1		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	05/05/2011 0212			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.31		0.039	0.19

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Analysis Date:	05/02/2011 1642			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.019		0.0053	0.016

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK37

Lab Sample ID: 280-15156-15
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 04/26/2011 0950
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	05/02/2011 1916			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10300	X	1.5	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		21.6		0.66	1.0
Barium		90.7	X	0.076	0.50
Beryllium		0.15	B	0.033	0.20
Boron		2.0		0.98	2.0
Calcium		3900	X	14.1	50.0
Chromium		12.1		0.058	0.20
Cobalt		7.8	X	0.10	1.0
Copper		14.0		0.22	1.0
Iron		19500	X	3.8	5.0
Lead		33.2	X	0.27	0.50
Magnesium		4480		3.7	20.0
Manganese		343	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		11.7	X	0.12	4.0
Potassium		2280		41.0	300
Selenium		0.86	U	0.86	1.0
Silicon		275	X J	5.7	10
Silver		0.16	U	0.16	0.20
Sodium		238		59.0	120
Vanadium		38.4		0.094	2.0
Zinc		44.0		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	05/05/2011 0214			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.23		0.040	0.20

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Analysis Date:	05/02/2011 1644			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0096	B	0.0058	0.018

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

✓ 5/12/11

Client Sample ID: J1HK38

Lab Sample ID: 280-15156-16
Client Matrix: Solid

% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.17 g
Analysis Date:	05/02/2011 1918			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4630		3.5	18.8
Zinc		65.4		0.37	0.94

Analysis Method:	6010B	Analysis Batch:	280-65738	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26z050311.asc
Dilution:	1.0			Initial Weight/Volume:	1.17 g
Analysis Date:	05/03/2011 1930			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11100	X	1.5	4.7
Iron		20900	X	3.6	4.7

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Analysis Date:	05/05/2011 0226			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.39	U J	0.39	0.61
Arsenic		30.0		0.67	1.0
Barium		100		0.078	0.51
Beryllium		0.21		0.034	0.20
Boron		2.4		1.0	2.0
Cadmium		0.36		0.042	0.20
Calcium		3920		14.4	51.0
Chromium		13.2		0.059	0.20
Cobalt		7.9	X	0.10	1.0
Copper		15.4		0.22	1.0
Lead		80.2	X	0.28	0.51
Manganese		339	X	0.10	1.0
Molybdenum		0.27	U	0.27	2.0
Nickel		12.2	X	0.13	4.1
Potassium		2460		41.8	306
Selenium		0.88	U	0.88	1.0
Silicon		313	J	5.8	10.2
Silver		0.16	U	0.16	0.20
Sodium		195		60.2	122
Vanadium		38.6		0.096	2.0

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK38**

Lab Sample ID: 280-15156-16
Client Matrix: Solid

% Moisture: 9.2

Date Sampled: 04/26/2011 0955
Date Received: 04/28/2011 0930

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.67 g
Analysis Date:	05/02/2011 1646			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

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

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK39

K 5/12/11

Lab Sample ID: 280-15156-17
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	05/02/2011 1921			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4890		3.4	18.2
Zinc		46.5		0.36	0.91

Analysis Method:	6010B	Analysis Batch:	280-65738	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26z050311.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	05/03/2011 1933			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11500	X	1.4	4.6
Iron		22100	X	3.5	4.6

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	05/05/2011 0228			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.35	U J	0.35	0.56
Arsenic		6.4		0.61	0.93
Barium		90.5		0.071	0.46
Beryllium		0.21		0.031	0.19
Boron		2.1		0.91	1.9
Cadmium		0.12	B	0.038	0.19
Calcium		4250		13.1	46.4
Chromium		13.3		0.054	0.19
Cobalt		7.9	X	0.093	0.93
Copper		15.7		0.20	0.93
Lead		7.9	X	0.25	0.46
Manganese		317	X	0.093	0.93
Molybdenum		0.24	U	0.24	1.9
Nickel		13.3	X	0.11	3.7
Potassium		2490		38.1	279
Selenium		0.80	U	0.80	0.93
Silicon		358	J	5.3	9.3
Silver		0.15	U	0.15	0.19
Sodium		190		54.8	111
Vanadium		39.0		0.087	1.9

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK39**

Lab Sample ID: 280-15156-17
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 04/26/2011 1320
Date Received: 04/28/2011 0930

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Analysis Date:	05/02/2011 1648			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.010	B	0.0055	0.017

5/24/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: J1HK40

Lab Sample ID: 280-15156-18
Client Matrix: Solid

% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Analysis Date:	05/02/2011 1923			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4360		3.3	17.9
Zinc		56.8		0.36	0.89

Analysis Method:	6010B	Analysis Batch:	280-65738	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26z050311.asc
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Analysis Date:	05/03/2011 1935			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10300	X	1.4	4.5
Iron		19900	X	3.4	4.5

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	05/05/2011 0231			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.36	U J	0.36	0.56
Arsenic		8.1		0.62	0.94
Barium		90.9		0.071	0.47
Beryllium		0.20		0.031	0.19
Boron		2.9		0.92	1.9
Cadmium		0.25		0.039	0.19
Calcium		7850		13.3	47.0
Chromium		13.0		0.055	0.19
Cobalt		7 3	X	0.094	0.94
Copper		15.7		0.20	0.94
Lead		27.6	X	0.25	0.47
Manganese		308	X	0.094	0.94
Molybdenum		0.24	U	0 24	1.9
Nickel		11 9	X	0.12	3.8
Potassium		2460		38.6	282
Selenium		0.81	U	0.81	0.94
Silicon		361	J	5.3	9.4
Silver		0.15	U	0.15	0.19
Sodium		214		55.5	113
Vanadium		37.9		0.088	1.9

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK40**

Lab Sample ID: 280-15156-18
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1335
Date Received: 04/28/2011 0930

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65432	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Analysis Date:	05/02/2011 1812			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.018		0.0056	0.017

5/14/11

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

5/14/11

Client Sample ID: J1HK41

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-65270	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	05/02/2011 1926			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4720		3.4	18.3
Zinc		46.7		0.36	0.92

Analysis Method:	6010B	Analysis Batch:	280-65738	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-64750	Lab File ID:	26z050311.asc
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Analysis Date:	05/03/2011 1937			Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11200	X	1.4	4.6
Iron		21300	X	3.5	4.6

Analysis Method:	6010B	Analysis Batch:	280-65692	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	05/05/2011 0233			Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.38	U J	0.38	0.60
Arsenic		4.2		0.66	0.99
Barium		92.9		0.075	0.50
Beryllium		0.23		0.033	0.20
Boron		3.7		0.97	2.0
Cadmium		0.14	B	0.041	0.20
Calcium		4070		14.0	49.6
Chromium		13.8		0.058	0.20
Cobalt		7.2	X	0.099	0.99
Copper		13.8		0.22	0.99
Lead		6.6	X	0.27	0.50
Manganese		333	X	0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		11.8	X	0.12	4.0
Potassium		4710		40.7	298
Selenium		0.85	U	0.85	0.99
Silicon		407	J	5.6	9.9
Silver		0.16	U	0.16	0.20
Sodium		182		58.6	119
Vanadium		40.3		0.093	2.0

7471A Mercury (CVAA)

000031

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Client Sample ID: **J1HK41**

Lab Sample ID: 280-15156-19
Client Matrix: Solid
% Moisture: 5.9

Date Sampled: 04/26/2011 1235
Date Received: 04/28/2011 0930

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-65432	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-64693	Lab File ID:	110502AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.60 g
Analysis Date:	05/02/2011 1814			Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0090	B	0.0059	0.018

5/04/11

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-15156-1

SDG #: JP0171
SAF#: RC-107

Date SDG Closed: April 28, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1HK23	280-15156-1	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK24	280-15156-2	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK25	280-15156-3	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK26	280-15156-4	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK27	280-15156-5	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK28	280-15156-6	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK29	280-15156-7	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK30	280-15156-8	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK31	280-15156-9	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK32	280-15156-10	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK33	280-15156-11	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK34	280-15156-12	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK35	280-15156-13	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK36	280-15156-14	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK37	280-15156-15	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK38	280-15156-16	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK39	280-15156-17	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK40	280-15156-18	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HK41	280-15156-19	6010/7471/WTPH-D+/8260/8082/8310/8081	6010B/7471A/NWTPH-Dx/8260B/8082/8310/8081A
J1HKF5	280-15156-20	8260	8260B

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 4/28/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 4.6 C, 3.8 C and 4.8 C.

Samples J1HK35, J1HK36 and J1HKF5, requesting 5035/8260 VOA analysis, were received at the laboratory after the recommended 48 hour sample holding time had expired. The client was notified on 4/29/2011.

GC/MS VOLATILES - SW846 8260B

The 5035 prep for the samples presented in this report were performed after the recommended 48 hour sample holding times had expired. The samples were received at the laboratory with insufficient time remaining for the laboratory to perform the prep within the holding times. It is TestAmerica's policy to analyze all samples within holding times; however, the laboratory cannot guarantee that hold times will be met when samples are received with less than half the hold time remaining. The client was notified on 4/29/2011.

Surrogate 4-Bromofluorobenzene was recovered outside the control limits, biased high, in samples J1HK24, J1HK28 and J1HK36. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the samples, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK38 exhibited a spike compound recovery outside the control limits, and the associated sample result has been flagged "T". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK32 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition, 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 other anomalies were encountered.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased high, in sample J1HK24. This is an indicator that data may be biased high. As no detectable concentrations are present at levels greater than the reporting limits in the sample, corrective action is deemed unnecessary.

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Low levels of Heptachlor are present in the method blank associated with batch 280-64708. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-65424 exhibited the percent recovery outside the control limits for Endrin aldehyde, and the associated sample result has been flagged "N". In addition, the RPD limit was exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The MSD aliquot of the MS/MSD performed on sample J1HK25 in batch 280-64708 exhibited spike compound recoveries outside the control limits. In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Continuing Calibration Verification (CCV) standards associated with samples in batch 280-64708 exhibited %Difference (%D) values >15%, biased low, as detailed below. The overall mean %D is ≤15%; therefore, method criteria have been met and corrective action is deemed unnecessary. It can be noted that a bracketing RL standard was used to demonstrate acceptable instrument sensitivity, despite %D values greater than 30% negative drift. The sequence is as follows: CCV1, LCS, J1HK28, MB, J1HK29, J1HK30, J1HK31, CCV2, J1HK32, J1HK33, J1HK34, J1HK38, J1HK40, J1HK41, CCV3, J1HK27, J1HK35, J1HK36, J1HK37, J1HK39, CCV4, J1HK23, J1HK24, J1HK26.

CCV1 = OK
CCV2 = 4,4'-DDT -18%, Methoxychlor -18%, Toxaphene -19%
CCV3 = OK
CCV4 = 4,4'-DDT -25%, Methoxychlor -18%
CCV5 = 4,4'-DDT -52%, Methoxychlor -44%, Toxaphene -22%

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 in sample J1HK27. The result has been flagged with a "P".

Surrogate Decachlorobiphenyl was recovered outside the control limits, biased low, in sample J1HK38. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary. The laboratory noted that a Sulfuric Acid clean-up was performed on sample J1HK38 to reduce matrix interferences.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO

The MS/MSD performed on sample J1HK24 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "N". In addition, RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The laboratory noted that due to a system "linking" issue, a new lab ID had to be created for both the LCS and LCSD. This resulted in a prep date/time that followed the analysis date, which is not accurate. The LCS and LCSD were prepped at the same time the rest of the samples in batch 280-64721 were prepped.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

Surrogate Terphenyl-d14 was recovered outside the control limits, biased high, in sample J1HK26. The laboratory noted that this anomaly is due to obvious matrix interference; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-64750 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Serial dilution of a digestate in batch 280-65544 indicates that physical and chemical interferences are present for Cobalt, Lead, Manganese and Nickel. Results have been flagged with an "X".

Low levels of Calcium, Chromium, Iron and Manganese are present in the method blank associated with batch 280-64750. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, Lead and Manganese in the Matrix Spike performed on sample J1HK23 in batch 280-64750; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the SW846 6010B Matrix Spike performed on sample J1HK23, and the associated sample result has been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

4.6, 3.8, 4.8

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-107-070	Page 1 of ~~10~~ 4
Collector: M Blankenship / J. Kuplin	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ 8B
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107	Data Turnaround: ~~21~~ 7 Days
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx	
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7970345159 78	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

000027

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time									
J1HK23	SOIL	4/26/11	1225	X		X	X	X	X	X		
J1HK24	SOIL	4/26/11	1010	X		X	X	X	X	X		
J1HK25	SOIL	4/26/11	1235	X		X	X	X	X	X		
J1HK26	SOIL	4/26/11	1000	X		X	X	X	X	X		
J1HK27	SOIL	4/26/11	1300	X		X	X	X	X	X		

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M Blankenship	4-26-11 1435	JV Fuller	4/26/11 1435
JV Fuller	4/26/11 1615	A. Freier	4-26-11 1615
A. Freier (WCH)	4-27-11 1000	FED EX	
			4/28/11 9

SPECIAL INSTRUCTIONS

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

* 20 ml vial - % moisture

Freeze upon receipt
AJ 4-26-11

JP0171

Matrix *
S=Soil
SE=Sediment
SO=Solid
SJ=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

REVIEWED BY TEB DATE 4-27-11

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-070	Page 2 of 4

Collector: M. Blankinship / J. Kuepfer	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 88	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 797034515978

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1HK28	SOIL	4/26/11	1305	X		X	X	X	X	X			
J1HK29	SOIL	4/26/11	0935	X		X	X	X	X	X			
J1HK30	SOIL	4/26/11	0850	X		X	X	X	X	X			
J1HK31	SOIL	4/26/11	0855	X		X	X	X	X	X			
J1HK32	SOIL	4/26/11	0930	X		X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M. Blankinship	4-26-11 1435	JV Fullmer	1435 4/26/11
JV Fullmer	4/26/11 1615	A. Freier	1615 4-26-11
A. Freier (WCH)	4-27-11 1000	FED EX	
			4/28/11

SPECIAL INSTRUCTIONS

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

* 20ml vial → % moisture

** freeze upon receipt AF 4-26-11

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

JP0171

REVIEWED BY JEB DATE 4-27-11

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-107-070	Page 3 of 30 4

Collector: M. Blankenship / J. Kuepfer	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~8L~~ 8B	Data Turnaround: 21 Days 7		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling	SAF No.: RC-107	
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 797034515978

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C			
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG			
No. of Container(s)	1	1	1	5	1	1	1			
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081			
Sample No. / Matrix * / Sample Date / Sample Time										
J1HK33 / SOIL / 4/26/11 / 0840	X		X	X	X	X	X			
J1HK34 / SOIL / 4/26/11 / 0900	X		X	X	X	X	X			
J1HK35 / SOIL / 4/26/11 / 0825	X		X	X	X	X	X			
J1HK36 / SOIL / 4/26/11 / 0830	X		X	X	X	X	X			
J1HK37 / SOIL / 4/26/11 / 0950	X		X	X	X	X	X			

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Page 223 of 229

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MAT Blankenship	4-26-11 1435	Received By/Stored In: JV Fullmer	1435 4/26/11
Relinquished By/Removed From: JV Fullmer	4/26/11 1615	Received By/Stored In: A. Freier	1615 4-26-11
Relinquished By/Removed From: WCH A. Freier	4-27-11 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	4/28/11 930
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

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

* 20 ml vial → % moisture

* * freeze upon receipt

AS 4-26-11

JP0171

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

REVIEWED BY SEB DATE 4-27-11

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-107-070	Page 4 of ~~10~~ 4

Collector: M. Blankingship / J. Kuepper	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8D 8B	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 600-151 Verification Sampling		SAF No.: RC-107
Ice Chest No.: WCH-11-014	Field Logbook No.: EL 1627-05	COA: 0601512000	Method of Shipment: Government Vehicle/FedEx
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 79703451 5978

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool to 4 degrees C

00000040

Preservation	None	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C				
Type of Container	G/P	G/P	G	Gs*	aG	aG	aG				
No. of Container(s)	1	1	1	5	1	1	1				
Volume	60mL	60mL	120mL	40mL	120mL	120mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	VOA - 5035/8260 (TCL) * **	PCBs - 8082	PAHs - 8310	Pesticides - 8081				
Sample No. / Matrix * / Sample Date / Sample Time											
J1HK38 / SOIL / 4/26/11 / 0955	X		X	X	X	X	X				
J1HK39 / SOIL / 4/26/11 / 1320	X		X	X	X	X	X				
J1HK40 / SOIL / 4/26/11 / 1335	X		X	X	X	X	X				
J1HK41 / SOIL / 4/26/11 / 1335	X		X	X	X	X	X				
~~J1HK42 / SOIL / / 1335~~											

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MATT BLANKINGSHIP	4-26-11 1435	JV Fullmer	4/26/11 1435
JV Fullmer	4/26/11 1615	A. Freier	4-26-11 1615
A. Freier / WCH	4-27-11 1000	FED EX	
			4/28/11 930

SPECIAL INSTRUCTIONS

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

* ~~20%~~ 20 ml vial → % moisture AJ 4-26-11

** freeze upon receipt AJ 4-26-11

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

JP0171

REVIEWED BY SEB DATE 4-27-11

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:	600-151		DATA PACKAGE:	JP0171	
VALIDATOR:	ELR	LAB: TAL		DATE: 5/13/11	
			SDG: JP0171		

ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide		

SAMPLES/MATRIX				
J1HK23	J1HK24	J1HK25	J1HK26	J1HK27
J1HK28	J1HK29	J1HK30	J1HK31	J1HK32
J1HK33	J1HK34	J1HK35	J1HK36	J1HK37
J1HK38	J1HK39	J1HK40	J1HK41	
				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: no FB

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 (12 + 15%) – J all

MS – antimony (45% + 34%) silicon (20% + 16%) – J all

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

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

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

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

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

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

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

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

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

Comments: _____

6. ICP QUALITY CONTROL (Levels D and E)

ICP serial dilution samples analyzed? ..... Yes No N/A

ICP serial dilution %D values acceptable? ..... Yes No N/A

ICP post digestion spike required? ..... Yes No N/A

ICP post digestion spike values acceptable? ..... Yes No N/A

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

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

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

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

7. FURNACE AA QUALITY CONTROL (Levels D and E)

Duplicate injections performed as required? ..... Yes No N/A

Duplicate injection %RSD values acceptable? ..... Yes No N/A

Analytical spikes performed as required? ..... Yes No N/A

Analytical spike recoveries acceptable? ..... Yes No N/A

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

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

MSA performed as required? ..... Yes No N/A

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

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

Comments: _____

8. HOLDING TIMES (all levels)

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

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

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

9. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

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

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

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

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

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

Comments:

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-15158-1
Sdg Number: JP0171

Method Blank - Batch: 280-64750

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-64750/1-A	Analysis Batch:	280-65270	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/02/2011 1815	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				
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
Calcium	18.98	B	14.1	50.0
Chromium	0.0750	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.99	B	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.124	B	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-64750

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-64750/2-A	Analysis Batch:	280-65270	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/02/2011 1817	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	190.7	95	82 - 116	
Antimony	50.0	50.44	101	82 - 110	
Arsenic	100	101.3	101	85 - 110	
Barium	200	218.5	109	87 - 112	
Beryllium	5.00	5.16	103	84 - 114	
Boron	100	102.0	102	81 - 110	
Calcium	5000	5318	106	82 - 114	
Chromium	20.0	19.62	98	84 - 114	
Cobalt	50.0	51.00	102	87 - 110	
Copper	25.0	25.86	103	88 - 110	
Iron	100	115.2	115	87 - 120	
Lead	50.0	50.71	101	86 - 110	
Magnesium	5000	4999	100	90 - 110	
Manganese	50.0	51.00	102	88 - 110	
Molybdenum	100	102.8	103	86 - 110	
Nickel	50.0	49.24	98	87 - 110	
Potassium	5000	5243	105	89 - 110	
Selenium	200	201.9	101	83 - 110	
Silicon	1000	121.8	12	10 - 70	
Silver	5.00	5.06	101	87 - 114	
Sodium	5000	5283	106	90 - 112	
Vanadium	50.0	50.84	102	88 - 110	
Zinc	50.0	50.16	100	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike - Batch: 280-64750

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-15156-1	Analysis Batch:	280-65270	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.06 g
Analysis Date:	05/02/2011 1824	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	11100		201	13820	1348	50 - 200	4
Antimony	0.35	U	50.3	17.01	34	20 - 200	
Arsenic	74.4		101	162.5	88	76 - 111	
Barium	101		201	305.8	102	52 - 159	
Beryllium	0.15	B	5.03	4.81	93	72 - 105	
Boron	2.6		101	91.93	89	75 - 107	
Calcium	4270		5030	9821	110	43 - 165	
Chromium	13.0		20.1	32.60	97	70 - 200	
Cobalt	8.2		50.3	53.44	90	72 - 106	
Copper	15.2		25.2	38.88	94	37 - 187	
Iron	20800		101	21150	368	70 - 200	4
Lead	682		50.3	701.7	40	70 - 200	4
Magnesium	4720		5030	9426	94	64 - 145	
Manganese	400		50.3	448.1	95	40 - 200	4
Molybdenum	0.37	B	101	88.62	88	75 - 103	
Nickel	12.3		50.3	55.91	87	61 - 126	
Potassium	2400		5030	7494	101	56 - 172	
Selenium	0.79	U	201	179.7	89	76 - 104	
Silicon	278		1010	437.1	16	20 - 200	N
Silver	0.15	U	5.03	4.63	92	75 - 141	
Sodium	244		5030	5289	100	78 - 111	
Vanadium	40.5		50.3	90.59	100	50 - 169	
Zinc	55.9		50.3	99.71	87	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Duplicate - Batch: 280-64750

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-15156-1	Analysis Batch:	280-65270	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-64750	Lab File ID:	26a050211.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.05 g
Analysis Date:	05/02/2011 1826	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/29/2011 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	11100		11210	1	40	
Antimony	0.35	U	0.39	NC	40	U
Arsenic	74.4		76.45	3	30	
Barium	101		102.2	1	30	
Beryllium	0.15	B	0.135	9	30	B
Boron	2.6		2.79	6	30	
Calcium	4270		4332	1	30	
Chromium	13.0		13.32	2	40	
Cobalt	8.2		8.35	2	30	
Copper	15.2		15.29	0.7	30	
Iron	20800		21100	2	40	
Lead	682		689.7	1	40	
Magnesium	4720		4763	0.9	30	
Manganese	400		413.8	3	40	
Molybdenum	0.37	B	0.427	16	30	B
Nickel	12.3		12.42	1	30	
Potassium	2400		2440	2	40	
Selenium	0.79	U	0.87	NC	30	U
Silicon	278		253.1	9	40	
Silver	0.15	U	0.16	NC	30	U
Sodium	244		242.4	0.8	30	
Vanadium	40.5		42.15	4	30	
Zinc	55.9		56.36	0.8	40	

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-65544

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-65544/1-A	Analysis Batch:	280-65692	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/05/2011 0120	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
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	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Lead	0.27	U	0.27	0.50
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Lab Control Sample - Batch: 280-65544

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-65544/2-A	Analysis Batch:	280-65692	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/05/2011 0122	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	50.0	51.79	104	82 - 110	
Arsenic	100	100.8	101	85 - 110	
Barium	200	201.5	101	87 - 112	
Beryllium	5.00	4.60	92	84 - 114	
Boron	100	100.3	100	81 - 110	
Cadmium	10.0	10.32	103	87 - 110	
Calcium	5000	4644	93	82 - 114	
Chromium	20.0	19.41	97	84 - 114	
Cobalt	50.0	47.92	96	87 - 110	
Copper	25.0	25.15	101	88 - 110	
Lead	50.0	49.43	99	86 - 110	
Manganese	50.0	44.21	88	88 - 110	
Molybdenum	100	99.94	100	86 - 110	
Nickel	50.0	47.73	95	87 - 110	
Potassium	5000	5167	103	89 - 110	
Selenium	200	201.2	101	83 - 110	
Silicon	1000	145.8	15	10 - 70	
Silver	5.00	4.86	97	87 - 114	
Sodium	5000	5427	109	90 - 112	
Vanadium	50.0	45.92	92	88 - 110	

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Matrix Spike - Batch: 280-65544

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-15156-1	Analysis Batch:	280-65692	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.05 g
Analysis Date:	05/05/2011 0129	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.36	U	50.8	23.00	45	20 - 200	
Arsenic	75.7		102	169.7	93	76 - 111	
Barium	98.9		203	283.2	91	52 - 159	
Beryllium	0.21		5.08	4.29	80	72 - 105	
Boron	2.9		102	90.22	86	75 - 107	
Cadmium	0.45		10.2	9.86	93	40 - 130	
Calcium	3780		5080	8429	91	43 - 165	
Chromium	14.0		20.3	31.55	86	70 - 200	
Cobalt	7.7		50.8	50.00	83	72 - 106	
Copper	14.2		25.4	36.85	89	37 - 187	
Lead	669		50.8	713.5	87	70 - 200	4
Manganese	360		50.8	393.1	66	40 - 200	4
Molybdenum	0.24	U	102	86.82	85	75 - 103	
Nickel	12.0		50.8	54.09	83	61 - 126	
Potassium	2450		5080	7337	96	56 - 172	
Selenium	0.80	U	203	181.4	89	76 - 104	
Silicon	388		1020	511.8	12	20 - 200	N
Silver	0.15	U	5.08	4.49	88	75 - 141	
Sodium	210		5080	5340	101	78 - 111	
Vanadium	38.6		50.8	81.51	84	50 - 169	

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Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Duplicate - Batch: 280-65544

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-15156-1	Analysis Batch:	280-65692	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-65544	Lab File ID:	25A6050411.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.04 g
Analysis Date:	05/05/2011 0131	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2011 1600				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	0.36	U	0.39	NC	40	U
Arsenic	75.7		82.91	9	30	
Barium	98.9		99.95	1	30	
Beryllium	0.21		0.214	1	30	
Boron	2.9		2.85	0.8	30	
Cadmium	0.45		0.473	5	30	
Calcium	3780		3937	4	30	
Chromium	14.0		13.93	0.5	40	
Cobalt	7.7		7.91	3	30	
Copper	14.2		14.62	3	30	
Lead	669		740.7	10	40	
Manganese	360		368.4	2	40	
Molybdenum	0.24	U	0.27	NC	30	U
Nickel	12.0		12.58	4	30	
Potassium	2450		2537	3	40	
Selenium	0.80	U	0.88	NC	30	U
Silicon	388		441.3	13	40	
Silver	0.15	U	0.16	NC	30	U
Sodium	210		215.2	2	30	
Vanadium	38.6		39.18	1	30	

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Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Method Blank - Batch: 280-64693

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-64693/1-A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	05/02/2011 1553	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-64693

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-64693/2-A	Analysis Batch:	280-65262	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	05/02/2011 1600	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.430	103	87 - 111	

Matrix Spike - Batch: 280-64693

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-15156-2	Analysis Batch:	280-65262	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.65 g
Analysis Date:	05/02/2011 1609	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.017	B	0.416	0.393	91	87 - 111	

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Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-15156-1
Sdg Number: JP0171

Duplicate - Batch: 280-64693

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-15156-2	Analysis Batch:	280-65262	Instrument ID:	MT_034
Client Matrix	Solid	Prep Batch:	280-64693	Lab File ID:	110502AA.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.69 g
Analysis Date:	05/02/2011 1607	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/02/2011 1158				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.017	B	0.0163	3	20	

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