0081073

SAF-RC-075
100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol
FINAL VALIDATION PACKAGE

COMPLETE COPY OF VALIDATION PACKAGE TO:

Kathy Wendt H4-21 (2 copies)

COMMENTS:

SDG J00377 SAF-RC-075

Waste Site: 100-D-56:2

RECEIVED
MAY 08 2009
EDMC

Date: 29 April 2009
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol - Waste Subsite 100-D-56:2
Subject: Wet Chemistry - Data Package No. J00377-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J00377 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
J18JC5	3/10/09	Soil	C	See note 1
J18JC6	3/10/09	Soil	C	See note 1
J18JC7	3/10/09	Soil	C	See note 1
J18JC8	3/10/09	Soil	C	See note 1
J18JC9	3/10/09	Soil	C	See note 1
J18JD0	3/10/09	Soil	C	See note 1
J18JD1	3/10/09	Soil	C	See note 1
J18JD2	3/10/09	Soil	C	See note 1
J18JD3	3/10/09	Soil	C	See note 1
J18JD4	3/10/09	Soil	C	See note 1
J18JD9	3/10/09	Soil	C	See note 1
J18JF0	3/10/09	Soil	C	See note 1
J18JF1	3/10/09	Soil	C	See note 1
J18JF2	3/10/09	Soil	C	See note 1
J18JF3	3/10/09	Soil	C	See note 1
J18JF9	3/10/09	Soil	C	See note 1
J18JH0	3/10/09	Soil	C	See note 1
J18JH1	3/10/09	Soil	C	See note 1

1 – Chromium VI by 7196A and IC anions by 300.0.

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. 4, February 2005). 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; 28 days for bromide, chloride, fluoride and sulfate; and two days for nitrate, nitrite and phosphate.

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

Due to the holding time being exceeded by greater than twice the limit, all undetected nitrate, nitrite and phosphate results were qualified as rejected and flagged "R".

Due to the holding time being exceeded by greater than twice the limit, all detected nitrate, nitrite and phosphate results were qualified as estimates and flagged "J".

All other holding times were acceptable.

- **Method Blanks**

Method Blanks

Method blank analyses are performed to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. All blank results must fall below the contract required detection limit (CRQL) to be acceptable.

All method blank results were acceptable.

Field (Equipment) Blank

One field blank (J18JC5) was submitted for analysis. Chloride and nitrate were detected in the field blank. Under the WCH statement of work, no qualification is required.

- **Accuracy**

Matrix Spike and Laboratory Control Sample

Matrix spike (MS) and laboratory control sample (LCS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect

of the matrix on the ability to accurately quantify sample concentrations. Recoveries must fall within the range of 70% to 130%. Samples with a recovery of less than 30% and a sample result below the IDL are rejected and flagged "UR". Samples with a recovery of 30% to 69% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

All accuracy results were acceptable.

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 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

Two sets of field duplicates (J18JC8/J18JC9 & J18JH0/J18JH1) 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 J00377 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 80%.

MAJOR DEFICIENCIES

The following major deficiency was noted:

- Due to the holding time being exceeded by greater than twice the limit, all undetected nitrate, nitrite and phosphate results were qualified as rejected and flagged "R".

Rejected data is unusable and should not be reported.

MINOR DEFICIENCIES

The following minor deficiencies were noted:

- Due to the holding time being exceeded by greater than twice the limit, all detected nitrate, nitrite and phosphate 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. 4, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, February 2005.

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: J00377	REVIEWER: ELR	Project: 100-D-56:2	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Nitrate	J	All	Hold time (>2X)
Nitrite	UR	J18JC5, J18JD4 J18JD9, J18JF0 J18JF1, J18JF2 J18JF3, J18JF9 J18JH0, J18JH1	Hold time (>2X)
Nitrite	J	J18JC6, J18JC7 J18JC8, J18JC9 J18JD0, J18JD1 J18JD2, J18JD3	Hold time (>2X)
Phosphate	UR	All	Hold time (>2X)

* - 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: 30-Mar-09

Report No. : 41253

SDG No: J00377

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
9083166	7196_CR6								
J18JC5									
	K8DR51AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	K8DR51AE	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	~~3.50E-01~~ 1.55E-01	0.0
J18JC6									
	K8DR91AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JC7									
	K8DTA1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JC8									
	K8DTC1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JC9									
	K8DTD1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JD0									
	K8DTH1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JD1									
	K8DTJ1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JD2									
	K8DTK1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JD3									
	K8DTL1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JD4									
	K8DTM1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JD9									
	K8DTN1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JF0									
	K8DTP1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JF1									
	K8DTQ1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JF2									
	K8DTR1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JF3									
	K8DTT1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JF9									
	K8DTV1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JH0									
	K8DTW1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J18JH1									
	K8DT01AA	HEXCHROME	6.81E-01 +- 0.00E+00	U	mg/kg	N/A	6.81E-01	1.55E-01	

No. of Results: 19

TestAmerica

rptSTLRchSaSummary2 V5.2.2 A2002

RPD - Relative Percent Difference.

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

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QC Results Summary

Date: 30-Mar-09

TestAmerica TARL

Ordered by Method, Batch No, QC Type,

Report No. : 41253

SDG No.: J00377

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
9083166 BLANK QC,								
K819P1AA	HEXCHROME	1.55E-01 +- 0.00E+00	U	mg/kg	N/A			1.55E-01
9083166 LCS,								
K819P1AC	HEXCHROME	1.71E+01 +- 0.00E+00		mg/kg	N/A	85%	-0.1	1.55E-01
9083166 MATRIX SPIKE, J18JC5								
K8DR51AC	HEXCHROME	8.04E+00 +- 0.00E+00		mg/kg	N/A	82%	-0.2	1.55E-01

No. of Results: 3

4/28/09

TestAmerica
rptSTLRchQcSummary V5.2.2 A2002

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

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

000011

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC5
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-001
Matrix:	SOLID	**Lab WorkOrder:**	K8FFJ
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:25

Analysis Method: 9056M **% Moisture:** 0.12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.39	0.39	2.0	U	3/17/09	03/18/09 03:16	1
9077489	Chloride	3.8	2.0	5.0	B M	3/17/09	03/18/09 03:16	1
9077490	Fluoride	0.82	0.82	5.0	U	3/17/09	03/18/09 03:16	1
9077491	Nitrate as N	0.37	0.31	2.5	~~B M~~ J	3/17/09	03/18/09 03:16	1
9077492	Nitrite as N	0.34	0.34	2.5	U R	3/17/09	03/18/09 03:16	1
9077493	Orthophosphate as P	1.2	1.2	5.0	U R	3/17/09	03/18/09 03:16	1
9077494	Sulfate	1.7	1.7	5.0	U	3/17/09	03/18/09 03:16	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	0.12	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC6
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-002
Matrix:	SOLID	**Lab WorkOrder:**	K8FF5
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:30

Analysis Method: 9056M **% Moisture:** 4.2 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.40	0.40	2.1	U	3/17/09	03/18/09 04:03	1
9077489	Chloride	4.2	2.1	5.2	B	3/17/09	03/18/09 04:03	1
9077490	Fluoride	2.2	0.86	5.2	B	3/17/09	03/18/09 04:03	1
9077491	Nitrate as N	0.68	0.33	2.6	J	3/17/09	03/18/09 04:03	1
9077492	Nitrite as N	0.51	0.35	2.6	J	3/17/09	03/18/09 04:03	1
9077493	Orthophosphate as P	1.3	1.3	5.2	UR	3/17/09	03/18/09 04:03	1
9077494	Sulfate	1.8	1.8	5.2	U	3/17/09	03/18/09 04:03	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	4.2	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

000013

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC7
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-003
Matrix:	SOLID	**Lab WorkOrder:**	K8FF6
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:33

Analysis Method: 9056M **% Moisture:** 9.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.43	0.43	2.2	U	3/17/09	03/18/09 04:19	1
9077489	Chloride	4.1	2.2	5.5	B	3/17/09	03/18/09 04:19	1
9077490	Fluoride	0.91	0.91	5.5	U	3/17/09	03/18/09 04:19	1
9077491	Nitrate as N	0.51	0.35	2.8	J	3/17/09	03/18/09 04:19	1
9077492	Nitrite as N	0.52	0.37	2.8	J	3/17/09	03/18/09 04:19	1
9077493	Orthophosphate as P	1.4	1.4	5.5	UR	3/17/09	03/18/09 04:19	1
9077494	Sulfate	1.9	1.9	5.5	U	3/17/09	03/18/09 04:19	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	9.5	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

000014

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC8
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-004
Matrix:	SOLID	**Lab WorkOrder:**	K8FF8
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:55

Analysis Method: 9056M **% Moisture:** 6.1 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.41	0.41	2.1	U	3/17/09	03/18/09 05:06	1
9077489	Chloride	3.6	2.1	5.3	B	3/17/09	03/18/09 05:06	1
9077490	Fluoride	1.1	0.88	5.3	B	3/17/09	03/18/09 05:06	1
9077491	Nitrate as N	0.54	0.33	2.7	J	3/17/09	03/18/09 05:06	1
9077492	Nitrite as N	0.51	0.36	2.7	J	3/17/09	03/18/09 05:06	1
9077493	Orthophosphate as P	1.3	1.3	5.3	UR	3/17/09	03/18/09 05:06	1
9077494	Sulfate	1.8	1.8	5.3	U	3/17/09	03/18/09 05:06	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	6.1	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC9
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-005
Matrix:	SOLID	**Lab WorkOrder:**	K8FGE
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:55

Analysis Method: 9056M **% Moisture:** 6.6 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.42	0.42	2.1	U	3/17/09	03/18/09 05:22	1
9077489	Chloride	3.9	2.1	5.4	B	3/17/09	03/18/09 05:22	1
9077490	Fluoride	2.0	0.88	5.4	B	3/17/09	03/18/09 05:22	1
9077491	Nitrate as N	0.53	0.34	2.7	J	3/17/09	03/18/09 05:22	1
9077492	Nitrite as N	0.51	0.36	2.7	J	3/17/09	03/18/09 05:22	1
9077493	Orthophosphate as P	1.3	1.3	5.4	U R	3/17/09	03/18/09 05:22	1
9077494	Sulfate	1.9	1.9	5.4	U	3/17/09	03/18/09 05:22	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	6.6	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

000016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD0
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-006
Matrix:	SOLID	**Lab WorkOrder:**	K8FGF
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:47

Analysis Method: 9056M **% Moisture:** 4.0 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.40	0.40	2.1	U	3/17/09	03/18/09 05:38	1
9077489	Chloride	3.4	2.1	5.2	B	3/17/09	03/18/09 05:38	1
9077490	Fluoride	0.86	0.86	5.2	U	3/17/09	03/18/09 05:38	1
9077491	Nitrate as N	0.65	0.33	2.6	J	3/17/09	03/18/09 05:38	1
9077492	Nitrite as N	0.40	0.35	2.6	J	3/17/09	03/18/09 05:38	1
9077493	Orthophosphate as P	1.3	1.3	5.2	U R	3/17/09	03/18/09 05:38	1
9077494	Sulfate	1.8	1.8	5.2	U	3/17/09	03/18/09 05:38	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	4.0	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

000017

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD1
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-007
Matrix:	SOLID	**Lab WorkOrder:**	K8FGH
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:50

Analysis Method: 9056M **% Moisture:** 3.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.40	0.40	2.1	U	3/17/09	03/18/09 05:54	1
9077489	Chloride	3.5	2.0	5.2	B	3/17/09	03/18/09 05:54	1
9077490	Fluoride	1.5	0.85	5.2	B	3/17/09	03/18/09 05:54	1
9077491	Nitrate as N	0.44	0.33	2.6	~~U~~ J	3/17/09	03/18/09 05:54	1
9077492	Nitrite as N	0.49	0.35	2.6	4/28/09 ~~U~~ J	3/17/09	03/18/09 05:54	1
9077493	Orthophosphate as P	1.3	1.3	5.2	U R	3/17/09	03/18/09 05:54	1
9077494	Sulfate	1.8	1.8	5.2	U	3/17/09	03/18/09 05:54	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	3.5	0.0	0.10		3/13/09	03/13/09 13:00	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD2
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-008
Matrix:	SOLID	**Lab WorkOrder:**	K8FGJ
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:53

Analysis Method: 9056M **% Moisture:** 3.6 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.40	0.40	2.1	U	3/17/09	03/18/09 06:09	1
9077489	Chloride	3.7	2.0	5.2	B	3/17/09	03/18/09 06:09	1
9077490	Fluoride	0.85	0.85	5.2	U	3/17/09	03/18/09 06:09	1
9077491	Nitrate as N	0.81	0.33	2.6	J	3/17/09	03/18/09 06:09	1
9077492	Nitrite as N	0.53	0.35	2.6	J	3/17/09	03/18/09 06:09	1
9077493	Orthophosphate as P	1.3	1.3	5.2	U R	3/17/09	03/18/09 06:09	1
9077494	Sulfate	1.8	1.8	5.2	U	3/17/09	03/18/09 06:09	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	3.6	0.0	0.10		3/13/09	03/13/09 13:00	1

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000019

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD3
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-009
Matrix:	SOLID	**Lab WorkOrder:**	K8FGK
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 11:05

Analysis Method: 9056M **% Moisture:** 6.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.42	0.42	2.1	U	3/17/09	03/18/09 06:25	1
9077489	Chloride	3.7	2.1	5.3	B	3/17/09	03/18/09 06:25	1
9077490	Fluoride	1.7	0.88	5.3	B	3/17/09	03/18/09 06:25	1
9077491	Nitrate as N	0.65	0.34	2.7	~~U~~ J	3/17/09	03/18/09 06:25	1
9077492	Nitrite as N	0.51	0.36	2.7	~~U~~ J	3/17/09	03/18/09 06:25	1
9077493	Orthophosphate as P	1.3	1.3	5.3	U R	3/17/09	03/18/09 06:25	1
9077494	Sulfate	1.9	1.9	5.3	U	3/17/09	03/18/09 06:25	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	6.5	0.0	0.10		3/13/09	03/13/09 13:00	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD4
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-010
Matrix:	SOLID	**Lab WorkOrder:**	K8FGP
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:55

Analysis Method: 9056M **% Moisture:** 5.7 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.41	0.41	2.1	U	3/17/09	03/18/09 06:41	1
9077489	Chloride	12	2.1	5.3		3/17/09	03/18/09 06:41	1
9077490	Fluoride	0.87	0.87	5.3	U	3/17/09	03/18/09 06:41	1
9077491	Nitrate as N	1.7	0.33	2.7	~~J~~ J	3/17/09	03/18/09 06:41	1
9077492	Nitrite as N	0.36	0.36	2.7	U R	3/17/09	03/18/09 06:41	1
9077493	Orthophosphate as P	1.3	1.3	5.3	U R	3/17/09	03/18/09 06:41	1
9077494	Sulfate	1.8	1.8	5.3	U	3/17/09	03/18/09 06:41	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	5.7	0.0	0.10		3/13/09	03/13/09 13:00	1

4/28/09

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD9
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-011
Matrix:	SOLID	**Lab WorkOrder:**	K8FGT
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:09

Analysis Method: 9056M **% Moisture:** 8.4 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.42	0.42	2.2	U	3/17/09	03/18/09 06:57	1
9077489	Chloride	10	2.2	5.5		3/17/09	03/18/09 06:57	1
9077490	Fluoride	2.9	0.90	5.5	B	3/17/09	03/18/09 06:57	1
9077491	Nitrate as N	0.85	0.34	2.7	~~B~~ J	3/17/09	03/18/09 06:57	1
9077492	Nitrite as N	0.37	0.37	2.7	U R	3/17/09	03/18/09 06:57	1
9077493	Orthophosphate as P	1.4	1.4	5.5	U R	3/17/09	03/18/09 06:57	1
9077494	Sulfate	1.9	1.9	5.5	U	3/17/09	03/18/09 06:57	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	8.4	0.0	0.10		3/13/09	03/13/09 13:00	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF0
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-012
Matrix:	SOLID	**Lab WorkOrder:**	K8FGV
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:11

Analysis Method: 9056M **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.44	0.44	2.3	U	3/17/09	03/18/09 07:13	1
9077489	Chloride	8.9	2.2	5.7		3/17/09	03/18/09 07:13	1
9077490	Fluoride	1.2	0.94	5.7	B	3/17/09	03/18/09 07:13	1
9077491	Nitrate as N	0.60	0.36	2.9	~~B~~ J	3/17/09	03/18/09 07:13	1
9077492	Nitrite as N	0.38	0.38	2.9	U R	3/17/09	03/18/09 07:13	1
9077493	Orthophosphate as P	1.4	1.4	5.7	U R	3/17/09	03/18/09 07:13	1
9077494	Sulfate	4.7	2.0	5.7	B	3/17/09	03/18/09 07:13	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	12	0.0	0.10		3/13/09	03/13/09 13:00	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF1
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-013
Matrix:	SOLID	**Lab WorkOrder:**	K8FG0
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:40

Analysis Method: 9056M **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.44	0.44	2.3	U	3/17/09	03/18/09 07:28	1
9077489	Chloride	8.7	2.2	5.7		3/17/09	03/18/09 07:28	1
9077490	Fluoride	1.6	0.94	5.7	B	3/17/09	03/18/09 07:28	1
9077491	Nitrate as N	0.85	0.36	2.9	~~B~~ J 4/28	3/17/09	03/18/09 07:28	1
9077492	Nitrite as N	0.38	0.38	2.9	U R	3/17/09	03/18/09 07:28	1
9077493	Orthophosphate as P	1.4	1.4	5.7	U R	3/17/09	03/18/09 07:28	1
9077494	Sulfate	2.0	2.0	5.7	U	3/17/09	03/18/09 07:28	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	12	0.0	0.10		3/13/09	03/13/09 13:00	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF2
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-014
Matrix:	SOLID	**Lab WorkOrder:**	K8FG2
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:20

Analysis Method: 9056M **% Moisture:** 8.4 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.42	0.42	2.2	U	3/17/09	03/18/09 08:16	1
9077489	Chloride	9.4	2.1	5.5		3/17/09	03/18/09 08:16	1
9077490	Fluoride	1.1	0.90	5.5	B	3/17/09	03/18/09 08:16	1
9077491	Nitrate as N	0.86	0.34	2.7	~~B~~ J	3/17/09	03/18/09 08:16	1
9077492	Nitrite as N	0.37	0.37	2.7	4/28/09 U R	3/17/09	03/18/09 08:16	1
9077493	Orthophosphate as P	1.4	1.4	5.5	U R	3/17/09	03/18/09 08:16	1
9077494	Sulfate	2.7	1.9	5.5	B	3/17/09	03/18/09 08:16	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	8.4	0.0	0.10		3/13/09	03/13/09 13:00	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF3
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-015
Matrix:	SOLID	**Lab WorkOrder:**	K8FG5
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:27

Analysis Method: 9056M **% Moisture:** 14 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.45	0.45	2.3	U	3/17/09	03/18/09 08:32	1
9077489	Chloride	9.6	2.3	5.8		3/17/09	03/18/09 08:32	1
9077490	Fluoride	1.7	0.95	5.8	B	3/17/09	03/18/09 08:32	1
9077491	Nitrate as N	0.47	0.36	2.9	~~B~~ J	3/17/09	03/18/09 08:32	1
9077492	Nitrite as N	0.39	0.39	2.9	U R	3/17/09	03/18/09 08:32	1
9077493	Orthophosphate as P	1.4	1.4	5.8	U R	3/17/09	03/18/09 08:32	1
9077494	Sulfate	21	2.0	5.8		3/17/09	03/18/09 08:32	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	14	0.0	0.10		3/13/09	03/13/09 13:00	1

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000026

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF9
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-016
Matrix:	SOLID	**Lab WorkOrder:**	K8FG7
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 14:10

Analysis Method: 9056M **% Moisture:** 9.7 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.43	0.43	2.2	U	3/17/09	03/18/09 08:48	1
9077489	Chloride	10	2.2	5.5		3/17/09	03/18/09 08:48	1
9077490	Fluoride	1.0	0.91	5.5	B	3/17/09	03/18/09 08:48	1
9077491	Nitrate as N	0.58	0.35	2.8	~~B~~ J	3/17/09	03/18/09 08:48	1
9077492	Nitrite as N	0.37	0.37	2.8	U R	3/17/09	03/18/09 08:48	1
9077493	Orthophosphate as P	1.4	1.4	5.5	U R	3/17/09	03/18/09 08:48	1
9077494	Sulfate	1.9	1.9	5.5	U	3/17/09	03/18/09 08:48	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	9.7	0.0	0.10		3/13/09	03/13/09 13:00	1

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000027

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JH0
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-017
Matrix:	SOLID	**Lab WorkOrder:**	K8FHC
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:07

Analysis Method: 9056M **% Moisture:** 11 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.44	0.44	2.3	U	3/17/09	03/18/09 09:03	1
9077489	Chloride	12	2.2	5.6		3/17/09	03/18/09 09:03	1
9077490	Fluoride	1.6	0.93	5.6	B	3/17/09	03/18/09 09:03	1
9077491	Nitrate as N	0.41	0.35	2.8	~~B~~ J	3/17/09	03/18/09 09:03	1
9077492	Nitrite as N	0.38	0.38	2.8	U R	3/17/09	03/18/09 09:03	1
9077493	Orthophosphate as P	1.4	1.4	5.6	U R	3/17/09	03/18/09 09:03	1
9077494	Sulfate	2.0	2.0	5.6	U	3/17/09	03/18/09 09:03	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	11	0.0	0.10		3/13/09	03/13/09 13:00	1

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000028

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JH1
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-018
Matrix:	SOLID	**Lab WorkOrder:**	K8FHM
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:07

Analysis Method: 9056M **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.44	0.44	2.3	U	3/17/09	03/18/09 09:19	1
9077489	Chloride	9.3	2.2	5.6		3/17/09	03/18/09 09:19	1
9077490	Fluoride	1.8	0.93	5.6	B	3/17/09	03/18/09 09:19	1
9077491	Nitrate as N	0.44	0.35	2.8	~~B~~ J	3/17/09	03/18/09 09:19	1
9077492	Nitrite as N	0.38	0.38	2.8	U R	3/17/09	03/18/09 09:19	1
9077493	Orthophosphate as P	1.4	1.4	5.6	U R	3/17/09	03/18/09 09:19	1
9077494	Sulfate	2.0	2.0	5.6	B	3/17/09	03/18/09 09:19	1

Analysis Method: D 2216-90 **% Moisture:** N/A **Basis:** Wet **Leach Date:** **Unit:** %

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	12	0.0	0.10		3/13/09	03/13/09 13:00	1

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000029

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE
J00377 / RC-075 / D9C120251

The following report contains the analytical results for eighteen soil samples submitted to TestAmerica by Washington Closure Hanford. The samples were received March 12, 2009, according to documented sample acceptance procedures.

Client ID	Lab ID	Analyses Requested	Analyses Performed
J18JC5	D9C120251-001	6010/7470/300.0	6010B/7471A/9056M
J18JC6	D9C120251-002	6010/7470/300.0	6010B/7471A/9056M
J18JC7	D9C120251-003	6010/7470/300.0	6010B/7471A/9056M
J18JC8	D9C120251-004	6010/7470/300.0	6010B/7471A/9056M
J18JC9	D9C120251-005	6010/7470/300.0	6010B/7471A/9056M
J18JD0	D9C120251-006	6010/7470/300.0	6010B/7471A/9056M
J18JD1	D9C120251-007	6010/7470/300.0	6010B/7471A/9056M
J18JD2	D9C120251-008	6010/7470/300.0	6010B/7471A/9056M
J18JD3	D9C120251-009	6010/7470/300.0	6010B/7471A/9056M
J18JD4	D9C120251-010	6010/7470/300.0	6010B/7471A/9056M
J18JD9	D9C120251-011	6010/7470/300.0	6010B/7471A/9056M
J18JF0	D9C120251-012	6010/7470/300.0	6010B/7471A/9056M
J18JF1	D9C120251-013	6010/7470/300.0	6010B/7471A/9056M
J18JF2	D9C120251-014	6010/7470/300.0	6010B/7471A/9056M
J18JF3	D9C120251-015	6010/7470/300.0	6010B/7471A/9056M
J18JF9	D9C120251-016	6010/7470/300.0	6010B/7471A/9056M
J18JH0	D9C120251-017	6010/7470/300.0	6010B/7471A/9056M
J18JH1	D9C120251-018	6010/7470/300.0	6010B/7471A/9056M

The Anions method substitution noted above, as agreed to by all parties, has no technical impact on the data.

Dilution factors and qualifiers are provided to assist in the interpretation of the results. In some cases, due to interferences or analytes present above the linear calibration curve, samples must be analyzed at a dilution. For samples analyzed at a dilution, the reporting limits are adjusted relative to the dilution required. Dilutions made for reasons other than the presence of target compounds are addressed in the Supplemental QC Information section.

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. Please note that Non-Detect (U) results have been evaluated down to the Method Detection Limit (MDL) and should be considered Non-Detect (U) at the MDL. The results, RLs and MDLs included in this report have been adjusted for dry weight.

TestAmerica utilizes USEPA approved methods in all analytical work. The results apply only to the samples included in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have been found to be compliant with laboratory protocols, with the exception of any items noted below.

SUPPLEMENTAL QC INFORMATION

Sample Receipt

Samples were received in good condition at temperatures of 4.4°C, 5.1°C and 2.8°C. No anomalies were encountered during sample receipt.

Total Metals – SW846 6010B/7471A

Low levels of Lead are present in the method blank associated with QC batch 9072282. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The duplicate analysis of sample J18JC5 exhibited RPD data outside the QC control limits for Copper and Nickel. It can be noted that the RPDs were calculated based on values below the method detection limits, and as such, could not be reliably calculated.

No other anomalies were encountered.

Wet Chemistry – SW846 9056M

The Chloride duplicate analysis of sample J18JC5 exhibited RPD data outside the QC control limits. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The Nitrate as N duplicate analysis of sample J18JC5 exhibited RPD data outside the QC control limits. It can be noted that the RPD was calculated based on a value below the method detection limit, and as such, could not be reliably calculated.

No other anomalies were encountered.

I certify that this data package 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:

Kae E. Yoder
Project Manager

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

March 30, 2009

Attention: Joan Kessner

SAF Number	:	RC-075
Date SDG Closed	:	March 11, 2009
Number of Samples	:	Eighteen (18)
Sample Type	:	Soil
SDG Number	:	J00377
Data Deliverable	:	21-Day / Summary

CASE NARRATIVE

I. Introduction

On March 11, 2009 eighteen soil samples were received at TestAmerica for chemistry analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific IDs:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J18JC5	K8DR5	SOIL	3/11/09
J18JC6	K8DR9	SOIL	3/11/09
J18JC7	K8DTA	SOIL	3/11/09
J18JC8	K8DTC	SOIL	3/11/09
J18JC9	K8DTD	SOIL	3/11/09
J18JD0	K8DTH	SOIL	3/11/09
J18JD1	K8DTJ	SOIL	3/11/09
J18JD2	K8DTK	SOIL	3/11/09
J18JD3	K8DTL	SOIL	3/11/09
J18JD4	K8DTM	SOIL	3/11/09
J18JD9	K8DTN	SOIL	3/11/09
J18JF0	K8DTP	SOIL	3/11/09

2800 George Washington Way Richland, WA 99355-1613 tel 509.375.3131 fax 509.375.5590 www.testamericainc.com

J18JF1	K8DTQ	SOIL	3/11/09
J18JF2	K8DTR	SOIL	3/11/09
J18JF3	K8DTT	SOIL	3/11/09
J18JF9	K8DTV	SOIL	3/11/09
J18JH0	K8DTW	SOIL	3/11/09
J18JH1	K8DT0	SOIL	3/11/09

II. Sample Receipt

The sample was 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 LCS, batch blank, sample, sample duplicate (J18JC5) and sample matrix spike (J18JC5) results are within contractual requirements.

Washington Closure Hanford
March 30, 2009

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:

Sandra Seger
Project Manager

000035

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-038	Page 1 of 3

Collector: D.W.Shea//subcontractor DW PETERSEN	Company Contact: D.W.Shea	Telephone No.: 521-6014	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Day		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-56:2 Area A Verification		SAF No.: RC-075
Ice Chest No.	Field Logbook No.: EL-1607-A5 JRD 3/10/09	COA: R00D562000	Method of Shipment: Fed EX
Shipped To: EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH 150.1~~ ~~Acidity - 305.1~~ JRD 3/5/09								

Sample No.	Matrix *	Sample Date	Sample Time										
X J18JC5	SOIL	3-10-09	1225	X	X	X			K8DR5				EB
X J18JC6	SOIL	3-10-09	1230	X	X	X			K8DR9				A1
X J18JC7	SOIL	3-10-09	1233	X	X	X			K8DTA				A2
X J18JC8	SOIL	3-10-09	1055	X	X	X			K8DTC				A3
X J18JC9	SOIL	3-10-09	1055	X	X	X			K8DTD				A3D

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DW PETERSEN	3/10/09 14:40	JRDeBuique JRDeBuique	1445 3-10-09
JRDeBuique JRDeBuique	1600 3/10/09	J.E. Bennett	1600 3-10-09
J.E. Bennett	0938 3-11-09	Nm. Th NV	031109 0930

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) [~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~ Lead, ~~Lithium~~, ~~Magnesium~~ Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc]; Mercury - 7470 - (CV) [Mercury]

JRD 3/25/09

J9C110308
J0C377
Due 04-01-09

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, Li=Liquid, V=Vegetation, X=Other

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

WCH-EE-011

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0000036

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-038	Page 2 of 3

Collector: D.W.Shea//subcontractor Don Petersen	Company Contact: D.W.Shea	Telephone No.: 521-6014	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Day		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-56:2 Area A Verification		SAF No.: RC-075
Ice Chest No.	Field Logbook No.: EL-1607-~~45~~ JRD 3/10/09	COA: R00D562000	Method of Shipment: Fed EX
Shipped To: EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH (Soil) - 9045~~ JRD 3/5/09								

	Sample No.	Matrix *	Sample Date	Sample Time										
X	J18JD0	SOIL	3-10-09	1247	X	X	X				K8DTH			A4
X	J18JD1	SOIL	3-10-09	1250	X	X	X				K8DTJ			A5
X	J18JD2	SOIL	3-10-09	1253	X	X	X				K8DTK			A6
X	J18JD3	SOIL	3-10-09	1105	X	X	X				K8DTL			A7
X	J18JD4	SOIL	3-10-09	1255	X	X	X				K8DTM			A8

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DON PETERSEN	3/10/09 14:45	JRDeBruin JRDeBruin	3-10-09 1445
JRDeBruin JRDeBruin	3-10-09 1600	J.E. Benbl	3-10-09 1600
J.E. Benbl	3-11-09 0930	Nm Sh	031109 0930

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium~~, ~~Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc); Mercury - 7470 - (CV) (Mercury) JRD 2/25/09

J9C110308
J0C377
Due 04-01-09

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

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0000037

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-039	Page 1 of 3
Collector D.W.Shea//subcontractor: DW Pedersen	Company Contact D.W.Shea	Telephone No. 521-6014	Project Coordinator KESSNER, JH	Price Code 8L / Data Turnaround 21 Day
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-56:2 Area B Verification		SAF No. RC-075	
Ice Chest No.	Field Logbook No. EL-1607-95 JRD 3/10/09	COA R09D562000 ~~R09562000~~ JRD 3/10/09	Method of Shipment Fed EX	
Shipped To EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See Item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH - 9045~~ JRD 3/5/09								

Sample No.	Matrix *	Sample Date	Sample Time										
J18JD9	SOIL	3-10-09	1309	X	X	X				K8DTN			B1
J18JF0	SOIL	3-10-09	1311	X	X	X				K8DTP			B2
J18JF1	SOIL	3-10-09	1040	X	X	X				K8DTQ			B3
J18JF2	SOIL	3-10-09	1320	X	X	X				K8DTR			B4
J18JF3	SOIL	3-10-09	1327	X	X	X				K8DTT			B5

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: DW Pedersen	3/10/09 14:45	JRD Duvall JRD Duvall	1445 3-10-09
Relinquished By/Removed From: JRD Duvall JRD Duvall	1600 3/10/09	Received By/Stored In: J.E. Beuhl	1600 3-10-09
Relinquished By/Removed From: J.E. Beuhl	0930 3-11-09	Received By/Stored In: Mm. Th	031109 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) [~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium~~, ~~Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc]; Mercury - 7470 - (CV) [Mercury] JRD 2/25/09

J9C110308
J00377
Due 04.01.09

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
Ti=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

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

WCH-EE-011

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K00038

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-039	Page 3 of 3

Collector: D.W.Shea//subcontractor DW Peterson	Company Contact: D:W.Shea	Telephone No.: 521-6014	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Day		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-56:2 Area B Verification		SAF No.: RC-075
Ice Chest No.	Field Logbook No.: EL-1607-~~145~~ JRD 3/10/09	COA R00D562000 ~~R00562000~~ JRD 3/10/09	Method of Shipment: Fed EX
Shipped To: EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH (Soil) - 9045~~ JRD 3/5/09								
Sample No.	Matrix *	Sample Date	Sample Time								
J18JF9	SOIL	3-10-09	1410	X	X	X			K8DTV		B11
J18JH0	SOIL	3-10-09	1007	X	X	X			K8DTW		B12
J18JH1	SOIL	3-10-09	1007	X	X	X			K8DTO		B12D

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: DW Peterson DW	3/10/09 14:45	JRDeBruin JRDeBruin	3-10-09 1445
Relinquished By/Removed From: JRDeBruin JRDeBruin	3-10-09 1600	J. E. Bernhart	3-10-09 1600
Relinquished By/Removed From: J. E. Bernhart	3-11-09 0930	Received By/Stored In: Mm Gh	031109 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium, Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc]; Mercury - 7470 - (CV) (Mercury)

JRD 2/25/09

J9C110308
J00377
Due 04-01-09

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
Air=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

37 0000039

Appendix 5

Data Validation Supporting Documentation

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 100-D-52:2			DATA PACKAGE: J00377		
VALIDATOR: ELR		LAB: TA		DATE: 4/27/09	
			SDG: J00377		

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				
J18JC5	J18JC6	J18JC7	J18JC8	J18JC9
J18JD0	J18JD1	J18JD2	J18JD3	J18JD4
J18JD9	J18JF0	J18JF1	J18JF2	J18JF3
J18JF9	~~J18JF~~ 4/22	J18JH0	J18JH1	
				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:

FB – chloride & nitrate

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

Spike samples analyzed? ..... Yes No N/A

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

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

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

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

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

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

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

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

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

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

Comments: no PAs

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

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

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

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

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

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

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

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

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

Comments:

6. HOLDING TIMES (all levels)

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

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

Comments: IC anions – nitrate nitrite + phosphat
>2x HT – J/UR all

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

7. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

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

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

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

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

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

Comments:

Appendix 6

Additional Documentation Requested by Client

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC
Wet Chemistry Method Blank Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Lab Sample ID: D9C180000-488B **Work Order:** K8RX1 **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077488	Bromide	0.39	0.39	2.0	U	03/17/09	03/18/09 03:00	1

Lab Sample ID: D9C180000-489B **Work Order:** K8RXF **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077489	Chloride	2.0	2.0	5.0	U	03/17/09	03/18/09 03:00	1

Lab Sample ID: D9C180000-490B **Work Order:** K8RW1 **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077490	Fluoride	0.82	0.82	5.0	U	03/17/09	03/18/09 03:00	1

Lab Sample ID: D9C180000-491B **Work Order:** K8R2D **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077491	Nitrate as N	0.31	0.31	2.5	U	03/17/09	03/18/09 03:00	1

Lab Sample ID: D9C180000-492B **Work Order:** K8R13 **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077492	Nitrite as N	0.34	0.34	2.5	U	03/17/09	03/18/09 03:00	1

Lab Sample ID: D9C180000-493B **Work Order:** K8R2J **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077493	Orthophosphate as P	1.2	1.2	5.0	U	03/17/09	03/18/09 03:00	1

Lab Sample ID: D9C180000-494B **Work Order:** K8R2Q **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9077494	Sulfate	1.7	1.7	5.0	U	03/17/09	03/18/09 03:00	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Laboratory Control Sample Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Lab Sample ID: D9C180000-488C **WorkOrder:** K8RX1 **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077488	Bromide	50.0	50.0	100		84 - 113	03/17/09	03/18/09 02:44	1

Lab Sample ID: D9C180000-489C **WorkOrder:** K8RXF **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077489	Chloride	250	252	101		89 - 109	03/17/09	03/18/09 02:44	1

Lab Sample ID: D9C180000-490C **WorkOrder:** K8RW1 **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077490	Fluoride	50.0	50.8	102		89 - 109	03/17/09	03/18/09 02:44	1

Lab Sample ID: D9C180000-491C **WorkOrder:** K8R2D **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077491	Nitrate as N	50.0	50.4	101		86 - 106	03/17/09	03/18/09 02:44	1

Lab Sample ID: D9C180000-492C **WorkOrder:** K8R13 **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077492	Nitrite as N	50.0	51.0	102		90 - 110	03/17/09	03/18/09 02:44	1

Lab Sample ID: D9C180000-493C **WorkOrder:** K8R2J **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077493	Orthophosphate as P	50.0	50.0	100		83 - 111	03/17/09	03/18/09 02:44	1

Lab Sample ID: D9C180000-494C **WorkOrder:** K8R2Q **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9077494	Sulfate	250	252	101		86 - 107	03/17/09	03/18/09 02:44	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Matrix Spike Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077488

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Bromide	50.1	0.39	U	46.3	93		84 - 113	03/17/09	03/18/09 10:22	1

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077489

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Chloride	250	3.8	B M	248	98		89 - 109	03/17/09	03/18/09 10:22	1

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077490

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Fluoride	50.1	0.82	U	46.8	93		89 - 109	03/17/09	03/18/09 10:22	1

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077491

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Nitrate as N	50.1	0.37	B M	47.0	93		86 - 106	03/17/09	03/18/09 10:22	1

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077492

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Nitrite as N	50.1	0.34	U	47.9	96		90 - 110	03/17/09	03/18/09 10:22	1

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077493

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Orthophosphate as P	50.1	1.2	U	46.6	93		83 - 111	03/17/09	03/18/09 10:22	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Matrix Spike Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 9056M **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9077494

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Sulfate	250	1.7	U	244	97		86 - 107	03/17/09	03/18/09 10:22	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Wet Chemistry Duplicate Sample Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Client Sample ID: J18JC5 DUP **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001X **Analysis Method:** 9056M **Matrix:** SOLID **Unit:** mg/kg

Batch	Analyte	RPD Limit	Sample Result	Q	Duplicate Result	RPD	Q	Prep Date	Analysis Date	Dilution
9077492	Nitrite as N	10	0.34	U	0.34	0	U	03/17/09	03/18/09 03:31	1
9077493	Orthophosphate as P	10	1.2	U	1.2	0	U	03/17/09	03/18/09 03:31	1
9077491	Nitrate as N	10	0.37	B M	0.31	200	U M	03/17/09	03/18/09 03:31	1
9077494	Sulfate	10	1.7	U	1.7	0	U	03/17/09	03/18/09 03:31	1
9077490	Fluoride	11	0.82	U	0.82	0	U	03/17/09	03/18/09 03:31	1
9077489	Chloride	10	3.8	B M	2.2	53	B M	03/17/09	03/18/09 03:31	1
9077488	Bromide	11	0.39	U	0.39	0	U	03/17/09	03/18/09 03:31	1

Client Sample ID: J18JC5 DUP **Lab WorkOrder:** K8FFJ **% Moisture:** N/A **Basis:** Wet

Lab Sample ID: D9C120251-001X **Analysis Method:** D 2216-90 **Matrix:** SOLID **Unit:** %

Batch	Analyte	RPD Limit	Sample Result	Q	Duplicate Result	RPD	Q	Prep Date	Analysis Date	Dilution
9072164	Percent Moisture	20	0.12		0.12	0.0		03/13/09	03/13/09 13:00	1

Date: 29 April 2009
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol - Waste Subsite 100-D-56:2
Subject: Inorganics - Data Package No. J00377-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J00377 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
J18JC5	3/10/09	Soil	C	See note 1
J18JC6	3/10/09	Soil	C	See note 1
J18JC7	3/10/09	Soil	C	See note 1
J18JC8	3/10/09	Soil	C	See note 1
J18JC9	3/10/09	Soil	C	See note 1
J18JD0	3/10/09	Soil	C	See note 1
J18JD1	3/10/09	Soil	C	See note 1
J18JD2	3/10/09	Soil	C	See note 1
J18JD3	3/10/09	Soil	C	See note 1
J18JD4	3/10/09	Soil	C	See note 1
J18JD9	3/10/09	Soil	C	See note 1
J18JF0	3/10/09	Soil	C	See note 1
J18JF1	3/10/09	Soil	C	See note 1
J18JF2	3/10/09	Soil	C	See note 1
J18JF3	3/10/09	Soil	C	See note 1
J18JF9	3/10/09	Soil	C	See note 1
J18JH0	3/10/09	Soil	C	See note 1
J18JH1	3/10/09	Soil	C	See note 1

1 - ICP metals (6010B) and mercury (7471A).

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, Rev. 4, February 2005). Appendices 1 through 6 provide the following information as indicated below:

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

DATA QUALITY PARAMETERS

- **Holding Times**

Analytical holding times for metals are assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Soil samples must be analyzed within 28 days for mercury and 6 months for ICP metals.

All holding times were acceptable.

- **Preparation (Method) Blanks**

Preparation Blanks

At least one preparation blank, consisting of deionized distilled water processed through each sample preparation and analysis procedure, must be prepared and analyzed with every sample delivery group. In the case of positive blank results, samples with digestate concentrations less than five times the preparation blank value have had their associated values qualified as non-detected and flagged "UJ". Samples with concentrations of greater than five times the highest blank concentration do not require qualification.

In the case of negative blank results, if the absolute value exceeds the contract required detection limit (CRDL), all nondetects are rejected and flagged "UR" and all detects that are less than ten times the absolute value of the associated preparation blank result are qualified as estimates and flagged "J". If the absolute value of the negative preparation blank is greater than the instrument detection limit (IDL) and less than or equal to the CRDL, all nondetects are qualified as estimates and flagged "UJ" and all detects less than ten times the absolute value of the blank are qualified as estimates and flagged "J". If the sample results are greater than ten times the absolute value of the preparation blank, no qualification is necessary.

Due to method blank contamination, the lead result in sample J18JC5 was qualified as an estimate and flagged "UJ".

All other preparation blank results were acceptable.

Field (Equipment) Blank

One field blank (J18JC5) was submitted for analysis. Barium, chromium, copper, manganese, vanadium and zinc were detected in the field blank. Under the WCH statement of work, no qualification is required.

- **Accuracy**

Matrix Spike and Laboratory Control Sample

Matrix spike (MS) and laboratory control sample (LCS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Recoveries must fall within the range of 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.

All accuracy results were acceptable.

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 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

Two sets of field duplicates (J18JC8/J18JC9 & J18JH0/J18JH1) 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. J00377 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiency was noted:

- Due to method blank contamination, the lead result in sample J18JC5 was qualified as an estimate and flagged "UJ".

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. 4, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, February 2005.

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: J00377	REVIEWER: ELR	Project: 100-D-56:2	PAGE 1 OF 1
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Lead	UJ	J18JC5	Method blank contamination

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

Appendix 3

Annotated Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC5
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-001
Matrix:	SOLID	**Lab WorkOrder:**	K8FFJ
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:25

Analysis Method: 6010B TOTAL **% Moisture:** 0.12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.38	0.38	1.5	U	3/19/09	03/19/09 21:45	1
9072282	Arsenic	0.66	0.66	2.0	U	3/19/09	03/19/09 21:45	1
9072282	Barium	1.7	0.076	1.0		3/19/09	03/19/09 21:45	1
9072282	Beryllium	0.033	0.033	0.50	U	3/19/09	03/19/09 21:45	1
9072282	Boron	0.98	0.98	2.0	U	3/19/09	03/19/09 21:45	1
9072282	Cadmium	0.041	0.041	0.50	U	3/19/09	03/19/09 21:45	1
9072282	Chromium	0.17	0.058	1.0	B	3/19/09	03/19/09 21:45	1
9072282	Cobalt	0.10	0.10	1.0	U	3/19/09	03/19/09 21:45	1
9072282	Copper	0.22	0.22	1.0	BM	3/19/09	03/19/09 21:45	1
9072282	Lead	0.46	0.27	0.80	~~B~~ UJ	3/19/09	03/19/09 21:45	1
9072282	Manganese	3.4	0.10	1.0		3/19/09	03/19/09 21:45	1
9072282	Molybdenum	0.26	0.26	2.0	U	3/19/09	03/19/09 21:45	1
9072282	Nickel	0.12	0.12	4.0	UM	3/19/09	03/19/09 21:45	1
9072282	Selenium	0.86	0.86	1.3	U	3/19/09	03/19/09 21:45	1
9072282	Silver	0.16	0.16	1.0	U	3/19/09	03/19/09 21:45	1
9072282	Vanadium	0.28	0.094	2.0	B	3/19/09	03/19/09 21:45	1
9072282	Zinc	0.99	0.40	1.0	B	3/19/09	03/19/09 21:45	1

Analysis Method: 7471A TOTAL **% Moisture:** 0.12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0055	0.0055	0.017	U	3/24/09	03/24/09 13:07	1

4/28/09

000010

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC6
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-002
Matrix:	SOLID	**Lab WorkOrder:**	K8FF5
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:30

Analysis Method: 6010B TOTAL **% Moisture:** 4.2 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.40	0.40	1.6	U	3/19/09	03/19/09 22:00	1
9072282	Arsenic	3.2	0.69	2.1		3/19/09	03/19/09 22:00	1
9072282	Barium	59	0.079	1.0		3/19/09	03/19/09 22:00	1
9072282	Beryllium	0.38	0.034	0.52	B	3/19/09	03/19/09 22:00	1
9072282	Boron	1.0	1.0	2.1	U	3/19/09	03/19/09 22:00	1
9072282	Cadmium	0.066	0.043	0.52	B	3/19/09	03/19/09 22:00	1
9072282	Chromium	9.1	0.061	1.0		3/19/09	03/19/09 22:00	1
9072282	Cobalt	7.1	0.10	1.0		3/19/09	03/19/09 22:00	1
9072282	Copper	13	0.23	1.0		3/19/09	03/19/09 22:00	1
9072282	Lead	3.4	0.28	0.83		3/19/09	03/19/09 22:00	1
9072282	Manganese	300	0.10	1.0		3/19/09	03/19/09 22:00	1
9072282	Molybdenum	0.27	0.27	2.1	U	3/19/09	03/19/09 22:00	1
9072282	Nickel	10	0.13	4.2		3/19/09	03/19/09 22:00	1
9072282	Selenium	0.90	0.90	1.4	U	3/19/09	03/19/09 22:00	1
9072282	Silver	0.17	0.17	1.0	U	3/19/09	03/19/09 22:00	1
9072282	Vanadium	54	0.098	2.1		3/19/09	03/19/09 22:00	1
9072282	Zinc	40	0.42	1.0		3/19/09	03/19/09 22:00	1

Analysis Method: 7471A TOTAL **% Moisture:** 4.2 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0079	0.0058	0.018	B	3/24/09	03/24/09 13:14	1

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000011

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC7
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-003
Matrix:	SOLID	**Lab WorkOrder:**	K8FF6
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:33

Analysis Method: 6010B TOTAL **% Moisture:** 9.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.42	0.42	1.7	U	3/19/09	03/19/09 22:04	1
9072282	Arsenic	2.9	0.73	2.2		3/19/09	03/19/09 22:04	1
9072282	Barium	56	0.084	1.1		3/19/09	03/19/09 22:04	1
9072282	Beryllium	0.31	0.036	0.55	B	3/19/09	03/19/09 22:04	1
9072282	Boron	1.1	1.1	2.2	U	3/19/09	03/19/09 22:04	1
9072282	Cadmium	0.064	0.045	0.55	B	3/19/09	03/19/09 22:04	1
9072282	Chromium	10	0.064	1.1		3/19/09	03/19/09 22:04	1
9072282	Cobalt	6.1	0.11	1.1		3/19/09	03/19/09 22:04	1
9072282	Copper	13	0.24	1.1		3/19/09	03/19/09 22:04	1
9072282	Lead	3.0	0.30	0.88		3/19/09	03/19/09 22:04	1
9072282	Manganese	270	0.11	1.1		3/19/09	03/19/09 22:04	1
9072282	Molybdenum	0.29	0.29	2.2	U	3/19/09	03/19/09 22:04	1
9072282	Nickel	11	0.14	4.4		3/19/09	03/19/09 22:04	1
9072282	Selenium	0.95	0.95	1.4	U	3/19/09	03/19/09 22:04	1
9072282	Silver	0.18	0.18	1.1	U	3/19/09	03/19/09 22:04	1
9072282	Vanadium	45	0.10	2.2		3/19/09	03/19/09 22:04	1
9072282	Zinc	35	0.44	1.1		3/19/09	03/19/09 22:04	1

Analysis Method: 7471A TOTAL **% Moisture:** 9.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0071	0.0061	0.019	B	3/24/09	03/24/09 13:17	1

4/28/09

000012

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC8
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-004
Matrix:	SOLID	**Lab WorkOrder:**	K8FF8
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:55

Analysis Method: 6010B TOTAL **% Moisture:** 6.1 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.40	0.40	1.6	U	3/19/09	03/19/09 22:19	1
9072282	Arsenic	3.0	0.70	2.1		3/19/09	03/19/09 22:19	1
9072282	Barium	68	0.081	1.1		3/19/09	03/19/09 22:19	1
9072282	Beryllium	0.43	0.035	0.53	B	3/19/09	03/19/09 22:19	1
9072282	Boron	1.2	1.0	2.1	B	3/19/09	03/19/09 22:19	1
9072282	Cadmium	0.060	0.044	0.53	B	3/19/09	03/19/09 22:19	1
9072282	Chromium	8.2	0.062	1.1		3/19/09	03/19/09 22:19	1
9072282	Cobalt	8.1	0.11	1.1		3/19/09	03/19/09 22:19	1
9072282	Copper	16	0.23	1.1		3/19/09	03/19/09 22:19	1
9072282	Lead	3.6	0.29	0.85		3/19/09	03/19/09 22:19	1
9072282	Manganese	330	0.11	1.1		3/19/09	03/19/09 22:19	1
9072282	Molybdenum	0.28	0.28	2.1	U	3/19/09	03/19/09 22:19	1
9072282	Nickel	9.8	0.13	4.3		3/19/09	03/19/09 22:19	1
9072282	Selenium	0.92	0.92	1.4	U	3/19/09	03/19/09 22:19	1
9072282	Silver	0.17	0.17	1.1	U	3/19/09	03/19/09 22:19	1
9072282	Vanadium	57	0.10	2.1		3/19/09	03/19/09 22:19	1
9072282	Zinc	44	0.42	1.1		3/19/09	03/19/09 22:19	1

Analysis Method: 7471A TOTAL **% Moisture:** 6.1 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0082	0.0059	0.018	B	3/24/09	03/24/09 13:24	1

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THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JC9
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-005
Matrix:	SOLID	**Lab WorkOrder:**	K8FGE
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:55

Analysis Method: 6010B TOTAL **% Moisture:** 6.6 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.41	0.41	1.6	U	3/19/09	03/19/09 22:23	1
9072282	Arsenic	2.7	0.71	2.1		3/19/09	03/19/09 22:23	1
9072282	Barium	60	0.081	1.1		3/19/09	03/19/09 22:23	1
9072282	Beryllium	0.38	0.035	0.54	B	3/19/09	03/19/09 22:23	1
9072282	Boron	1.0	1.0	2.1	B	3/19/09	03/19/09 22:23	1
9072282	Cadmium	0.044	0.044	0.54	U	3/19/09	03/19/09 22:23	1
9072282	Chromium	7.6	0.062	1.1		3/19/09	03/19/09 22:23	1
9072282	Cobalt	8.1	0.11	1.1		3/19/09	03/19/09 22:23	1
9072282	Copper	16	0.23	1.1		3/19/09	03/19/09 22:23	1
9072282	Lead	3.1	0.29	0.86		3/19/09	03/19/09 22:23	1
9072282	Manganese	290	0.11	1.1		3/19/09	03/19/09 22:23	1
9072282	Molybdenum	0.28	0.28	2.1	U	3/19/09	03/19/09 22:23	1
9072282	Nickel	9.2	0.13	4.3		3/19/09	03/19/09 22:23	1
9072282	Selenium	0.92	0.92	1.4	U	3/19/09	03/19/09 22:23	1
9072282	Silver	0.17	0.17	1.1	U	3/19/09	03/19/09 22:23	1
9072282	Vanadium	51	0.10	2.1		3/19/09	03/19/09 22:23	1
9072282	Zinc	39	0.43	1.1		3/19/09	03/19/09 22:23	1

Analysis Method: 7471A TOTAL **% Moisture:** 6.6 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0084	0.0059	0.018	B	3/24/09	03/24/09 13:26	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD0
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-006
Matrix:	SOLID	**Lab WorkOrder:**	K8FGF
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:47

Analysis Method: 6010B TOTAL **% Moisture:** 4.0 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.40	0.40	1.6	U	3/19/09	03/19/09 22:26	1
9072282	Arsenic	2.1	0.69	2.1		3/19/09	03/19/09 22:26	1
9072282	Barium	43	0.079	1.0		3/19/09	03/19/09 22:26	1
9072282	Beryllium	0.35	0.034	0.52	B	3/19/09	03/19/09 22:26	1
9072282	Boron	1.0	1.0	2.1	U	3/19/09	03/19/09 22:26	1
9072282	Cadmium	0.043	0.043	0.52	U	3/19/09	03/19/09 22:26	1
9072282	Chromium	5.1	0.060	1.0		3/19/09	03/19/09 22:26	1
9072282	Cobalt	9.0	0.10	1.0		3/19/09	03/19/09 22:26	1
9072282	Copper	14	0.23	1.0		3/19/09	03/19/09 22:26	1
9072282	Lead	1.7	0.28	0.83		3/19/09	03/19/09 22:26	1
9072282	Manganese	330	0.10	1.0		3/19/09	03/19/09 22:26	1
9072282	Molybdenum	0.27	0.27	2.1	U	3/19/09	03/19/09 22:26	1
9072282	Nickel	7.7	0.13	4.2		3/19/09	03/19/09 22:26	1
9072282	Selenium	0.90	0.90	1.4	U	3/19/09	03/19/09 22:26	1
9072282	Silver	0.17	0.17	1.0	U	3/19/09	03/19/09 22:26	1
9072282	Vanadium	70	0.098	2.1		3/19/09	03/19/09 22:26	1
9072282	Zinc	45	0.41	1.0		3/19/09	03/19/09 22:26	1

Analysis Method: 7471A TOTAL **% Moisture:** 4.0 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0065	0.0058	0.018	B	3/24/09	03/24/09 13:28	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD1
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-007
Matrix:	SOLID	**Lab WorkOrder:**	K8FGH
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:50

Analysis Method: 6010B TOTAL **% Moisture:** 3.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.39	0.39	1.6	U	3/19/09	03/19/09 22:30	1
9072282	Arsenic	3.5	0.68	2.1		3/19/09	03/19/09 22:30	1
9072282	Barium	52	0.079	1.0		3/19/09	03/19/09 22:30	1
9072282	Beryllium	0.29	0.034	0.52	B	3/19/09	03/19/09 22:30	1
9072282	Boron	1.0	1.0	2.1	U	3/19/09	03/19/09 22:30	1
9072282	Cadmium	0.059	0.042	0.52	B	3/19/09	03/19/09 22:30	1
9072282	Chromium	9.8	0.060	1.0		3/19/09	03/19/09 22:30	1
9072282	Cobalt	5.5	0.10	1.0		3/19/09	03/19/09 22:30	1
9072282	Copper	12	0.22	1.0		3/19/09	03/19/09 22:30	1
9072282	Lead	2.9	0.28	0.83		3/19/09	03/19/09 22:30	1
9072282	Manganese	260	0.10	1.0		3/19/09	03/19/09 22:30	1
9072282	Molybdenum	0.27	0.27	2.1	U	3/19/09	03/19/09 22:30	1
9072282	Nickel	11	0.13	4.1		3/19/09	03/19/09 22:30	1
9072282	Selenium	0.89	0.89	1.3	U	3/19/09	03/19/09 22:30	1
9072282	Silver	0.17	0.17	1.0	U	3/19/09	03/19/09 22:30	1
9072282	Vanadium	38	0.097	2.1		3/19/09	03/19/09 22:30	1
9072282	Zinc	34	0.41	1.0		3/19/09	03/19/09 22:30	1

Analysis Method: 7471A TOTAL **% Moisture:** 3.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0072	0.0057	0.018	B	3/24/09	03/24/09 13:31	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD2
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-008
Matrix:	SOLID	**Lab WorkOrder:**	K8FGJ
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:53

Analysis Method: 6010B TOTAL **% Moisture:** 3.6 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.39	0.39	1.6	U	3/19/09	03/19/09 22:34	1
9072282	Arsenic	1.9	0.68	2.1	B	3/19/09	03/19/09 22:34	1
9072282	Barium	46	0.079	1.0		3/19/09	03/19/09 22:34	1
9072282	Beryllium	0.34	0.034	0.52	B	3/19/09	03/19/09 22:34	1
9072282	Boron	1.0	1.0	2.1	U	3/19/09	03/19/09 22:34	1
9072282	Cadmium	0.054	0.043	0.52	B	3/19/09	03/19/09 22:34	1
9072282	Chromium	4.8	0.060	1.0		3/19/09	03/19/09 22:34	1
9072282	Cobalt	7.8	0.10	1.0		3/19/09	03/19/09 22:34	1
9072282	Copper	13	0.23	1.0		3/19/09	03/19/09 22:34	1
9072282	Lead	2.8	0.28	0.83		3/19/09	03/19/09 22:34	1
9072282	Manganese	280	0.10	1.0		3/19/09	03/19/09 22:34	1
9072282	Molybdenum	0.27	0.27	2.1	U	3/19/09	03/19/09 22:34	1
9072282	Nickel	8.0	0.13	4.2		3/19/09	03/19/09 22:34	1
9072282	Selenium	0.89	0.89	1.3	U	3/19/09	03/19/09 22:34	1
9072282	Silver	0.17	0.17	1.0	U	3/19/09	03/19/09 22:34	1
9072282	Vanadium	58	0.098	2.1		3/19/09	03/19/09 22:34	1
9072282	Zinc	41	0.41	1.0		3/19/09	03/19/09 22:34	1

Analysis Method: 7471A TOTAL **% Moisture:** 3.6 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0070	0.0057	0.018	B	3/24/09	03/24/09 13:33	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD3
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-009
Matrix:	SOLID	**Lab WorkOrder:**	K8FGK
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 11:05

Analysis Method: 6010B TOTAL **% Moisture:** 6.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.41	0.41	1.6	U	3/19/09	03/19/09 22:38	1
9072282	Arsenic	3.5	0.71	2.1		3/19/09	03/19/09 22:38	1
9072282	Barium	60	0.081	1.1		3/19/09	03/19/09 22:38	1
9072282	Beryllium	0.31	0.035	0.53	B	3/19/09	03/19/09 22:38	1
9072282	Boron	1.2	1.0	2.1	B	3/19/09	03/19/09 22:38	1
9072282	Cadmium	0.072	0.044	0.53	B	3/19/09	03/19/09 22:38	1
9072282	Chromium	11	0.062	1.1		3/19/09	03/19/09 22:38	1
9072282	Cobalt	6.1	0.11	1.1		3/19/09	03/19/09 22:38	1
9072282	Copper	14	0.23	1.1		3/19/09	03/19/09 22:38	1
9072282	Lead	5.3	0.29	0.86		3/19/09	03/19/09 22:38	1
9072282	Manganese	270	0.11	1.1		3/19/09	03/19/09 22:38	1
9072282	Molybdenum	0.28	0.28	2.1	U	3/19/09	03/19/09 22:38	1
9072282	Nickel	11	0.13	4.3		3/19/09	03/19/09 22:38	1
9072282	Selenium	0.92	0.92	1.4	U	3/19/09	03/19/09 22:38	1
9072282	Silver	0.17	0.17	1.1	U	3/19/09	03/19/09 22:38	1
9072282	Vanadium	39	0.10	2.1		3/19/09	03/19/09 22:38	1
9072282	Zinc	35	0.43	1.1		3/19/09	03/19/09 22:38	1

Analysis Method: 7471A TOTAL **% Moisture:** 6.5 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0085	0.0059	0.018	B	3/24/09	03/24/09 13:35	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD4
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-010
Matrix:	SOLID	**Lab WorkOrder:**	K8FGP
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 12:55

Analysis Method: 6010B TOTAL **% Moisture:** 5.7 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.40	0.40	1.6	U	3/19/09	03/19/09 22:42	1
9072282	Arsenic	2.4	0.70	2.1		3/19/09	03/19/09 22:42	1
9072282	Barium	76	0.081	1.1		3/19/09	03/19/09 22:42	1
9072282	Beryllium	0.29	0.035	0.53	B	3/19/09	03/19/09 22:42	1
9072282	Boron	2.5	1.0	2.1		3/19/09	03/19/09 22:42	1
9072282	Cadmium	0.083	0.043	0.53	B	3/19/09	03/19/09 22:42	1
9072282	Chromium	19	0.062	1.1		3/19/09	03/19/09 22:42	1
9072282	Cobalt	6.8	0.11	1.1		3/19/09	03/19/09 22:42	1
9072282	Copper	14	0.23	1.1		3/19/09	03/19/09 22:42	1
9072282	Lead	5.4	0.29	0.85		3/19/09	03/19/09 22:42	1
9072282	Manganese	280	0.11	1.1		3/19/09	03/19/09 22:42	1
9072282	Molybdenum	0.28	0.28	2.1	U	3/19/09	03/19/09 22:42	1
9072282	Nickel	9.3	0.13	4.2		3/19/09	03/19/09 22:42	1
9072282	Selenium	0.91	0.91	1.4	U	3/19/09	03/19/09 22:42	1
9072282	Silver	0.17	0.17	1.1	U	3/19/09	03/19/09 22:42	1
9072282	Vanadium	51	0.10	2.1		3/19/09	03/19/09 22:42	1
9072282	Zinc	43	0.42	1.1		3/19/09	03/19/09 22:42	1

Analysis Method: 7471A TOTAL **% Moisture:** 5.7 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.015	0.0059	0.018	B	3/24/09	03/24/09 13:37	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JD9
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-011
Matrix:	SOLID	**Lab WorkOrder:**	K8FGT
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:09

Analysis Method: 6010B TOTAL **% Moisture:** 8.4 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.41	0.41	1.6	U	3/19/09	03/19/09 22:45	1
9072282	Arsenic	2.5	0.72	2.2		3/19/09	03/19/09 22:45	1
9072282	Barium	51	0.083	1.1		3/19/09	03/19/09 22:45	1
9072282	Beryllium	0.28	0.036	0.55	B	3/19/09	03/19/09 22:45	1
9072282	Boron	1.1	1.1	2.2	U	3/19/09	03/19/09 22:45	1
9072282	Cadmium	0.066	0.045	0.55	B	3/19/09	03/19/09 22:45	1
9072282	Chromium	8.3	0.063	1.1		3/19/09	03/19/09 22:45	1
9072282	Cobalt	6.3	0.11	1.1		3/19/09	03/19/09 22:45	1
9072282	Copper	13	0.24	1.1		3/19/09	03/19/09 22:45	1
9072282	Lead	2.8	0.29	0.87		3/19/09	03/19/09 22:45	1
9072282	Manganese	270	0.11	1.1		3/19/09	03/19/09 22:45	1
9072282	Molybdenum	0.28	0.28	2.2	U	3/19/09	03/19/09 22:45	1
9072282	Nickel	9.8	0.13	4.4		3/19/09	03/19/09 22:45	1
9072282	Selenium	0.94	0.94	1.4	U	3/19/09	03/19/09 22:45	1
9072282	Silver	0.17	0.17	1.1	U	3/19/09	03/19/09 22:45	1
9072282	Vanadium	47	0.10	2.2		3/19/09	03/19/09 22:45	1
9072282	Zinc	35	0.43	1.1		3/19/09	03/19/09 22:45	1

Analysis Method: 7471A TOTAL **% Moisture:** 8.4 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0095	0.0060	0.019	B	3/24/09	03/24/09 13:44	1

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Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF0
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-012
Matrix:	SOLID	**Lab WorkOrder:**	K8FGV
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:11

Analysis Method: 6010B TOTAL **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.43	0.43	1.7	U	3/19/09	03/19/09 22:49	1
9072282	Arsenic	3.8	0.75	2.3		3/19/09	03/19/09 22:49	1
9072282	Barium	63	0.087	1.1		3/19/09	03/19/09 22:49	1
9072282	Beryllium	0.26	0.038	0.57	B	3/19/09	03/19/09 22:49	1
9072282	Boron	1.1	1.1	2.3	U	3/19/09	03/19/09 22:49	1
9072282	Cadmium	0.096	0.047	0.57	B	3/19/09	03/19/09 22:49	1
9072282	Chromium	12	0.066	1.1		3/19/09	03/19/09 22:49	1
9072282	Cobalt	5.8	0.11	1.1		3/19/09	03/19/09 22:49	1
9072282	Copper	14	0.25	1.1		3/19/09	03/19/09 22:49	1
9072282	Lead	3.2	0.31	0.91		3/19/09	03/19/09 22:49	1
9072282	Manganese	270	0.11	1.1		3/19/09	03/19/09 22:49	1
9072282	Molybdenum	0.30	0.30	2.3	U	3/19/09	03/19/09 22:49	1
9072282	Nickel	12	0.14	4.6		3/19/09	03/19/09 22:49	1
9072282	Selenium	0.98	0.98	1.5	U	3/19/09	03/19/09 22:49	1
9072282	Silver	0.18	0.18	1.1	U	3/19/09	03/19/09 22:49	1
9072282	Vanadium	36	0.11	2.3		3/19/09	03/19/09 22:49	1
9072282	Zinc	34	0.45	1.1		3/19/09	03/19/09 22:49	1

Analysis Method: 7471A TOTAL **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0093	0.0063	0.019	B	3/24/09	03/24/09 13:47	1

4/28/09

000021

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF1
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-013
Matrix:	SOLID	**Lab WorkOrder:**	K8FG0
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:40

Analysis Method: 6010B TOTAL **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.43	0.43	1.7	U	3/19/09	03/19/09 23:04	1
9072282	Arsenic	4.1	0.75	2.3		3/19/09	03/19/09 23:04	1
9072282	Barium	58	0.087	1.1		3/19/09	03/19/09 23:04	1
9072282	Beryllium	0.29	0.038	0.57	B	3/19/09	03/19/09 23:04	1
9072282	Boron	1.1	1.1	2.3	U	3/19/09	03/19/09 23:04	1
9072282	Cadmium	0.093	0.047	0.57	B	3/19/09	03/19/09 23:04	1
9072282	Chromium	11	0.066	1.1		3/19/09	03/19/09 23:04	1
9072282	Cobalt	6.0	0.11	1.1		3/19/09	03/19/09 23:04	1
9072282	Copper	14	0.25	1.1		3/19/09	03/19/09 23:04	1
9072282	Lead	3.2	0.31	0.91		3/19/09	03/19/09 23:04	1
9072282	Manganese	270	0.11	1.1		3/19/09	03/19/09 23:04	1
9072282	Molybdenum	0.30	0.30	2.3	U	3/19/09	03/19/09 23:04	1
9072282	Nickel	11	0.14	4.6		3/19/09	03/19/09 23:04	1
9072282	Selenium	0.98	0.98	1.5	U	3/19/09	03/19/09 23:04	1
9072282	Silver	0.18	0.18	1.1	U	3/19/09	03/19/09 23:04	1
9072282	Vanadium	48	0.11	2.3		3/19/09	03/19/09 23:04	1
9072282	Zinc	35	0.45	1.1		3/19/09	03/19/09 23:04	1

Analysis Method: 7471A TOTAL **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.010	0.0063	0.019	B	3/24/09	03/24/09 13:49	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF2
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-014
Matrix:	SOLID	**Lab WorkOrder:**	K8FG2
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:20

Analysis Method: 6010B TOTAL **% Moisture:** 8.4 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.41	0.41	1.6	U	3/19/09	03/19/09 23:08	1
9072282	Arsenic	2.7	0.72	2.2		3/19/09	03/19/09 23:08	1
9072282	Barium	57	0.083	1.1		3/19/09	03/19/09 23:08	1
9072282	Beryllium	0.30	0.036	0.55	B	3/19/09	03/19/09 23:08	1
9072282	Boron	1.1	1.1	2.2	U	3/19/09	03/19/09 23:08	1
9072282	Cadmium	0.045	0.045	0.55	U	3/19/09	03/19/09 23:08	1
9072282	Chromium	6.6	0.063	1.1		3/19/09	03/19/09 23:08	1
9072282	Cobalt	7.9	0.11	1.1		3/19/09	03/19/09 23:08	1
9072282	Copper	14	0.24	1.1		3/19/09	03/19/09 23:08	1
9072282	Lead	2.6	0.29	0.87		3/19/09	03/19/09 23:08	1
9072282	Manganese	300	0.11	1.1		3/19/09	03/19/09 23:08	1
9072282	Molybdenum	0.28	0.28	2.2	U	3/19/09	03/19/09 23:08	1
9072282	Nickel	9.5	0.13	4.4		3/19/09	03/19/09 23:08	1
9072282	Selenium	0.94	0.94	1.4	U	3/19/09	03/19/09 23:08	1
9072282	Silver	0.17	0.17	1.1	U	3/19/09	03/19/09 23:08	1
9072282	Vanadium	56	0.10	2.2		3/19/09	03/19/09 23:08	1
9072282	Zinc	41	0.43	1.1		3/19/09	03/19/09 23:08	1

Analysis Method: 7471A TOTAL **% Moisture:** 8.4 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0083	0.0060	0.019	B	3/24/09	03/24/09 13:51	1

4/28/09

000023

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THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF3
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-015
Matrix:	SOLID	**Lab WorkOrder:**	K8FG5
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 13:27

Analysis Method: 6010B TOTAL **% Moisture:** 14 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.44	0.44	1.7	U	3/19/09	03/19/09 23:11	1
9072282	Arsenic	3.6	0.77	2.3		3/19/09	03/19/09 23:11	1
9072282	Barium	60	0.088	1.2		3/19/09	03/19/09 23:11	1
9072282	Beryllium	0.28	0.038	0.58	B	3/19/09	03/19/09 23:11	1
9072282	Boron	1.1	1.1	2.3	U	3/19/09	03/19/09 23:11	1
9072282	Cadmium	0.059	0.048	0.58	B	3/19/09	03/19/09 23:11	1
9072282	Chromium	10	0.067	1.2		3/19/09	03/19/09 23:11	1
9072282	Cobalt	6.6	0.12	1.2		3/19/09	03/19/09 23:11	1
9072282	Copper	14	0.25	1.2		3/19/09	03/19/09 23:11	1
9072282	Lead	3.3	0.31	0.93		3/19/09	03/19/09 23:11	1
9072282	Manganese	270	0.12	1.2		3/19/09	03/19/09 23:11	1
9072282	Molybdenum	0.30	0.30	2.3	U	3/19/09	03/19/09 23:11	1
9072282	Nickel	11	0.14	4.6		3/19/09	03/19/09 23:11	1
9072282	Selenium	1.0	1.0	1.5	U	3/19/09	03/19/09 23:11	1
9072282	Silver	0.19	0.19	1.2	U	3/19/09	03/19/09 23:11	1
9072282	Vanadium	43	0.11	2.3		3/19/09	03/19/09 23:11	1
9072282	Zinc	37	0.46	1.2		3/19/09	03/19/09 23:11	1

Analysis Method: 7471A TOTAL **% Moisture:** 14 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0077	0.0064	0.020	B	3/24/09	03/24/09 13:54	1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JF9
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-016
Matrix:	SOLID	**Lab WorkOrder:**	K8FG7
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 14:10

Analysis Method: 6010B TOTAL **% Moisture:** 9.7 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.42	0.42	1.7	U	3/19/09	03/19/09 23:15	1
9072282	Arsenic	3.1	0.73	2.2		3/19/09	03/19/09 23:15	1
9072282	Barium	54	0.084	1.1		3/19/09	03/19/09 23:15	1
9072282	Beryllium	0.26	0.037	0.55	B	3/19/09	03/19/09 23:15	1
9072282	Boron	1.1	1.1	2.2	U	3/19/09	03/19/09 23:15	1
9072282	Cadmium	0.086	0.045	0.55	B	3/19/09	03/19/09 23:15	1
9072282	Chromium	13	0.064	1.1		3/19/09	03/19/09 23:15	1
9072282	Cobalt	5.3	0.11	1.1		3/19/09	03/19/09 23:15	1
9072282	Copper	13	0.24	1.1		3/19/09	03/19/09 23:15	1
9072282	Lead	3.3	0.30	0.89		3/19/09	03/19/09 23:15	1
9072282	Manganese	250	0.11	1.1		3/19/09	03/19/09 23:15	1
9072282	Molybdenum	0.29	0.29	2.2	U	3/19/09	03/19/09 23:15	1
9072282	Nickel	11	0.14	4.4		3/19/09	03/19/09 23:15	1
9072282	Selenium	0.95	0.95	1.4	U	3/19/09	03/19/09 23:15	1
9072282	Silver	0.18	0.18	1.1	U	3/19/09	03/19/09 23:15	1
9072282	Vanadium	35	0.10	2.2		3/19/09	03/19/09 23:15	1
9072282	Zinc	33	0.44	1.1		3/19/09	03/19/09 23:15	1

Analysis Method: 7471A TOTAL **% Moisture:** 9.7 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0077	0.0061	0.019	B	3/24/09	03/24/09 13:56	1

4/28/09

000025

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JH0
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-017
Matrix:	SOLID	**Lab WorkOrder:**	K8FHC
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:07

Analysis Method: 6010B TOTAL **% Moisture:** 11 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.43	0.43	1.7	U	3/19/09	03/19/09 23:19	1
9072282	Arsenic	3.2	0.74	2.3		3/19/09	03/19/09 23:19	1
9072282	Barium	60	0.086	1.1		3/19/09	03/19/09 23:19	1
9072282	Beryllium	0.29	0.037	0.56	B	3/19/09	03/19/09 23:19	1
9072282	Boron	1.1	1.1	2.3	U	3/19/09	03/19/09 23:19	1
9072282	Cadmium	0.086	0.046	0.56	B	3/19/09	03/19/09 23:19	1
9072282	Chromium	12	0.065	1.1		3/19/09	03/19/09 23:19	1
9072282	Cobalt	6.4	0.11	1.1		3/19/09	03/19/09 23:19	1
9072282	Copper	13	0.24	1.1		3/19/09	03/19/09 23:19	1
9072282	Lead	4.2	0.30	0.90		3/19/09	03/19/09 23:19	1
9072282	Manganese	270	0.11	1.1		3/19/09	03/19/09 23:19	1
9072282	Molybdenum	0.29	0.29	2.3	U	3/19/09	03/19/09 23:19	1
9072282	Nickel	11	0.14	4.5		3/19/09	03/19/09 23:19	1
9072282	Selenium	0.97	0.97	1.5	U	3/19/09	03/19/09 23:19	1
9072282	Silver	0.18	0.18	1.1	U	3/19/09	03/19/09 23:19	1
9072282	Vanadium	43	0.11	2.3		3/19/09	03/19/09 23:19	1
9072282	Zinc	37	0.45	1.1		3/19/09	03/19/09 23:19	1

Analysis Method: 7471A TOTAL **% Moisture:** 11 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0088	0.0062	0.019	B	3/24/09	03/24/09 13:58	1

4/28/09

000026

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Sample Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	J18JH1
Lot/SDG Number:	D9C120251	**Lab Sample ID:**	D9C120251-018
Matrix =	SOLID	**Lab WorkOrder:**	K8FHM
Date/Time Received:	03/12/09 09:00	**Date/Time Collected:**	03/10/09 10:07

Analysis Method: 6010B TOTAL **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.43	0.43	1.7	U	3/19/09	03/19/09 23:23	1
9072282	Arsenic	3.2	0.75	2.3		3/19/09	03/19/09 23:23	1
9072282	Barium	57	0.086	1.1		3/19/09	03/19/09 23:23	1
9072282	Beryllium	0.29	0.037	0.56	B	3/19/09	03/19/09 23:23	1
9072282	Boron	1.1	1.1	2.3	U	3/19/09	03/19/09 23:23	1
9072282	Cadmium	0.072	0.046	0.56	B	3/19/09	03/19/09 23:23	1
9072282	Chromium	12	0.066	1.1		3/19/09	03/19/09 23:23	1
9072282	Cobalt	6.1	0.11	1.1		3/19/09	03/19/09 23:23	1
9072282	Copper	13	0.25	1.1		3/19/09	03/19/09 23:23	1
9072282	Lead	4.3	0.31	0.90		3/19/09	03/19/09 23:23	1
9072282	Manganese	260	0.11	1.1		3/19/09	03/19/09 23:23	1
9072282	Molybdenum	0.29	0.29	2.3	U	3/19/09	03/19/09 23:23	1
9072282	Nickel	11	0.14	4.5		3/19/09	03/19/09 23:23	1
9072282	Selenium	0.97	0.97	1.5	U	3/19/09	03/19/09 23:23	1
9072282	Silver	0.18	0.18	1.1	U	3/19/09	03/19/09 23:23	1
9072282	Vanadium	40	0.11	2.3		3/19/09	03/19/09 23:23	1
9072282	Zinc	36	0.45	1.1		3/19/09	03/19/09 23:23	1

Analysis Method: 7471A TOTAL **% Moisture:** 12 **Basis:** Dry **Leach Date:** **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0088	0.0062	0.019	B	3/24/09	03/24/09 14:05	1

4/28/09

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE
J00377 / RC-075 / D9C120251

The following report contains the analytical results for eighteen soil samples submitted to TestAmerica by Washington Closure Hanford. The samples were received March 12, 2009, according to documented sample acceptance procedures.

Client ID	Lab ID	Analyses Requested	Analyses Performed
J18JC5	D9C120251-001	6010/7470/300.0	6010B/7471A/9056M
J18JC6	D9C120251-002	6010/7470/300.0	6010B/7471A/9056M
J18JC7	D9C120251-003	6010/7470/300.0	6010B/7471A/9056M
J18JC8	D9C120251-004	6010/7470/300.0	6010B/7471A/9056M
J18JC9	D9C120251-005	6010/7470/300.0	6010B/7471A/9056M
J18JD0	D9C120251-006	6010/7470/300.0	6010B/7471A/9056M
J18JD1	D9C120251-007	6010/7470/300.0	6010B/7471A/9056M
J18JD2	D9C120251-008	6010/7470/300.0	6010B/7471A/9056M
J18JD3	D9C120251-009	6010/7470/300.0	6010B/7471A/9056M
J18JD4	D9C120251-010	6010/7470/300.0	6010B/7471A/9056M
J18JD9	D9C120251-011	6010/7470/300.0	6010B/7471A/9056M
J18JF0	D9C120251-012	6010/7470/300.0	6010B/7471A/9056M
J18JF1	D9C120251-013	6010/7470/300.0	6010B/7471A/9056M
J18JF2	D9C120251-014	6010/7470/300.0	6010B/7471A/9056M
J18JF3	D9C120251-015	6010/7470/300.0	6010B/7471A/9056M
J18JF9	D9C120251-016	6010/7470/300.0	6010B/7471A/9056M
J18JH0	D9C120251-017	6010/7470/300.0	6010B/7471A/9056M
J18JH1	D9C120251-018	6010/7470/300.0	6010B/7471A/9056M

The Anions method substitution noted above, as agreed to by all parties, has no technical impact on the data.

Dilution factors and qualifiers are provided to assist in the interpretation of the results. In some cases, due to interferences or analytes present above the linear calibration curve, samples must be analyzed at a dilution. For samples analyzed at a dilution, the reporting limits are adjusted relative to the dilution required. Dilutions made for reasons other than the presence of target compounds are addressed in the Supplemental QC Information section.

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. Please note that Non-Detect (U) results have been evaluated down to the Method Detection Limit (MDL) and should be considered Non-Detect (U) at the MDL. The results, RLs and MDLs included in this report have been adjusted for dry weight.

TestAmerica utilizes USEPA approved methods in all analytical work. The results apply only to the samples included in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have been found to be compliant with laboratory protocols, with the exception of any items noted below.

SUPPLEMENTAL QC INFORMATION

Sample Receipt

Samples were received in good condition at temperatures of 4.4°C, 5.1°C and 2.8°C. No anomalies were encountered during sample receipt.

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Total Metals – SW846 6010B/7471A

Low levels of Lead are present in the method blank associated with QC batch 9072282. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The duplicate analysis of sample J18JC5 exhibited RPD data outside the QC control limits for Copper and Nickel. It can be noted that the RPDs were calculated based on values below the method detection limits, and as such, could not be reliably calculated.

No other anomalies were encountered.

Wet Chemistry – SW846 9056M

The Chloride duplicate analysis of sample J18JC5 exhibited RPD data outside the QC control limits. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The Nitrate as N duplicate analysis of sample J18JC5 exhibited RPD data outside the QC control limits. It can be noted that the RPD was calculated based on a value below the method detection limit, and as such, could not be reliably calculated.

No other anomalies were encountered.

I certify that this data package 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:

Kae E. Yoder
Project Manager

4.4, 5.1, 2.8 mFH 3-12-09

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-038	Page 1 of 3

Collector D.W.Shea//subcontractor DW Petersen	Company Contact D.W.Shea	Telephone No. 521-6014	Project Coordinator KESSNER, JH	Price Code 8L	Data Turnaround 21 Day
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-56:2 Area A Verification		SAF No. RC-075		
Ice Chest No.	Field Logbook No. EL-1607 AS JRD 3/10/09	COA R00D562000	Method of Shipment Fed EX		
Shipped To EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No. See OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH - Daily - 9045~~ JRD 3/5/09								

Sample No.	Matrix *	Sample Date	Sample Time										
J18JC5	SOIL	3-10-09	1225	X	X	X							EB
J18JC6	SOIL	3-10-09	1230	X	X	X							A1
J18JC7	SOIL	3-10-09	1233	X	X	X							A2
J18JC8	SOIL	3-10-09	1055	X	X	X							A3
J18JC9	SOIL	3-10-09	1055	X	X	X							A3D

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: DW Petersen	3/10/09 14:40	Received By/Stored In: JRD DeBuiguen JRD	1445 3-10-09
Relinquished By/Removed From: JRD DeBuiguen JRD	3/10/09	Received By/Stored In: J.E. Bentley	1600 3-10-09
Relinquished By/Removed From: J.E. Bentley	0938 3-11-09	Received By/Stored In: Nm. Sh NV	031109 0930
Relinquished By/Removed From: Nm. Sh NV	031109 1530	Received By/Stored In: Matthew Hood	3-12-09 09:00
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 - 6010 (Client List) {~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium~~, ~~Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc}; Mercury - 7470 - (CV) (Mercury)

JRD 2/25/09

SDG# J00377 mFH 3-13-09

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
Li=Liquid
Ve=Vegetation
X=Other

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

WCH-EE-011

TestAmerica

0000031

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-038	Page 2 of 3

Collector D.W.Shea//subcontractor Don Petersen	Company Contact D.W.Shea	Telephone No. 521-6014	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Day		
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-56:2 Area A Verification		SAF No. RC-075
Ice Chest No.	Field Logbook No. EL-1607-45 JRD 3/10/09	COA R00D562000	Method of Shipment Fed EX
Shipped To EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH (Soil) - 9045~~ JRD 3/5/09								

Sample No.	Matrix *	Sample Date	Sample Time										
J18JD0	SOIL	3-10-09	1247	X	X	X							A4
J18JD1	SOIL	3-10-09	1250	X	X	X							A5
J18JD2	SOIL	3-10-09	1253	X	X	X							A6
J18JD3	SOIL	3-10-09	1105	X	X	X							A7
J18JD4	SOIL	3-10-09	1255	X	X	X							A8

000032

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Don Petersen	3/10/09 14:45	JRDeBruijn JRDeBruijn	3-10-09 1445
Relinquished By/Removed From: JRDeBruijn JRDeBruijn	3-10-09 1600	J.E. Benbow	3-10-09 1600
Relinquished By/Removed From: J.E. Benbow	3-11-09 0930	Mm Sh M	031109 0930
Relinquished By/Removed From: Mm Sh M	031109 1530	Matthew T Bland	3-12-09/09:00
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium~~, ~~Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc}; Mercury - 7470 - (CV) {Mercury} JRD 2/25/09

SDG# J00377 MFH 3-13-09

Matrix *

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

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

WCH-EE-011

TestAmerica

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-039	Page 1 of 3
Collector: D.W.Shea//subcontractor	Company Contact: D.W.Shea; Telephone No.: 521-6014	Project Coordinator: KESSNER, JH	Price Code: 8L; Data Turnaround: 21 Day
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-56:2 Area B Verification	SAF No.: RC-075	
Ice Chest No.	Field Logbook No.: EL-1607-#5 JRD 3/10/09; COA R00D562000 ~~R00562000~~ JRD 3/10/09	Method of Shipment: Fed EX	
Shipped To: EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	IC Anions - 300.0; ~~pH - (Soil) - 9045~~ JRD 3/5/09								

Sample No.	Matrix *	Sample Date	Sample Time											
J18JD9	SOIL	3-10-09	1309	X	X	X								B1
J18JF0	SOIL	3-10-09	1311	X	X	X								B2
J18JF1	SOIL	3-10-09	1040	X	X	X								B3
J18JF2	SOIL	3-10-09	1300	X	X	X								B4
J18JF3	SOIL	3-10-09	1327	X	X	X								B5

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DW Shea	3/10/09 1415	JRD Dubyne JRD Dubyne	3-10-09 1445
JRD Dubyne JRD Dubyne	3/10/09 1600	J.E. Benton	3-10-09 1600
J.E. Benton	3-11-09 0930	Nm. Th. N	031109 0930
Nm. Th. N	031109 1530	Matthew J. Hrand	3-12-09 0900

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) [~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium~~, ~~Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc]; Mercury - 7470 - (CV) (Mercury) JRD 2/25/09

SDG# J00377 MFH 3-13-09

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

TestAmerica

J00033

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-039	Page 3 of 3

Collector: D.W.Shea//subcontractor Don Petersen	Company Contact: D.W.Shea	Telephone No.: 521-6014	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Day		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-56:2 Area B Verification		SAF No.: RC-075
Ice Chest No.	Field Logbook No.: EL-1607-~~145~~ JRD 3/10/09	COA R00D562000 ~~R00562000~~ JRD 3/10/09	Method of Shipment: Fed EX
Shipped To: EBERLINE SERVICES / LIONVILLE TA	Offsite Property No.		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	250mL	60mL	250mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 300.0; ~~pH (Soil) - 9045~~ JRD 3/5/09								

Sample No.	Matrix *	Sample Date	Sample Time											
J18JF9	SOIL	3-10-09	1410	X	X	X								B11
J18JH0	SOIL	3-10-09	1007	X	X	X								B12
J18JH1	SOIL	3-10-09	1007	X	X	X								B12D

0600.34

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Don Petersen DP	3/10/09 14:45	JRDeBruin JRDeBruin	14:45 3-10-09
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JRDeBruin JRDeBruin	1600 3-10-09	J. E. Bernhart	1600 3-10-09
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. E. Bernhart	0930 3-11-09	Nm Sh NY	031109 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Nm Sh NY	031109 1530	Matthew Howard	3-12-09 09:00
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 - 6010 (Client List) {~~Aluminum~~, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, ~~Calcium~~, Chromium, Cobalt, Copper, ~~Iron~~, Lead, ~~Lithium~~, ~~Magnesium~~, Manganese, Molybdenum, Nickel, ~~Potassium~~, Selenium, ~~Silicon~~, Silver, ~~Sodium~~, Vanadium, Zinc}; Mercury - 7470 - (CV) {Mercury}

JRD 2/25/09

SDG# J003777 mfH 3-13-09

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
Ti=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

TestAmerica

Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-P-56:2		DATA PACKAGE: J00377	
VALIDATOR: ELR	LAB: TA		DATE: 4/27/09
		SDG: J00377	

ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide		

SAMPLES/MATRIX				
J18JC5	J18JC6	J18JC7	J18JC8	J18JC9
J18JD0	J18JD1	J18JD2	J18JD3	J18JD4
J18JD9	J18JF0	J18JF1	J18JF2	J18JF3
J18JF4	J18JH0	J18JH1		
				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: CS - lead - UJ

FB - barium, chromium, copper, manganese, nickel, vanadium, zinc

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: no PAs

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

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

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

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

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

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

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

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

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

Comments: _____

6. ICP QUALITY CONTROL (Levels D and E)

ICP serial dilution samples analyzed? ..... Yes No N/A

ICP serial dilution %D values acceptable? ..... Yes No N/A

ICP post digestion spike required? ..... Yes No N/A

ICP post digestion spike values acceptable? ..... Yes No N/A

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

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

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

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

7. FURNACE AA QUALITY CONTROL (Levels D and E)

Duplicate injections performed as required? ..... Yes No N/A

Duplicate injection %RSD values acceptable? ..... Yes No N/A

Analytical spikes performed as required? ..... Yes No N/A

Analytical spike recoveries acceptable? ..... Yes No N/A

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

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

MSA performed as required? ..... Yes No N/A

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

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

Comments: _____

8. HOLDING TIMES (all levels)

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

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

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

9. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

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

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

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

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

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

Comments: _____

Appendix 6

Additional Documentation Requested by Client

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC
Metals Method Blank Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Lab Sample ID: D9C130000-282B **Work Order:** K8HE1 **Analysis Method:** 6010B TOTAL **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	0.38	0.38	1.5	U	03/19/09	03/19/09 21:38	1
9072282	Arsenic	0.66	0.66	2.0	U	03/19/09	03/19/09 21:38	1
9072282	Lead	0.32	0.27	0.80	B	03/19/09	03/19/09 21:38	1
9072282	Manganese	0.10	0.10	1.0	U	03/19/09	03/19/09 21:38	1
9072282	Molybdenum	0.26	0.26	2.0	U	03/19/09	03/19/09 21:38	1
9072282	Barium	0.076	0.076	1.0	U	03/19/09	03/19/09 21:38	1
9072282	Nickel	0.12	0.12	4.0	U	03/19/09	03/19/09 21:38	1
9072282	Beryllium	0.033	0.033	0.50	U	03/19/09	03/19/09 21:38	1
9072282	Selenium	0.86	0.86	1.3	U	03/19/09	03/19/09 21:38	1
9072282	Silver	0.16	0.16	1.0	U	03/19/09	03/19/09 21:38	1
9072282	Vanadium	0.094	0.094	2.0	U	03/19/09	03/19/09 21:38	1
9072282	Zinc	0.40	0.40	1.0	U	03/19/09	03/19/09 21:38	1
9072282	Chromium	0.058	0.058	1.0	U	03/19/09	03/19/09 21:38	1
9072282	Boron	0.98	0.98	2.0	U	03/19/09	03/19/09 21:38	1
9072282	Cadmium	0.041	0.041	0.50	U	03/19/09	03/19/09 21:38	1
9072282	Cobalt	0.10	0.10	1.0	U	03/19/09	03/19/09 21:38	1
9072282	Copper	0.22	0.22	1.0	U	03/19/09	03/19/09 21:38	1

Lab Sample ID: D9C130000-224B **Work Order:** K8GX0 **Analysis Method:** 7471A TOTAL **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	Conc.	MDL	RL	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.0055	0.0055	0.017	U	03/24/09	03/24/09 13:03	1

000042

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Laboratory Control Sample Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Lab Sample ID: D9C130000-282C **WorkOrder:** K8HE1 **Analysis Method:** 6010B TOTAL **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9072282	Antimony	50.0	45.6	91		82 - 110	03/19/09	03/19/09 21:42	1
9072282	Arsenic	100	92.3	92		85 - 110	03/19/09	03/19/09 21:42	1
9072282	Lead	50.0	46.8	94		86 - 110	03/19/09	03/19/09 21:42	1
9072282	Manganese	50.0	46.7	93		88 - 110	03/19/09	03/19/09 21:42	1
9072282	Molybdenum	100	94.7	95		86 - 110	03/19/09	03/19/09 21:42	1
9072282	Barium	200	193	97		87 - 112	03/19/09	03/19/09 21:42	1
9072282	Nickel	50.0	47.0	94		87 - 110	03/19/09	03/19/09 21:42	1
9072282	Beryllium	5.00	4.68	94		84 - 114	03/19/09	03/19/09 21:42	1
9072282	Selenium	200	189	95		83 - 110	03/19/09	03/19/09 21:42	1
9072282	Silver	5.00	4.59	92		87 - 114	03/19/09	03/19/09 21:42	1
9072282	Vanadium	50.0	47.7	95		88 - 110	03/19/09	03/19/09 21:42	1
9072282	Zinc	50.0	48.1	96		76 - 114	03/19/09	03/19/09 21:42	1
9072282	Chromium	20.0	19.1	95		84 - 114	03/19/09	03/19/09 21:42	1
9072282	Boron	100	93.1	93		81 - 110	03/19/09	03/19/09 21:42	1
9072282	Cadmium	10.0	9.41	94		87 - 110	03/19/09	03/19/09 21:42	1
9072282	Cobalt	50.0	46.6	93		87 - 110	03/19/09	03/19/09 21:42	1
9072282	Copper	25.0	24.0	96		88 - 110	03/19/09	03/19/09 21:42	1

Lab Sample ID: D9C130000-224C **WorkOrder:** K8GX0 **Analysis Method:** 7471A TOTAL **Matrix:** SOLID **Unit:** mg/kg

QC Batch	Analyte	True	Found	%Rec	Q	Limits	Prep Date	Analysis Date	Dilution
9072224	Mercury	0.417	0.419	100		87 - 111	03/24/09	03/24/09 14:02	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Matrix Spike Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 6010B TOTAL **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9072282

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Antimony	50.1	0.38	U	44.1	87		20 - 200	03/19/09	03/19/09 21:53	1
Arsenic	100	0.66	U	90.4	90		76 - 111	03/19/09	03/19/09 21:53	1
Barium	200	1.7		193	96		52 - 159	03/19/09	03/19/09 21:53	1
Beryllium	5.01	0.033	U	4.60	91		72 - 105	03/19/09	03/19/09 21:53	1
Boron	100	0.98	U	88.9	89		75 - 107	03/19/09	03/19/09 21:53	1
Cadmium	10.0	0.041	U	9.07	91		40 - 130	03/19/09	03/19/09 21:53	1
Chromium	20.0	0.17	B	18.5	92		70 - 200	03/19/09	03/19/09 21:53	1
Cobalt	50.1	0.10	U	45.0	90		72 - 106	03/19/09	03/19/09 21:53	1
Copper	25.0	0.22	B M	23.4	93		37 - 187	03/19/09	03/19/09 21:53	1
Lead	50.1	0.46	B C	45.7	90		70 - 200	03/19/09	03/19/09 21:53	1
Manganese	50.1	3.4		49.1	91		40 - 200	03/19/09	03/19/09 21:53	1
Molybdenum	100	0.26	U	90.6	90		75 - 103	03/19/09	03/19/09 21:53	1
Nickel	50.1	0.12	U M	45.4	90		61 - 126	03/19/09	03/19/09 21:53	1
Selenium	200	0.86	U	182	91		76 - 104	03/19/09	03/19/09 21:53	1
Silver	5.01	0.16	U	4.47	89		75 - 141	03/19/09	03/19/09 21:53	1
Vanadium	50.1	0.28	B	46.4	92		50 - 169	03/19/09	03/19/09 21:53	1
Zinc	50.1	0.99	B	48.2	94		70 - 200	03/19/09	03/19/09 21:53	1

Client Sample ID: J18JC5 **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001S **Analysis Method** 7471A TOTAL **Matrix:** SOLID **Unit:** mg/kg

QC Batch ID: 9072224

Analyte	Spike Amount	Sample Result	Q	MS Result	% Rec	Q	QC Limit	Prep Date	Analysis Date	Dilution
Mercury	0.417	0.0055	U	0.407	97		87 - 111	03/24/09	03/24/09 13:10	1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Washington Closure Hanford LLC

Metals Duplicate Sample Analysis Data Sheet

Lab Name: TESTAMERICA DENVER **Lot/SDG Number:** D9C120251

Client Sample ID: J18JC5 DUP **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001X **Analysis Method:** 6010B TOTAL **Matrix:** SOLID **Unit:** mg/kg

Batch	Analyte	RPD Limit	Sample Result	Q	Duplicate Result	RPD	Q	Prep Date	Analysis Date	Dilution
9072282	Antimony	40	0.38	U	0.38	0	U	03/19/09	03/19/09 21:56	1
9072282	Arsenic	30	0.66	U	0.66	0	U	03/19/09	03/19/09 21:56	1
9072282	Lead	40	0.46	B C	0.40	13	B C	03/19/09	03/19/09 21:56	1
9072282	Manganese	40	3.4		3.5	3.7		03/19/09	03/19/09 21:56	1
9072282	Molybdenum	30	0.26	U	0.26	0	U	03/19/09	03/19/09 21:56	1
9072282	Barium	30	1.7		1.7	5.2		03/19/09	03/19/09 21:56	1
9072282	Nickel	30	0.12	U M	0.44	200	B M	03/19/09	03/19/09 21:56	1
9072282	Beryllium	30	0.033	U	0.033	0	U	03/19/09	03/19/09 21:56	1
9072282	Selenium	30	0.86	U	0.86	0	U	03/19/09	03/19/09 21:56	1
9072282	Silver	30	0.16	U	0.16	0	U	03/19/09	03/19/09 21:56	1
9072282	Vanadium	30	0.28	B	0.32	11	B	03/19/09	03/19/09 21:56	1
9072282	Zinc	40	0.99	B	0.90	10	B	03/19/09	03/19/09 21:56	1
9072282	Chromium	40	0.17	B	0.15	13	B	03/19/09	03/19/09 21:56	1
9072282	Boron	30	0.98	U	0.98	0	U	03/19/09	03/19/09 21:56	1
9072282	Cadmium	30	0.041	U	0.041	0	U	03/19/09	03/19/09 21:56	1
9072282	Cobalt	30	0.10	U	0.10	0	U	03/19/09	03/19/09 21:56	1
9072282	Copper	30	0.22	B M	0.22	200	U M	03/19/09	03/19/09 21:56	1

Client Sample ID: J18JC5 DUP **Lab WorkOrder:** K8FFJ **% Moisture:** 0.12 **Basis:** Dry

Lab Sample ID: D9C120251-001X **Analysis Method:** 7471A TOTAL **Matrix:** SOLID **Unit:** mg/kg

Batch	Analyte	RPD Limit	Sample Result	Q	Duplicate Result	RPD	Q	Prep Date	Analysis Date	Dilution
9072224	Mercury	20	0.0055	U	0.0055	0	U	03/24/09	03/24/09 13:12	1