

**SAF-RC-182**  
**ARRA 100-F Remaining Sites**  
**Remediation – Soil In-Process**  
**FINAL DATA PACKAGE**

**COMPLETE COPY OF DATA PACKAGE TO:**

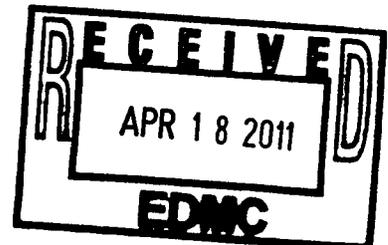
Kathy Wendt      H4-21      KW 4/14/11  
INITIAL/DATE

**COMMENTS:**

**SDG J01045      SAF-RC-182**

Rad only       Chem only      Rad & Chem  
 Complete      Partial

**Sample Location: 100-F 600-351 Pre-Verification**



## ANALYTICAL REPORT

Job Number: 280-13668-1

SDG Number: J01045

Job Description: SAF# RC-182

For:

Washington Closure Hanford

2620 Fermi Avenue

Richland, WA 99354

Attention: Joan H Kessner



Handwritten signature of Kae E. Yoder.

Approved for release.  
Kae E Yoder  
Project Manager II  
4/9/2011 3:25 PM

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Kae E Yoder  
Project Manager II  
kae.yoder@testamericainc.com  
04/09/2011

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.

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## CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-13668-1

SDG #: J01045

SAF#: RC-182

Date SDG Closed: March 18, 2011

Data Deliverable: 15 Day / Summary

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>ANALYSES REQUESTED</u>	<u>ANALYSES PERFORMED</u>
J1FKV9	280-13668-1	6010/7471/1311-6010-7470	6010B/7471A
J1FKW0	280-13668-2	6010/7471/1311-6010-7470	6010B/7471A

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

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

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

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

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

### RECEIPT

The samples were received on 3/18/2011; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 2.4 C, 2.7 C, 3.4 C and 4.7 C.

Samples requesting TCLP Metals 1311/6010B/7470A analyses were leached and placed on hold, as instructed on the chain-of-custody. On 4/6/2011, the client instructed the laboratory to cancel all requested TCLP analyses.

### TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-58373 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Low levels of Chromium are present in the method blank associated with batch 280-58373. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, Lead and Manganese in the Matrix Spike performed on sample J1FKV9; therefore, control limits are not applicable.

The Matrix Spike performed on sample J1FKV9 exhibited percent recoveries outside the control limits for Arsenic and Silicon, and the associated sample results have been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

## DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

Lab Section	Qualifier	Description
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.

## METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

Description	Lab Location	Method	Preparation Method
<b>Matrix: Solid</b>			
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
ASTM D-2216	TAL DEN	ASTM D-2216	

### Lab References:

TAL DEN = TestAmerica Denver

### Method References:

ASTM = ASTM International

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**METHOD / ANALYST SUMMARY**

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

<b>Method</b>	<b>Analyst</b>	<b>Analyst ID</b>
SW846 6010B	Harre, John K	JKH
SW846 7471A	Stoltz, Katie	KS
ASTM D-2216	Berry III, Paul B	PBB

## SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Client Matrix</u>	<u>Date/Time Sampled</u>	<u>Date/Time Received</u>
280-13668-1	J1FKV9	Solid	03/16/2011 1420	03/18/2011 0930
280-13668-2	J1FKW0	Solid	03/16/2011 1425	03/18/2011 0930

# **SAMPLE RESULTS**

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

Client Sample ID: J1FKV9

Lab Sample ID: 280-13668-1

Date Sampled: 03/16/2011 1420

Client Matrix: Solid

% Moisture: 7.8

Date Received: 03/18/2011 0930

**6010B Metals (ICP)**

Analysis Method: 6010B      Analysis Batch: 280-58848      Instrument ID: MT\_025  
Prep Method: 3050B      Prep Batch: 280-58373      Lab File ID: 25A2032211.asc  
Dilution: 1.0      Initial Weight/Volume: 1.12 g  
Analysis Date: 03/22/2011 1602      Final Weight/Volume: 100 mL  
Prep Date: 03/21/2011 1400

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		11300		1.5	4.8
Antimony		0.37	U	0.37	0.58
Arsenic		397	X N	0.64	0.97
Barium		106		0.074	0.48
Beryllium		0.27		0.032	0.19
Boron		1.5	B	0.95	1.9
Cadmium		1.0		0.040	0.19
Calcium		4290		13.7	48.4
Chromium		11.3	X	0.056	0.19
Cobalt		8.3	X	0.097	0.97
Copper		17.1		0.21	0.97
Iron		21300		3.7	4.8
Lead		1320	X	0.26	0.48
Magnesium		4770	X	3.6	19.4
Manganese		401	X	0.097	0.97
Molybdenum		0.25	U	0.25	1.9
Nickel		12.3	X	0.12	3.9
Potassium		2100		39.7	291
Selenium		0.83	U	0.83	0.97
Silicon		151	N	5.5	9.7
Silver		0.15	U	0.15	0.19
Sodium		286		57.2	116
Vanadium		43.4		0.091	1.9
Zinc		58.6	X	0.39	0.97

**7471A Mercury (CVAA)**

Analysis Method: 7471A      Analysis Batch: 280-59347      Instrument ID: MT\_033  
Prep Method: 7471A      Prep Batch: 280-59156      Lab File ID: 110324AB.txt  
Dilution: 1.0      Initial Weight/Volume: 0.64 g  
Analysis Date: 03/24/2011 1551      Final Weight/Volume: 50 mL  
Prep Date: 03/24/2011 1345

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

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

Client Sample ID: J1FKW0

Lab Sample ID: 280-13668-2

Date Sampled: 03/16/2011 1425

Client Matrix: Solid

% Moisture: 7.7

Date Received: 03/18/2011 0930

**6010B Metals (ICP)**

Analysis Method:	6010B	Analysis Batch:	280-58848	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-58373	Lab File ID:	25A2032211.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	03/22/2011 1612			Final Weight/Volume:	100 mL
Prep Date:	03/21/2011 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10200		1.5	4.9
Antimony		0.37	U	0.37	0.59
Arsenic		36.4	X	0.65	0.98
Barium		97.8		0.075	0.49
Beryllium		0.24		0.032	0.20
Boron		1.2	B	0.96	2.0
Cadmium		0.17	B	0.040	0.20
Calcium		3930		13.9	49.2
Chromium		11.2	X	0.057	0.20
Cobalt		8.2	X	0.098	0.98
Copper		15.0		0.21	0.98
Iron		20600		3.7	4.9
Lead		73.6	X	0.27	0.49
Magnesium		4840	X	3.6	19.7
Manganese		374	X	0.098	0.98
Molybdenum		0.26	U	0.26	2.0
Nickel		13.0	X	0.12	3.9
Potassium		2020		40.4	295
Selenium		0.85	U	0.85	0.98
Silicon		259		5.6	9.8
Silver		0.16	U	0.16	0.20
Sodium		222		58.1	118
Vanadium		44.1		0.093	2.0
Zinc		45.0	X	0.39	0.98

**7471A Mercury (CVAA)**

Analysis Method:	7471A	Analysis Batch:	280-59347	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-59156	Lab File ID:	110324AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Analysis Date:	03/24/2011 1557			Final Weight/Volume:	50 mL
Prep Date:	03/24/2011 1345				

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

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

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**General Chemistry**

Client Sample ID: J1FKV9

Lab Sample ID: 280-13668-1

Client Matrix: Solid

Date Sampled: 03/16/2011 1420

Date Received: 03/18/2011 0930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	7.8		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-58330		Analysis Date: 03/18/2011 1506				DryWt Corrected: N	

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

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**General Chemistry**

**Client Sample ID:** J1FKW0

Lab Sample ID: 280-13668-2

Client Matrix: Solid

Date Sampled: 03/16/2011 1425

Date Received: 03/18/2011 0930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	7.7		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-58330      Analysis Date: 03/18/2011 1506      DryWt Corrected: N

# QUALITY CONTROL RESULTS

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Prep Batch: 280-58373</b>					
LCS 280-58373/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-58373/1-A	Method Blank	T	Solid	3050B	
280-13668-1	J1FKV9	T	Solid	3050B	
280-13668-1DU	Duplicate	T	Solid	3050B	
280-13668-1MS	Matrix Spike	T	Solid	3050B	
280-13668-2	J1FKW0	T	Solid	3050B	
<b>Analysis Batch:280-58848</b>					
LCS 280-58373/2-A	Lab Control Sample	T	Solid	6010B	280-58373
MB 280-58373/1-A	Method Blank	T	Solid	6010B	280-58373
280-13668-1	J1FKV9	T	Solid	6010B	280-58373
280-13668-1DU	Duplicate	T	Solid	6010B	280-58373
280-13668-1MS	Matrix Spike	T	Solid	6010B	280-58373
280-13668-2	J1FKW0	T	Solid	6010B	280-58373
<b>Prep Batch: 280-59156</b>					
LCS 280-59156/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-59156/1-A	Method Blank	T	Solid	7471A	
280-13668-1	J1FKV9	T	Solid	7471A	
280-13668-1DU	Duplicate	T	Solid	7471A	
280-13668-1MS	Matrix Spike	T	Solid	7471A	
280-13668-2	J1FKW0	T	Solid	7471A	
<b>Analysis Batch:280-59347</b>					
LCS 280-59156/2-A	Lab Control Sample	T	Solid	7471A	280-59156
MB 280-59156/1-A	Method Blank	T	Solid	7471A	280-59156
280-13668-1	J1FKV9	T	Solid	7471A	280-59156
280-13668-1DU	Duplicate	T	Solid	7471A	280-59156
280-13668-1MS	Matrix Spike	T	Solid	7471A	280-59156
280-13668-2	J1FKW0	T	Solid	7471A	280-59156
<b>Report Basis</b>					
T = Total					
<b>General Chemistry</b>					
<b>Analysis Batch:280-58330</b>					
280-13668-1	J1FKV9	T	Solid	D-2216	
280-13668-1DU	Duplicate	T	Solid	D-2216	
280-13668-2	J1FKW0	T	Solid	D-2216	
<b>Report Basis</b>					
T = Total					

TestAmerica Denver

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

**Method Blank - Batch: 280-58373**

**Method: 6010B**  
**Preparation: 3050B**

Lab Sample ID: MB 280-58373/1-A  
Client Matrix: Solid  
Dilution: 1.0  
Analysis Date: 03/22/2011 1558  
Prep Date: 03/21/2011 1400  
Leach Date: N/A

Analysis Batch: 280-58848  
Prep Batch: 280-58373  
Leach Batch: N/A  
Units: mg/Kg

Instrument ID: MT\_025  
Lab File ID: 25A2032211.asc  
Initial Weight/Volume: 1.0 g  
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.0650	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

**Lab Control Sample - Batch: 280-58373**

**Method: 6010B**  
**Preparation: 3050B**

Lab Sample ID: LCS 280-58373/2-A	Analysis Batch: 280-58848	Instrument ID: MT_025
Client Matrix: Solid	Prep Batch: 280-58373	Lab File ID: 25A2032211.asc
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 1.0 g
Analysis Date: 03/22/2011 1600	Units: mg/Kg	Final Weight/Volume: 100 mL
Prep Date: 03/21/2011 1400		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	186.9	93	82 - 116	
Antimony	50.0	48.32	97	82 - 110	
Arsenic	100	95.13	95	85 - 110	
Barium	200	203.5	102	87 - 112	
Beryllium	5.00	4.82	96	84 - 114	
Boron	100	96.55	97	81 - 110	
Cadmium	10.0	10.29	103	87 - 110	
Calcium	5000	4862	97	82 - 114	
Chromium	20.0	20.22	101	84 - 114	
Cobalt	50.0	49.22	98	87 - 110	
Copper	25.0	26.69	107	88 - 110	
Iron	100	101.3	101	87 - 120	
Lead	50.0	50.05	100	86 - 110	
Magnesium	5000	4862	97	90 - 110	
Manganese	50.0	50.28	101	88 - 110	
Molybdenum	100	101.8	102	86 - 110	
Nickel	50.0	49.26	99	87 - 110	
Potassium	5000	5059	101	89 - 110	
Selenium	200	203.5	102	83 - 110	
Silicon	1000	171.1	17	10 - 70	
Silver	5.00	5.14	103	87 - 114	
Sodium	5000	5170	103	90 - 112	
Vanadium	50.0	51.02	102	88 - 110	
Zinc	50.0	47.91	96	76 - 114	

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

**Matrix Spike - Batch: 280-58373**

**Method: 6010B**  
**Preparation: 3050B**

Lab Sample ID: 280-13668-1	Analysis Batch: 280-58848	Instrument ID: MT_025
Client Matrix: Solid	Prep Batch: 280-58373	Lab File ID: 25A2032211.asc
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 1.03 g
Analysis Date: 03/22/2011 1609	Units: mg/Kg	Final Weight/Volume: 100 mL
Prep Date: 03/21/2011 1400		
Leach Date: N/A		

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	11300	211	13790	1176	50 - 200	4
Antimony	0.37 U	52.7	17.08	32	20 - 200	
Arsenic	397	105	617.5	209	76 - 111	N
Barium	106	211	310.3	97	52 - 159	
Beryllium	0.27	5.27	4.93	89	72 - 105	
Boron	1.5 B	105	90.21	84	75 - 107	
Cadmium	1.0	10.5	11.28	97	40 - 130	
Calcium	4290	5270	9826	105	43 - 165	
Chromium	11.3	21.1	32.87	102	70 - 200	
Cobalt	8.3	52.7	54.73	88	72 - 106	
Copper	17.1	26.3	43.41	100	37 - 187	
Iron	21300	105	21820	524	70 - 200	4
Lead	1320	52.7	1805	928	70 - 200	4
Magnesium	4770	5270	10030	100	64 - 145	
Manganese	401	52.7	453.4	99	40 - 200	4
Molybdenum	0.25 U	105	92.29	88	75 - 103	
Nickel	12.3	52.7	59.34	89	61 - 126	
Potassium	2100	5270	7296	99	56 - 172	
Selenium	0.83 U	211	193.6	92	76 - 104	
Silicon	151	1050	347.8	19	20 - 200	N
Silver	0.15 U	5.27	5.10	97	75 - 141	
Sodium	286	5270	5589	101	78 - 111	
Vanadium	43.4	52.7	94.76	97	50 - 169	
Zinc	58.6	52.7	106.5	91	70 - 200	

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-13668-1

Sdg Number: J01045

**Duplicate - Batch: 280-58373**

**Method: 6010B**

**Preparation: 3050B**

Lab Sample ID: 280-13668-1  
 Client Matrix: Solid  
 Dilution: 1.0  
 Analysis Date: 03/22/2011 1607  
 Prep Date: 03/21/2011 1400  
 Leach Date: N/A

Analysis Batch: 280-58848  
 Prep Batch: 280-58373  
 Leach Batch: N/A  
 Units: mg/Kg

Instrument ID: MT\_025  
 Lab File ID: 25A2032211.asc  
 Initial Weight/Volume: 1.02 g  
 Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Aluminum	11300	11120	2	40	
Antimony	0.37 U	0.40	NC	40	U
Arsenic	397	434.2	9	30	
Barium	106	103.7	2	30	
Beryllium	0.27	0.264	2	30	
Boron	1.5 B	1.35	9	30	B
Cadmium	1.0	1.14	9	30	
Calcium	4290	4396	3	30	
Chromium	11.3	11.42	0.6	40	
Cobalt	8.3	8.28	0.04	30	
Copper	17.1	16.65	3	30	
Iron	21300	21080	0.9	40	
Lead	1320	1351	3	40	
Magnesium	4770	4739	0.7	30	
Manganese	401	388.2	3	40	
Molybdenum	0.25 U	0.28	NC	30	U
Nickel	12.3	12.48	2	30	
Potassium	2100	2094	0.3	40	
Selenium	0.83 U	0.91	NC	30	U
Silicon	151	149.6	1	40	
Silver	0.15 U	0.17	NC	30	U
Sodium	286	293.8	3	30	
Vanadium	43.4	43.92	1	30	
Zinc	58.6	59.07	0.7	40	

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

**Method Blank - Batch: 280-59156**

**Method: 7471A**  
**Preparation: 7471A**

Lab Sample ID:	MB 280-59156/1-A	Analysis Batch:	280-59347	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59156	Lab File ID:	110324AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	03/24/2011 1545	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/24/2011 1345				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

**Lab Control Sample - Batch: 280-59156**

**Method: 7471A**  
**Preparation: 7471A**

Lab Sample ID:	LCS 280-59156/2-A	Analysis Batch:	280-59347	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59156	Lab File ID:	110324AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	03/24/2011 1548	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/24/2011 1345				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.431	103	87 - 111	

**Matrix Spike - Batch: 280-59156**

**Method: 7471A**  
**Preparation: 7471A**

Lab Sample ID:	280-13668-1	Analysis Batch:	280-59347	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59156	Lab File ID:	110324AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.62 g
Analysis Date:	03/24/2011 1555	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/24/2011 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0056 U	0.437	0.433	99	87 - 111	

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

**Duplicate - Batch: 280-59156**

**Method: 7471A**  
**Preparation: 7471A**

Lab Sample ID:	280-13668-1	Analysis Batch:	280-59347	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59156	Lab File ID:	110324AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.66 g
Analysis Date:	03/24/2011 1553	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/24/2011 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.0056 U	0.00682	NC	20	B

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-13668-1  
Sdg Number: J01045

**Duplicate - Batch: 280-58330**

**Method: D-2216**  
**Preparation: N/A**

Lab Sample ID: 280-13668-1  
Client Matrix: Solid  
Dilution: 1.0  
Analysis Date: 03/18/2011 1506  
Prep Date: N/A  
Leach Date: N/A

Analysis Batch: 280-58330  
Prep Batch: N/A  
Leach Batch: N/A  
Units: %

Instrument ID: No Equipment  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	7.8	7.7	1	20	

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-182-064		Page 1 of 1	
Collector Ojeda, AJ	Company Contact JL Russell	Telephone No. 509-540-6502	Project Coordinator KESSNER, JH	Price Code -8E	JR 3/16/11 Data Turnaround				
Project Designation ARRA 100F Remaining Sites Remediation - Soil In-Process	Sampling Location 100 F-600-351 PREVERIFICATION		SAF No. RC-182	8K	-21 Days 15 Days				
Ice Chest No. ERC-02-002	Field Logbook No. EL-1651	COA S11FX6Y000	Method of Shipment FedEx						
Shipped To TestAmerica Incorporated, Richland Denver	Offsite Property No. NA	Bill of Lading/Air Bill No. 7968 8392 9225 7968 8136 8646 3-7-11							
POSSIBLE SAMPLE HAZARDS/REMARKS None									
Special Handling and/or Storage Cool 4 degrees C									
SAMPLE ANALYSIS									
Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Cool 4C	None			
J1FKV9	SOIL	3-16-11	1420		G/P	G/P			
J1FKW0	SOIL	3-16-11	1425			1			
					60mL	120mL			
					See item (1) in Special Instructions.	See item (2) in Special Instructions.			
CHAIN OF POSSESSION									
Relinquished By/Removed From A. Freier	Date/Time 3/16/11 0945	Received By/Stored In JL Russell	Date/Time 3/16/11 1440						
Relinquished By/Removed From A. Freier	Date/Time 3/16/11 1530	Received By/Stored In A. Freier	Date/Time 3-16-11 1530						
Relinquished By/Removed From A. Freier	Date/Time 3-17-11	Received By/Stored In FedEx	Date/Time						
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time						
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time						
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time						
LABORATORY SECTION	Received By	Title							
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By							
<p>SPECIAL INSTRUCTIONS</p> <p>Please leach and hold TCLP metals, per Joan Kessner</p> <p>(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (Mercury)</p> <p>(2) Metals by ICP (TCLP) - 1311/6010 (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 (Mercury)</p> <p>SWG# J01045</p> <p>REVIEWED BY JEA DATE 3-17-11</p>									
Matrix *									
S-Soil SE-Sediment SQ-Solid SH-Sludge W-Water O-Oil A-Air DS-Drum Solids DL-Drum Liquids T-Tissue WF-Wipe L-Liquid V-Vegetation X-Other									

Analytical Due:

Report Due: 4/14/11 (Rush 11 day TAT)

### Sample Check-in List

Date/Time Received: 3/18/11 0930 GM Screen Result 15 microR/hr

Client: Washington Closure Hanford SDG #: 501045 NA [ ] SAF #: RC-182 NA [ ]

Job Number: -13668 Chain of Custody # RC-182 -064

Shipping Container ID: AF5-04-120 ERC-02-002 Air Bill # 796883929225 796883929420  
GWS-132 GWS-130 79688392 9270 796883929523

1. Custody Seals on shipping container intact? NA [ ] Yes  No [ ]
2. Custody Seals dated and signed? NA [ ] Yes  No [ ]
3. Chain of Custody record present? NA [ ] Yes [ ] No [ ]
4. Cooler Temperature °C: 2.4, 2.7, 3.4, 4.7 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet  Dry [ ]
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA [ ] Yes [ ] No
8. Samples have:
  - Tape
  - Custody Seals
  - Hazard Labels
  - Appropriate Sample Labels
9. Samples are:
  - In Good Condition
  - Broken
  - Leaking
  - Have Air Bubbles

(Only for samples requiring no head space.)
10. Sample pH taken? NA  pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO<sub>3</sub> Added \_\_\_\_\_
11. Sample Location, Sample Collector Listed? \*  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: [Signature] Date: 3/18/11

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary; process as is.

Project Manager [Signature] Date 3/21/11

From: (509) 375-4640      Origin ID: PSCA  
 WCH MAILROOM  
 WASHINGTON CLOSURE HANFORD  
 2620 FERMI AVE  
 RICHLAND, WA 99354



Ship Date: 17MAR11  
 Act/Vgt: 80.0 LB  
 CAD: 8897843/INET3130

Delivery Address Bar Code



SHIP TO: (303) 736-0100  
**Sample Recieving**  
**Test America Denver**  
**4955 YARROW ST**

BILL SENDER

Ref #  
 Invoice #  
 PO #  
 Dept #

ARVADA, CO 80002

1 of 4

FRI - 18 MAR A1  
 PRIORITY OVERNIGHT

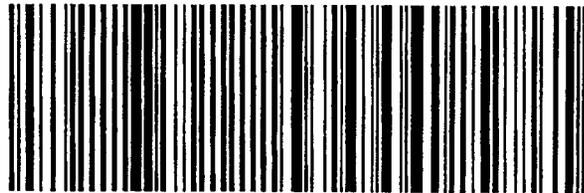
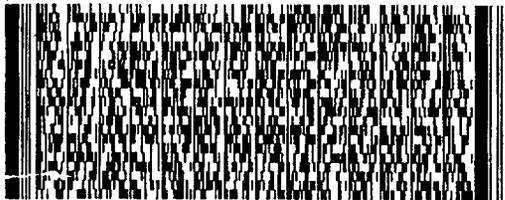
TRK# 7968 8392 9225

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## MASTER ##

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S0DG2/BDD9/7EF8

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 WASHINGTON CLOSURE HANFORD  
 2620 FERMI AVE  
 RICHLAND, WA 99354

Origin ID: PSCA



J11101012220225

Ship Date: 17MAR11  
 ActWgt: 48.0 LB  
 CAD: 8897843/NET3130

Delivery Address Bar Code



SHIP TO: (303) 736-0100  
**Sample Recieving**  
**Test America Denver**  
**4955 YARROW ST**  
  
**ARVADA, CO 80002**

BILL SENDER

Ref #  
 Invoice #  
 PO #  
 Dept #

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**FRI - 18 MAR A1**  
**PRIORITY OVERNIGHT**

MPS# 7968 8392 9270

0263

Mstr# 7968 8392 9225

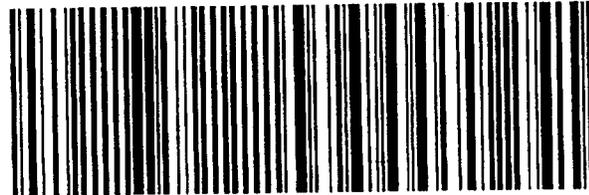
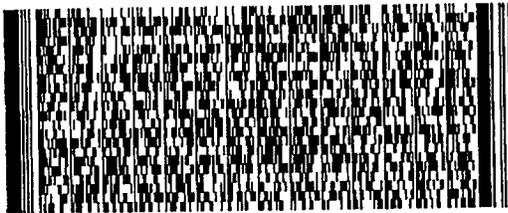
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WCH MAILROOM  
WASHINGTON CLOSURE HANFORD  
2620 FERMI AVE

Origin ID: PSCA



RICHLAND, WA 99354

Ship Date: 17MAR11  
ActWgt: 65.0 LB  
CAD: 8897843/INET3130

Delivery Address Bar Code



J11101012220225

SHIP TO: (303) 736-0100  
**Sample Recieving**  
**Test America Denver**  
**4955 YARROW ST**

BILL SENDER

Ref #  
Invoice #  
PO #  
Dept #

**ARVADA, CO 80002**

3 of 4

**FRI - 18 MAR A1**  
**PRIORITY OVERNIGHT**

MPS# 7968 8392 9420

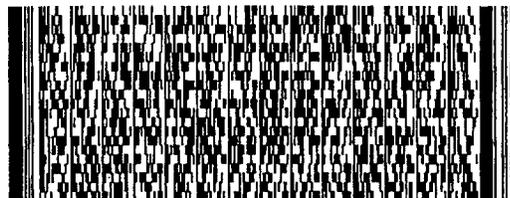
0263

Mstr# 7968 8392 9225

0201

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WASHINGTON CLOSURE HANFORD  
2620 FERMI AVE  
  
RICHLAND, WA 99354

Origin ID: PSCA



J11101012220225

Ship Date: 17MAR11  
ActWgt: 71.0 LB  
CAD: 8897843/INET3130

Delivery Address Bar Code



SHIP TO: (303) 736-0100  
**Sample Receiving  
Test America Denver  
4955 YARROW ST**

BILL SENDER

Ref #  
Invoice #  
PO #  
Dept #

**ARVADA, CO 80002**

4 of 4

**FRI - 18 MAR A1  
PRIORITY OVERNIGHT**

MPS# 7968 8392 9523

0263

Mstr# 7968 8392 9225

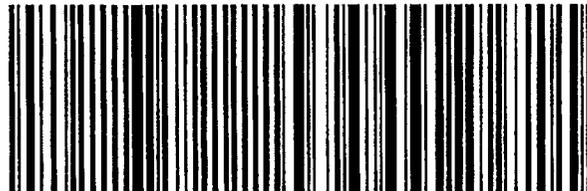
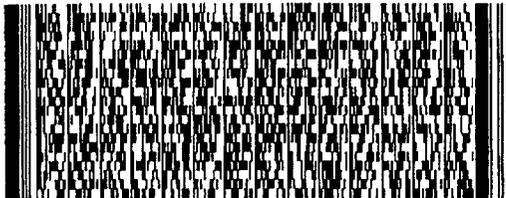
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