

**SAF-RC-040**  
**300 Area D4 Waste Characterization**  
**Sampling - Other Solid**  
**FINAL DATA PACKAGE**

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required

KW 8/17/11  
INITIAL/DATE

COMMENTS:

**SDG MA03246      SAF-RC-040**

Rad only

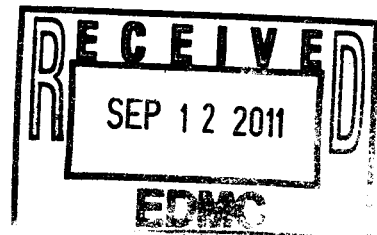
Chem only

Rad & Chem

Complete

Partial

Sample Location/Waste Site: 309 Floor Sheeting



TestAmerica Laboratories, Inc.

## Asbestos PLM Cover Sheet

Sample Date: August 16, 2011  
Receipt Date: August 16, 2011  
Reporting Date: August 16, 2011  
SDG #: MA03246  
SAF#: RC-040  
Data Deliverable: 24 Hour Turn



Customer Sample Number	Laboratory Sample Number	Analytical Batch Identification	Sample Matrix
J1KPK1	MLPNN	1228166	OTHER SOLID

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:

Cameron Kroupa  
Project Management Assistant

||  
||

We certify that the following samples were prepared by Polarized Light Microscopy for asbestos and other fibrous constituents using TestAmerica's procedure, RL-ASB-002. The samples were acceptable upon receipt except where noted. Mountings of fibers observed and representative portions of the material were prepared in one or more appropriate refractive index liquids (1.550, 1.605, 1.680) and examined by Polarized Light Microscopy\*. Estimates of concentration are made on an area basis. The results of the analysis apply only to the portions of materials analyzed and are summarized on the attached Asbestos PLM analysis data sheet. TestAmerica will dispose of all bulk samples after 60 days unless other arrangements are made.

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\*Some samples may contain fibers that are not visible by PLM and can only be discovered by electron microscopy techniques.

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TA Richland  
Asbestos PLM

Analyst:	D. Petty	SOP Information	Method	Batch #	1228166
Analyst Signature:	<i>[Signature]</i>	RL-ASB-002	NIOSH 9002	SDG #	MA03246
Date:	8/16/11	Revision 2			
Sample ID	MLPNN1AA				
Client ID	J1KPK1				
Macroscopic examination					
Sample Description	Multiple Layer Sample: mastic	Multiple Layer Sample: insulation	Multiple Layer Sample: fiber mesh	Multiple Layer Sample: cement	TOTAL SAMPLE *
Homogeneous	Y	Y	Y	Y	N
Color	brown	green	yellow	gray	multi
% Visible Fibers	0	0	100	0	5
PLM Analysis					
Asbestiform Minerals					
% Chrysotile	TRA	TRA	ND	ND	TRA
% Amosite	ND	ND	ND	ND	ND
% Crocidolite	ND	ND	ND	ND	ND
% Tremolite	ND	ND	ND	ND	ND
% Actinolite	ND	ND	ND	ND	ND
% Anthophyllite	ND	ND	ND	ND	ND
% Total Asbestos	TRA	TRA	ND	ND	TRA
Other Materials					
% Cellulose	ND	ND	ND	ND	ND
% Glass Fibers	ND	ND	ND	ND	ND
% Other fibers	ND	ND	100	ND	5
% Non-fibrous	100	100	ND	100	95

Comments:

\* The sample contains 4 distinct homogeneous layers which were analyzed and reported separately.  
The total asbestos content (calculated as weighted average) of the sample is reported as well.

Note: "ND" stands for "None Detected". "TRA" stands for "<1%"

Collector M. Chaves Telephone No. 509 430 7142 Project Coordinator KESSNER, JH  
 Price Code **9K** Data Turnaround 24 M7 Days no 8/16/11  
 Project Designation 300 Area D4 Waste Characterization Sampling - Other Solid Sampling Location 309 Floor Sheeting SAF No. RC-040  
 Ice Chest No. N/A Field Logbook No. EL-1518-23 COA RD4MXX2F00 Method of Shipment Hand Delivered

Shipped To ALS Laboratory Cincinnati Offsite Property No. NA Bill of Lading/Air Bill No. NA

POSSIBLE SAMPLE HAZARDS/REMARKS  
Cadmium, Lead, Chromium  
MA 032416  
J1H 140469  
Due 8.17.11

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	None	Volume	
						Type of Container	No. of Container(s)
J1KP1 MLPUN	OTHER SOLID	8/16/11	1200			5g	
						Asbestos-BULK-EPA	



CHAIN OF POSSESSION		Signatures/Print Names		Date/Time	
Relinquished By/Removed From	<u>Mark Chaves</u>	Received By/Stored In	<u>M. Chaves</u>	Date/Time	<u>12:10 PM 8/16/11</u>
Relinquished By/Removed From	<u>M. Chaves</u>	Received By/Stored In	<u>M. Chaves</u>	Date/Time	<u>12:30 8/16/11</u>
Relinquished By/Removed From		Received By/Stored In		Date/Time	
Relinquished By/Removed From		Received By/Stored In		Date/Time	
Relinquished By/Removed From		Received By/Stored In		Date/Time	
Relinquished By/Removed From		Received By/Stored In		Date/Time	



SPECIAL INSTRUCTIONS

- Matrix \*
- S=Soil
  - SE=Settlement
  - SO=Solid
  - SL=Sludge
  - W=Water
  - CO=Oil
  - A=Air
  - DS=Drum Solids
  - DL=Drum Liquids
  - T=Tar
  - W=Wipe
  - L=Liquid
  - V=Vegetation
  - X=Other

LABORATORY SECTION Received By \_\_\_\_\_ Title \_\_\_\_\_ Date/Time \_\_\_\_\_

FINAL SAMPLE DISPOSITION Disposal Method \_\_\_\_\_ Disposed By \_\_\_\_\_ Date/Time \_\_\_\_\_

## METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Polychlorinated Biphenyls (PCBs) by Gas Chromatography Liquid-Liquid Extraction (Separatory Funnel)	TAL DEN	SW846 8082	SW846 3510C
PAHs (HPLC) Liquid-Liquid Extraction (Separatory Funnel)	TAL DEN	SW846 8310	SW846 3510C
Metals (ICP) Preparation, Total Metals	TAL DEN	SW846 6010B	SW846 3010A
Metals (ICP/MS) Preparation, Total Metals	TAL DEN	SW846 6020	SW846 3020A
Mercury (CVAA) Preparation, Mercury	TAL DEN	SW846 7470A	SW846 7470A

### Lab References:

TAL DEN = TestAmerica Denver

### Method References:

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: 280-18486-1  
Sdg Number: J01187

<b>Method</b>	<b>Analyst</b>	<b>Analyst ID</b>
SW846 8082	Pavlakovich, Adam M	AMP
SW846 6010B	Bowen, Heidi E	HEB
SW846 6020	Lill, Thomas E	TEL
SW846 7470A	Niman, Katie M	KMN
SW846 8310	Hall, Koley J	KJH

### SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
280-18486-1	J1K7K2	Water	07/26/2011 0840	07/27/2011 0900



# SAMPLE RESULTS

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

Client Sample ID: J1K7K2

Lab Sample ID: 280-18486-1

Date Sampled: 07/26/2011 0840

Client Matrix: Water

Date Received: 07/27/2011 0900

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**8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analysis Method:	8082	Analysis Batch:	280-79594	Instrument ID:	GCS_P3
Prep Method:	3510C	Prep Batch:	280-78717	Initial Weight/Volume:	1032.7 mL
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	08/02/2011 1534			Injection Volume:	1 uL
Prep Date:	07/28/2011 0940			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Aroclor 1016	0.12	U	0.12	0.48
Aroclor 1221	0.21	U	0.21	0.48
Aroclor 1232	0.16	U	0.16	0.48
Aroclor 1242	0.10	U	0.10	0.48
Aroclor 1248	0.089	U	0.089	0.48
Aroclor 1254	0.11	U	0.11	0.48
Aroclor 1260	0.15	U	0.15	0.48

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	83		30 - 136
Tetrachloro-m-xylene	80		25 - 120

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

Client Sample ID: J1K7K2

Lab Sample ID: 280-18486-1  
Client Matrix: Water

Date Sampled: 07/26/2011 0840  
Date Received: 07/27/2011 0900

**8310 PAHs (HPLC)**

Analysis Method:	8310	Analysis Batch:	280-79605	Instrument ID:	CHHPLC_G
Prep Method:	3510C	Prep Batch:	280-78709	Initial Weight/Volume:	1017.5 mL
Dilution:	1.0			Final Weight/Volume:	1000 uL
Analysis Date:	08/03/2011 2123			Injection Volume:	20 uL
Prep Date:	07/28/2011 0940			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acenaphthene	0.042	U	0.042	0.98
Acenaphthylene	0.043	U	0.043	0.98
Anthracene	0.060	U	0.060	0.29
Benzo[a]anthracene	0.031	U	0.031	0.20
Benzo[a]pyrene	0.063	J B X	0.052	0.20
Benzo[b]fluoranthene	0.052	U	0.052	0.20
Benzo[g,h,i]perylene	0.020	U	0.020	0.20
Benzo[k]fluoranthene	0.022	U	0.022	0.098
Chrysene	0.028	U	0.028	0.20
Dibenzo(a,h)anthracene	0.054	U	0.054	0.29
Fluoranthene	0.080	U	0.080	0.39
Fluorene	0.098	U	0.098	0.29
Indeno[1,2,3-cd]pyrene	0.046	U N	0.046	0.20
Naphthalene	0.055	U	0.055	0.98
Phenanthrene	0.093	U	0.093	0.29
Pyrene	0.042	U	0.042	0.20
Surrogate	%Rec	Qualifier	Acceptance Limits	
Terphenyl-d14 (SUR)	94		70 - 115	

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

Client Sample ID: J1K7K2

Lab Sample ID: 280-18486-1

Date Sampled: 07/26/2011 0840

Client Matrix: Water

Date Received: 07/27/2011 0900

**6010B Metals (ICP)**

Analysis Method:	6010B	Analysis Batch:	280-80237	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-78745	Lab File ID:	26a080511.asc
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	08/05/2011 1259			Final Weight/Volume:	25 mL
Prep Date:	08/04/2011 1500				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Aluminum	0.095		0.018	0.050
Antimony	0.0031	U	0.0031	0.0060
Arsenic	0.0044	U	0.0044	0.010
Barium	0.0089		0.00058	0.0050
Beryllium	0.00047	U	0.00047	0.0010
Cadmium	0.00045	U	0.00045	0.0020
Calcium	5.9		0.035	0.20
Chromium	0.00066	U	0.00066	0.0020
Copper	0.0021	B C	0.0014	0.010
Iron	0.46		0.022	0.050
Lead	0.0026	U	0.0026	0.0050
Magnesium	0.54		0.011	0.20
Manganese	0.0075		0.00025	0.0050
Nickel	0.0013	U	0.0013	0.040
Potassium	4.4		0.24	3.0
Selenium	0.0084	B	0.0049	0.010
Silicon	2.3	N	0.035	0.50
Silver	0.00093	U	0.00093	0.0020
Sodium	14.4		0.092	0.50
Vanadium	0.0011	U	0.0011	0.010
Zinc	0.0098	B	0.0045	0.010

**6020 Metals (ICP/MS)**

Analysis Method:	6020	Analysis Batch:	280-80256	Instrument ID:	MT_024
Prep Method:	3020A	Prep Batch:	280-78742	Lab File ID:	044AREF.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	08/06/2011 0056			Final Weight/Volume:	25 mL
Prep Date:	08/04/2011 1500				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Uranium	0.000093	B	0.000020	0.0010

**7470A Mercury (CVAA)**

Analysis Method:	7470A	Analysis Batch:	280-80627	Instrument ID:	MT_033
Prep Method:	7470A	Prep Batch:	280-78616	Lab File ID:	110809AC.txt
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	08/09/2011 1905			Final Weight/Volume:	30 mL
Prep Date:	08/09/2011 1425				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.000027	U	0.000027	0.00020

**Analytical Data**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

Client Sample ID: J1K7K2

Lab Sample ID: 280-18486-1  
Client Matrix: Water

Date Sampled: 07/26/2011 0840  
Date Received: 07/27/2011 0900

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7470A Mercury (CVAA)

# QUALITY CONTROL RESULTS

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

**QC Association Summary**

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC Semi VOA</b>					
<b>Prep Batch: 280-78717</b>					
LCS 280-78717/2-A	Lab Control Sample	T	Water	3510C	
LCSD 280-78717/3-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 280-78717/1-A	Method Blank	T	Water	3510C	
280-18486-1	J1K7K2	T	Water	3510C	
<b>Analysis Batch:280-79594</b>					
LCS 280-78717/2-A	Lab Control Sample	T	Water	8082	280-78717
LCSD 280-78717/3-A	Lab Control Sample Duplicate	T	Water	8082	280-78717
MB 280-78717/1-A	Method Blank	T	Water	8082	280-78717
280-18486-1	J1K7K2	T	Water	8082	280-78717

**Report Basis**

T = Total

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Prep Batch: 280-78616</b>					
LCS 280-78616/2-A	Lab Control Sample	T	Water	7470A	
LCSD 280-78616/3-A	Lab Control Sample Duplicate	T	Water	7470A	
MB 280-78616/1-A	Method Blank	T	Water	7470A	
280-18486-1	J1K7K2	T	Water	7470A	
<b>Prep Batch: 280-78742</b>					
LCS 280-78742/2-A	Lab Control Sample	T	Water	3020A	
LCSD 280-78742/3-A	Lab Control Sample Duplicate	T	Water	3020A	
MB 280-78742/1-A	Method Blank	T	Water	3020A	
280-18486-1	J1K7K2	T	Water	3020A	
<b>Prep Batch: 280-78745</b>					
LCS 280-78745/2-A	Lab Control Sample	T	Water	3010A	
LCSD 280-78745/3-A	Lab Control Sample Duplicate	T	Water	3010A	
MB 280-78745/1-A	Method Blank	T	Water	3010A	
280-18486-1	J1K7K2	T	Water	3010A	
<b>Analysis Batch:280-80237</b>					
LCS 280-78745/2-A	Lab Control Sample	T	Water	6010B	280-78745
LCSD 280-78745/3-A	Lab Control Sample Duplicate	T	Water	6010B	280-78745
MB 280-78745/1-A	Method Blank	T	Water	6010B	280-78745
280-18486-1	J1K7K2	T	Water	6010B	280-78745
<b>Analysis Batch:280-80256</b>					
LCS 280-78742/2-A	Lab Control Sample	T	Water	6020	280-78742
LCSD 280-78742/3-A	Lab Control Sample Duplicate	T	Water	6020	280-78742
MB 280-78742/1-A	Method Blank	T	Water	6020	280-78742
280-18486-1	J1K7K2	T	Water	6020	280-78742
<b>Analysis Batch:280-80627</b>					
LCS 280-78616/2-A	Lab Control Sample	T	Water	7470A	280-78616
LCSD 280-78616/3-A	Lab Control Sample Duplicate	T	Water	7470A	280-78616
MB 280-78616/1-A	Method Blank	T	Water	7470A	280-78616
280-18486-1	J1K7K2	T	Water	7470A	280-78616

**Report Basis**

T = Total



**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

**QC Association Summary**

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC/IC</b>					
<b>Prep Batch: 280-78709</b>					
LCS 280-78709/2-A	Lab Control Sample	T	Water	3510C	
LCSD 280-78709/3-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 280-78709/1-A	Method Blank	T	Water	3510C	
280-18486-1	J1K7K2	T	Water	3510C	
<b>Analysis Batch:280-79605</b>					
LCS 280-78709/2-A	Lab Control Sample	T	Water	8310	280-78709
LCSD 280-78709/3-A	Lab Control Sample Duplicate	T	Water	8310	280-78709
MB 280-78709/1-A	Method Blank	T	Water	8310	280-78709
280-18486-1	J1K7K2	T	Water	8310	280-78709

**Report Basis**

T = Total

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

**Method Blank - Batch: 280-78717**

**Method: 8082  
Preparation: 3510C**

Lab Sample ID: MB 280-78717/1-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/02/2011 1429  
Prep Date: 07/28/2011 0940  
Leach Date: N/A

Analysis Batch: 280-79594  
Prep Batch: 280-78717  
Leach Batch: N/A  
Units: ug/L

Instrument ID: GCS\_P3  
Lab File ID: 024B7401.D  
Initial Weight/Volume: 1000 mL  
Final Weight/Volume: 10000 uL  
Injection Volume: 1 uL  
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	0.12	U	0.12	0.50
Aroclor 1221	0.21	U	0.21	0.50
Aroclor 1232	0.17	U	0.17	0.50
Aroclor 1242	0.10	U	0.10	0.50
Aroclor 1248	0.092	U	0.092	0.50
Aroclor 1254	0.11	U	0.11	0.50
Aroclor 1260	0.16	U	0.16	0.50

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	98	30 - 136
Tetrachloro-m-xylene	71	25 - 120

**Lab Control Sample/**

**Lab Control Sample Duplicate Recovery Report - Batch: 280-78717**

**Method: 8082  
Preparation: 3510C**

LCS Lab Sample ID: LCS 280-78717/2-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/02/2011 1451  
Prep Date: 07/28/2011 0940  
Leach Date: N/A

Analysis Batch: 280-79594  
Prep Batch: 280-78717  
Leach Batch: N/A  
Units: ug/L

Instrument ID: GCS\_P3  
Lab File ID: 025B7501.D  
Initial Weight/Volume: 1000 mL  
Final Weight/Volume: 10000 uL  
Injection Volume: 1 uL  
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 280-78717/3-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/02/2011 1512  
Prep Date: 07/28/2011 0940  
Leach Date: N/A

Analysis Batch: 280-79594  
Prep Batch: 280-78717  
Leach Batch: N/A  
Units: ug/L

Instrument ID: GCS\_P3  
Lab File ID: 026B7601.D  
Initial Weight/Volume: 1000 mL  
Final Weight/Volume: 10000 uL  
Injection Volume: 1 uL  
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Aroclor 1016	101	95	58 - 128	6	30		
Aroclor 1260	107	106	69 - 140	1	30		
Surrogate	LCS % Rec		LCSD % Rec	Acceptance Limits			
Decachlorobiphenyl	101		98	30 - 136			
Tetrachloro-m-xylene	93		72	25 - 120			

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

**Method Blank - Batch: 280-78709**

**Method: 8310**

**Preparation: 3510C**

Lab Sample ID: MB 280-78709/1-A  
 Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 08/03/2011 1951  
 Prep Date: 07/28/2011 0940  
 Leach Date: N/A

Analysis Batch: 280-79605  
 Prep Batch: 280-78709  
 Leach Batch: N/A  
 Units: ug/L

Instrument ID: CHHPLC\_G  
 Lab File ID: G0803016.D  
 Initial Weight/Volume: 1000 mL  
 Final Weight/Volume: 1000 uL  
 Injection Volume: 20 uL  
 Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	0.043	U	0.043	1.0
Acenaphthylene	0.043	U	0.043	1.0
Anthracene	0.061	U	0.061	0.30
Benzo[a]anthracene	0.032	U	0.032	0.20
Benzo[a]pyrene	0.053	U	0.053	0.20
Benzo[b]fluoranthene	0.053	U	0.053	0.20
Benzo[g,h,i]perylene	0.020	U	0.020	0.20
Benzo[k]fluoranthene	0.023	U	0.023	0.10
Chrysene	0.028	U	0.028	0.20
Dibenzo(a,h)anthracene	0.055	U	0.055	0.30
Fluoranthene	0.081	U	0.081	0.40
Fluorene	0.099	U	0.099	0.30
Indeno[1,2,3-cd]pyrene	0.047	U	0.047	0.20
Naphthalene	0.056	U	0.056	1.0
Phenanthrene	0.095	U	0.095	0.30
Pyrene	0.043	U	0.043	0.20
Surrogate	% Rec		Acceptance Limits	
Terphenyl-d14 (SUR)	95		70 - 115	

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-78709**

**Method: 8310  
Preparation: 3510C**

LCS Lab Sample ID: LCS 280-78709/2-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/03/2011 2022  
Prep Date: 07/28/2011 0940  
Leach Date: N/A

Analysis Batch: 280-79605  
Prep Batch: 280-78709  
Leach Batch: N/A  
Units: ug/L

Instrument ID: CHHPLC\_G  
Lab File ID: G0803017.D  
Initial Weight/Volume: 1000 mL  
Final Weight/Volume: 1000 uL  
Injection Volume: 20 uL  
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 280-78709/3-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/03/2011 2052  
Prep Date: 07/28/2011 0940  
Leach Date: N/A

Analysis Batch: 280-79605  
Prep Batch: 280-78709  
Leach Batch: N/A  
Units: ug/L

Instrument ID: CHHPLC\_G  
Lab File ID: G0803018.D  
Initial Weight/Volume: 1000 mL  
Final Weight/Volume: 1000 uL  
Injection Volume: 20 uL  
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Acenaphthene	92	96	63 - 115	4	20		
Acenaphthylene	91	95	46 - 115	4	30		
Anthracene	97	100	59 - 115	3	20		
Benzo[a]anthracene	109	115	73 - 115	5	20		
Benzo[a]pyrene	101	106	68 - 115	4	20		
Benzo[b]fluoranthene	109	115	74 - 115	6	20		
Benzo[g,h,i]perylene	107	113	68 - 115	5	20		
Benzo[k]fluoranthene	106	111	83 - 115	5	20		
Chrysene	105	111	68 - 115	5	20		
Dibenzo(a,h)anthracene	106	113	77 - 115	6	20		
Fluoranthene	104	109	67 - 115	4	20		
Fluorene	94	98	58 - 116	4	27		
Indeno[1,2,3-cd]pyrene	110	116	72 - 115	6	20		N
Naphthalene	78	83	56 - 115	6	20		
Phenanthrene	101	105	68 - 115	4	20		
Pyrene	104	108	72 - 115	4	20		
Surrogate	LCS % Rec		LCSD % Rec	Acceptance Limits			
Terphenyl-d14 (SUR)	95		97	70 - 115			

## Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

**Method Blank - Batch: 280-78745**

**Method: 6010B**  
**Preparation: 3010A**

Lab Sample ID: MB 280-78745/1-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/05/2011 1252  
Prep Date: 08/04/2011 1500  
Leach Date: N/A

Analysis Batch: 280-80237  
Prep Batch: 280-78745  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_026  
Lab File ID: 26a080511.asc  
Initial Weight/Volume: 25 mL  
Final Weight/Volume: 25 mL

Analyte	Result	Qual	MDL	RL
Aluminum	0.018	U	0.018	0.050
Antimony	0.0031	U	0.0031	0.0060
Arsenic	0.0044	U	0.0044	0.010
Barium	0.00058	U	0.00058	0.0050
Beryllium	0.00047	U	0.00047	0.0010
Cadmium	0.00045	U	0.00045	0.0020
Calcium	0.035	U	0.035	0.20
Chromium	0.00066	U	0.00066	0.0020
Copper	0.00619	B	0.0014	0.010
Iron	0.022	U	0.022	0.050
Lead	0.0026	U	0.0026	0.0050
Magnesium	0.011	U	0.011	0.20
Manganese	0.000670	B	0.00025	0.0050
Nickel	0.0013	U	0.0013	0.040
Potassium	0.268	B	0.24	3.0
Selenium	0.0049	U	0.0049	0.010
Silicon	0.035	U	0.035	0.50
Silver	0.00093	U	0.00093	0.0020
Sodium	0.267	B	0.092	0.50
Vanadium	0.0011	U	0.0011	0.010
Zinc	0.0045	U	0.0045	0.010

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1

Sdg Number: J01187

**Lab Control Sample/**

**Lab Control Sample Duplicate Recovery Report - Batch: 280-78745**

**Method: 6010B**

**Preparation: 3010A**

LCS Lab Sample ID: LCS 280-78745/2-A  
 Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 08/05/2011 1255  
 Prep Date: 08/04/2011 1500  
 Leach Date: N/A

Analysis Batch: 280-80237  
 Prep Batch: 280-78745  
 Leach Batch: N/A  
 Units: mg/L

Instrument ID: MT\_026  
 Lab File ID: 26a080511.asc  
 Initial Weight/Volume: 25 mL  
 Final Weight/Volume: 25 mL

LCSD Lab Sample ID: LCSD 280-78745/3-A  
 Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 08/05/2011 1257  
 Prep Date: 08/04/2011 1500  
 Leach Date: N/A

Analysis Batch: 280-80237  
 Prep Batch: 280-78745  
 Leach Batch: N/A  
 Units: mg/L

Instrument ID: MT\_026  
 Lab File ID: 26a080511.asc  
 Initial Weight/Volume: 25 mL  
 Final Weight/Volume: 25 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Aluminum	96	96	87 - 111	1	20		
Antimony	102	104	88 - 110	2	20		
Arsenic	103	104	88 - 110	2	20		
Barium	104	105	90 - 112	1	20		
Beryllium	101	102	89 - 113	1	20		
Cadmium	103	104	88 - 111	1	20		
Calcium	99	99	90 - 111	1	20		
Chromium	100	101	90 - 113	1	20		
Copper	104	104	86 - 112	0	20		
Iron	102	101	89 - 115	1	20		
Lead	102	102	89 - 110	1	20		
Magnesium	101	101	90 - 113	1	20		
Manganese	102	103	90 - 110	0	20		
Nickel	102	101	89 - 111	1	20		
Potassium	101	103	89 - 114	1	20		
Selenium	102	104	85 - 112	2	20		
Silicon	74	64	90 - 110	14	20	N	N
Silver	103	102	86 - 115	1	20		
Sodium	106	108	90 - 115	2	20		
Vanadium	104	104	90 - 111	0	20		
Zinc	102	103	85 - 111	1	20		

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

**Method Blank - Batch: 280-78742**

**Method: 6020  
Preparation: 3020A**

Lab Sample ID: MB 280-78742/1-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/06/2011 0047  
Prep Date: 08/04/2011 1500  
Leach Date: N/A

Analysis Batch: 280-80256  
Prep Batch: 280-78742  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_024  
Lab File ID: 041\_BLK.D  
Initial Weight/Volume: 25 mL  
Final Weight/Volume: 25 mL

Analyte	Result	Qual	MDL	RL
Uranium	0.000020	U	0.000020	0.0010

**Lab Control Sample/**

**Lab Control Sample Duplicate Recovery Report - Batch: 280-78742**

**Method: 6020  
Preparation: 3020A**

LCS Lab Sample ID: LCS 280-78742/2-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/06/2011 0050  
Prep Date: 08/04/2011 1500  
Leach Date: N/A

Analysis Batch: 280-80256  
Prep Batch: 280-78742  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_024  
Lab File ID: 042\_LCS.D  
Initial Weight/Volume: 25 mL  
Final Weight/Volume: 25 mL

LCSD Lab Sample ID: LCSD 280-78742/3-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/06/2011 0053  
Prep Date: 08/04/2011 1500  
Leach Date: N/A

Analysis Batch: 280-80256  
Prep Batch: 280-78742  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_024  
Lab File ID: 043LCSD.D  
Initial Weight/Volume: 25 mL  
Final Weight/Volume: 25 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Uranium	113	113	85 - 119	0	20		

**Quality Control Results**

Client: Washington Closure Hanford

Job Number: 280-18486-1  
Sdg Number: J01187

**Method Blank - Batch: 280-78616**

**Method: 7470A**  
**Preparation: 7470A**

Lab Sample ID: MB 280-78616/1-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/09/2011 1858  
Prep Date: 08/09/2011 1425  
Leach Date: N/A

Analysis Batch: 280-80627  
Prep Batch: 280-78616  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_033  
Lab File ID: 110809AC.txt  
Initial Weight/Volume: 30 mL  
Final Weight/Volume: 30 mL

Analyte	Result	Qual	MDL	RL
Mercury	0.000027	U	0.000027	0.00020

**Lab Control Sample/**

**Lab Control Sample Duplicate Recovery Report - Batch: 280-78616**

**Method: 7470A**  
**Preparation: 7470A**

LCS Lab Sample ID: LCS 280-78616/2-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/09/2011 1900  
Prep Date: 08/09/2011 1425  
Leach Date: N/A

Analysis Batch: 280-80627  
Prep Batch: 280-78616  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_033  
Lab File ID: 110809AC.txt  
Initial Weight/Volume: 30 mL  
Final Weight/Volume: 30 mL

LCSD Lab Sample ID: LCSD 280-78616/3-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 08/09/2011 1902  
Prep Date: 08/09/2011 1425  
Leach Date: N/A

Analysis Batch: 280-80627  
Prep Batch: 280-78616  
Leach Batch: N/A  
Units: mg/L

Instrument ID: MT\_033  
Lab File ID: 110809AC.txt  
Initial Weight/Volume: 30 mL  
Final Weight/Volume: 30 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Mercury	99	100	88 - 111	0	10		



4.7 70 10-1 7/27/11

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		Page 1 of 1		
Collector BC Kocling	Company Contact Joan Kessner	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7L	RC-192-006	
Project Designation 100N Field Remediation - Water	Sampling Location 100-N-84-6	Field Logbook No. EL-1652-2	SAF No. RC-192	Data Turnaround 21 Days		
Ice Chest No. ERC-03-104	COA R10N612000	Offsite Property No. A 100 823	Method of Shipment Fed Ex	Bill of Lading/Air Bill No. See OSPC		
Shipped To TestAmerica Incorporated, Richmond Denver	500 amount 3 20-11					
POSSIBLE SAMPLE HAZARDS/REMARKS	None					
Special Handling and/or Storage Cool 4 Degrees C	SAMPLE ANALYSIS					
Sample No.	Preservation	HNO3 to pH <	Cool 4C	Cool 4C	HNO3 to pH <	None
	Type of Container	G/P	aG	aG	G/P	G/P
	No. of Container(s)	1	1	1	1	1
	Volume	120mL	20mL	1000mL	1000mL	120mL
Matrix *	See item (1) in Special Instructions.	See item (1) in Special Instructions.	Chromium Hex. 7196 (Hexavalent Chromium)	PAHs - 8310	PCBs - 8082	See item (2) in Special Instructions Shipping Screen
	WATER	WATER	WATER	WATER	WATER	WATER
	7/26/11	7/26/11	7/26/11	7/26/11	7/26/11	7/26/11
	0840	0840	0840	0840	0840	0840
CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	(1) ICP Metals - 6010TR (Client List) [Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Uranium, Vanadium, Zinc]; Mercury - 7470 - (CV) (Mercury)		
MA Bamberger	7/26/11 0900	MA Bamberger	7/26/11 0900	(2) Gamma Spec (Client List) [Americium-241, Antimony-125, Cerium-144, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Niobium-94, Radium-226, Rutherfordium-106, Zinc-65]		
MA Bamberger	7/26/11 1030	MA Bamberger	7/26/11 1030	NOT PRESENTED in the field		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	REVIEWED BY DATE 7-26-11		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	506 amount 3 20-11		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	830		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	506		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	50187		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Title		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	Disposed By		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	Date/Time		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Disposal Method		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	Date/Time		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Disposal Method		
MA Bamberger	7/26/11 1140	MA Bamberger	7/26/11 1140	Date/Time		

WCH-EE-011

Analytical Due:

Report Due: 8/17/11

### Sample Check-in List

Date/Time Received: 7/12/11 9:30 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG#: J01187 NA [ ] SAF#: RC-192 NA [ ]

Job Number: 18986 Chain of Custody # RC-192-006

Shipping Container ID: ERC-03-104 Air Bill # 79501320602

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: 4.7 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [  ]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [ ] Yes [ ] No [  ]
8. Samples have:
  - Tape  Hazard Labels
  - Custody Seals  Appropriate Sample Labels
9. Samples are:
  - In Good Condition  Leaking
  - Broken  Have Air Bubbles

(Only for samples requiring no head space.)
10. Sample pH taken? <sup>MS 7/12/11</sup> ~~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 [  ] <sup>MS 7/12/11</sup> ~~No [ ]~~
13. Description of anomalies (include sample numbers):  
Metals volume neutral

Sample Custodian: \_\_\_\_\_ Date: 7/12/11

Client Sample ID	Analysis Requested	Condition	Comments/Action
<u>JIK 7K2</u>	<u>Metals</u>	<u>Volume Neutral</u>	<u>Sent to Lab for preservation</u>

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

[ ] No action necessary; process as is.

Project Manager [Signature] Date 7/12/11

From: (509) 378-7768  
1162 SHIPPING DEPT  
US DOE  
2355 STEVENS DR  
  
RICHLAND, WA 99354

Origin ID: PSCA



Ship Date: 26JUL11  
ActWgt: 55.0 LB  
CAD: 5851986/NET3180

Delivery Address Bar Code



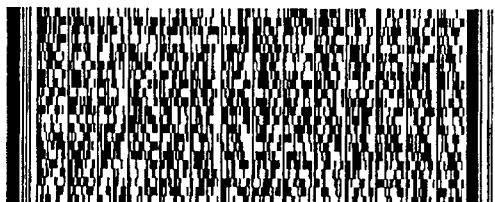
SHIP TO: (303) 736-0100  
**KAE YODER**  
**TEST AMERICA**  
**4955 YARROW ST # A100823**  
  
**ARVADA, CO 80002**

BILL THIRD PARTY

Ref # R10N612000  
Invoice #  
PO #  
Dept #

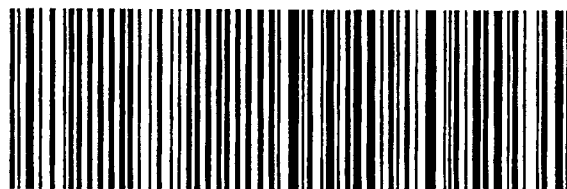
**WED - 27 JUL A1**  
**PRIORITY OVERNIGHT**

TRK# 7950 1326 0662  
0201



**XH WHHA**

**80002**  
CO-US  
**DEN**



50FGZ/F556/F5F4

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