

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

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 6/21/11
INITIAL/DATE

COMMENTS:

SDG JP0199

SAF-RC-107

Rad only

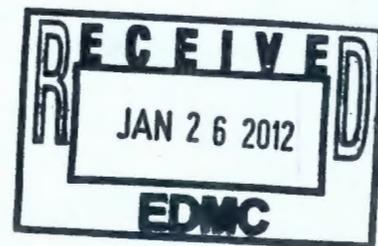
Chem only

Rad & Chem

Complete

Partial

Waste Site: 118-H-1:2 Verification Resample



ANALYTICAL REPORT

Job Number: 280-16811-1
SDG Number: JP0199
Job Description: SAF# RC-107

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354
Attention: Joan H Kessner



A handwritten signature in black ink that reads "Kae E. Yoder".

Approved for release.
Kae E Yoder
Project Manager II
6/17/2011 9:58 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
06/17/2011

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.

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-16811-1

SDG #: JP0199

SAF#: RC-107

Date SDG Closed: June 10, 2011

Data Deliverable: 7 Day / Summary

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>ANALYSES REQUESTED</u>	<u>ANALYSES PERFORMED</u>
J1JPF4	280-16811-1	8310	8310

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 sample was received on 6/10/2011; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 4.5 C.

HPLC - SW846 8310 - PAHs

The RPD between the primary and confirmation columns exceeded 40% for Benzo[a]pyrene in sample J1JPF4. The lower of the two values have been reported, as matrix interference is evident. The result has been flagged with an "X".

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-16811-1

Sdg Number: JP0199

Lab Section	Qualifier	Description
HPLC/IC	U	Analyzed for but not detected.
	X	More than 40% difference between columns, lower result reported.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-16811-1

Sdg Number: JP0199

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
PAHs (HPLC)	TAL DEN	SW846 8310	
Ultrasonic Extraction	TAL DEN		SW846 3550C
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: 280-16811-1
Sdg Number: JP0199

Method	Analyst	Analyst ID
ASTM D-2216	Taylor, Juli M	JMT
SW846 8310	Hall, Koley J	KJH

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-16811-1
Sdg Number: JP0199

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-16811-1	J1JPF4	Solid	06/09/2011 0840	06/10/2011 0930

SAMPLE RESULTS

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16811-1
Sdg Number: JP0199

Client Sample ID: J1JPF4

Lab Sample ID: 280-16811-1

Date Sampled: 06/09/2011 0840

Client Matrix: Solid

% Moisture: 10.0

Date Received: 06/10/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-71854	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-71429	Initial Weight/Volume:	31.6 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	06/14/2011 1719			Injection Volume:	20 uL
Prep Date:	06/10/2011 1620			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	110
Acenaphthylene		9.5	U	9.5	110
Anthracene		3.2	U	3.2	21
Benzo[a]anthracene		5.2	J	3.4	16
Benzo[a]pyrene		8.9	J X	6.8	16
Benzo[b]fluoranthene		11	J	4.4	16
Benzo[g,h,i]perylene		7.6	U	7.6	32
Benzo[k]fluoranthene		4.6	J	4.2	16
Chrysene		10	J	5.1	42
Dibenzo(a,h)anthracene		12	U	12	32
Fluoranthene		17	J	14	42
Fluorene		5.6	U	5.6	32
Indeno[1,2,3-cd]pyrene		13	U	13	32
Naphthalene		13	U	13	110
Phenanthrene		13	U	13	42
Pyrene		19	J	13	42
Surrogate		%Rec	Qualifier	Acceptance Limits	
Terphenyl-d14 (SUR)		96		72 - 115	

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16811-1
Sdg Number: JP0199

General Chemistry

Client Sample ID: J1JPF4

Lab Sample ID: 280-16811-1
Client Matrix: Solid

Date Sampled: 06/09/2011 0840
Date Received: 06/10/2011 0930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	10		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-71408 Analysis Date: 06/10/2011 1354 DryWt Corrected: N

QUALITY CONTROL RESULTS

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16811-1

Sdg Number: JP0199

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-71408					
280-16811-1	J1JPF4	T	Solid	D-2216	
280-16811-1DU	Duplicate	T	Solid	D-2216	
Report Basis					
T = Total					
HPLC/IC					
Prep Batch: 280-71429					
LCS 280-71429/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-71429/1-A	Method Blank	T	Solid	3550C	
280-16811-1	J1JPF4	T	Solid	3550C	
280-16811-1MS	Matrix Spike	T	Solid	3550C	
280-16811-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-71854					
LCS 280-71429/2-A	Lab Control Sample	T	Solid	8310	280-71429
MB 280-71429/1-A	Method Blank	T	Solid	8310	280-71429
280-16811-1	J1JPF4	T	Solid	8310	280-71429
280-16811-1MS	Matrix Spike	T	Solid	8310	280-71429
280-16811-1MSD	Matrix Spike Duplicate	T	Solid	8310	280-71429

Report Basis

T = Total

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16811-1
Sdg Number: JP0199

Method Blank - Batch: 280-71429

Method: 8310
Preparation: 3550C

Lab Sample ID: MB 280-71429/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 06/14/2011 1618
Prep Date: 06/10/2011 1620
Leach Date: N/A

Analysis Batch: 280-71854
Prep Batch: 280-71429
Leach Batch: N/A
Units: ug/Kg

Instrument ID: CHHPLC_G
Lab File ID: G0614013.D
Initial Weight/Volume: 30.0 g
Final Weight/Volume: 4000 uL
Injection Volume: 20 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	10	U	10	100
Acenaphthylene	9.0	U	9.0	100
Anthracene	3.1	U	3.1	20
Benzo[a]anthracene	3.2	U	3.2	15
Benzo[a]pyrene	6.4	U	6.4	15
Benzo[b]fluoranthene	4.2	U	4.2	15
Benzo[g,h,i]perylene	7.2	U	7.2	30
Benzo[k]fluoranthene	3.9	U	3.9	15
Chrysene	4.8	U	4.8	40
Dibenzo(a,h)anthracene	11	U	11	30
Fluoranthene	13	U	13	40
Fluorene	5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene	12	U	12	30
Naphthalene	12	U	12	100
Phenanthrene	12	U	12	40
Pyrene	12	U	12	40
Surrogate	% Rec		Acceptance Limits	
Terphenyl-d14 (SUR)	97		72 - 115	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16811-1

Sdg Number: JP0199

Lab Control Sample - Batch: 280-71429

Method: 8310

Preparation: 3550C

Lab Sample ID: LCS 280-71429/2-A
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 06/14/2011 1649
 Prep Date: 06/10/2011 1620
 Leach Date: N/A

Analysis Batch: 280-71854
 Prep Batch: 280-71429
 Leach Batch: N/A
 Units: ug/Kg

Instrument ID: CHHPLC_G
 Lab File ID: G0614014.D
 Initial Weight/Volume: 31.0 g
 Final Weight/Volume: 4000 uL
 Injection Volume: 20 uL
 Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1940	1850	95	72 - 115	
Acenaphthylene	1940	1850	96	60 - 115	
Anthracene	1940	1730	89	61 - 115	
Benzo[a]anthracene	1940	2050	106	76 - 115	
Benzo[a]pyrene	1940	2030	105	69 - 115	
Benzo[b]fluoranthene	1940	1950	101	81 - 115	
Benzo[g,h,i]perylene	1940	2020	104	71 - 115	
Benzo[k]fluoranthene	1940	1950	101	85 - 115	
Chrysene	1940	1900	98	70 - 115	
Dibenzo(a,h)anthracene	1940	1960	101	79 - 115	
Fluoranthene	1940	1930	100	67 - 115	
Fluorene	1940	1880	97	72 - 115	
Indeno[1,2,3-cd]pyrene	1940	2110	109	76 - 115	
Naphthalene	1940	1950	101	77 - 115	
Phenanthrene	1940	1920	99	79 - 115	
Pyrene	1940	1980	102	77 - 115	
Surrogate		% Rec		Acceptance Limits	
Terphenyl-d14 (SUR)		93		72 - 115	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16811-1

Sdg Number: JP0199

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 280-71429

Method: 8310

Preparation: 3550C

MS Lab Sample ID: 280-16811-1
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 06/14/2011 1750
 Prep Date: 06/10/2011 1620
 Leach Date: N/A

Analysis Batch: 280-71854
 Prep Batch: 280-71429
 Leach Batch: N/A

Instrument ID: CHHPLC_G
 Lab File ID: G0614016.D
 Initial Weight/Volume: 31.6 g
 Final Weight/Volume: 4000 uL
 Injection Volume: 20 uL
 Column ID: PRIMARY

MSD Lab Sample ID: 280-16811-1
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 06/14/2011 1820
 Prep Date: 06/10/2011 1620
 Leach Date: N/A

Analysis Batch: 280-71854
 Prep Batch: 280-71429
 Leach Batch: N/A

Instrument ID: CHHPLC_G
 Lab File ID: G0614017.D
 Initial Weight/Volume: 32.8 g
 Final Weight/Volume: 4000 uL
 Injection Volume: 20 uL
 Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Acenaphthene	96	94	72 - 115	6	20		
Acenaphthylene	98	95	60 - 115	7	21		
Anthracene	89	86	61 - 115	7	20		
Benzo[a]anthracene	109	104	76 - 115	9	20		
Benzo[a]pyrene	108	103	69 - 115	9	20		
Benzo[b]fluoranthene	104	99	81 - 115	9	20		
Benzo[g,h,i]perylene	107	102	71 - 115	8	20		
Benzo[k]fluoranthene	104	99	85 - 115	9	20		
Chrysene	101	97	70 - 115	8	20		
Dibenzo(a,h)anthracene	104	99	79 - 115	8	20		
Fluoranthene	103	98	67 - 115	8	20		
Fluorene	99	96	72 - 115	7	20		
Indeno[1,2,3-cd]pyrene	112	107	76 - 115	8	20		
Naphthalene	102	99	77 - 115	6	20		
Phenanthrene	102	98	79 - 115	8	20		
Pyrene	105	100	77 - 115	8	20		
Surrogate		MS % Rec	MSD % Rec	Acceptance Limits			
Terphenyl-d14 (SUR)		97	93	72 - 115			

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16811-1

Sdg Number: JP0199

Duplicate - Batch: 280-71408

Method: D-2216

Preparation: N/A

Lab Sample ID: 280-16811-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 06/10/2011 1354
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 280-71408
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	10	11.3	13	20	

4.5 DAI by 6/10

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-107-079	Page 1 of 1		
Collector Q. Stowe		Company Contact Joan Kessner		Telephone No. 509-375-4688		Project Coordinator KESSNER, JH	Price Code 8E 88	Data Turnaround 21 Days	
Project Designation 100-H Remaining Sites Burial Grounds - Soil Full Protocol		Sampling Location 118-H-1:2 verification resample			SAF No. RC-107				
Ice Chest No. WCH-11-018		Field Logbook No. EL 1627-05		COA R118H12000		Method of Shipment Government Vehicle <u>FedEx</u>			
Shipped To TestAmerica Incorporated, ^{on 6/9/11} Richland Denver		Offsite Property No. NA			Bill of Lading/Air Bill No. 7971 8989 6980				
POSSIBLE SAMPLE HAZARDS/REMARKS None				Preservation Cool 4C	Type of Container aG	No. of Container(s) 1	Volume 120mL	Special Handling and/or Storage None at 6-9-11 Cool 4°C	
SAMPLE ANALYSIS				PAHs - 8310					
Sample No.	Matrix *	Sample Date	Sample Time						
J1JPF4	SOIL	6/9/11	0840	X					
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			Matrix *
Relinquished By/Removed From <i>Quincy Stowe</i>		Date/Time 6/9/11 0845		Received By/Stored In <i>JV Fuller</i>		Date/Time 6/9/11			<ul style="list-style-type: none"> S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From <i>JV Fuller</i>		Date/Time 6-9-11 1400		Received By/Stored In <i>A. Freier</i>		Date/Time 6-9-11			
Relinquished By/Removed From <i>A. Freier</i>		Date/Time 6-9-11 1405		Received By/Stored In <i>Fed Ex</i>		Date/Time 6/10/11 930			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
LABORATORY SECTION	Received By			Title			Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method			Disposed By			Date/Time		

Page 17 of 19

JP0199

Analytical Due:

Report Due: 6/17/11 (rush by TAT)

Sample Check-in List

Date/Time Received: 6/10/11 930 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG #: JP0199 NA [] SAF #: RC-107 NA []

Job Number: 16811 Chain of Custody # RC-107-079

Shipping Container ID: WCH-11-018 Air Bill # 7971 8989 6980

- 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: 4.5 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
 - 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 HNO₃ 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: _____ Date: 6/10/11

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager [Signature] Date 6/13/11

From: (509) 375-4640
 WCH MAILROOM
 WASHINGTON CLOSURE HANFORD
 2820 FERMI AVE

Origin ID: PSCA



J11151102250225

RICHLAND, WA 98354

Ship Date: 09JUN11
 ActWgt: 27.0 LB
 CAD: 8897843/NET3130

Delivery Address Bar Code



SHIP TO: (303) 736-0100

BILL SENDER

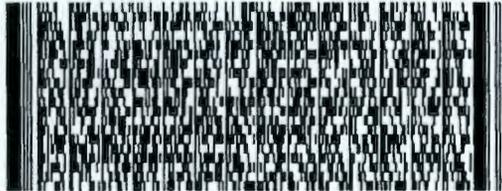
Sample Receiving
 Test America Denver
 4955 YARROW ST

ARVADA, CO 80002

Ref #
 Invoice #
 PO #
 Dept #

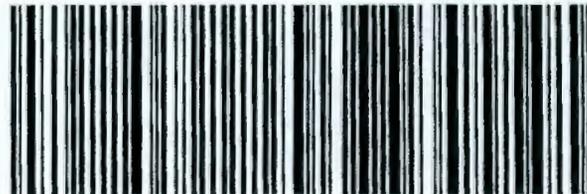
FRI - 10 JUN A1
 PRIORITY OVERNIGHT

TRK# 7971 8989 6980
 0201



80002
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XH WHHA



50DG10C807EFB

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