SAF-RC-210
100-IU-2 & 100-IU-6 Miscellaneous Restoration Sites Near 100F - Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 6/21/12
INITIAL/DATE

COMMENTS:

SDG J01539 SAF-RC-210

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 600-298

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-29519-1

SDG Number: J01539

Job Description: SAF# RC-210

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Project Manager II
6/20/2012 12:07 PM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
06/20/2012

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, 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: 280-29519-1

SDG #: J01539
SAF#: RC-210

Date SDG Closed: June 1, 2012
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1PPC6	280-29519-1	6010B/7471/WTPH-D+/8310/8082/8081	6010B/7471A/NWTPH-Dx/8310/8082/8081A
J1PPC7	280-29519-2	6010B/7471/WTPH-D+/8310/8082/8081	6010B/7471A/NWTPH-Dx/8310/8082/8081A

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 6/1/2012 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.1º C and 4.5º C.

It can be noted that samples were received on 6/1/2012; however, due to a delay in FedEx shipping, the associated chain-of-custody was received on 6/2/2012. The client was notified on 6/4/2012.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs
Continuing Calibration Verification (CCV) standards exhibited %Difference (%D) values >15%, biased low, for Toxaphene (-22%, -17%)). The overall mean %D is $\leq$15%; therefore, method criteria have been met and corrective action is deemed unnecessary.

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
No anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The MS aliquot of the MS/MSD performed on sample J1PPC7 exhibited a percent recovery outside the control limits for C10-C36, and the associated sample result has been flagged "N". The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-122277 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an “X”.

Low levels of Calcium and Mercury are present in the method blanks associated with batches 280-122277 and 280-122412, respectively. Because the concentrations in the method blanks are not present at levels greater than half 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 and Manganese in the Matrix Spike performed on sample J1PPC6; therefore, control limits are not applicable.

The duplicate analysis of sample J1PPC6 exhibited RPD data outside the control limits for Arsenic, and the associated sample result has been flagged “M”. 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: 280-29519-1
Sdg Number: J01539

Lab Section	Qualifier	Description
GC Semi VOA		
	U	Analyzed for but not detected.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HPLC/IC		
	U	Analyzed for but not detected.
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.
	M	Sample duplicate precision not met.
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.
	C	The analyte was detected in both the sample and the assoicated QC blank, and the sample concentration was </= 5X the blank concentration.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Organochlorine Pesticides (GC)	TAL DEN	SW846 8081A	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Northwest - Semi-Volatile Petroleum Products (GC)	TAL DEN	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL DEN		SW846 3550C
PAHs (HPLC)	TAL DEN	SW846 8310	
Ultrasonic Extraction	TAL DEN		SW846 3550C
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

NWTPH = Northwest Total Petroleum Hydrocarbon

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: 280-29519-1
Sdg Number: J01539

Method	Analyst	Analyst ID
SW846 8081A	Wells, David	DW
SW846 8082	Jackson, Todd D	TDJ
NWTPH NWTPH-Dx	Pavlakovich, Adam M	AMP
SW846 6010B	Trudell, Lynn-Anne	LT
SW846 7471A	Rawlings, Brendon L	BLR
ASTM D-2216	Blythe, Scott	SB
SW846 8310	Fiedler, Heather K	HKF

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-29519-1	J1PPC6	Solid	05/30/2012 1412	06/01/2012 0930
280-29519-2	J1PPC7	Solid	05/30/2012 1420	06/01/2012 0930

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC6**

Lab Sample ID: 280-29519-1
Client Matrix: Solid
% Moisture: 0.3

Date Sampled: 05/30/2012 1412
Date Received: 06/01/2012 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-123988	Instrument ID:	GCS_P2
Prep Method:	3550C	Prep Batch:	280-122826	Initial Weight/Volume:	32.6 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	06/12/2012 2144			Injection Volume:	1 uL
Prep Date:	06/06/2012 2040			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.50	U	0.50	1.6
4,4'-DDE		0.22	U	0.22	1.6
4,4'-DDT		0.54	U	0.54	1.6
Aldrin		0.23	U	0.23	1.5
alpha-BHC		0.20	U	0.20	1.5
beta-BHC		0.61	U	0.61	1.5
delta-BHC		0.37	U	0.37	1.5
gamma-BHC (Lindane)		0.43	U	0.43	1.5
Heptachlor		0.20	U	0.20	1.5
Heptachlor epoxide		0.39	U	0.39	1.5
Endosulfan I		0.16	U	0.16	1.5
Endosulfan II		0.26	U	0.26	1.6
Endosulfan sulfate		0.25	U	0.25	1.6
Endrin		0.28	U	0.28	1.6
Endrin aldehyde		0.16	U	0.16	1.6
Endrin ketone		0.45	U	0.45	1.6
gamma-Chlordane		0.25	U	0.25	1.6
Methoxychlor		0.42	U	0.42	3.0
alpha-Chlordane		0.30	U	0.30	1.6
Dieldrin		0.19	U	0.19	1.6
Toxaphene		15	U	15	150

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	92		59 - 115
Decachlorobiphenyl	86		63 - 124

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC7**

Lab Sample ID: 280-29519-2
Client Matrix: Solid
% Moisture: 1.0

Date Sampled: 05/30/2012 1420
Date Received: 06/01/2012 0930

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-123988	Instrument ID:	GCS_P2
Prep Method:	3550C	Prep Batch:	280-122826	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	06/12/2012 2200			Injection Volume:	1 uL
Prep Date:	06/06/2012 2040			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.54	U	0.54	1.7
4,4'-DDE		0.23	U	0.23	1.7
4,4'-DDT		0.58	U	0.58	1.7
Aldrin		0.25	U	0.25	1.6
alpha-BHC		0.21	U	0.21	1.6
beta-BHC		0.65	U	0.65	1.6
delta-BHC		0.39	U	0.39	1.6
gamma-BHC (Lindane)		0.46	U	0.46	1.6
Heptachlor		0.21	U	0.21	1.6
Heptachlor epoxide		0.42	U	0.42	1.6
Endosulfan I		0.17	U	0.17	1.6
Endosulfan II		0.28	U	0.28	1.7
Endosulfan sulfate		0.27	U	0.27	1.7
Endrin		0.30	U	0.30	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.48	U	0.48	1.7
gamma-Chlordane		0.26	U	0.26	1.7
Methoxychlor		0.44	U	0.44	3.2
alpha-Chlordane		0.32	U	0.32	1.7
Dieldrin		0.21	U	0.21	1.7
Toxaphene		15	U	15	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	91		59 - 115
Decachlorobiphenyl	68		63 - 124

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC6**

Lab Sample ID: 280-29519-1
Client Matrix: Solid
% Moisture: 0.3

Date Sampled: 05/30/2012 1412
Date Received: 06/01/2012 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-123992	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-123071	Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	06/12/2012 1245			Injection Volume:	1 uL
Prep Date:	06/07/2012 2200			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	83		59 - 130
Tetrachloro-m-xylene	77		53 - 128

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC7**

Lab Sample ID: 280-29519-2
Client Matrix: Solid
% Moisture: 1.0

Date Sampled: 05/30/2012 1420
Date Received: 06/01/2012 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-123992	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-123071	Initial Weight/Volume:	30.7 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	06/12/2012 1308			Injection Volume:	1 uL
Prep Date:	06/07/2012 2200			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	65		59 - 130
Tetrachloro-m-xylene	78		53 - 128

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC6**

Lab Sample ID: 280-29519-1
Client Matrix: Solid
% Moisture: 0.3

Date Sampled: 05/30/2012 1412
Date Received: 06/01/2012 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-123747	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-123489	Lab File ID:	084F8401.D
Dilution:	1.0			Initial Weight/Volume:	32.4 g
Analysis Date:	06/13/2012 1831			Final Weight/Volume:	1000 uL
Prep Date:	06/11/2012 1940			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1200	J	930	3700
C10-C28		1100	J	630	3700

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	79		49 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC7**

Lab Sample ID: 280-29519-2
Client Matrix: Solid
% Moisture: 1.0

Date Sampled: 05/30/2012 1420
Date Received: 06/01/2012 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-123747	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-123489	Lab File ID:	085F8501.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Analysis Date:	06/13/2012 1856			Final Weight/Volume:	1000 uL
Prep Date:	06/11/2012 1940			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		36000	N	1000	4000
C10-C28		16000		680	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	83		49 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC6**

Lab Sample ID: 280-29519-1
Client Matrix: Solid
% Moisture: 0.3

Date Sampled: 05/30/2012 1412
Date Received: 06/01/2012 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-123398	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-122216	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	06/11/2012 2225			Injection Volume:	20 uL
Prep Date:	06/01/2012 2150			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.0	U	9.0	100
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.4	U	6.4	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.2	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	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	83		72 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC7**

Lab Sample ID: 280-29519-2
Client Matrix: Solid
% Moisture: 1.0

Date Sampled: 05/30/2012 1420
Date Received: 06/01/2012 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-123398	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-122216	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	06/11/2012 2356			Injection Volume:	20 uL
Prep Date:	06/01/2012 2150			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.1	U	7.1	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.7	U	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	82		72 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC6**

Lab Sample ID: 280-29519-1
Client Matrix: Solid
% Moisture: 0.3

Date Sampled: 05/30/2012 1412
Date Received: 06/01/2012 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-123406	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-122277	Lab File ID:	26B060812.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	06/08/2012 2129			Final Weight/Volume:	100 mL
Prep Date:	06/08/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6550		1.5	4.8
Antimony		0.37	U	0.37	0.58
Arsenic		1.5	M	0.64	0.96
Barium		46.4		0.073	0.48
Beryllium		0.21		0.032	0.19
Boron		0.95	U	0.95	1.9
Cadmium		0.14	B	0.040	0.19
Calcium		5130		13.6	48.2
Chromium		12.8	X	0.056	0.19
Cobalt		7.5	X	0.096	0.96
Copper		17.1		0.21	0.96
Iron		19500	X	3.7	4.8
Lead		2.8		0.26	0.48
Magnesium		4560		3.6	19.3
Manganese		271		0.096	0.96
Molybdenum		0.27	B	0.25	1.9
Nickel		13.9	X	0.12	3.9
Potassium		812		39.6	289
Selenium		0.83	U	0.83	0.96
Silicon		267		5.5	9.6
Silver		0.15	U	0.15	0.19
Sodium		378		56.9	116
Vanadium		59.3		0.091	1.9
Zinc		37.7	X	0.38	0.96

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-123802	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-122412	Lab File ID:	120612aa.txt
Dilution:	1.0			Initial Weight/Volume:	0.56 g
Analysis Date:	06/12/2012 1938			Final Weight/Volume:	50 mL
Prep Date:	06/12/2012 1220				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0064	B C	0.0059	0.018

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Client Sample ID: **J1PPC7**

Lab Sample ID: 280-29519-2
Client Matrix: Solid
% Moisture: 1.0

Date Sampled: 05/30/2012 1420
Date Received: 06/01/2012 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-123406	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-122277	Lab File ID:	26B060812.asc
Dilution:	1.0			Initial Weight/Volume:	1.02 g
Analysis Date:	06/08/2012 2139			Final Weight/Volume:	100 mL
Prep Date:	06/08/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		9570		1.5	5.0
Antimony		0.38	U	0.38	0.59
Arsenic		2.5		0.65	0.99
Barium		78.1		0.075	0.50
Beryllium		0.31		0.033	0.20
Boron		1.8	B	0.97	2.0
Cadmium		0.15	B	0.041	0.20
Calcium		3970		14.0	49.5
Chromium		14.6	X	0.057	0.20
Cobalt		7.0	X	0.099	0.99
Copper		14.1		0.21	0.99
Iron		18800	X	3.8	5.0
Lead		4.7		0.27	0.50
Magnesium		5080		3.7	19.8
Manganese		326		0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		17.9	X	0.12	4.0
Potassium		1590		40.6	297
Selenium		0.85	U	0.85	0.99
Silicon		440		5.6	9.9
Silver		0.16	U	0.16	0.20
Sodium		244		58.4	119
Vanadium		45.5		0.093	2.0
Zinc		39.6	X	0.39	0.99

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-123802	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-122412	Lab File ID:	120612aa.txt
Dilution:	1.0			Initial Weight/Volume:	0.68 g
Analysis Date:	06/12/2012 1945			Final Weight/Volume:	50 mL
Prep Date:	06/12/2012 1220				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0082	B C	0.0049	0.015

General Chemistry

Client Sample ID: **J1PPC6**

Lab Sample ID: 280-29519-1
Client Matrix: Solid

Date Sampled: 05/30/2012 1412
Date Received: 06/01/2012 0930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.33		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-122903 Analysis Date: 06/07/2012 0830 DryWt Corrected: N

General Chemistry

Client Sample ID: **J1PPC7**

Lab Sample ID: 280-29519-2
Client Matrix: Solid

Date Sampled: 05/30/2012 1420
Date Received: 06/01/2012 0930

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

Analysis Batch: 280-122903 Analysis Date: 06/07/2012 0830 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-122826					
LCS 280-122826/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-122826/1-A	Method Blank	T	Solid	3550C	
280-29519-1	J1PPC6	T	Solid	3550C	
280-29519-2	J1PPC7	T	Solid	3550C	
280-29519-2MS	Matrix Spike	T	Solid	3550C	
280-29519-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-123071					
LCS 280-123071/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-123071/1-A	Method Blank	T	Solid	3550C	
280-29519-1	J1PPC6	T	Solid	3550C	
280-29519-2	J1PPC7	T	Solid	3550C	
280-29519-2MS	Matrix Spike	T	Solid	3550C	
280-29519-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-123489					
LCS 280-123489/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-123489/1-A	Method Blank	T	Solid	3550C	
280-29519-1	J1PPC6	T	Solid	3550C	
280-29519-2	J1PPC7	T	Solid	3550C	
280-29519-2MS	Matrix Spike	T	Solid	3550C	
280-29519-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-123747					
LCS 280-123489/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-123489
MB 280-123489/1-A	Method Blank	T	Solid	NWTPH-Dx	280-123489
280-29519-1	J1PPC6	T	Solid	NWTPH-Dx	280-123489
280-29519-2	J1PPC7	T	Solid	NWTPH-Dx	280-123489
280-29519-2MS	Matrix Spike	T	Solid	NWTPH-Dx	280-123489
280-29519-2MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-123489
Analysis Batch:280-123988					
LCS 280-122826/2-A	Lab Control Sample	T	Solid	8081A	280-122826
MB 280-122826/1-A	Method Blank	T	Solid	8081A	280-122826
280-29519-1	J1PPC6	T	Solid	8081A	280-122826
280-29519-2	J1PPC7	T	Solid	8081A	280-122826
280-29519-2MS	Matrix Spike	T	Solid	8081A	280-122826
280-29519-2MSD	Matrix Spike Duplicate	T	Solid	8081A	280-122826

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Analysis Batch:280-123992					
LCS 280-123071/2-A	Lab Control Sample	T	Solid	8082	280-123071
MB 280-123071/1-A	Method Blank	T	Solid	8082	280-123071
280-29519-1	J1PPC6	T	Solid	8082	280-123071
280-29519-2	J1PPC7	T	Solid	8082	280-123071
280-29519-2MS	Matrix Spike	T	Solid	8082	280-123071
280-29519-2MSD	Matrix Spike Duplicate	T	Solid	8082	280-123071

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-122277					
LCS 280-122277/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-122277/1-A	Method Blank	T	Solid	3050B	
280-29519-1	J1PPC6	T	Solid	3050B	
280-29519-1DU	Duplicate	T	Solid	3050B	
280-29519-1MS	Matrix Spike	T	Solid	3050B	
280-29519-2	J1PPC7	T	Solid	3050B	
Prep Batch: 280-122412					
LCS 280-122412/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-122412/1-A	Method Blank	T	Solid	7471A	
280-29519-1	J1PPC6	T	Solid	7471A	
280-29519-2	J1PPC7	T	Solid	7471A	
280-29519-2DU	Duplicate	T	Solid	7471A	
280-29519-2MS	Matrix Spike	T	Solid	7471A	
Analysis Batch:280-123406					
LCS 280-122277/2-A	Lab Control Sample	T	Solid	6010B	280-122277
MB 280-122277/1-A	Method Blank	T	Solid	6010B	280-122277
280-29519-1	J1PPC6	T	Solid	6010B	280-122277
280-29519-1DU	Duplicate	T	Solid	6010B	280-122277
280-29519-1MS	Matrix Spike	T	Solid	6010B	280-122277
280-29519-2	J1PPC7	T	Solid	6010B	280-122277
Analysis Batch:280-123802					
LCS 280-122412/2-A	Lab Control Sample	T	Solid	7471A	280-122412
MB 280-122412/1-A	Method Blank	T	Solid	7471A	280-122412
280-29519-1	J1PPC6	T	Solid	7471A	280-122412
280-29519-2	J1PPC7	T	Solid	7471A	280-122412
280-29519-2DU	Duplicate	T	Solid	7471A	280-122412
280-29519-2MS	Matrix Spike	T	Solid	7471A	280-122412

Report Basis
T = Total

General Chemistry

Analysis Batch:280-122903					
280-29519-1	J1PPC6	T	Solid	D-2216	
280-29519-1DU	Duplicate	T	Solid	D-2216	
280-29519-2	J1PPC7	T	Solid	D-2216	

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
HPLC/IC					
Prep Batch: 280-122216					
LCS 280-122216/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-122216/1-A	Method Blank	T	Solid	3550C	
280-29519-1	J1PPC6	T	Solid	3550C	
280-29519-1MS	Matrix Spike	T	Solid	3550C	
280-29519-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-29519-2	J1PPC7	T	Solid	3550C	
Analysis Batch:280-123398					
LCS 280-122216/2-A	Lab Control Sample	T	Solid	8310	280-122216
MB 280-122216/1-A	Method Blank	T	Solid	8310	280-122216
280-29519-1	J1PPC6	T	Solid	8310	280-122216
280-29519-1MS	Matrix Spike	T	Solid	8310	280-122216
280-29519-1MSD	Matrix Spike Duplicate	T	Solid	8310	280-122216
280-29519-2	J1PPC7	T	Solid	8310	280-122216

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Method Blank - Batch: 280-122826

Method: 8081A
Preparation: 3550C

Lab Sample ID:	MB 280-122826/1-A	Analysis Batch:	280-123988	Instrument ID:	GCS_P2
Client Matrix:	Solid	Prep Batch:	280-122826	Lab File ID:	06120050.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	06/12/2012 2250	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	06/06/2012 2040			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.52	U	0.52	1.6
4,4'-DDE	0.23	U	0.23	1.6
4,4'-DDT	0.56	U	0.56	1.6
Aldrin	0.24	U	0.24	1.6
alpha-BHC	0.20	U	0.20	1.6
beta-BHC	0.63	U	0.63	1.6
delta-BHC	0.38	U	0.38	1.6
gamma-BHC (Lindane)	0.44	U	0.44	1.6
Heptachlor	0.20	U	0.20	1.6
Heptachlor epoxide	0.40	U	0.40	1.6
Endosulfan I	0.17	U	0.17	1.6
Endosulfan II	0.27	U	0.27	1.6
Endosulfan sulfate	0.26	U	0.26	1.6
Endrin	0.29	U	0.29	1.6
Endrin aldehyde	0.16	U	0.16	1.6
Endrin ketone	0.46	U	0.46	1.6
gamma-Chlordane	0.25	U	0.25	1.6
Methoxychlor	0.43	U	0.43	3.1
alpha-Chlordane	0.31	U	0.31	1.6
Dieldrin	0.20	U	0.20	1.6
Toxaphene	15	U	15	160

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	89	59 - 115
Decachlorobiphenyl	79	63 - 124

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Lab Control Sample - Batch: 280-122826

Method: 8081A
Preparation: 3550C

Lab Sample ID:	LCS 280-122826/2-A	Analysis Batch:	280-123988	Instrument ID:	GCS_P2
Client Matrix:	Solid	Prep Batch:	280-122826	Lab File ID:	06120045.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	06/12/2012 2128	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	06/06/2012 2040			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	16.5	14.2	86	54 - 130	
4,4'-DDE	16.5	16.3	99	58 - 121	
4,4'-DDT	16.5	16.1	97	57 - 133	
Aldrin	16.5	16.8	102	63 - 115	
alpha-BHC	16.5	16.3	99	64 - 116	
beta-BHC	16.5	17.4	106	67 - 115	
delta-BHC	16.5	16.9	102	67 - 115	
gamma-BHC (Lindane)	16.5	16.3	99	63 - 118	
Heptachlor	16.5	16.4	99	68 - 115	
Heptachlor epoxide	16.5	16.3	99	66 - 117	
Endosulfan I	16.5	15.8	96	65 - 118	
Endosulfan II	16.5	16.1	98	71 - 118	
Endosulfan sulfate	16.5	16.9	102	67 - 123	
Endrin	16.5	17.9	109	77 - 134	
Endrin aldehyde	16.5	14.3	87	47 - 115	
Endrin ketone	16.5	16.4	100	62 - 115	
gamma-Chlordane	16.5	16.3	99	65 - 117	
Methoxychlor	16.5	16.7	101	67 - 130	
alpha-Chlordane	16.5	16.6	101	63 - 120	
Dieldrin	16.5	16.8	102	65 - 127	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	94	59 - 115
Decachlorobiphenyl	110	63 - 124

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-122826

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-29519-2	Analysis Batch:	280-123988	Instrument ID:	GCS_P2
Client Matrix:	Solid	Prep Batch:	280-122826	Lab File ID:	06120048.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.3 g
Analysis Date:	06/12/2012 2217			Final Weight/Volume:	10000 uL
Prep Date:	06/06/2012 2040			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-29519-2	Analysis Batch:	280-123988	Instrument ID:	GCS_P2
Client Matrix:	Solid	Prep Batch:	280-122826	Lab File ID:	06120049.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	06/12/2012 2233			Final Weight/Volume:	10000 uL
Prep Date:	06/06/2012 2040			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	71	71	54 - 130	2	20		
4,4'-DDE	78	81	58 - 121	5	15		
4,4'-DDT	81	83	57 - 133	3	29		
Aldrin	93	103	63 - 115	12	50		
alpha-BHC	84	91	64 - 116	9	17		
beta-BHC	91	90	67 - 115	1	17		
delta-BHC	82	89	67 - 115	9	19		
gamma-BHC (Lindane)	82	89	63 - 118	10	24		
Heptachlor	84	92	68 - 115	11	18		
Heptachlor epoxide	78	85	66 - 117	11	18		
Endosulfan I	75	80	65 - 118	8	26		
Endosulfan II	79	83	71 - 118	6	20		
Endosulfan sulfate	84	86	67 - 123	4	22		
Endrin	89	94	77 - 134	6	30		
Endrin aldehyde	72	71	47 - 115	1	29		
Endrin ketone	84	85	62 - 115	3	20		
gamma-Chlordane	68	74	65 - 117	10	21		
Methoxychlor	84	82	67 - 130	1	23		
alpha-Chlordane	76	82	63 - 120	8	18		
Dieldrin	78	84	65 - 127	8	25		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	84	88	59 - 115
Decachlorobiphenyl	79	76	63 - 124

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Method Blank - Batch: 280-123071

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-123071/1-A	Analysis Batch:	280-123992	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-123071	Lab File ID:	010F1001.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	06/12/2012 1159	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	06/07/2012 2200			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.7	U	2.7	9.9
Aroclor 1221	7.9	U	7.9	16
Aroclor 1232	2.0	U	2.0	9.9
Aroclor 1242	4.6	U	4.6	9.9
Aroclor 1248	4.6	U	4.6	9.9
Aroclor 1254	2.6	U	2.6	9.9
Aroclor 1260	2.6	U	2.6	9.9

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	82	59 - 130
Tetrachloro-m-xylene	75	53 - 128

Lab Control Sample - Batch: 280-123071

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-123071/2-A	Analysis Batch:	280-123992	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-123071	Lab File ID:	011F1101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	06/12/2012 1222	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	06/07/2012 2200			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	33.2	28.1	85	54 - 132	
Aroclor 1260	33.2	30.5	92	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	83	59 - 130
Tetrachloro-m-xylene	76	53 - 128

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-123071

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-29519-2	Analysis Batch:	280-123992	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-123071	Lab File ID:	015F1501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.4 g
Analysis Date:	06/12/2012 1354			Final Weight/Volume:	5000 uL
Prep Date:	06/07/2012 2200			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-29519-2	Analysis Batch:	280-123992	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-123071	Lab File ID:	016F1601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	06/12/2012 1417			Final Weight/Volume:	5000 uL
Prep Date:	06/07/2012 2200			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	78	86	54 - 132	10	26		
Aroclor 1260	64	80	62 - 129	23	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	60	71	59 - 130
Tetrachloro-m-xylene	75	77	53 - 128

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Method Blank - Batch: 280-123489

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-123489/1-A	Analysis Batch:	280-123747	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-123489	Lab File ID:	082F8201.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	06/13/2012 1742	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/11/2012 1940			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	930	U	930	3700
C10-C28	630	U	630	3700

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	80	49 - 115

Lab Control Sample - Batch: 280-123489

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-123489/2-A	Analysis Batch:	280-123747	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-123489	Lab File ID:	083F8301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.6 g
Analysis Date:	06/13/2012 1807	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/11/2012 1940			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	61400	59200	96	57 - 115	
C10-C28	61400	59100	96	53 - 115	

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

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-123489

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-29519-2	Analysis Batch:	280-123747	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-123489	Lab File ID:	086F8601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	06/13/2012 1921			Final Weight/Volume:	1000 uL
Prep Date:	06/11/2012 1940			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-29519-2	Analysis Batch:	280-123747	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-123489	Lab File ID:	087F8701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	06/13/2012 1945			Final Weight/Volume:	1000 uL
Prep Date:	06/11/2012 1940			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	121	90	57 - 115	21	23	N	
C10-C28	107	90	56 - 115	15	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	90	86	49 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Method Blank - Batch: 280-122216

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-122216/1-A	Analysis Batch:	280-123398	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-122216	Lab File ID:	G0611025.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	06/11/2012 2124	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	06/01/2012 2150			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.6	U	9.6	96
Acenaphthylene	8.6	U	8.6	96
Anthracene	2.9	U	2.9	19
Benzo[a]anthracene	3.1	U	3.1	14
Benzo[a]pyrene	6.1	U	6.1	14
Benzo[b]fluoranthene	4.0	U	4.0	14
Benzo[g,h,i]perylene	6.9	U	6.9	29
Benzo[k]fluoranthene	3.8	U	3.8	14
Chrysene	4.6	U	4.6	38
Dibenzo(a,h)anthracene	11	U	11	29
Fluoranthene	12	U	12	38
Fluorene	5.1	U	5.1	29
Indeno[1,2,3-cd]pyrene	12	U	12	29
Naphthalene	12	U	12	96
Phenanthrene	12	U	12	38
Pyrene	12	U	12	38

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	83	72 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Lab Control Sample - Batch: 280-122216

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-122216/2-A	Analysis Batch:	280-123398	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-122216	Lab File ID:	G0611026.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	06/11/2012 2154	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	06/01/2012 2150			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1990	2010	101	78 - 116	
Acenaphthylene	1990	1920	97	76 - 115	
Anthracene	1990	1940	97	74 - 115	
Benzo[a]anthracene	1990	2070	104	85 - 120	
Benzo[a]pyrene	1990	1860	94	74 - 121	
Benzo[b]fluoranthene	1990	2140	107	85 - 115	
Benzo[g,h,i]perylene	1990	2020	101	85 - 120	
Benzo[k]fluoranthene	1990	2040	102	85 - 115	
Chrysene	1990	2080	104	83 - 115	
Dibenzo(a,h)anthracene	1990	2050	103	83 - 115	
Fluoranthene	1990	2070	104	83 - 115	
Fluorene	1990	2010	101	80 - 115	
Indeno[1,2,3-cd]pyrene	1990	2150	108	85 - 123	
Naphthalene	1990	1930	97	80 - 121	
Phenanthrene	1990	2020	101	80 - 115	
Pyrene	1990	2030	102	75 - 116	

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	88	72 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-122216

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-29519-1	Analysis Batch:	280-123398	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-122216	Lab File ID:	G0611028.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	06/11/2012 2255			Final Weight/Volume:	4000 uL
Prep Date:	06/01/2012 2150			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-29519-1	Analysis Batch:	280-123398	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-122216	Lab File ID:	G0611029.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	06/11/2012 2326			Final Weight/Volume:	4000 uL
Prep Date:	06/01/2012 2150			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	103	99	78 - 116	6	20		
Acenaphthylene	98	97	76 - 115	4	21		
Anthracene	98	97	74 - 115	3	20		
Benzo[a]anthracene	104	104	85 - 120	3	20		
Benzo[a]pyrene	94	93	74 - 121	3	20		
Benzo[b]fluoranthene	107	106	85 - 115	3	20		
Benzo[g,h,i]perylene	100	100	85 - 120	2	20		
Benzo[k]fluoranthene	102	102	85 - 115	3	20		
Chrysene	104	104	83 - 115	3	20		
Dibenzo(a,h)anthracene	104	103	83 - 115	3	20		
Fluoranthene	105	104	83 - 115	3	20		
Fluorene	102	101	80 - 115	4	20		
Indeno[1,2,3-cd]pyrene	107	106	85 - 123	3	20		
Naphthalene	98	96	80 - 121	4	20		
Phenanthrene	102	101	80 - 115	4	20		
Pyrene	103	102	75 - 116	3	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	88	88	72 - 115

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Method Blank - Batch: 280-122277

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-122277/1-A	Analysis Batch:	280-123406	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-122277	Lab File ID:	26B060812.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	06/08/2012 2124	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/08/2012 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	18.10	B	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
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

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Lab Control Sample - Batch: 280-122277

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-122277/2-A	Analysis Batch:	280-123406	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-122277	Lab File ID:	26B060812.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	06/08/2012 2127	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/08/2012 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	193.5	97	82 - 116	
Antimony	50.0	47.39	95	82 - 110	
Arsenic	100	98.21	98	85 - 110	
Barium	200	197.9	99	87 - 112	
Beryllium	5.00	4.71	94	84 - 114	
Boron	100	98.66	99	81 - 110	
Cadmium	10.0	10.16	102	87 - 110	
Calcium	5000	4844	97	82 - 114	
Chromium	20.0	19.98	100	84 - 114	
Cobalt	50.0	49.55	99	87 - 110	
Copper	25.0	23.77	95	88 - 110	
Iron	100	93.89	94	87 - 120	
Lead	50.0	49.39	99	86 - 110	
Magnesium	5000	4745	95	90 - 110	
Manganese	50.0	48.02	96	88 - 110	
Molybdenum	100	98.09	98	86 - 110	
Nickel	50.0	48.06	96	87 - 110	
Potassium	5000	5145	103	89 - 110	
Selenium	200	196.1	98	83 - 110	
Silicon	1000	100.3	10	10 - 70	
Silver	5.00	5.21	104	87 - 114	
Sodium	5000	5075	101	90 - 112	
Vanadium	50.0	52.03	104	88 - 110	
Zinc	50.0	48.98	98	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Matrix Spike - Batch: 280-122277

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-29519-1	Analysis Batch:	280-123406	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-122277	Lab File ID:	26B060812.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.02 g
Analysis Date:	06/08/2012 2137	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/08/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	6550		197	8803	1143	50 - 200	4
Antimony	0.37	U	49.2	27.19	55	20 - 200	
Arsenic	1.5		98.4	90.26	90	76 - 111	
Barium	46.4		197	234.3	96	52 - 159	
Beryllium	0.21		4.92	4.51	87	72 - 105	
Boron	0.95	U	98.4	88.47	90	75 - 107	
Cadmium	0.14	B	9.84	9.45	95	40 - 130	
Calcium	5130		4920	10980	119	43 - 165	
Chromium	12.8		19.7	30.10	88	70 - 200	
Cobalt	7.5		49.2	51.47	90	72 - 106	
Copper	17.1		24.6	38.47	87	37 - 187	
Iron	19500		98.4	20810	1302	70 - 200	4
Lead	2.8		49.2	47.15	90	70 - 200	
Magnesium	4560		4920	9383	98	64 - 145	
Manganese	271		49.2	341.2	143	40 - 200	4
Molybdenum	0.27	B	98.4	86.97	88	75 - 103	
Nickel	13.9		49.2	54.43	82	61 - 126	
Potassium	812		4920	5774	101	56 - 172	
Selenium	0.83	U	197	174.2	89	76 - 104	
Silicon	267		984	572.8	31	20 - 200	
Silver	0.15	U	4.92	4.81	98	75 - 141	
Sodium	378		4920	5287	100	78 - 111	
Vanadium	59.3		49.2	112.4	108	50 - 169	
Zinc	37.7		49.2	81.93	90	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Duplicate - Batch: 280-122277

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-29519-1	Analysis Batch:	280-123406	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-122277	Lab File ID:	26B060812.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.01 g
Analysis Date:	06/08/2012 2134	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/08/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	6550		7284	11	40	
Antimony	0.37	U	0.38	NC	40	U
Arsenic	1.5		2.61	54	30	M
Barium	46.4		51.96	11	30	
Beryllium	0.21		0.267	24	30	
Boron	0.95	U	0.97	NC	30	U
Cadmium	0.14	B	0.149	7	30	B
Calcium	5130		5080	0.9	30	
Chromium	12.8		12.94	0.8	40	
Cobalt	7.5		7.25	3	30	
Copper	17.1		16.11	6	30	
Iron	19500		19790	1	40	
Lead	2.8		3.56	25	40	
Magnesium	4560		4610	1	30	
Manganese	271		278.7	3	40	
Molybdenum	0.27	B	0.26	NC	30	U
Nickel	13.9		12.56	10	30	
Potassium	812		991.5	20	40	
Selenium	0.83	U	0.85	NC	30	U
Silicon	267		338.9	24	40	
Silver	0.15	U	0.16	NC	30	U
Sodium	378		332.0	13	30	
Vanadium	59.3		55.87	6	30	
Zinc	37.7		37.85	0.4	40	

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Method Blank - Batch: 280-122412

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-122412/1-A	Analysis Batch:	280-123802	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-122412	Lab File ID:	120612aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	06/12/2012 1934	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/12/2012 1220				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.00608	B	0.0055	0.017

Lab Control Sample - Batch: 280-122412

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-122412/2-A	Analysis Batch:	280-123802	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-122412	Lab File ID:	120612aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	06/12/2012 1936	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/12/2012 1220				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.418	100	87 - 111	

Matrix Spike - Batch: 280-122412

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-29519-2	Analysis Batch:	280-123802	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-122412	Lab File ID:	120612aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.56 g
Analysis Date:	06/12/2012 1950	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/12/2012 1220				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0082	B	0.451	0.500	109	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Duplicate - Batch: 280-122412

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-29519-2	Analysis Batch:	280-123802	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-122412	Lab File ID:	120612aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.63 g
Analysis Date:	06/12/2012 1947	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/12/2012 1220				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0082	B	0.00866	6	20	B

Client: Washington Closure Hanford

Job Number: 280-29519-1
Sdg Number: J01539

Duplicate - Batch: 280-122903

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-29519-1	Analysis Batch:	280-122903	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	06/07/2012 0830	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	0.33	0.33	1	20	