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 6/18/12
INITIAL/DATE

COMMENTS:

SDG J01512 SAF-RC-210

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 600-298:6

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-29041-1

SDG Number: J01512

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
6/12/2012 11:37 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
06/12/2012

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.

Table of Contents

Cover Title Page 1
Report Narrative 3
Data Qualifiers 5
Method Summary 6
Method / Analyst Summary 7
Sample Summary 8
Sample Results 9
Sample Datasheets 10
QC Results 16
Qc Association Summary 17
Qc Reports 20
Client Chain of Custody 37
Sample Receipt Checklist 38

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-29041-1

SDG #: J01512
SAF#: RC-210

Date SDG Closed: May 18, 2012
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1P8D4	280-29041-1	6010B/7471/1311-6010-7470/WTPH-D+/ 8310/8082/8081	6010B/7471A/1311/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 sample was received on 5/18/2012 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3º C.

Sample J1P8D4, requesting TCLP Metals 1311/6010B/7470A analysis, was leached and placed on hold, as instructed on the chain-of-custody.

GC SEMIVOLATILES - SW846 8081A - PESTICIDEs
No anomalies were encountered.

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

GC SEMIVOLATILES - NWTPH-Dx - DRO
No anomalies were encountered.

HPLC - SW846 8310 - PAHs
The PAH 8310 extraction for sample J1P8D4 was performed outside the recommended sample holding time. It can be noted that extraction was originally performed within the sample holding time; however, due to the sample surrogate recovery failing low, re-extraction was required. The client was notified on 6/11/2012.

The RPD between the primary and confirmation columns exceeded 40% for Benzo[a]anthracene in sample J1P8D4. The lower of the two values has been reported, as matrix interference is evident on both columns. Associated results have been flagged with an "X".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-120728 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Chromium, Iron and Manganese in the Matrix Spike performed on sample J1P8D4; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the Matrix Spike performed on sample J1P8D4, and the associated sample result has been flagged “N”. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The duplicate analysis of sample J1P8D4 exhibited RPD data outside the control limits for Beryllium, Chromium, Sodium and Mercury, and the associated sample results have 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: 280-29041-1
Sdg Number: J01512

Lab Section	Qualifier	Description
GC Semi VOA		
	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.
	N	Recovery exceeds upper or lower control limits
	M	Sample duplicate precision not met.
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.
General Chemistry		
	M	Sample duplicate precision not met.
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: 280-29041-1
Sdg Number: J01512

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: 280-29041-1
Sdg Number: J01512

Method	Analyst	Analyst ID
SW846 8081A	Wells, David	DW
SW846 8082	Jackson, Todd D	TDJ
NWTPH NWTPH-Dx	Birdsell, Matthew R	MRB
SW846 6010B	Bowen, Heidi E	HEB
SW846 7471A	Rawlings, Brendon L	BLR
ASTM D-2216	Flynn, Sean P	SPF
SW846 8310	Fiedler, Heather K	HKF

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-29041-1	J1P8D4	Solid	05/17/2012 0825	05/18/2012 0900

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Client Sample ID: **J1P8D4**

Lab Sample ID: 280-29041-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 05/17/2012 0825
Date Received: 05/18/2012 0900

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-121732	Instrument ID:	GCS_P1
Prep Method:	3550C	Prep Batch:	280-120749	Initial Weight/Volume:	32.9 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	05/29/2012 2059			Injection Volume:	1 uL
Prep Date:	05/21/2012 2010			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		1.7		0.22	1.6
4,4'-DDT		2.9		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		0.24	U	0.24	1.6
Methoxychlor		0.41	U	0.41	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	80		59 - 115
Decachlorobiphenyl	97		63 - 124

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Client Sample ID: **J1P8D4**

Lab Sample ID: 280-29041-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 05/17/2012 0825
Date Received: 05/18/2012 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-122074	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-120916	Initial Weight/Volume:	32.6 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	05/31/2012 1650			Injection Volume:	1 uL
Prep Date:	05/22/2012 1755			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.6	U	2.6	9.3
Aroclor 1221		7.4	U	7.4	15
Aroclor 1232		1.9	U	1.9	9.3
Aroclor 1242		4.3	U	4.3	9.3
Aroclor 1248		4.3	U	4.3	9.3
Aroclor 1254		2.4	U	2.4	9.3
Aroclor 1260		2.4	U	2.4	9.3

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	93		59 - 130
Tetrachloro-m-xylene	86		53 - 128

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Client Sample ID: **J1P8D4**

Lab Sample ID: 280-29041-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 05/17/2012 0825
Date Received: 05/18/2012 0900

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-122518	Instrument ID:	GCS_U
Prep Method:	3550C	Prep Batch:	280-120493	Lab File ID:	027B2701.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	05/30/2012 2227			Final Weight/Volume:	1000 uL
Prep Date:	05/18/2012 2050			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		13000		1000	4000
C10-C28		6800		680	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		49 - 115

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Client Sample ID: **J1P8D4**

Lab Sample ID: 280-29041-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 05/17/2012 0825
Date Received: 05/18/2012 0900

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-123396	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-123069	Initial Weight/Volume:	31.0 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	06/11/2012 1346			Injection Volume:	20 uL
Prep Date:	06/07/2012 2205			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		9.5	J X	3.1	15
Benzo[a]pyrene		14	J	6.3	15
Benzo[b]fluoranthene		15		4.1	15
Benzo[g,h,i]perylene		7.0	U	7.0	29
Benzo[k]fluoranthene		6.0	J	3.8	15
Chrysene		14	J	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		29	J	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		21	J	12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	81		72 - 115

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Client Sample ID: **J1P8D4**

Lab Sample ID: 280-29041-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 05/17/2012 0825
Date Received: 05/18/2012 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-121749	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-120728	Lab File ID:	26b052912.asc
Dilution:	1.0			Initial Weight/Volume:	1.03 g
Analysis Date:	05/29/2012 2224			Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7890	X	1.5	4.9
Arsenic		1.9		0.65	0.98
Barium		55.8	X	0.074	0.49
Beryllium		0.10	B M	0.032	0.20
Boron		2.4		0.96	2.0
Cadmium		0.13	B	0.040	0.20
Calcium		4210	X	13.8	49.0
Chromium		125	X M	0.057	0.20
Cobalt		6.0	X	0.098	0.98
Copper		14.6		0.21	0.98
Iron		18600	X	3.7	4.9
Lead		7.4		0.26	0.49
Magnesium		4060	X	3.6	19.6
Manganese		266	X	0.098	0.98
Molybdenum		0.65	B	0.25	2.0
Nickel		32.3	X	0.12	3.9
Potassium		1450		40.2	294
Selenium		0.84	U	0.84	0.98
Silicon		484	X N	5.5	9.8
Silver		0.16	U	0.16	0.20
Sodium		465	M	57.8	118
Vanadium		42.1	X	0.092	2.0
Zinc		39.5	X	0.39	0.98

Analysis Method:	6010B	Analysis Batch:	280-121922	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-120728	Lab File ID:	26b053012.asc
Dilution:	1.0			Initial Weight/Volume:	1.03 g
Analysis Date:	05/30/2012 2245			Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	U	0.37	0.59

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-121070	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-120470	Lab File ID:	120522aa.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	05/22/2012 1836			Final Weight/Volume:	50 mL
Prep Date:	05/22/2012 1210				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0054	B M	0.0052	0.016

General Chemistry

Client Sample ID: **J1P8D4**

Lab Sample ID: 280-29041-1
Client Matrix: Solid

Date Sampled: 05/17/2012 0825
Date Received: 05/18/2012 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.91	M	%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-120939 Analysis Date: 05/22/2012 2129 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-120493					
LCS 280-120493/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-120493/1-A	Method Blank	T	Solid	3550C	
280-29041-1	J1P8D4	T	Solid	3550C	
280-29041-1MS	Matrix Spike	T	Solid	3550C	
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-120749					
LCS 280-120749/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-120749/1-A	Method Blank	T	Solid	3550C	
280-29041-1	J1P8D4	T	Solid	3550C	
280-29041-1MS	Matrix Spike	T	Solid	3550C	
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-120916					
LCS 280-120916/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-120916/1-A	Method Blank	T	Solid	3550C	
280-29041-1	J1P8D4	T	Solid	3550C	
280-29041-1MS	Matrix Spike	T	Solid	3550C	
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-121732					
LCS 280-120749/2-A	Lab Control Sample	T	Solid	8081A	280-120749
MB 280-120749/1-A	Method Blank	T	Solid	8081A	280-120749
280-29041-1	J1P8D4	T	Solid	8081A	280-120749
280-29041-1MS	Matrix Spike	T	Solid	8081A	280-120749
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	8081A	280-120749
Analysis Batch:280-122074					
LCS 280-120916/2-A	Lab Control Sample	T	Solid	8082	280-120916
MB 280-120916/1-A	Method Blank	T	Solid	8082	280-120916
280-29041-1	J1P8D4	T	Solid	8082	280-120916
280-29041-1MS	Matrix Spike	T	Solid	8082	280-120916
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	8082	280-120916
Analysis Batch:280-122518					
LCS 280-120493/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-120493
MB 280-120493/1-A	Method Blank	T	Solid	NWTPH-Dx	280-120493
280-29041-1	J1P8D4	T	Solid	NWTPH-Dx	280-120493
280-29041-1MS	Matrix Spike	T	Solid	NWTPH-Dx	280-120493
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-120493

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-120470					
LCS 280-120470/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-120470/1-A	Method Blank	T	Solid	7471A	
280-29041-1	J1P8D4	T	Solid	7471A	
280-29041-1DU	Duplicate	T	Solid	7471A	
280-29041-1MS	Matrix Spike	T	Solid	7471A	
Prep Batch: 280-120728					
LCS 280-120728/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-120728/1-A	Method Blank	T	Solid	3050B	
280-29041-1	J1P8D4	T	Solid	3050B	
280-29041-1DU	Duplicate	T	Solid	3050B	
280-29041-1MS	Matrix Spike	T	Solid	3050B	
Analysis Batch:280-121070					
LCS 280-120470/2-A	Lab Control Sample	T	Solid	7471A	280-120470
MB 280-120470/1-A	Method Blank	T	Solid	7471A	280-120470
280-29041-1	J1P8D4	T	Solid	7471A	280-120470
280-29041-1DU	Duplicate	T	Solid	7471A	280-120470
280-29041-1MS	Matrix Spike	T	Solid	7471A	280-120470
Analysis Batch:280-121749					
LCS 280-120728/2-A	Lab Control Sample	T	Solid	6010B	280-120728
MB 280-120728/1-A	Method Blank	T	Solid	6010B	280-120728
280-29041-1	J1P8D4	T	Solid	6010B	280-120728
280-29041-1DU	Duplicate	T	Solid	6010B	280-120728
280-29041-1MS	Matrix Spike	T	Solid	6010B	280-120728
Analysis Batch:280-121922					
LCS 280-120728/2-A	Lab Control Sample	T	Solid	6010B	280-120728
MB 280-120728/1-A	Method Blank	T	Solid	6010B	280-120728
280-29041-1	J1P8D4	T	Solid	6010B	280-120728
280-29041-1DU	Duplicate	T	Solid	6010B	280-120728
280-29041-1MS	Matrix Spike	T	Solid	6010B	280-120728

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-120939					
280-29041-1	J1P8D4	T	Solid	D-2216	
280-29041-1DU	Duplicate	T	Solid	D-2216	
HPLC/IC					
Prep Batch: 280-123069					
LCS 280-123069/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-123069/1-A	Method Blank	T	Solid	3550C	
280-29041-1	J1P8D4	T	Solid	3550C	
280-29041-1MS	Matrix Spike	T	Solid	3550C	
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-123396					
LCS 280-123069/2-A	Lab Control Sample	T	Solid	8310	280-123069
MB 280-123069/1-A	Method Blank	T	Solid	8310	280-123069
280-29041-1	J1P8D4	T	Solid	8310	280-123069
280-29041-1MS	Matrix Spike	T	Solid	8310	280-123069
280-29041-1MSD	Matrix Spike Duplicate	T	Solid	8310	280-123069

Report Basis
T = Total

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Method Blank - Batch: 280-120749

Method: 8081A
Preparation: 3550C

Lab Sample ID:	MB 280-120749/1-A	Analysis Batch:	280-121732	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-120749	Lab File ID:	05290045.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	05/29/2012 2151	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	05/21/2012 2010			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.51	U	0.51	1.6
4,4'-DDE	0.22	U	0.22	1.6
4,4'-DDT	0.55	U	0.55	1.6
Aldrin	0.24	U	0.24	1.5
alpha-BHC	0.20	U	0.20	1.5
beta-BHC	0.62	U	0.62	1.5
delta-BHC	0.38	U	0.38	1.5
gamma-BHC (Lindane)	0.44	U	0.44	1.5
Heptachlor	0.20	U	0.20	1.5
Heptachlor epoxide	0.40	U	0.40	1.5
Endosulfan I	0.17	U	0.17	1.5
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	0.42	U	0.42	3.1
alpha-Chlordane	0.30	U	0.30	1.6
Dieldrin	0.20	U	0.20	1.6
Toxaphene	15	U	15	150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	75	59 - 115
Decachlorobiphenyl	81	63 - 124

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Lab Control Sample - Batch: 280-120749

Method: 8081A
Preparation: 3550C

Lab Sample ID:	LCS 280-120749/2-A	Analysis Batch:	280-121732	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-120749	Lab File ID:	05290041.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.6 g
Analysis Date:	05/29/2012 2041	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	05/21/2012 2010			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	15.3	11.1	72	54 - 130	
4,4'-DDE	15.3	12.3	80	58 - 121	
4,4'-DDT	15.3	11.7	76	57 - 133	
Aldrin	15.3	14.4	94	63 - 115	
alpha-BHC	15.3	11.4	74	64 - 116	
beta-BHC	15.3	11.3	74	67 - 115	
delta-BHC	15.3	11.8	77	67 - 115	
gamma-BHC (Lindane)	15.3	11.2	73	63 - 118	
Heptachlor	15.3	11.0	71	68 - 115	
Heptachlor epoxide	15.3	11.9	77	66 - 117	
Endosulfan I	15.3	12.0	78	65 - 118	
Endosulfan II	15.3	12.1	79	71 - 118	
Endosulfan sulfate	15.3	12.3	80	67 - 123	
Endrin	15.3	14.0	91	77 - 134	
Endrin aldehyde	15.3	10.5	69	47 - 115	
Endrin ketone	15.3	12.3	80	62 - 115	
gamma-Chlordane	15.3	12.0	78	65 - 117	
Methoxychlor	15.3	11.9	77	67 - 130	
alpha-Chlordane	15.3	11.9	78	63 - 120	
Dieldrin	15.3	12.4	81	65 - 127	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	75	59 - 115
Decachlorobiphenyl	82	63 - 124

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-120749

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-29041-1	Analysis Batch:	280-121732	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-120749	Lab File ID:	05290043.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	05/29/2012 2116			Final Weight/Volume:	10000 uL
Prep Date:	05/21/2012 2010			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-29041-1	Analysis Batch:	280-121732	Instrument ID:	GCS_P1
Client Matrix:	Solid	Prep Batch:	280-120749	Lab File ID:	05290044.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	05/29/2012 2133			Final Weight/Volume:	10000 uL
Prep Date:	05/21/2012 2010			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	74	71	54 - 130	0	20		
4,4'-DDE	80	84	58 - 121	7	15		
4,4'-DDT	83	81	57 - 133	2	29		
Aldrin	96	97	63 - 115	5	50		
alpha-BHC	79	79	64 - 116	4	17		
beta-BHC	77	76	67 - 115	2	17		
delta-BHC	79	78	67 - 115	2	19		
gamma-BHC (Lindane)	77	77	63 - 118	4	24		
Heptachlor	78	78	68 - 115	4	18		
Heptachlor epoxide	80	80	66 - 117	4	18		
Endosulfan I	78	79	65 - 118	4	26		
Endosulfan II	78	76	71 - 118	1	20		
Endosulfan sulfate	79	78	67 - 123	2	22		
Endrin	96	96	77 - 134	3	30		
Endrin aldehyde	63	68	47 - 115	11	29		
Endrin ketone	81	78	62 - 115	0	20		
gamma-Chlordane	77	82	65 - 117	10	21		
Methoxychlor	80	78	67 - 130	1	23		
alpha-Chlordane	78	80	63 - 120	6	18		
Dieldrin	82	82	65 - 127	3	25		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	77	76	59 - 115
Decachlorobiphenyl	84	103	63 - 124

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Method Blank - Batch: 280-120916

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-120916/1-A	Analysis Batch:	280-122074	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-120916	Lab File ID:	020F2001.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	05/31/2012 1604	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	05/22/2012 1755			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.6	U	2.6	9.3
Aroclor 1221	7.5	U	7.5	15
Aroclor 1232	1.9	U	1.9	9.3
Aroclor 1242	4.4	U	4.4	9.3
Aroclor 1248	4.4	U	4.4	9.3
Aroclor 1254	2.4	U	2.4	9.3
Aroclor 1260	2.4	U	2.4	9.3

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	93	59 - 130
Tetrachloro-m-xylene	89	53 - 128

Lab Control Sample - Batch: 280-120916

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-120916/2-A	Analysis Batch:	280-122074	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-120916	Lab File ID:	021F2101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.9 g
Analysis Date:	05/31/2012 1627	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	05/22/2012 1755			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	31.3	28.9	92	54 - 132	
Aroclor 1260	31.3	31.1	99	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	97	59 - 130
Tetrachloro-m-xylene	93	53 - 128

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-120916

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-29041-1	Analysis Batch:	280-122074	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-120916	Lab File ID:	023F2301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	05/31/2012 1713			Final Weight/Volume:	5000 uL
Prep Date:	05/22/2012 1755			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-29041-1	Analysis Batch:	280-122074	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-120916	Lab File ID:	024F2401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.2 g
Analysis Date:	05/31/2012 1736			Final Weight/Volume:	5000 uL
Prep Date:	05/22/2012 1755			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	91	88	54 - 132	9	26		
Aroclor 1260	103	101	62 - 129	7	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	82	87	59 - 130
Tetrachloro-m-xylene	84	86	53 - 128

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Method Blank - Batch: 280-120493

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-120493/1-A	Analysis Batch:	280-122518	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-120493	Lab File ID:	025B2501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.5 g
Analysis Date:	05/30/2012 2133	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	05/18/2012 2050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	920	U	920	3700
C10-C28	630	U	630	3700

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	103	49 - 115

Lab Control Sample - Batch: 280-120493

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-120493/2-A	Analysis Batch:	280-122518	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-120493	Lab File ID:	026B2601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	05/30/2012 2200	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	05/18/2012 2050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	64800	65100	101	57 - 115	
C10-C28	64800	65100	100	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	102	49 - 115

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-120493

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-29041-1	Analysis Batch:	280-122518	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-120493	Lab File ID:	028B2801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	05/30/2012 2254			Final Weight/Volume:	1000 uL
Prep Date:	05/18/2012 2050			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-29041-1	Analysis Batch:	280-122518	Instrument ID:	GCS_U
Client Matrix:	Solid	Prep Batch:	280-120493	Lab File ID:	029B2901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	05/30/2012 2321			Final Weight/Volume:	1000 uL
Prep Date:	05/18/2012 2050			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	98	98	57 - 115	0	23		
C10-C28	99	98	56 - 115	0	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	101	97	49 - 115

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Method Blank - Batch: 280-123069

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-123069/1-A	Analysis Batch:	280-123396	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-123069	Lab File ID:	G0611008.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	06/11/2012 1245	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	06/07/2012 2205			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.9	U	9.9	99
Acenaphthylene	8.9	U	8.9	99
Anthracene	3.0	U	3.0	20
Benzo[a]anthracene	3.2	U	3.2	15
Benzo[a]pyrene	6.3	U	6.3	15
Benzo[b]fluoranthene	4.2	U	4.2	15
Benzo[g,h,i]perylene	7.1	U	7.1	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	5.2	U	5.2	30
Indeno[1,2,3-cd]pyrene	12	U	12	30
Naphthalene	12	U	12	99
Phenanthrene	12	U	12	40
Pyrene	12	U	12	40

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

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Lab Control Sample - Batch: 280-123069

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-123069/2-A	Analysis Batch:	280-123396	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-123069	Lab File ID:	G0611009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	06/11/2012 1315	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	06/07/2012 2205			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1950	1920	99	78 - 116	
Acenaphthylene	1950	1850	95	76 - 115	
Anthracene	1950	1840	94	74 - 115	
Benzo[a]anthracene	1950	2000	103	85 - 120	
Benzo[a]pyrene	1950	1840	94	74 - 121	
Benzo[b]fluoranthene	1950	2030	104	85 - 115	
Benzo[g,h,i]perylene	1950	1990	102	85 - 120	
Benzo[k]fluoranthene	1950	1950	100	85 - 115	
Chrysene	1950	1980	102	83 - 115	
Dibenzo(a,h)anthracene	1950	1980	102	83 - 115	
Fluoranthene	1950	2000	102	83 - 115	
Fluorene	1950	1920	99	80 - 115	
Indeno[1,2,3-cd]pyrene	1950	2090	107	85 - 123	
Naphthalene	1950	1860	95	80 - 121	
Phenanthrene	1950	1930	99	80 - 115	
Pyrene	1950	1960	101	75 - 116	

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	89	72 - 115

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-123069

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-29041-1	Analysis Batch:	280-123396	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-123069	Lab File ID:	G0611011.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	06/11/2012 1416			Final Weight/Volume:	4000 uL
Prep Date:	06/07/2012 2205			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-29041-1	Analysis Batch:	280-123396	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-123069	Lab File ID:	G0611012.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	06/11/2012 1447			Final Weight/Volume:	4000 uL
Prep Date:	06/07/2012 2205			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	95	89	78 - 116	6	20		
Acenaphthylene	92	87	76 - 115	5	21		
Anthracene	92	90	74 - 115	2	20		
Benzo[a]anthracene	96	95	85 - 120	1	20		
Benzo[a]pyrene	88	90	74 - 121	3	20		
Benzo[b]fluoranthene	98	98	85 - 115	0	20		
Benzo[g,h,i]perylene	95	97	85 - 120	3	20		
Benzo[k]fluoranthene	95	96	85 - 115	2	20		
Chrysene	98	96	83 - 115	1	20		
Dibenzo(a,h)anthracene	96	98	83 - 115	2	20		
Fluoranthene	98	98	83 - 115	0	20		
Fluorene	97	92	80 - 115	5	20		
Indeno[1,2,3-cd]pyrene	100	102	85 - 123	2	20		
Naphthalene	92	89	80 - 121	3	20		
Phenanthrene	97	94	80 - 115	3	20		
Pyrene	97	98	75 - 116	0	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	85	86	72 - 115

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Method Blank - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-120728/1-A	Analysis Batch:	280-121749	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b052912.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/29/2012 2219	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Arsenic	0.66	U	0.66	1.0
Barium	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.058	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

Method Blank - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-120728/1-A	Analysis Batch:	280-121922	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b053012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/30/2012 2240	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony	0.38	U	0.38	0.60

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Lab Control Sample - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-120728/2-A	Analysis Batch:	280-121749	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b052912.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/29/2012 2222	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	212.9	106	82 - 116	
Arsenic	100	97.08	97	85 - 110	
Barium	200	197.4	99	87 - 112	
Beryllium	5.00	4.83	97	84 - 114	
Boron	100	97.06	97	81 - 110	
Cadmium	10.0	10.23	102	87 - 110	
Calcium	5000	4822	96	82 - 114	
Chromium	20.0	19.81	99	84 - 114	
Cobalt	50.0	48.85	98	87 - 110	
Copper	25.0	24.83	99	88 - 110	
Iron	100	96.87	97	87 - 120	
Lead	50.0	47.64	95	86 - 110	
Magnesium	5000	4786	96	90 - 110	
Manganese	50.0	48.69	97	88 - 110	
Molybdenum	100	99.49	99	86 - 110	
Nickel	50.0	48.83	98	87 - 110	
Potassium	5000	4992	100	89 - 110	
Selenium	200	192.6	96	83 - 110	
Silicon	1000	96.57	10	10 - 70	
Silver	5.00	5.08	102	87 - 114	
Sodium	5000	5166	103	90 - 112	
Vanadium	50.0	50.02	100	88 - 110	
Zinc	50.0	48.24	96	76 - 114	

Lab Control Sample - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-120728/2-A	Analysis Batch:	280-121922	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b053012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	05/30/2012 2243	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	50.0	50.55	101	82 - 110	

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Matrix Spike - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-29041-1	Analysis Batch:	280-121749	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b052912.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.01 g
Analysis Date:	05/29/2012 2233	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	7890		200	9283	699	50 - 200	4
Arsenic	1.9		99.9	89.67	88	76 - 111	
Barium	55.8		200	246.6	95	52 - 159	
Beryllium	0.10	B	5.00	4.58	90	72 - 105	
Boron	2.4		99.9	89.51	87	75 - 107	
Cadmium	0.13	B	9.99	9.61	95	40 - 130	
Calcium	4210		5000	9857	113	43 - 165	
Chromium	125		20.0	150.0	125	70 - 200	4
Cobalt	6.0		50.0	50.43	89	72 - 106	
Copper	14.6		25.0	37.58	92	37 - 187	
Iron	18600		99.9	19680	1093	70 - 200	4
Lead	7.4		50.0	50.11	86	70 - 200	
Magnesium	4060		5000	8905	97	64 - 145	
Manganese	266		50.0	339.6	148	40 - 200	4
Molybdenum	0.65	B	99.9	89.53	89	75 - 103	
Nickel	32.3		50.0	74.71	85	61 - 126	
Potassium	1450		5000	6343	98	56 - 172	
Selenium	0.84	U	200	173.8	87	76 - 104	
Silicon	484		999	595.2	11	20 - 200	N
Silver	0.16	U	5.00	4.78	96	75 - 141	
Sodium	465		5000	5498	101	78 - 111	
Vanadium	42.1		50.0	94.26	104	50 - 169	
Zinc	39.5		50.0	84.88	91	70 - 200	

Matrix Spike - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-29041-1	Analysis Batch:	280-121922	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b053012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.01 g
Analysis Date:	05/30/2012 2253	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.37	U	50.0	29.43	59	20 - 200	

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Duplicate - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-29041-1	Analysis Batch:	280-121749	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b052912.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.02 g
Analysis Date:	05/29/2012 2230	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	7890		9310	17	40	
Arsenic	1.9		1.68	10	30	
Barium	55.8		66.06	17	30	
Beryllium	0.10	B	0.138	32	30	B M
Boron	2.4		2.70	14	30	
Cadmium	0.13	B	0.150	11	30	B
Calcium	4210		5295	23	30	
Chromium	125		456.3	114	40	M
Cobalt	6.0		6.25	4	30	
Copper	14.6		15.44	5	30	
Iron	18600		24370	27	40	
Lead	7.4		7.73	5	40	
Magnesium	4060		4307	6	30	
Manganese	266		287.8	8	40	
Molybdenum	0.65	B	0.507	24	30	B
Nickel	32.3		32.97	2	30	
Potassium	1450		1775	20	40	
Selenium	0.84	U	0.85	NC	30	U
Silicon	484		505.7	4	40	
Silver	0.16	U	0.16	NC	30	U
Sodium	465		989.2	72	30	M
Vanadium	42.1		46.35	10	30	
Zinc	39.5		42.17	7	40	

Duplicate - Batch: 280-120728

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-29041-1	Analysis Batch:	280-121922	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-120728	Lab File ID:	26b053012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.02 g
Analysis Date:	05/30/2012 2250	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/29/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	0.37	U	1.01	NC	40	

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Method Blank - Batch: 280-120470

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-120470/1-A	Analysis Batch:	280-121070	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-120470	Lab File ID:	120522aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	05/22/2012 1707	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/22/2012 1210				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-120470

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-120470/2-A	Analysis Batch:	280-121070	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-120470	Lab File ID:	120522aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	05/22/2012 1834	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/22/2012 1210				
Leach Date:	N/A				

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

Matrix Spike - Batch: 280-120470

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-29041-1	Analysis Batch:	280-121070	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-120470	Lab File ID:	120522aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	05/22/2012 1716	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/22/2012 1210				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0054	B	0.420	0.459	108	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Duplicate - Batch: 280-120470

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-29041-1	Analysis Batch:	280-121070	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-120470	Lab File ID:	120522aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.59 g
Analysis Date:	05/22/2012 1714	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/22/2012 1210				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0054	B	0.0101	60	20	B M

Client: Washington Closure Hanford

Job Number: 280-29041-1
Sdg Number: J01512

Duplicate - Batch: 280-120939

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-29041-1	Analysis Batch:	280-120939	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:	05/22/2012 2129	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	0.91	0.64	35	20	M