

SAF-RC-217
100F Remaining Sites Remediation –
Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt

H4-21

KW 8/18/11
INITIAL/DATE

COMMENTS:

SDG JP0262

SAF-RC-217

Rad only

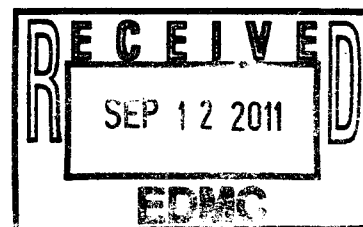
Chem only

Rad & Chem

Complete

Partial

Sample Location: **600-351 Verification Resampling (2)**



ANALYTICAL REPORT

Job Number: 280-19014-1
SDG Number: JP0262
Job Description: SAF# RC-217

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



Approved for release.
Kae E Yoder
Project Manager II
8/17/2011 11:07 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
08/17/2011

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: 280-19014-1

SDG #: JP0262

SAF#: RC-217

Date SDG Closed: August 10, 2011

Data Deliverable: 7 Day / Summary

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>ANALYSES REQUESTED</u>	<u>ANALYSES PERFORMED</u>
J1KNF4	280-19014-1	6010/7471/WTPH-D+/8082/8081/8151	6010B/7471A/NWTPH-Dx/8082/8081A/8151A

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 8/10/2011; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 3.6 C.

GC SEMIVOLATILES - SW846 8081A - PESTICIDES

The closing Continuing Calibration Verification (CCV) standard exhibited %Difference (%D) values >15%, biased low, for 4,4'-DDT (-29.6%) and Methoxychlor (-24.9%). The overall mean %D is \leq 15%; therefore, method criteria have been met and corrective action is deemed unnecessary. The laboratory noted that the sample matrix of J1KNF4 is suspected to have contributed to these individual failures. The sample extract was light yellow brown in color.

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs

No anomalies were encountered.

GC SEMIVOLATILES - SW846 8151A - HERBICIDES

The RPD between the primary and confirmation columns exceeded 40% for MCPP in sample J1KNF4. The lower of the two values has been reported, as matrix interference is evident. The result has been flagged with an "X".

The MS/MSD performed on sample J1KNF4 exhibited percent recoveries outside the control limits for Dinoseb, 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.

GC SEMIVOLATILES - NWTPH-Dx - DRO

No anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-80741 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, Iron, Lead and Manganese in the Matrix Spike performed on sample J1KNF4; therefore, control limits are not applicable.

Arsenic was recovered outside the control limits in the Matrix Spike performed on sample J1KNF4, 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 J1KNF4 exhibited RPD data outside the control limits for Calcium 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: 280-19014-1

Sdg Number: JP0262

Lab Section	Qualifier	Description
GC Semi VOA		
	U	Analyzed for but not detected.
	N	LCS, LCSD: Recovery exceeds upper or lower control limits.
	X	More than 40% difference between columns, lower result reported.
	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.
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.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Organochlorine Pesticides (GC) Ultrasonic Extraction	TAL DEN	SW846 8081A	SW846 3550C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography Ultrasonic Extraction	TAL DEN	SW846 8082	SW846 3550C
Herbicides (GC) Extraction (Herbicides)	TAL DEN	SW846 8151A	SW846 8151A
Northwest - Semi-Volatile Petroleum Products (GC) Ultrasonic Extraction	TAL DEN	NWTPH NWTPH-Dx	SW846 3550C
Metals (ICP) Preparation, Metals	TAL DEN	SW846 6010B	SW846 3050B
Mercury (CVAA) Preparation, Mercury	TAL DEN	SW846 7471A	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: 280-19014-1
Sdg Number: JP0262

Method	Analyst	Analyst ID
SW846 8081A	Ream, Brian E	BER
SW846 8082	Jackson, Todd D	TDJ
SW846 8151A	Wells, David	DW
NWTPH NWTPH-Dx	Pavlakovich, Adam M	AMP
SW846 6010B	Harre, John K	JKH
SW846 7471A	Niman, Katie M	KMN
ASTM D-2216	Berry III, Paul B	PBB

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-19014-1	J1KNF4	Solid	08/08/2011 1235	08/10/2011 1030

SAMPLE RESULTS

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Client Sample ID: J1KNF4

Lab Sample ID: 280-19014-1

Date Sampled: 08/08/2011 1235

Client Matrix: Solid

% Moisture: 3.3

Date Received: 08/10/2011 1030

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-81546	Instrument ID:	GCS_P2
Prep Method:	3550C	Prep Batch:	280-81017	Initial Weight/Volume:	30.4 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	08/15/2011 1850			Injection Volume:	1 uL
Prep Date:	08/11/2011 2115			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.56	U	0.56	1.7
4,4'-DDE		0.24	U	0.24	1.7
4,4'-DDT		0.60	U	0.60	1.7
Aldrin		0.26	U	0.26	1.7
alpha-BHC		0.22	U	0.22	1.7
beta-BHC		0.68	U	0.68	1.7
delta-BHC		0.41	U	0.41	1.7
gamma-BHC (Lindane)		0.47	U	0.47	1.7
Heptachlor		0.22	U	0.22	1.7
Heptachlor epoxide		0.43	U	0.43	1.7
Endosulfan I		0.18	U	0.18	1.7
Endosulfan II		0.29	U	0.29	1.7
Endosulfan sulfate		0.28	U	0.28	1.7
Endrin		0.31	U	0.31	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.50	U	0.50	1.7
gamma-Chlordane		0.27	U	0.27	1.7
Methoxychlor		0.46	U	0.46	3.4
alpha-Chlordane		0.33	U	0.33	1.7
Dieldrin		0.21	U	0.21	1.7
Toxaphene		16	U	16	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	92		59 - 115
Decachlorobiphenyl	79		63 - 124

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Client Sample ID: J1KNF4

Lab Sample ID: 280-19014-1

Date Sampled: 08/08/2011 1235

Client Matrix: Solid

% Moisture: 3.3

Date Received: 08/10/2011 1030

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-81271	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-80918	Initial Weight/Volume:	31.4 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	08/13/2011 0323			Injection Volume:	1 uL
Prep Date:	08/11/2011 1604			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	89		59 - 130
Tetrachloro-m-xylene	99		53 - 128

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Client Sample ID: J1KNF4

Lab Sample ID: 280-19014-1
Client Matrix: Solid

% Moisture: 3.3

Date Sampled: 08/08/2011 1235
Date Received: 08/10/2011 1030

8151A Herbicides (GC)

Analysis Method:	8151A	Analysis Batch:	280-81581	Instrument ID:	GCS_M
Prep Method:	8151A	Prep Batch:	280-80884	Initial Weight/Volume:	50.4 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	08/15/2011 1759			Injection Volume:	1 uL
Prep Date:	08/11/2011 1410			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2,4,5-T		2.4	U	2.4	21
2,4-Dichlorophenoxyacetic acid		14	U	14	82
2,4-DB		27	J	2.9	82
Dalapon		1.4	U	1.4	41
Dicamba		1.4	U	1.4	41
Dichlorprop		3.3	U	3.3	82
Dinoseb		1.4	U N	1.4	12
MCPA		2100	U	2100	8200
2,4,5-TP (Silvex)		1.4	U	1.4	21
MCPP		2200	J X	2100	8200

Surrogate	%Rec	Qualifier	Acceptance Limits
DCAA	85		31 - 105

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Client Sample ID: J1KNF4

Lab Sample ID: 280-19014-1

Date Sampled: 08/08/2011 1235

Client Matrix: Solid

% Moisture: 3.3

Date Received: 08/10/2011 1030

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-81478	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-81026	Lab File ID:	062B1501.D
Dilution:	1.0			Initial Weight/Volume:	32.5 g
Analysis Date:	08/15/2011 1711			Final Weight/Volume:	1000 uL
Prep Date:	08/12/2011 0030			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		48000		950	3800
C10-C28		24000		650	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	92		49 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Client Sample ID: J1KNF4

Lab Sample ID: 280-19014-1

Date Sampled: 08/08/2011 1235

Client Matrix: Solid

% Moisture: 3.3

Date Received: 08/10/2011 1030

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-81063	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-80741	Lab File ID:	25A3081111.asc
Dilution:	1.0			Initial Weight/Volume:	1.13 g
Analysis Date:	08/11/2011 1435			Final Weight/Volume:	100 mL
Prep Date:	08/11/2011 0530				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		10100	X	1.4	4.6
Antimony		0.69		0.35	0.55
Arsenic		250	X N	0.60	0.92
Barium		87.3		0.070	0.46
Beryllium		0.30		0.030	0.18
Boron		1.5	B	0.90	1.8
Cadmium		0.10	B	0.038	0.18
Calcium		4850	X M	12.9	45.8
Chromium		11.6	X	0.053	0.18
Cobalt		7.3	X	0.092	0.92
Copper		15.6		0.20	0.92
Iron		20300	X	3.5	4.6
Lead		805	X	0.25	0.46
Magnesium		4530	X	3.4	18.3
Manganese		337	X	0.092	0.92
Molybdenum		0.25	B	0.24	1.8
Nickel		12.3	X	0.11	3.7
Potassium		1640		37.5	275
Selenium		0.79	U	0.79	0.92
Silicon		351	X	5.2	9.2
Silver		0.15	U	0.15	0.18
Sodium		271		54.0	110
Vanadium		46.6		0.086	1.8
Zinc		51.2	X	0.36	0.92

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-81595	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-80972	Lab File ID:	110815TA.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Analysis Date:	08/15/2011 1850			Final Weight/Volume:	50 mL
Prep Date:	08/15/2011 1620				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0075	B M	0.0054	0.017

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

General Chemistry

Client Sample ID: J1KNF4

Lab Sample ID: 280-19014-1

Client Matrix: Solid

Date Sampled: 08/08/2011 1235

Date Received: 08/10/2011 1030

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	3.3		%	0.10	0.10	1.0	D-2216
	Analysis Batch: 280-80924		Analysis Date: 08/11/2011 1213				DryWt Corrected: N

QUALITY CONTROL RESULTS

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-80884					
LCS 280-80884/2-A	Lab Control Sample	T	Solid	8151A	
MB 280-80884/1-A	Method Blank	T	Solid	8151A	
280-19014-1	J1KNF4	T	Solid	8151A	
280-19014-1MS	Matrix Spike	T	Solid	8151A	
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	8151A	
Prep Batch: 280-80918					
LCS 280-80918/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-80918/1-A	Method Blank	T	Solid	3550C	
280-19014-1	J1KNF4	T	Solid	3550C	
280-19014-1MS	Matrix Spike	T	Solid	3550C	
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-81017					
LCS 280-81017/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-81017/1-A	Method Blank	T	Solid	3550C	
280-19014-1	J1KNF4	T	Solid	3550C	
280-19014-1MS	Matrix Spike	T	Solid	3550C	
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-81026					
LCS 280-81026/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-81026/1-A	Method Blank	T	Solid	3550C	
280-19014-1	J1KNF4	T	Solid	3550C	
280-19014-1MS	Matrix Spike	T	Solid	3550C	
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-81271					
LCS 280-80918/2-A	Lab Control Sample	T	Solid	8082	280-80918
MB 280-80918/1-A	Method Blank	T	Solid	8082	280-80918
280-19014-1	J1KNF4	T	Solid	8082	280-80918
280-19014-1MS	Matrix Spike	T	Solid	8082	280-80918
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	8082	280-80918
Analysis Batch:280-81478					
LCS 280-81026/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-81026
MB 280-81026/1-A	Method Blank	T	Solid	NWTPH-Dx	280-81026
280-19014-1	J1KNF4	T	Solid	NWTPH-Dx	280-81026
280-19014-1MS	Matrix Spike	T	Solid	NWTPH-Dx	280-81026
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-81026

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Analysis Batch:280-81546					
LCS 280-81017/2-A	Lab Control Sample	T	Solid	8081A	280-81017
MB 280-81017/1-A	Method Blank	T	Solid	8081A	280-81017
280-19014-1	J1KNF4	T	Solid	8081A	280-81017
280-19014-1MS	Matrix Spike	T	Solid	8081A	280-81017
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	8081A	280-81017
Analysis Batch:280-81581					
LCS 280-80884/2-A	Lab Control Sample	T	Solid	8151A	280-80884
MB 280-80884/1-A	Method Blank	T	Solid	8151A	280-80884
280-19014-1	J1KNF4	T	Solid	8151A	280-80884
280-19014-1MS	Matrix Spike	T	Solid	8151A	280-80884
280-19014-1MSD	Matrix Spike Duplicate	T	Solid	8151A	280-80884

Report Basis

T = Total

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-80741					
LCS 280-80741/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-80741/1-A	Method Blank	T	Solid	3050B	
280-19014-1	J1KNF4	T	Solid	3050B	
280-19014-1DU	Duplicate	T	Solid	3050B	
280-19014-1MS	Matrix Spike	T	Solid	3050B	
Prep Batch: 280-80972					
LCS 280-80972/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-80972/1-A	Method Blank	T	Solid	7471A	
280-19014-1	J1KNF4	T	Solid	7471A	
280-19014-1DU	Duplicate	T	Solid	7471A	
280-19014-1MS	Matrix Spike	T	Solid	7471A	
Analysis Batch:280-81063					
LCS 280-80741/2-A	Lab Control Sample	T	Solid	6010B	280-80741
MB 280-80741/1-A	Method Blank	T	Solid	6010B	280-80741
280-19014-1	J1KNF4	T	Solid	6010B	280-80741
280-19014-1DU	Duplicate	T	Solid	6010B	280-80741
280-19014-1MS	Matrix Spike	T	Solid	6010B	280-80741
Analysis Batch:280-81595					
LCS 280-80972/2-A	Lab Control Sample	T	Solid	7471A	280-80972
MB 280-80972/1-A	Method Blank	T	Solid	7471A	280-80972
280-19014-1	J1KNF4	T	Solid	7471A	280-80972
280-19014-1DU	Duplicate	T	Solid	7471A	280-80972
280-19014-1MS	Matrix Spike	T	Solid	7471A	280-80972

Report Basis

T = Total

General Chemistry

Analysis Batch:280-80924

280-19014-1	J1KNF4	T	Solid	D-2216	
280-19014-1DU	Duplicate	T	Solid	D-2216	

Report Basis

T = Total

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Method Blank - Batch: 280-81017

Method: 8081A
Preparation: 3550C

Lab Sample ID: MB 280-81017/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1459
Prep Date: 08/11/2011 2115
Leach Date: N/A

Analysis Batch: 280-81546
Prep Batch: 280-81017
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_P2
Lab File ID: 08150021.D
Initial Weight/Volume: 31.5 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
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	0.41	U	0.41	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	0.47	U	0.47	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	94	59 - 115
Decachlorobiphenyl	108	63 - 124

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Lab Control Sample - Batch: 280-81017

Method: 8081A
Preparation: 3550C

Lab Sample ID: LCS 280-81017/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1442
Prep Date: 08/11/2011 2115
Leach Date: N/A

Analysis Batch: 280-81546
Prep Batch: 280-81017
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_P2
Lab File ID: 08150020.D
Initial Weight/Volume: 31.6 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	15.8	14.3	90	57 - 118	
4,4'-DDE	15.8	14.6	93	61 - 115	
4,4'-DDT	15.8	16.2	103	53 - 125	
Aldrin	15.8	14.2	90	60 - 115	
alpha-BHC	15.8	14.5	91	54 - 115	
beta-BHC	15.8	14.5	92	58 - 115	
delta-BHC	15.8	14.7	93	62 - 115	
gamma-BHC (Lindane)	15.8	14.5	91	59 - 115	
Heptachlor	15.8	14.6	92	61 - 115	
Heptachlor epoxide	15.8	14.4	91	62 - 112	
Endosulfan I	15.8	14.7	93	55 - 115	
Endosulfan II	15.8	15.4	98	60 - 115	
Endosulfan sulfate	15.8	15.1	96	58 - 118	
Endrin	15.8	16.8	106	61 - 121	
Endrin aldehyde	15.8	13.7	87	54 - 115	
Endrin ketone	15.8	14.5	92	61 - 118	
gamma-Chlordane	15.8	14.6	92	60 - 115	
Methoxychlor	15.8	15.9	101	52 - 123	
alpha-Chlordane	15.8	14.6	92	60 - 115	
Dieldrin	15.8	15.2	96	63 - 117	
Surrogate		% Rec		Acceptance Limits	
Tetrachloro-m-xylene		91		59 - 115	
Decachlorobiphenyl		106		63 - 124	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 280-81017

Method: 8081A

Preparation: 3550C

MS Lab Sample ID: 280-19014-1
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/15/2011 1907
 Prep Date: 08/11/2011 2115
 Leach Date: N/A

Analysis Batch: 280-81546
 Prep Batch: 280-81017
 Leach Batch: N/A

Instrument ID: GCS_P2
 Lab File ID: 08150036.D
 Initial Weight/Volume: 32.4 g
 Final Weight/Volume: 10000 uL
 Injection Volume: 1 uL
 Column ID: PRIMARY

MSD Lab Sample ID: 280-19014-1
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/15/2011 1923
 Prep Date: 08/11/2011 2115
 Leach Date: N/A

Analysis Batch: 280-81546
 Prep Batch: 280-81017
 Leach Batch: N/A

Instrument ID: GCS_P2
 Lab File ID: 08150037.D
 Initial Weight/Volume: 31.3 g
 Final Weight/Volume: 10000 uL
 Injection Volume: 1 uL
 Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
4,4'-DDD	78	80	57 - 118	6	20		
4,4'-DDE	74	78	61 - 115	10	15		
4,4'-DDT	66	70	53 - 125	10	29		
Aldrin	67	77	60 - 115	17	50		
alpha-BHC	82	89	54 - 115	12	17		
beta-BHC	77	81	58 - 115	10	17		
delta-BHC	72	80	62 - 115	14	19		
gamma-BHC (Lindane)	76	85	59 - 115	14	24		
Heptachlor	72	79	61 - 115	13	18		
Heptachlor epoxide	66	76	62 - 112	17	18		
Endosulfan I	65	75	55 - 115	17	26		
Endosulfan II	66	70	60 - 115	10	20		
Endosulfan sulfate	62	63	58 - 118	6	22		
Endrin	74	82	61 - 121	14	30		
Endrin aldehyde	59	60	54 - 115	4	29		
Endrin ketone	61	64	61 - 118	9	20		
gamma-Chlordane	65	72	60 - 115	14	21		
Methoxychlor	65	68	52 - 123	8	23		
alpha-Chlordane	67	74	60 - 115	13	18		
Dieldrin	64	74	63 - 117	18	25		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
Tetrachloro-m-xylene		91	92			59 - 115	
Decachlorobiphenyl		68	101			63 - 124	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Method Blank - Batch: 280-80918

Method: 8082 Preparation: 3550C

Lab Sample ID: MB 280-80918/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/13/2011 0219
Prep Date: 08/11/2011 1604
Leach Date: N/A

Analysis Batch: 280-81271
Prep Batch: 280-80918
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_W
Lab File ID: 024F2401.D
Initial Weight/Volume: 30.7 g
Final Weight/Volume: 5000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.7	U	2.7	9.8
Aroclor 1221	7.8	U	7.8	16
Aroclor 1232	2.0	U	2.0	9.8
Aroclor 1242	4.6	U	4.6	9.8
Aroclor 1248	4.6	U	4.6	9.8
Aroclor 1254	2.5	U	2.5	9.8
Aroclor 1260	2.5	U	2.5	9.8

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	104	59 - 130
Tetrachloro-m-xylene	98	53 - 128

Lab Control Sample - Batch: 280-80918

Method: 8082 Preparation: 3550C

Lab Sample ID: LCS 280-80918/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/13/2011 0251
Prep Date: 08/11/2011 1604
Leach Date: N/A

Analysis Batch: 280-81271
Prep Batch: 280-80918
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_W
Lab File ID: 025F2501.D
Initial Weight/Volume: 30.7 g
Final Weight/Volume: 5000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.6	30.9	95	54 - 132	
Aroclor 1260	32.6	36.6	112	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	108	59 - 130
Tetrachloro-m-xylene	97	53 - 128

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-80918**

**Method: 8082
Preparation: 3550C**

MS Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/13/2011 0354
Prep Date: 08/11/2011 1604
Leach Date: N/A

Analysis Batch: 280-81271
Prep Batch: 280-80918
Leach Batch: N/A

Instrument ID: GCS_W
Lab File ID: 027F2701.D
Initial Weight/Volume: 31.5 g
Final Weight/Volume: 5000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

MSD Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/13/2011 0426
Prep Date: 08/11/2011 1604
Leach Date: N/A

Analysis Batch: 280-81271
Prep Batch: 280-80918
Leach Batch: N/A

Instrument ID: GCS_W
Lab File ID: 028F2801.D
Initial Weight/Volume: 31.6 g
Final Weight/Volume: 5000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Aroclor 1016	82	82	54 - 132	0	26		
Aroclor 1260	73	89	62 - 129	19	26		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
Decachlorobiphenyl		78	87			59 - 130	
Tetrachloro-m-xylene		97	93			53 - 128	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Method Blank - Batch: 280-80884

Method: 8151A Preparation: 8151A

Lab Sample ID: MB 280-80884/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1920
Prep Date: 08/11/2011 1410
Leach Date: N/A

Analysis Batch: 280-81581
Prep Batch: 280-80884
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_M
Lab File ID: 015B1501.D
Initial Weight/Volume: 50.2 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
2,4,5-T	2.3	U	2.3	20
2,4-Dichlorophenoxyacetic acid	14	U	14	80
2,4-DB	2.8	U	2.8	80
Dalapon	1.4	U	1.4	40
Dicamba	1.4	U	1.4	40
Dichlorprop	3.2	U	3.2	80
Dinoseb	1.4	U	1.4	12
MCPA	2000	U	2000	8000
2,4,5-TP (Silvex)	1.4	U	1.4	20
MCPP	2000	U	2000	8000

Surrogate	% Rec	Acceptance Limits
DCAA	81	31 - 105

Lab Control Sample - Batch: 280-80884

Method: 8151A Preparation: 8151A

Lab Sample ID: LCS 280-80884/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1731
Prep Date: 08/11/2011 1410
Leach Date: N/A

Analysis Batch: 280-81581
Prep Batch: 280-80884
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_M
Lab File ID: 011B1101.D
Initial Weight/Volume: 50.2 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4,5-T	95.6	88.6	93	24 - 115	
2,4-Dichlorophenoxyacetic acid	91.6	79.7	87	32 - 115	J
2,4-DB	99.6	83.5	84	37 - 119	
Dalapon	104	82.4	80	11 - 115	
Dicamba	91.6	73.3	80	11 - 115	
Dichlorprop	91.6	84.9	93	35 - 115	
Dinoseb	91.6	9.15	10	5 - 166	J
MCPA	9280	8060	87	37 - 115	
2,4,5-TP (Silvex)	91.6	82.3	90	53 - 134	
MCPP	9290	9220	99	48 - 132	

Surrogate	% Rec	Acceptance Limits
DCAA	82	31 - 105

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-80884**

**Method: 8151A
Preparation: 8151A**

MS Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1826
Prep Date: 08/11/2011 1410
Leach Date: N/A

Analysis Batch: 280-81581
Prep Batch: 280-80884
Leach Batch: N/A

Instrument ID: GCS_M
Lab File ID: 013B1301.D
Initial Weight/Volume: 50.3 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

MSD Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1853
Prep Date: 08/11/2011 1410
Leach Date: N/A

Analysis Batch: 280-81581
Prep Batch: 280-80884
Leach Batch: N/A

Instrument ID: GCS_M
Lab File ID: 014B1401.D
Initial Weight/Volume: 50.0 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
2,4,5-T	90	90	24 - 115	0	40		
2,4-Dichlorophenoxyacetic acid	77	77	32 - 115	1	40	J	J
2,4-DB	72	75	37 - 119	3	50		
Dalapon	79	75	11 - 115	4	50		
Dicamba	79	81	11 - 115	3	50		
Dichlorprop	103	107	35 - 115	5	50		
Dinoseb	0	4	5 - 166	NC	50	U N	J N
MCPA	101	92	37 - 115	9	50		
2,4,5-TP (Silvex)	83	84	53 - 134	1	40		
MCPP	69	83	48 - 132	15	50		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
DCAA		92	91			31 - 105	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Method Blank - Batch: 280-81026

**Method: NWTPH-Dx
Preparation: 3550C**

Lab Sample ID: MB 280-81026/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1129
Prep Date: 08/12/2011 0030
Leach Date: N/A

Analysis Batch: 280-81478
Prep Batch: 280-81026
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_U2
Lab File ID: 052B0501.D
Initial Weight/Volume: 32.2 g
Final Weight/Volume: 1000 uL
Injection Volume: 1 uL

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

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	89	49 - 115

Lab Control Sample - Batch: 280-81026

**Method: NWTPH-Dx
Preparation: 3550C**

Lab Sample ID: LCS 280-81026/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1203
Prep Date: 08/12/2011 0030
Leach Date: N/A

Analysis Batch: 280-81478
Prep Batch: 280-81026
Leach Batch: N/A
Units: ug/Kg

Instrument ID: GCS_U2
Lab File ID: 053B0601.D
Initial Weight/Volume: 30.7 g
Final Weight/Volume: 1000 uL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	65100	52900	81	57 - 115	
C10-C28	65100	52900	81	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	93	49 - 115

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 280-81026

Method: NWTPH-Dx

Preparation: 3550C

MS Lab Sample ID: 280-19014-1
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/15/2011 1311
 Prep Date: 08/12/2011 0030
 Leach Date: N/A

Analysis Batch: 280-81478
 Prep Batch: 280-81026
 Leach Batch: N/A

Instrument ID: GCS_U2
 Lab File ID: 055B0801.D
 Initial Weight/Volume: 30.5 g
 Final Weight/Volume: 1000 uL
 Injection Volume: 1 uL

MSD Lab Sample ID: 280-19014-1
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/15/2011 1345
 Prep Date: 08/12/2011 0030
 Leach Date: N/A

Analysis Batch: 280-81478
 Prep Batch: 280-81026
 Leach Batch: N/A

Instrument ID: GCS_U2
 Lab File ID: 056B0901.D
 Initial Weight/Volume: 31.7 g
 Final Weight/Volume: 1000 uL
 Injection Volume: 1 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
C10-C36	91	107	57 - 115	8	23		
C10-C28	88	96	56 - 115	4	23		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
o-Terphenyl		74	77			49 - 115	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1

Sdg Number: JP0262

Method Blank - Batch: 280-80741

Method: 6010B

Preparation: 3050B

Lab Sample ID: MB 280-80741/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/11/2011 1430
 Prep Date: 08/11/2011 0530
 Leach Date: N/A

Analysis Batch: 280-81063
 Prep Batch: 280-80741
 Leach Batch: N/A
 Units: mg/Kg

Instrument ID: MT_025
 Lab File ID: 25A3081111.asc
 Initial Weight/Volume: 1 g
 Final Weight/Volume: 100 mL

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

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Lab Control Sample - Batch: 280-80741

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

Lab Sample ID: LCS 280-80741/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/11/2011 1433
Prep Date: 08/11/2011 0530
Leach Date: N/A

Analysis Batch: 280-81063
Prep Batch: 280-80741
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_025
Lab File ID: 25A3081111.asc
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	187.5	94	82 - 116	
Antimony	50.0	46.38	93	82 - 110	
Arsenic	100	98.89	99	85 - 110	
Barium	200	201.3	101	87 - 112	
Beryllium	5.00	4.73	95	84 - 114	
Boron	100	93.67	94	81 - 110	
Cadmium	10.0	9.92	99	87 - 110	
Calcium	5000	4745	95	82 - 114	
Chromium	20.0	19.90	99	84 - 114	
Cobalt	50.0	48.67	97	87 - 110	
Copper	25.0	24.96	100	88 - 110	
Iron	100	97.59	98	87 - 120	
Lead	50.0	48.75	97	86 - 110	
Magnesium	5000	4702	94	90 - 110	
Manganese	50.0	48.46	97	88 - 110	
Molybdenum	100	98.45	98	86 - 110	
Nickel	50.0	48.67	97	87 - 110	
Potassium	5000	5011	100	89 - 110	
Selenium	200	196.5	98	83 - 110	
Silicon	1000	202.7	20	10 - 70	
Silver	5.00	4.93	99	87 - 114	
Sodium	5000	5151	103	90 - 112	
Vanadium	50.0	49.34	99	88 - 110	
Zinc	50.0	46.37	93	76 - 114	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Matrix Spike - Batch: 280-80741

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/11/2011 1442
Prep Date: 08/11/2011 0530
Leach Date: N/A

Analysis Batch: 280-81063
Prep Batch: 280-80741
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_025
Lab File ID: 25A3081111.asc
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	10100	201	12510	1190	50 - 200	4
Antimony	0.69	50.2	24.10	47	20 - 200	
Arsenic	250	100	365.9	115	76 - 111	N
Barium	87.3	201	293.4	103	52 - 159	
Beryllium	0.30	5.02	5.00	94	72 - 105	
Boron	1.5	B 100	85.49	84	75 - 107	
Cadmium	0.10	B 10.0	10.02	99	40 - 130	
Calcium	4850	5020	10270	108	43 - 165	
Chromium	11.6	20.1	33.91	111	70 - 200	
Cobalt	7.3	50.2	54.65	94	72 - 106	
Copper	15.6	25.1	41.22	102	37 - 187	
Iron	20300	100	21460	1139	70 - 200	4
Lead	805	50.2	878.7	146	70 - 200	4
Magnesium	4530	5020	9703	103	64 - 145	
Manganese	337	50.2	395.6	116	40 - 200	4
Molybdenum	0.25	B 100	88.84	88	75 - 103	
Nickel	12.3	50.2	60.07	95	61 - 126	
Potassium	1640	5020	6932	105	56 - 172	
Selenium	0.79	U 201	191.2	95	76 - 104	
Silicon	351	1000	678.4	33	20 - 200	
Silver	0.15	U 5.02	4.91	98	75 - 141	
Sodium	271	5020	5662	107	78 - 111	
Vanadium	46.6	50.2	101.1	109	50 - 169	
Zinc	51.2	50.2	96.06	89	70 - 200	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Duplicate - Batch: 280-80741

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/11/2011 1439
Prep Date: 08/11/2011 0530
Leach Date: N/A

Analysis Batch: 280-81063
Prep Batch: 280-80741
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_025
Lab File ID: 25A3081111.asc
Initial Weight/Volume: 1.15 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Aluminum	10100	8297	20	40	
Antimony	0.69	0.34	NC	40	U
Arsenic	250	218.8	13	30	
Barium	87.3	74.57	16	30	
Beryllium	0.30	0.264	12	30	
Boron	1.5	1.09	29	30	B
Cadmium	0.10	0.0827	23	30	B
Calcium	4850	6643	31	30	M
Chromium	11.6	9.75	17	40	
Cobalt	7.3	6.47	13	30	
Copper	15.6	13.39	16	30	
Iron	20300	17350	16	40	
Lead	805	689.9	15	40	
Magnesium	4530	3844	16	30	
Manganese	337	294.1	14	40	
Molybdenum	0.25	0.23	NC	30	U
Nickel	12.3	10.13	20	30	
Potassium	1640	1364	18	40	
Selenium	0.79	0.77	NC	30	U
Silicon	351	335.7	5	40	
Silver	0.15	0.14	NC	30	U
Sodium	271	219.2	21	30	
Vanadium	46.6	38.17	20	30	
Zinc	51.2	42.07	19	40	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Method Blank - Batch: 280-80972

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 280-80972/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1845
Prep Date: 08/15/2011 1620
Leach Date: N/A

Analysis Batch: 280-81595
Prep Batch: 280-80972
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_034
Lab File ID: 110815TA.txt
Initial Weight/Volume: 0.6 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-80972

Method: 7471A
Preparation: 7471A

Lab Sample ID: LCS 280-80972/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1848
Prep Date: 08/15/2011 1620
Leach Date: N/A

Analysis Batch: 280-81595
Prep Batch: 280-80972
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_034
Lab File ID: 110815TA.txt
Initial Weight/Volume: 0.6 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.408	98	87 - 111	

Matrix Spike - Batch: 280-80972

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1859
Prep Date: 08/15/2011 1620
Leach Date: N/A

Analysis Batch: 280-81595
Prep Batch: 280-80972
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_034
Lab File ID: 110815TA.txt
Initial Weight/Volume: 0.65 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0075 B	0.398	0.357	88	87 - 111	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Duplicate - Batch: 280-80972

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/15/2011 1852
Prep Date: 08/15/2011 1620
Leach Date: N/A

Analysis Batch: 280-81595
Prep Batch: 280-80972
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MT_034
Lab File ID: 110815TA.txt
Initial Weight/Volume: 0.63 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.0075 B	0.0447	143	20	M

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-19014-1
Sdg Number: JP0262

Duplicate - Batch: 280-80924

Method: D-2216
Preparation: N/A

Lab Sample ID: 280-19014-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/11/2011 1213
Prep Date: N/A
Leach Date: N/A

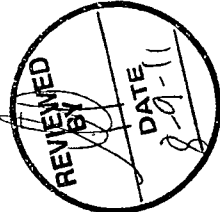
Analysis Batch: 280-80924
Prep Batch: N/A
Leach Batch: N/A
Units: %

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	3.3	3.0	9	20	

11/25/08 3.6 oc 4 8 10 11 12

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				Page 1 of 1							
Washington Closure Hanford		RC-217-015									
Collector B-Tree G. Leach	Company Contact Jen Russell	Project Coordinator KESSNER, JH	Price Code 8L	Data Turnaround 21 Days							
Project Designation 100F Remaining Sites Remediation - Soil-Full Protocol	Telephone No. (509) 380-8093	SAF No. RC-217	7 Days								
Ice Chest No. WCH-08-070	Sampling Location 600-351 VER RE-SAMPLING (2)	Method of Shipment FedEx									
	Field Logbook No. EL-1651-01	Bill of Lading/Air Bill No. See OSPC									
	COA R603512000										
Shipped To TestAmerica Incorporated, Richland	Offsite Property No. A 100 83Z										
POSSIBLE SAMPLE HAZARDS/REMARKS None											
Special Handling and/or Storage Cool 4C											
SAMPLE ANALYSIS											
Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C
J1KNF4	SOIL	8-8-11	1235		X	X	X	X			
CHAIN OF POSSESSION				SIGN/PRINT NAMES				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	(1) ICP Metals - 6010TR (Close-out List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (Mercury)			
G. Leach	8-8-11 1415	Jen Russell	8-8-11 1415								
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time								
Jen Russell	8-8-11 1600	A. Freier	8-8-11 1600								
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time								
A. Freier	8-9-11	Fed Ex									
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time								
		WCP	8/10/11 1030								
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	Date/Time								
FINAL SAMPLE DISPOSITION		Disposal Method	Date/Time								



JP0262



Project 28002142 - 601076
501:2

Analytical Due:

Report Due: 8/17/11 (Kush Sg-TAT)

Sample Check-in List

Date/Time Received: 8/10/11 10:30 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG #: JPO262 NA [] SAF #: RC-217 NA []

Job Number: 19614 Chain of Custody # RC-217-015

Shipping Container ID: WCH-08-070 Air Bill # 79506018 4478

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: 3.6 NA [] 5. Vermiculite/packing materials is NA [] Wet [] Dry
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [] Yes [] No
8. Samples have:
 Tape Hazard Lables
 Custody Seals Appropriate Sample Lables
9. Samples are:
 In Good Condition Leaking
 Broken 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: WAPM/jp Date: 8/10/11

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager ant Date 8/11/11

WCH-08-070 3.10°

From: (509) 376-7768
1162 SHIPPING DEPT
US DOE
2355 STEVENS DR
RICHLAND, WA 99354

Origin ID: PSCA

FedEx
Express



J11201104290225

Ship Date: 09AUG11
ActWgt: 71.0 LB
CAD: 5851986/INET3180

Delivery Address Bar Code



SHIP TO: (303) 736-0100

BILL THIRD PARTY

KAE YODER
TEST AMERICA
4955 YARROW ST # A100827

ARVADA, CO 80002

Ref # R60351 2000
Invoice #
PO #
Dept #

1 of 2

WED - 10 AUG A1
PRIORITY OVERNIGHT

TRK# 7950 6018 4478

0201

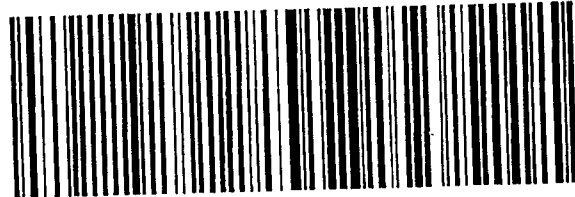
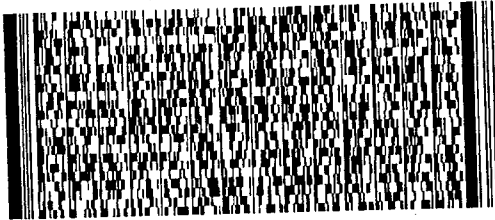
MASTER

80002

CO-US

DEN

XH WHHA



50FG1/EEE7/F5F4

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