SAF-RC-232
100-IU-2 & 100-IU-6 Remaining Waste Sites – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/14/15
INITIAL/DATE

COMMENTS:

SDG JP0959 SAF-RC-232

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 600-358 (ASA-FS)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

RECEIVED

Job Number: 280-68620-1

SDG Number: JP0959

Job Description: SAF# RC-232

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

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Senior Project Manager
5/14/2015 9:42 AM

Kae E Yoder, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0190
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05/14/2015

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 4025.

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

Sample Summary 6

Method Summary 7

Method / Analyst Summary 8

Sample Results 9

Sample Datasheets 10

QC Results 28

Surrogate Recovery Report 29

Qc Reports 33

Qc Association Summary 53

Client Chain of Custody 58

Shipping and Receiving Documents 59

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Job Number: 280-68620-1

SDG #: JP0959
SAF#: RC-232

Date SDG Closed: May 1, 2015
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1V6R0	280-68620-1	6010/7471/WTPH-D+/8310/8082/WTPH-G/ 353.2	6010B/7471A/NWTPH-Dx/8310/8082/NWTPH-Gx/ 353.2
J1V6R1	280-68620-2	6010/7471/WTPH-D+/8310/8082/WTPH-G/ 353.2	6010B/7471A/NWTPH-Dx/8310/8082/NWTPH-Gx/ 353.2
J1V6R2	280-68620-3	6010/7471/WTPH-D+/8310/8082/WTPH-G/ 353.2	6010B/7471A/NWTPH-Dx/8310/8082/NWTPH-Gx/ 353.2

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 5/1/2015 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1° C.

GC VOLATILES - NWTPH-Gx - GRO
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 RPD between the primary and confirmation columns exceeded 40% for Benzo[g,h,i]perylene in sample J1V6R0. The lower of the two values has been reported, as matrix interference is evident on both columns. The result has been flagged with an "X".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-275721 indicates that physical and chemical interferences are present for Aluminum, Barium, Magnesium, Manganese and Silicon. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. The samples presented in this report required dilutions prior to the analysis of Antimony, Beryllium, Cobalt, Copper, Lead and Vanadium to minimize the interference caused by Titanium concentrations greater than the linear range. The reporting limits have been adjusted relative to the dilution required.

Low levels of Calcium, Magnesium, Nickel, Barium and Iron are present in the method blank associated with batch 280-275721. Because the concentrations in the method blank are not present at levels greater than half the reporting limit or the associated sample amounts are greater than twenty times the method blank concentration, 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 J1V6R0; therefore, control limits are not applicable.

The duplicate analysis of sample J1V6R0 exhibited RPD data outside the control limits for Cadmium and Lead, 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.

GENERAL CHEMISTRY - MCAWW 353.2 - NITRATE NITRITE as N

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Lab Section	Qualifier	Description
GC VOA		
	U	Analyzed for but not detected.
GC Semi VOA		
	U	Analyzed for but not detected.
	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.
	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.
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 greater than 4 times 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.
General Chemistry		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-68620-1	J1V6R0	Solid	04/29/2015 0955	05/01/2015 0930
280-68620-2	J1V6R1	Solid	04/29/2015 1005	05/01/2015 0930
280-68620-3	J1V6R2	Solid	04/29/2015 1005	05/01/2015 0930

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Volatile Petroleum Products (GC)	TAL DEN	NWTPH NWTPH-Gx	
Purge and Trap	TAL DEN		SW846 5030B
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
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: 280-68620-1
Sdg Number: JP0959

Method	Analyst	Analyst ID
NWTPH NWTPH-Gx	Redman, Erin E	EER
SW846 8082	Jackson, Todd D	TDJ
NWTPH NWTPH-Dx	Moore, Tegan E	TEM
SW846 6010B	Broander, Laura L	LLB
SW846 7471A	Whyte, Whitney A	WAW
MCAWW 353.2	Bland, Morgan R	MRB
ASTM D-2216	Schwemin, Andrew J	AJS
SW846 8310	Fiedler, Heather K	HKF

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R0**

Lab Sample ID: 280-68620-1
Client Matrix: Solid
% Moisture: 2.2

Date Sampled: 04/29/2015 0955
Date Received: 05/01/2015 0930

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-276209	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-276036	Initial Weight/Volume:	10.31 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	05/06/2015 1440			Injection Volume:	5 mL
Prep Date:	05/05/2015 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Gasoline		320	U	320	1200

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	90		77 - 123

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: J1V6R1

Lab Sample ID: 280-68620-2
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-276209	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-276036	Initial Weight/Volume:	10.08 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	05/06/2015 1506			Injection Volume:	5 mL
Prep Date:	05/05/2015 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Gasoline		330	U	330	1200

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	91		77 - 123

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R2**

Lab Sample ID: 280-68620-3
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-276209	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-276036	Initial Weight/Volume:	10.07 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	05/06/2015 1621			Injection Volume:	5 mL
Prep Date:	05/05/2015 1105			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Gasoline		330	U	330	1200

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	93		77 - 123

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: J1V6R0

Lab Sample ID: 280-68620-1
Client Matrix: Solid
% Moisture: 2.2

Date Sampled: 04/29/2015 0955
Date Received: 05/01/2015 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-275815	Initial Weight/Volume:	32.0 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	05/06/2015 1927			Injection Volume:	1 uL
Prep Date:	05/04/2015 1101			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.6
Aroclor 1221		7.7	U	7.7	16
Aroclor 1232		1.9	U	1.9	9.6
Aroclor 1242		4.5	U	4.5	9.6
Aroclor 1248		4.5	U	4.5	9.6
Aroclor 1254		2.5	U	2.5	9.6
Aroclor 1260		2.5	U	2.5	9.6

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	109		59 - 130
Tetrachloro-m-xylene	86		53 - 128

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: J1V6R1

Lab Sample ID: 280-68620-2
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-275815	Initial Weight/Volume:	30.6 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	05/06/2015 1950			Injection Volume:	1 uL
Prep Date:	05/04/2015 1101			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.0	U	8.0	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		2.6	U	2.6	10
Aroclor 1260		2.6	U	2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	102		59 - 130
Tetrachloro-m-xylene	84		53 - 128

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: J1V6R2

Lab Sample ID: 280-68620-3
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-275815	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	05/06/2015 2059			Injection Volume:	1 uL
Prep Date:	05/04/2015 1101			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.1	U	8.1	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		2.6	U	2.6	10
Aroclor 1260		2.6	U	2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	103		59 - 130
Tetrachloro-m-xylene	86		53 - 128

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R0**

Lab Sample ID: 280-68620-1
Client Matrix: Solid

% Moisture: 2.2

Date Sampled: 04/29/2015 0955
Date Received: 05/01/2015 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Prep Method:	3550C	Prep Batch:	280-275870	Lab File ID:	05060021.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	05/06/2015 1729			Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		8000		1000	4000
C10-C28		4100		680	4000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	66		49 - 115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: J1V6R1

Lab Sample ID: 280-68620-2
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Prep Method:	3550C	Prep Batch:	280-275870	Lab File ID:	05060022.D
Dilution:	1.0			Initial Weight/Volume:	34.1 g
Analysis Date:	05/06/2015 1753			Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		920	J	900	3600
C10-C28		610	U	610	3600

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	69		49 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R2**

Lab Sample ID: 280-68620-3
Client Matrix: Solid

% Moisture: 1.7

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Prep Method:	3550C	Prep Batch:	280-275870	Lab File ID:	05060023.D
Dilution:	1.0			Initial Weight/Volume:	32.7 g
Analysis Date:	05/06/2015 1818			Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL

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

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	63		49 - 115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R0**

Lab Sample ID: 280-68620-1
Client Matrix: Solid

% Moisture: 2.2

Date Sampled: 04/29/2015 0955
Date Received: 05/01/2015 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-275808	Initial Weight/Volume:	32.8 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	05/05/2015 2228			Injection Volume:	20 uL
Prep Date:	05/04/2015 1005			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.4	U	9.4	94
Acenaphthylene		8.4	U	8.4	94
Anthracene		2.9	U	2.9	19
Benzo[a]anthracene		21		3.0	14
Benzo[a]pyrene		17		6.0	14
Benzo[b]fluoranthene		24		3.9	14
Benzo[g,h,i]perylene		11	J X	6.7	28
Benzo[k]fluoranthene		9.4	J	3.7	14
Chrysene		15	J	4.5	37
Dibenzo(a,h)anthracene		10	U	10	28
Fluoranthene		22	J	12	37
Fluorene		4.9	U	4.9	28
Indeno[1,2,3-cd]pyrene		14	J	11	28
Naphthalene		11	U	11	94
Phenanthrene		11	U	11	37
Pyrene		27	J	11	37

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	91		72 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R1**

Lab Sample ID: 280-68620-2
Client Matrix: Solid

% Moisture: 2.1

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-275808	Initial Weight/Volume:	32.4 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	05/05/2015 2359			Injection Volume:	20 uL
Prep Date:	05/04/2015 1005			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.5	U	9.5	95
Acenaphthylene		8.5	U	8.5	95
Anthracene		2.9	U	2.9	19
Benzo[a]anthracene		3.0	U	3.0	14
Benzo[a]pyrene		6.1	U	6.1	14
Benzo[b]fluoranthene		4.0	U	4.0	14
Benzo[g,h,i]perylene		6.8	U	6.8	28
Benzo[k]fluoranthene		3.7	U	3.7	14
Chrysene		4.6	U	4.6	38
Dibenzo(a,h)anthracene		10	U	10	28
Fluoranthene		12	U	12	38
Fluorene		5.0	U	5.0	28
Indeno[1,2,3-cd]pyrene		11	U	11	28
Naphthalene		11	U	11	95
Phenanthrene		11	U	11	38
Pyrene		11	U	11	38

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	97		72 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R2**

Lab Sample ID: 280-68620-3
Client Matrix: Solid

% Moisture: 1.7

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-275808	Initial Weight/Volume:	32.5 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	05/06/2015 0030			Injection Volume:	20 uL
Prep Date:	05/04/2015 1005			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.4	U	9.4	94
Acenaphthylene		8.5	U	8.5	94
Anthracene		2.9	U	2.9	19
Benzo[a]anthracene		3.0	U	3.0	14
Benzo[a]pyrene		6.0	U	6.0	14
Benzo[b]fluoranthene		3.9	U	3.9	14
Benzo[g,h,i]perylene		6.8	U	6.8	28
Benzo[k]fluoranthene		3.7	U	3.7	14
Chrysene		4.5	U	4.5	38
Dibenzo(a,h)anthracene		10	U	10	28
Fluoranthene		12	U	12	38
Fluorene		5.0	U	5.0	28
Indeno[1,2,3-cd]pyrene		11	U	11	28
Naphthalene		11	U	11	94
Phenanthrene		11	U	11	38
Pyrene		11	U	11	38

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R0**

Lab Sample ID: 280-68620-1
Client Matrix: Solid

% Moisture: 2.2

Date Sampled: 04/29/2015 0955
Date Received: 05/01/2015 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 05/06/2015 1240
Prep Date: 05/04/2015 1445

Analysis Batch: 280-276375
Prep Batch: 280-275721

Instrument ID: MT_026
Lab File ID: 26a050615.asc
Initial Weight/Volume: 1.09 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5520	X	1.5	4.7
Arsenic		1.6		0.62	0.94
Barium		72.8	X	0.071	0.47
Boron		1.1	B	0.92	1.9
Cadmium		0.041	B	0.038	0.19
Calcium		4440		13.2	46.9
Chromium		7.5		0.054	0.19
Iron		26400		3.6	4.7
Magnesium		4170	X	3.5	18.8
Manganese		333	X	0.094	0.94
Molybdenum		0.24	U	0.24	1.9
Nickel		11.6		0.12	3.8
Potassium		1170		38.5	281
Selenium		0.81	U	0.81	0.94
Silicon		332	X	5.3	9.4
Silver		0.15	U	0.15	0.19
Sodium		226		55.3	113
Zinc		47.5		0.37	0.94

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 5.0
Analysis Date: 05/05/2015 1333
Prep Date: 05/04/2015 1445

Analysis Batch: 280-276141
Prep Batch: 280-275721

Instrument ID: MT_026
Lab File ID: 26a050515.asc
Initial Weight/Volume: 1.09 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		1.8	U	1.8	2.8
Beryllium		0.15	U	0.15	0.94
Cobalt		10.3		0.47	4.7
Copper		16.0		1.0	4.7
Lead		5.7	M	1.3	2.3
Vanadium		80.0		0.44	9.4

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 05/06/2015 2059
Prep Date: 05/06/2015 1500

Analysis Batch: 280-276397
Prep Batch: 280-275764

Instrument ID: MT_033
Lab File ID: 150506af.TXT
Initial Weight/Volume: 0.53 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0064	U	0.0064	0.020

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: J1V6R1

Lab Sample ID: 280-68620-2
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-275977	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-275721	Lab File ID:	26e050415.asc
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Analysis Date:	05/04/2015 2259			Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5430	X	1.3	4.3
Arsenic		1.6		0.57	0.86
Barium		72.4	X	0.065	0.43
Boron		1.2	B	0.84	1.7
Cadmium		0.045	B	0.035	0.17
Calcium		3800		12.1	42.9
Chromium		6.4		0.050	0.17
Iron		23100		3.3	4.3
Magnesium		4150	X	3.2	17.2
Manganese		328	X	0.086	0.86
Molybdenum		0.22	U	0.22	1.7
Nickel		10.4		0.11	3.4
Potassium		1090		35.2	257
Selenium		0.74	U	0.74	0.86
Silicon		398	X	4.9	8.6
Silver		0.14	U	0.14	0.17
Sodium		209		50.6	103
Zinc		44.0		0.34	0.86

Analysis Method:	6010B	Analysis Batch:	280-276141	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-275721	Lab File ID:	26a050515.asc
Dilution:	5.0			Initial Weight/Volume:	1.19 g
Analysis Date:	05/05/2015 1325			Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		1.6	U	1.6	2.6
Beryllium		0.15	B	0.14	0.86
Cobalt		10.4		0.43	4.3
Copper		15.0		0.93	4.3
Lead		3.2		1.2	2.1
Vanadium		82.2		0.40	8.6

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-276397	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-275764	Lab File ID:	150506af.TXT
Dilution:	1.0			Initial Weight/Volume:	0.55 g
Analysis Date:	05/06/2015 2110			Final Weight/Volume:	50 mL
Prep Date:	05/06/2015 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0062	U	0.0062	0.019

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Client Sample ID: **J1V6R2**

Lab Sample ID: 280-68620-3
Client Matrix: Solid

% Moisture: 1.7

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 05/04/2015 2302
Prep Date: 05/04/2015 1445

Analysis Batch: 280-275977
Prep Batch: 280-275721

Instrument ID: MT_026
Lab File ID: 26e050415.asc
Initial Weight/Volume: 1.17 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5530	X	1.3	4.3
Arsenic		1.8		0.57	0.87
Barium		75.9	X	0.066	0.43
Boron		1.2	B	0.85	1.7
Cadmium		0.058	B	0.036	0.17
Calcium		3680		12.3	43.5
Chromium		6.3		0.050	0.17
Iron		22600		3.3	4.3
Magnesium		3850	X	3.2	17.4
Manganese		338	X	0.087	0.87
Molybdenum		0.23	U	0.23	1.7
Nickel		9.1		0.11	3.5
Potassium		1170		35.7	261
Selenium		0.75	U	0.75	0.87
Silicon		372	X	4.9	8.7
Silver		0.14	U	0.14	0.17
Sodium		198		51.3	104
Zinc		43.4		0.35	0.87

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 5.0
Analysis Date: 05/05/2015 1327
Prep Date: 05/04/2015 1445

Analysis Batch: 280-276141
Prep Batch: 280-275721

Instrument ID: MT_026
Lab File ID: 26a050515.asc
Initial Weight/Volume: 1.17 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		1.7	U	1.7	2.6
Beryllium		0.14	U	0.14	0.87
Cobalt		9.3		0.43	4.3
Copper		13.3		0.94	4.3
Lead		3.1		1.2	2.2
Vanadium		75.0		0.41	8.7

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 05/06/2015 2113
Prep Date: 05/06/2015 1500

Analysis Batch: 280-276397
Prep Batch: 280-275764

Instrument ID: MT_033
Lab File ID: 150506af.TXT
Initial Weight/Volume: 0.51 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0066	U	0.0066	0.020

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

General Chemistry

Client Sample ID: **J1V6R0**

Lab Sample ID: 280-68620-1
Client Matrix: Solid
% Moisture: 2.2

Date Sampled: 04/29/2015 0955
Date Received: 05/01/2015 0930

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	5.6		mg/Kg	0.36	0.76	1.0	353.2

Analysis Batch: 280-275928 Analysis Date: 05/04/2015 1543 DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.2		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-275675 Analysis Date: 05/02/2015 1416 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

General Chemistry

Client Sample ID: **J1V6R1**

Lab Sample ID: 280-68620-2
Client Matrix: Solid

% Moisture: 2.1

Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	3.8		mg/Kg	0.36	0.76	1.0	353.2

Analysis Batch: 280-275928 Analysis Date: 05/04/2015 1549 DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.1		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-275675 Analysis Date: 05/02/2015 1416 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

General Chemistry

Client Sample ID: **J1V6R2**

Lab Sample ID: 280-68620-3
Client Matrix: Solid
% Moisture: 1.7
Date Sampled: 04/29/2015 1005
Date Received: 05/01/2015 0930

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	3.7		mg/Kg	0.35	0.74	1.0	353.2

Analysis Batch: 280-275928 Analysis Date: 05/04/2015 1603 DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.7		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-275675 Analysis Date: 05/02/2015 1416 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Surrogate Recovery Report

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TFT1 %Rec
280-68620-1	J1V6R0	90
280-68620-2	J1V6R1	91
280-68620-3	J1V6R2	93
MB 280-276036/1-A		91
LCS 280-276036/2-A		95
LCSD 280-276036/3-A		96
280-68620-2 MS	J1V6R1 MS	88
280-68620-2 MSD	J1V6R1 MSD	91

Surrogate	Acceptance Limits
TFT = a,a,a-Trifluorotoluene	77-123

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample ID	DCB1 %Rec	TCX1 %Rec
280-68620-1	J1V6R0	109	86
280-68620-2	J1V6R1	102	84
280-68620-3	J1V6R2	103	86
MB 280-275815/1-A		108	86
LCS 280-275815/2-A		114	91
280-68620-2 MS	J1V6R1 MS	103	88
280-68620-2 MSD	J1V6R1 MSD	102	86

Surrogate	Acceptance Limits
DCB = Decachlorobiphenyl	59-130
TCX = Tetrachloro-m-xylene	53-128

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Surrogate Recovery Report

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

Client Matrix: Solid

Lab Sample ID	Client Sample ID	OTPH %Rec
280-68620-1	J1V6R0	66
280-68620-2	J1V6R1	69
280-68620-3	J1V6R2	63
MB 280-275870/1-A		69
LCS 280-275870/2-A		64
280-68620-3 MS	J1V6R2 MS	77
280-68620-3 MSD	J1V6R2 MSD	67

Surrogate	Acceptance Limits
OTPH = o-Terphenyl	49-115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Surrogate Recovery Report

8310 PAHs (HPLC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TPH1 %Rec
280-68620-1	J1V6R0	91
280-68620-2	J1V6R1	97
280-68620-3	J1V6R2	96
MB 280-275808/1-A		90
LCS 280-275808/2-A		90
280-68620-1 MS	J1V6R0 MS	89
280-68620-1 MSD	J1V6R0 MSD	89

Surrogate	Acceptance Limits
TPH = Terphenyl-d14 (SUR)	72-115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-276036

Method: NWTPH-Gx
Preparation: 5030B

Lab Sample ID:	MB 280-276036/1-A	Analysis Batch:	280-276209	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-276036	Lab File ID:	004F0401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10.22 g
Analysis Date:	05/06/2015 1325	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	05/05/2015 1105			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline	320	U	320	1200

Surrogate	% Rec	Acceptance Limits
a,a,a-Trifluorotoluene	91	77 - 123

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-276036

Method: NWTPH-Gx
Preparation: 5030B

LCS Lab Sample ID:	LCS 280-276036/2-A	Analysis Batch:	280-276209	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-276036	Lab File ID:	005F0501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10.16 g
Analysis Date:	05/06/2015 1350	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	05/05/2015 1105			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY
LCSD Lab Sample ID:	LCSD 280-276036/3-A	Analysis Batch:	280-276209	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-276036	Lab File ID:	006F0601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10.04 g
Analysis Date:	05/06/2015 1415	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	05/05/2015 1105			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	99	98	85 - 153	1	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
a,a,a-Trifluorotoluene	95	96	77 - 123

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-276036

Method: NWTPH-Gx
Preparation: 5030B

LCS Lab Sample ID: LCS 280-276036/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 05/06/2015 1350
Prep Date: 05/05/2015 1105
Leach Date: N/A

Units: ug/Kg

LCSD Lab Sample ID: LCSD 280-276036/3-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 05/06/2015 1415
Prep Date: 05/05/2015 1105
Leach Date: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Gasoline	5410	5480	5350	5390

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-276036

Method: NWTPH-Gx
Preparation: 5030B

MS Lab Sample ID: 280-68620-2
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 05/06/2015 1531
Prep Date: 05/05/2015 1105
Leach Date: N/A

Analysis Batch: 280-276209
Prep Batch: 280-276036
Leach Batch: N/A

Instrument ID: VGC_Q
Lab File ID: 009F0901.D
Initial Weight/Volume: 10.03 g
Final Weight/Volume: 10 mL
Injection Volume: 5 mL
Column ID: PRIMARY

MSD Lab Sample ID: 280-68620-2
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 05/06/2015 1556
Prep Date: 05/05/2015 1105
Leach Date: N/A

Analysis Batch: 280-276209
Prep Batch: 280-276036
Leach Batch: N/A

Instrument ID: VGC_Q
Lab File ID: 010F1001.D
Initial Weight/Volume: 10.06 g
Final Weight/Volume: 10 mL
Injection Volume: 5 mL
Column ID: PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Gasoline	91	93	85 - 153	2	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
a,a,a-Trifluorotoluene	88	91	77 - 123

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-276036

Method: NWTPH-Gx
Preparation: 5030B

MS Lab Sample ID:	280-68620-2	Units: ug/Kg	MSD Lab Sample ID: 280-68620-2
Client Matrix:	Solid		Client Matrix: Solid
Dilution:	1.0		Dilution: 1.0
Analysis Date:	05/06/2015 1531		Analysis Date: 05/06/2015 1556
Prep Date:	05/05/2015 1105		Prep Date: 05/05/2015 1105
Leach Date:	N/A		Leach Date: N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Gasoline	330	U	5600	5580	5100	5210

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-275815

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-275815/1-A	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-275815	Lab File ID:	05061526.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.1 g
Analysis Date:	05/06/2015 1840	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	05/04/2015 1101			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.7	U	2.7	9.6
Aroclor 1221	7.7	U	7.7	16
Aroclor 1232	1.9	U	1.9	9.6
Aroclor 1242	4.5	U	4.5	9.6
Aroclor 1248	4.5	U	4.5	9.6
Aroclor 1254	2.5	U	2.5	9.6
Aroclor 1260	2.5	U	2.5	9.6

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	108	59 - 130
Tetrachloro-m-xylene	86	53 - 128

Lab Control Sample - Batch: 280-275815

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-275815/2-A	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-275815	Lab File ID:	05061527.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	05/06/2015 1903	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	05/04/2015 1101			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.9	37.5	114	54 - 132	
Aroclor 1260	32.9	38.8	118	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	114	59 - 130
Tetrachloro-m-xylene	91	53 - 128

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-275815

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-68620-2	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-275815	Lab File ID:	05061530.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	05/06/2015 2013			Final Weight/Volume:	5 mL
Prep Date:	05/04/2015 1101			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-68620-2	Analysis Batch:	280-276123	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-275815	Lab File ID:	05061531.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.5 g
Analysis Date:	05/06/2015 2036			Final Weight/Volume:	5 mL
Prep Date:	05/04/2015 1101			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	103	103	54 - 132	7	26		
Aroclor 1260	103	108	62 - 129	2	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	103	102	59 - 130
Tetrachloro-m-xylene	88	86	53 - 128

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-275815

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-68620-2	Units: ug/Kg	MSD Lab Sample ID: 280-68620-2
Client Matrix:	Solid		Client Matrix: Solid
Dilution:	1.0		Dilution: 1.0
Analysis Date:	05/06/2015 2013		Analysis Date: 05/06/2015 2036
Prep Date:	05/04/2015 1101		Prep Date: 05/04/2015 1101
Leach Date:	N/A		Leach Date: N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Aroclor 1016	2.8	U	33.5	31.4	34.4	32.2
Aroclor 1260	2.6	U	33.5	31.4	34.5	33.8

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-275870

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-275870/1-A	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Client Matrix:	Solid	Prep Batch:	280-275870	Lab File ID:	05060019.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.8 g
Analysis Date:	05/06/2015 1640	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	910	U	910	3700
C10-C28	620	U	620	3700

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	69	49 - 115

Lab Control Sample - Batch: 280-275870

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-275870/2-A	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Client Matrix:	Solid	Prep Batch:	280-275870	Lab File ID:	05060020.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	05/06/2015 1705	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	64100	48700	76	57 - 115	
C10-C28	64100	48200	75	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	64	49 - 115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-275870

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-68620-3	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Client Matrix:	Solid	Prep Batch:	280-275870	Lab File ID:	05060024.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	05/06/2015 1842			Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-68620-3	Analysis Batch:	280-276175	Instrument ID:	SGC_U2a
Client Matrix:	Solid	Prep Batch:	280-275870	Lab File ID:	05060025.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	05/06/2015 1906			Final Weight/Volume:	1 mL
Prep Date:	05/04/2015 1850			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	91	80	57 - 115	16	23		
C10-C28	89	78	56 - 115	16	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	77	67	49 - 115

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-275870

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-68620-3	Units:	ug/Kg	MSD Lab Sample ID:	280-68620-3
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	05/06/2015 1842			Analysis Date:	05/06/2015 1906
Prep Date:	05/04/2015 1850			Prep Date:	05/04/2015 1850
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
C10-C36	930	U	67600	65200	61200	52400
C10-C28	630	U	67600	65200	60200	51000

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-275808

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-275808/1-A	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-275808	Lab File ID:	G0505017.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	05/05/2015 2127	Units:	ug/Kg	Final Weight/Volume:	4 mL
Prep Date:	05/04/2015 1005			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.4	U	9.4	94
Acenaphthylene	8.5	U	8.5	94
Anthracene	2.9	U	2.9	19
Benzo[a]anthracene	3.0	U	3.0	14
Benzo[a]pyrene	6.0	U	6.0	14
Benzo[b]fluoranthene	4.0	U	4.0	14
Benzo[g,h,i]perylene	6.8	U	6.8	28
Benzo[k]fluoranthene	3.7	U	3.7	14
Chrysene	4.6	U	4.6	38
Dibenzo(a,h)anthracene	10	U	10	28
Fluoranthene	12	U	12	38
Fluorene	5.0	U	5.0	28
Indeno[1,2,3-cd]pyrene	11	U	11	28
Naphthalene	11	U	11	94
Phenanthrene	11	U	11	38
Pyrene	11	U	11	38

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	90	72 - 115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Lab Control Sample - Batch: 280-275808

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-275808/2-A	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-275808	Lab File ID:	G0505018.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	05/05/2015 2157	Units:	ug/Kg	Final Weight/Volume:	4 mL
Prep Date:	05/04/2015 1005			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1920	1710	89	75 - 116	
Acenaphthylene	1920	1690	88	66 - 115	
Anthracene	1920	1650	86	71 - 115	
Benzo[a]anthracene	1920	1780	93	77 - 120	
Benzo[a]pyrene	1920	1770	92	69 - 115	
Benzo[b]fluoranthene	1920	1740	91	56 - 115	
Benzo[g,h,i]perylene	1920	1980	104	72 - 120	
Benzo[k]fluoranthene	1920	1800	94	76 - 115	
Chrysene	1920	1750	91	79 - 115	
Dibenzo(a,h)anthracene	1920	1760	92	72 - 115	
Fluoranthene	1920	1760	92	77 - 115	
Fluorene	1920	1860	97	77 - 115	
Indeno[1,2,3-cd]pyrene	1920	1780	93	78 - 115	
Naphthalene	1920	1750	91	68 - 120	
Phenanthrene	1920	1730	90	75 - 115	
Pyrene	1920	1850	97	72 - 115	

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	90	72 - 115

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-275808

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-68620-1	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-275808	Lab File ID:	G0505020.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	05/05/2015 2258			Final Weight/Volume:	4 mL
Prep Date:	05/04/2015 1005			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-68620-1	Analysis Batch:	280-275992	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-275808	Lab File ID:	G0505021.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.8 g
Analysis Date:	05/05/2015 2329			Final Weight/Volume:	4 mL
Prep Date:	05/04/2015 1005			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	82	84	75 - 116	4	20		
Acenaphthylene	82	85	66 - 115	5	20		
Anthracene	86	87	71 - 115	7	20		
Benzo[a]anthracene	91	93	77 - 120	5	20		
Benzo[a]pyrene	85	89	69 - 115	3	20		
Benzo[b]fluoranthene	86	89	56 - 115	4	20		
Benzo[g,h,i]perylene	82	83	72 - 120	7	20		
Benzo[k]fluoranthene	88	92	76 - 115	3	20		
Chrysene	92	93	79 - 115	6	20		
Dibenzo(a,h)anthracene	85	89	72 - 115	3	20		
Fluoranthene	89	91	77 - 115	5	20		
Fluorene	93	94	77 - 115	6	20		
Indeno[1,2,3-cd]pyrene	86	90	78 - 115	3	20		
Naphthalene	88	90	68 - 120	5	20		
Phenanthrene	88	89	75 - 115	5	20		
Pyrene	91	94	72 - 115	5	20		

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

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-275808

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-68620-1	Units: ug/Kg	
Client Matrix:	Solid		
Dilution:	1.0		
Analysis Date:	05/05/2015 2258		
Prep Date:	05/04/2015 1005		
Leach Date:	N/A		

MSD Lab Sample ID:	280-68620-1
Client Matrix:	Solid
Dilution:	1.0
Analysis Date:	05/05/2015 2329
Prep Date:	05/04/2015 1005
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Acenaphthene	9.4	U	2020	1870	1650	1580
Acenaphthylene	8.4	U	2020	1870	1660	1580
Anthracene	2.9	U	2020	1870	1750	1630
Benzo[a]anthracene	21		2020	1870	1870	1770
Benzo[a]pyrene	17		2020	1870	1730	1680
Benzo[b]fluoranthene	24		2020	1870	1770	1690
Benzo[g,h,i]perylene	11	J	2020	1870	1670	1560
Benzo[k]fluoranthene	9.4	J	2020	1870	1790	1730
Chrysene	15	J	2020	1870	1860	1750
Dibenzo(a,h)anthracene	10	U	2020	1870	1710	1660
Fluoranthene	22	J	2020	1870	1810	1720
Fluorene	4.9	U	2020	1870	1870	1770
Indeno[1,2,3-cd]pyrene	14	J	2020	1870	1750	1700
Naphthalene	11	U	2020	1870	1770	1680
Phenanthrene	11	U	2020	1870	1770	1670
Pyrene	27	J	2020	1870	1860	1780

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-275721

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-275721/1-A	Analysis Batch:	280-275977	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-275721	Lab File ID:	26e050415.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	05/04/2015 2243	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				
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	0.280	B	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	22.42	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	4.62	B	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	7.10	B	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.163	B	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: 280-68620-1
Sdg Number: JP0959

Lab Control Sample - Batch: 280-275721

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-275721/2-A	Analysis Batch:	280-275977	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-275721	Lab File ID:	26e050415.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	05/04/2015 2246	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	198.8	99	82 - 116	
Antimony	50.0	48.98	98	82 - 110	
Arsenic	100	95.40	95	85 - 110	
Barium	200	211.4	106	87 - 112	
Beryllium	5.00	4.79	96	84 - 114	
Boron	100	96.85	97	80 - 120	
Cadmium	10.0	10.01	100	87 - 110	
Calcium	5000	4962	99	82 - 114	
Chromium	20.0	19.67	98	84 - 114	
Cobalt	50.0	48.33	97	87 - 110	
Copper	25.0	26.17	105	88 - 110	
Iron	100	99.19	99	87 - 120	
Lead	50.0	49.30	99	86 - 110	
Magnesium	5000	4914	98	90 - 110	
Manganese	50.0	50.57	101	88 - 110	
Molybdenum	100	102.7	103	86 - 110	
Nickel	50.0	48.13	96	87 - 110	
Potassium	5000	5075	101	89 - 110	
Selenium	200	190.9	95	83 - 110	
Silicon	1000	132.4	13	10 - 70	
Silver	5.00	5.21	104	87 - 114	
Sodium	5000	5314	106	90 - 112	
Vanadium	50.0	50.50	101	88 - 110	
Zinc	50.0	48.98	98	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike - Batch: 280-275721

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-68620-1	Analysis Batch:	280-276141	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-275721	Lab File ID:	26a050515.asc
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	1.05 g
Analysis Date:	05/05/2015 1322	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	1.8	U	48.7	30.34	62	20 - 200	
Beryllium	0.15	U	4.87	4.65	96	72 - 105	
Cobalt	10.3		48.7	58.58	99	72 - 106	
Copper	16.0		24.3	40.41	100	37 - 187	
Lead	5.7		48.7	54.88	101	70 - 200	
Vanadium	80.0		48.7	138.6	120	50 - 169	

Matrix Spike - Batch: 280-275721

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-68620-1	Analysis Batch:	280-276375	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-275721	Lab File ID:	26a050615.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.05 g
Analysis Date:	05/06/2015 1243	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	5520		195	7865	1202	50 - 200	4
Arsenic	1.6		97.4	85.83	87	76 - 111	
Barium	72.8		195	242.3	87	52 - 159	
Boron	1.1	B	97.4	80.20	81	80 - 120	
Cadmium	0.041	B	9.74	8.17	84	40 - 130	
Calcium	4440		4870	11040	135	43 - 165	
Chromium	7.5		19.5	25.44	92	70 - 200	
Iron	26400		97.4	28730	2407	70 - 200	4
Magnesium	4170		4870	8826	96	64 - 145	
Manganese	333		48.7	421.4	181	40 - 200	4
Molybdenum	0.24	U	97.4	89.83	92	75 - 103	
Nickel	11.6		48.7	53.42	86	61 - 126	
Potassium	1170		4870	5545	90	56 - 172	
Selenium	0.81	U	195	164.8	85	76 - 104	
Silicon	332		974	575.0	25	20 - 200	
Silver	0.15	U	4.87	4.30	88	75 - 141	
Sodium	226		4870	5218	103	78 - 111	
Zinc	47.5		48.7	87.97	83	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Duplicate - Batch: 280-275721

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-68620-1	Analysis Batch:	280-275977	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-275721	Lab File ID:	26e050415.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.01 g
Analysis Date:	05/04/2015 2254	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	5520		4739	15	40	
Arsenic	1.6		1.51	5	30	
Barium	72.8		84.55	15	30	
Boron	1.1	B	0.99	NC	30	U
Cadmium	0.041	B	0.0962	80	30	B M
Calcium	4440		3938	12	30	
Chromium	7.5		5.58	29	40	
Iron	26400		23090	13	40	
Magnesium	4170		4044	3	30	
Manganese	333		358.5	7	40	
Molybdenum	0.24	U	0.26	NC	30	U
Nickel	11.6		10.10	14	30	
Potassium	1170		1035	12	40	
Selenium	0.81	U	0.87	NC	30	U
Silicon	332		313.6	6	40	
Silver	0.15	U	0.16	NC	30	U
Sodium	226		213.6	6	30	
Zinc	47.5		45.10	5	40	

Duplicate - Batch: 280-275721

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-68620-1	Analysis Batch:	280-276141	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-275721	Lab File ID:	26a050515.asc
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	1.01 g
Analysis Date:	05/05/2015 1315	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	05/04/2015 1445				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	1.8	U	1.9	NC	40	U
Beryllium	0.15	U	0.17	NC	30	U
Cobalt	10.3		10.95	6	30	
Copper	16.0		16.58	4	30	
Lead	5.7		14.23	86	40	M
Vanadium	80.0		83.45	4	30	

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-275764

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-275764/1-A	Analysis Batch:	280-276397	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-275764	Lab File ID:	150506af.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	05/06/2015 2054	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/06/2015 1500				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-275764

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-275764/2-A	Analysis Batch:	280-276397	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-275764	Lab File ID:	150506af.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	05/06/2015 2208	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/06/2015 1500				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.419	101	87 - 111	

Matrix Spike - Batch: 280-275764

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-68620-1	Analysis Batch:	280-276397	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-275764	Lab File ID:	150506af.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.55 g
Analysis Date:	05/06/2015 2103	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/06/2015 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0064	U	0.465	0.442	95	87 - 111	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Duplicate - Batch: 280-275764

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-68620-1	Analysis Batch:	280-276397	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-275764	Lab File ID:	150506af.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.51 g
Analysis Date:	05/06/2015 2101	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	05/06/2015 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0064	U	0.0067	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Method Blank - Batch: 280-275928

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-275837/1-A	Analysis Batch:	280-275928	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\050415B.R:
Dilution:	1.0	Leach Batch:	280-275837	Initial Weight/Volume:	
Analysis Date:	05/04/2015 1539	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	05/04/2015 1040				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N-Soluble	0.36	U	0.36	0.75

Method Reporting Limit Check - Batch: 280-275928

Method: 353.2
Preparation: N/A

Lab Sample ID:	MRL 280-275928/20	Analysis Batch:	280-275928	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\050415B.R:
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	05/04/2015 1221	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	0.100	0.0662	66	50 - 150	B

Lab Control Sample - Batch: 280-275928

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-275837/2-A	Analysis Batch:	280-275928	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\050415B.R:
Dilution:	1.0	Leach Batch:	280-275837	Initial Weight/Volume:	
Analysis Date:	05/04/2015 1541	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	05/04/2015 1040				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	49.8	49.74	100	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Matrix Spike - Batch: 280-275928

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-68620-1	Analysis Batch:	280-275928	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\050415B.R:
Dilution:	1.0	Leach Batch:	280-275837	Initial Weight/Volume:	
Analysis Date:	05/04/2015 1547	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	05/04/2015 1040				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	5.6	40.3	45.79	100	90 - 110	

Duplicate - Batch: 280-275928

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-68620-1	Analysis Batch:	280-275928	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\050415B.R:
Dilution:	1.0	Leach Batch:	280-275837	Initial Weight/Volume:	
Analysis Date:	05/04/2015 1545	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	05/04/2015 1040				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate Nitrite as N-Soluble	5.6	5.30	6	10	

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

Duplicate - Batch: 280-275675

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-68620-1	Analysis Batch:	280-275675	Instrument ID:	WC_SHI2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	05/02/2015 1416	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	2.2	2.1	5	20	

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Prep Batch: 280-276036					
LCS 280-276036/2-A	Lab Control Sample	T	Solid	5030B	
LCSD 280-276036/3-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 280-276036/1-A	Method Blank	T	Solid	5030B	
280-68620-1	J1V6R0	T	Solid	5030B	
280-68620-2	J1V6R1	T	Solid	5030B	
280-68620-2MS	Matrix Spike	T	Solid	5030B	
280-68620-2MSD	Matrix Spike Duplicate	T	Solid	5030B	
280-68620-3	J1V6R2	T	Solid	5030B	
Analysis Batch:280-276209					
LCS 280-276036/2-A	Lab Control Sample	T	Solid	NWTPH-Gx	280-276036
LCSD 280-276036/3-A	Lab Control Sample Duplicate	T	Solid	NWTPH-Gx	280-276036
MB 280-276036/1-A	Method Blank	T	Solid	NWTPH-Gx	280-276036
280-68620-1	J1V6R0	T	Solid	NWTPH-Gx	280-276036
280-68620-2	J1V6R1	T	Solid	NWTPH-Gx	280-276036
280-68620-2MS	Matrix Spike	T	Solid	NWTPH-Gx	280-276036
280-68620-2MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Gx	280-276036
280-68620-3	J1V6R2	T	Solid	NWTPH-Gx	280-276036

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-275815					
LCS 280-275815/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-275815/1-A	Method Blank	T	Solid	3550C	
280-68620-1	J1V6R0	T	Solid	3550C	
280-68620-2	J1V6R1	T	Solid	3550C	
280-68620-2MS	Matrix Spike	T	Solid	3550C	
280-68620-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-68620-3	J1V6R2	T	Solid	3550C	
Prep Batch: 280-275870					
LCS 280-275870/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-275870/1-A	Method Blank	T	Solid	3550C	
280-68620-1	J1V6R0	T	Solid	3550C	
280-68620-2	J1V6R1	T	Solid	3550C	
280-68620-3	J1V6R2	T	Solid	3550C	
280-68620-3MS	Matrix Spike	T	Solid	3550C	
280-68620-3MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-276123					
LCS 280-275815/2-A	Lab Control Sample	T	Solid	8082	280-275815
MB 280-275815/1-A	Method Blank	T	Solid	8082	280-275815
280-68620-1	J1V6R0	T	Solid	8082	280-275815
280-68620-2	J1V6R1	T	Solid	8082	280-275815
280-68620-2MS	Matrix Spike	T	Solid	8082	280-275815
280-68620-2MSD	Matrix Spike Duplicate	T	Solid	8082	280-275815
280-68620-3	J1V6R2	T	Solid	8082	280-275815
Analysis Batch:280-276175					
LCS 280-275870/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-275870
MB 280-275870/1-A	Method Blank	T	Solid	NWTPH-Dx	280-275870
280-68620-1	J1V6R0	T	Solid	NWTPH-Dx	280-275870
280-68620-2	J1V6R1	T	Solid	NWTPH-Dx	280-275870
280-68620-3	J1V6R2	T	Solid	NWTPH-Dx	280-275870
280-68620-3MS	Matrix Spike	T	Solid	NWTPH-Dx	280-275870
280-68620-3MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-275870

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-275721					
LCS 280-275721/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-275721/1-A	Method Blank	T	Solid	3050B	
280-68620-1	J1V6R0	T	Solid	3050B	
280-68620-1DU	Duplicate	T	Solid	3050B	
280-68620-1MS	Matrix Spike	T	Solid	3050B	
280-68620-2	J1V6R1	T	Solid	3050B	
280-68620-3	J1V6R2	T	Solid	3050B	
Prep Batch: 280-275764					
LCS 280-275764/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-275764/1-A	Method Blank	T	Solid	7471A	
280-68620-1	J1V6R0	T	Solid	7471A	
280-68620-1DU	Duplicate	T	Solid	7471A	
280-68620-1MS	Matrix Spike	T	Solid	7471A	
280-68620-2	J1V6R1	T	Solid	7471A	
280-68620-3	J1V6R2	T	Solid	7471A	
Analysis Batch:280-275977					
LCS 280-275721/2-A	Lab Control Sample	T	Solid	6010B	280-275721
MB 280-275721/1-A	Method Blank	T	Solid	6010B	280-275721
280-68620-1DU	Duplicate	T	Solid	6010B	280-275721
280-68620-2	J1V6R1	T	Solid	6010B	280-275721
280-68620-3	J1V6R2	T	Solid	6010B	280-275721
Analysis Batch:280-276141					
280-68620-1	J1V6R0	T	Solid	6010B	280-275721
280-68620-1DU	Duplicate	T	Solid	6010B	280-275721
280-68620-1MS	Matrix Spike	T	Solid	6010B	280-275721
280-68620-2	J1V6R1	T	Solid	6010B	280-275721
280-68620-3	J1V6R2	T	Solid	6010B	280-275721
Analysis Batch:280-276375					
280-68620-1	J1V6R0	T	Solid	6010B	280-275721
280-68620-1MS	Matrix Spike	T	Solid	6010B	280-275721
Analysis Batch:280-276397					
LCS 280-275764/2-A	Lab Control Sample	T	Solid	7471A	280-275764
MB 280-275764/1-A	Method Blank	T	Solid	7471A	280-275764
280-68620-1	J1V6R0	T	Solid	7471A	280-275764
280-68620-1DU	Duplicate	T	Solid	7471A	280-275764
280-68620-1MS	Matrix Spike	T	Solid	7471A	280-275764
280-68620-2	J1V6R1	T	Solid	7471A	280-275764
280-68620-3	J1V6R2	T	Solid	7471A	280-275764

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Report Basis					
T = Total					
General Chemistry					
Analysis Batch:280-275675					
280-68620-1	J1V6R0	T	Solid	D-2216	
280-68620-1DU	Duplicate	T	Solid	D-2216	
280-68620-2	J1V6R1	T	Solid	D-2216	
280-68620-3	J1V6R2	T	Solid	D-2216	
Prep Batch: 280-275837					
LCS 280-275837/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-275837/1-A	Method Blank	S	Solid	DI Leach	
280-68620-1	J1V6R0	S	Solid	DI Leach	
280-68620-1DU	Duplicate	S	Solid	DI Leach	
280-68620-1MS	Matrix Spike	S	Solid	DI Leach	
280-68620-2	J1V6R1	S	Solid	DI Leach	
280-68620-3	J1V6R2	S	Solid	DI Leach	
Analysis Batch:280-275928					
LCS 280-275837/2-A	Lab Control Sample	S	Solid	353.2	
MB 280-275837/1-A	Method Blank	S	Solid	353.2	
280-68620-1	J1V6R0	S	Solid	353.2	
280-68620-1DU	Duplicate	S	Solid	353.2	
280-68620-1MS	Matrix Spike	S	Solid	353.2	
280-68620-2	J1V6R1	S	Solid	353.2	
280-68620-3	J1V6R2	S	Solid	353.2	

Report Basis
S = Soluble
T = Total

Client: Washington Closure Hanford

Job Number: 280-68620-1
Sdg Number: JP0959

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
HPLC/IC					
Prep Batch: 280-275808					
LCS 280-275808/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-275808/1-A	Method Blank	T	Solid	3550C	
280-68620-1	J1V6R0	T	Solid	3550C	
280-68620-1MS	Matrix Spike	T	Solid	3550C	
280-68620-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-68620-2	J1V6R1	T	Solid	3550C	
280-68620-3	J1V6R2	T	Solid	3550C	
Analysis Batch:280-275992					
LCS 280-275808/2-A	Lab Control Sample	T	Solid	8310	280-275808
MB 280-275808/1-A	Method Blank	T	Solid	8310	280-275808
280-68620-1	J1V6R0	T	Solid	8310	280-275808
280-68620-1MS	Matrix Spike	T	Solid	8310	280-275808
280-68620-1MSD	Matrix Spike Duplicate	T	Solid	8310	280-275808
280-68620-2	J1V6R1	T	Solid	8310	280-275808
280-68620-3	J1V6R2	T	Solid	8310	280-275808

Report Basis
T = Total

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-232-100

Collector: STOWE, QG	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 days		
Project Designation: 100-IU-2 & 100-IU-6 Remaining Waste Sites	Sampling Location: 600-358 (ASA-FS)		SAF No.: RC-232
Ice Chest No.: RCC-07-005	Field Logbook No.: EL-1667-03	COA: 0603582000	Method of Shipment: Commercial Carrier \ Fed Ex
Shipped To: TestAmerica Denver	Offsite Property No.: A131408		Bill of Lading/Air Bill No.: See OSPC

Other Labs Shipped To: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: cooling as required

280-68620 Chain of Custody

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C
Type of Container	G/P	aG	aG	aG	Gs"	G/P
No. of Container(s)	1	1	1	1	3	1
Volume	250mL	125mL	250mL	250mL	40mL	250mL
Sample Analysis	See item (1) in Special Instructions	TPH-Diesel Range - WTPH-D +	PAHs - 8310	PCBs - 8082	TPH-Gasoline Range - WTPH-G	NO2/NO3 - 353.2 {Nitrogen in Nitrite and Nitrate}

Sample No.	Matrix	Sample Date	Sample Time									
J1V6R0	SOIL	4/29/15	0955	X	X	X	X	X	X			
J1V6R1	SOIL	4/29/15	1005	X	X	X	X	X	X			
J1V6R2	SOIL	4/29/15	1005	X	X	X	X	X	X			

CHAIN OF POSSESSION	Sign/Print Names
Relinquished By/Removed From: Quincy Stowe, Date/Time: 4-29-15 1150	Received By/Stored In: C. Martinez/C. Martinez, Date/Time: 4/29/15 1150
Relinquished By/Removed From: C. Martinez/C. Martinez, Date/Time: 4/29/15 1400	Received By/Stored In: C. Bingham, Date/Time: 4-29-15 1400
Relinquished By/Removed From: C. Bingham, Date/Time: 4-29-15 1430	Received By/Stored In: 1060 Battelle fridge #3A, Date/Time: 4-29-15 1430
Relinquished By/Removed From: 1060 Battelle fridge #3A, Date/Time: 4-30-15 0720	Received By/Stored In: C. Bingham, Date/Time: 4-30-15 0720
Relinquished By/Removed From: C. Bingham, WCH, Date/Time: 4-30-15 1010	Received By/Stored In: fed EX, Date/Time:
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time: 5-1-15 9:30
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:
FINAL SAMPLE DISPOSITION: Disposal Method	Disposed By: Date/Time:

SPECIAL INSTRUCTIONS

(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}

4.9 IRS 10.2 Transferred by MD 5-1-15

REVIEWED BY KW DATE 4/30/15

JP0959

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Project 28002142
Report Due: 5-8-15
TALs TAT: Rush Sty

Sample Check-in List

Date/Time Received: 5-1-15 9:30 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG #: JP0959 NA[ ] SAF #: RC-232 NA [ ]

Job Number: 68620 Chain of Custody # RC-232-100

Shipping Container ID: FB-217 Air Bill # 7734 9891 5815

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 4.9 IRS +0.2 MT 5-1-15 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   ✓ Tape
   ✓ Custody Seals
   ✓ Hazard Labels
   ✓ Appropriate Sample Labels
9. Samples are:
   ✓ In Good Condition
   ___ Broken
   ___ Leaking
   ___ Have Air Bubbles
   (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added ___
11. Sample Location, Sample Collector Listed? * yes
    *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: [signature] Date: 5-1-15

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ___ by ___ Person Contacted ___

[ ] No action necessary; process as is.

Project Manager [signature] Date 5-1-15

LS-023, Rev. 7, 1/08

From: (509) 375-7497
1182 Shipping
US DOE c/o WCH
2356 Stevens Dr
Richland, WA 99354

Origin ID: PSCA

FedEx Express

J6121502720UV

Ship Date: 30APR15
ActWgt: 93.0 LB
CAD: 105268502/INET3610

Delivery Address Bar Code

Ref # 0693582000
Invoice #
PO #
Dept #

Temp 4.9 IR# 5
CF +0.2 Initals
Date: 05/01/15

FBP-217

SHIP TO: (303) 736-0100
BILL THIRD PARTY

Kae Yoder
TestAmerica
4955 Yarrow St.
A131408
ARVADA, CO 80002

6 of 6

FRI - 01 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 7734 9891 5860
0293

Mstr# 7734 9891 5815
0291

XH WHHA

80002
CO-US
DEN

537J02602E48

After printing this label:
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