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 3/19/15
INITIAL/DATE

COMMENTS:

SDG JP0915 SAF-RC-232

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 600-20 (excavation, verification)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-66218-1

SDG Number: JP0915

Job Description: SAF# RC-232

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

Attention: Joan H Kessner

RECEIVED

Darlene Bandy

Approved for release.
Darlene F Bandy
Project Management Assistant I
3/17/2015 4:03 PM

Designee for
Kae E Yoder, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
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03/17/2015

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.

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Job Number: 280-66218-1

SDG #: JP0915
SAF#: RC-232

Date SDG Closed: March 10, 2015
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1V4N5	280-66218-1	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4N6	280-66218-2	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4N7	280-66218-3	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4N8	280-66218-4	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4N9	280-66218-5	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P0	280-66218-6	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P1	280-66218-7	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P2	280-66218-8	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P3	280-66218-9	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P4	280-66218-10	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4O5	280-66218-11	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P6	280-66218-12	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310
J1V4P7	280-66218-13	6010/WTPH-D+/8310	6010B/NWTPH-Dx/8310

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 3/10/2015 1:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0° C.

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

HPLC - SW846 8310 - PAHs
No anomalies were encountered.

TOTAL METALS - SW846 6010B
Serial dilution of a digestate in batch 280-267503 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Sample J1V4N6 required a 5x dilution, and samples J1V4N7, J1V4P0, J1V4P1, J1V4P2 and J1V4P5 required a 2X dilution prior to the analysis of Antimony, Beryllium, Cobalt, Copper, Lead, Magnesium, Vanadium and Zinc 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 Barium, Calcium and Magnesium are present in the method blank associated with batch 280-267503. Because the concentrations in the method blank are not present at levels greater than half the reporting limit, corrective action is deemed unnecessary.

Silicon was recovered outside the control limits, biased low, in the LCS associated with batch 280-267503, and the associated sample results have been flagged "N". Silicon has been identified as a poor performing element when analyzed using this method and has a history of reacting inconsistently; therefore, corrective action is not initiated. Data are reported as is.

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 J1V4N5; therefore, control limits are not applicable.

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Lab Section	Qualifier	Description
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.
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.
	N	Recovery exceeds upper or lower control limits
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-66218-1	J1V4N5	Solid	03/09/2015 0820	03/10/2015 1310
280-66218-2	J1V4N6	Solid	03/09/2015 0854	03/10/2015 1310
280-66218-3	J1V4N7	Solid	03/09/2015 0852	03/10/2015 1310
280-66218-4	J1V4N8	Solid	03/09/2015 0849	03/10/2015 1310
280-66218-5	J1V4N9	Solid	03/09/2015 0903	03/10/2015 1310
280-66218-6	J1V4P0	Solid	03/09/2015 0846	03/10/2015 1310
280-66218-7	J1V4P1	Solid	03/09/2015 0844	03/10/2015 1310
280-66218-8	J1V4P2	Solid	03/09/2015 0842	03/10/2015 1310
280-66218-9	J1V4P3	Solid	03/09/2015 0831	03/10/2015 1310
280-66218-10	J1V4P4	Solid	03/09/2015 0900	03/10/2015 1310
280-66218-11	J1V4P5	Solid	03/09/2015 0857	03/10/2015 1310
280-66218-12	J1V4P6	Solid	03/09/2015 0839	03/10/2015 1310
280-66218-13	J1V4P7	Solid	03/09/2015 0820	03/10/2015 1310

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
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
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: 280-66218-1
Sdg Number: JP0915

Method	Analyst	Analyst ID
NWTPH NWTPH-Dx	Moore, Tegan E	TEM
SW846 6010B	Rhoades, Chris R	CRR
ASTM D-2216	Schwemin, Andrew J	AJS
SW846 8310	Fiedler, Heather K	HKF

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N5**

Lab Sample ID: 280-66218-1
Client Matrix: Solid
% Moisture: 3.2

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120007.D
Dilution:	1.0			Initial Weight/Volume:	32.9 g
Analysis Date:	03/12/2015 1356			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		11000		940	3800
C10-C28		5900		640	3800

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N6**

Lab Sample ID: 280-66218-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 03/09/2015 0854
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120010.D
Dilution:	1.0			Initial Weight/Volume:	32.3 g
Analysis Date:	03/12/2015 1522			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1600	J	940	3800
C10-C28		1800	J	640	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	82		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N7**

Lab Sample ID: 280-66218-3
Client Matrix: Solid
% Moisture: 1.9

Date Sampled: 03/09/2015 0852
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120011.D
Dilution:	1.0			Initial Weight/Volume:	32.5 g
Analysis Date:	03/12/2015 1551			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1600	J	940	3800
C10-C28		1900	J	640	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	87		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N8**

Lab Sample ID: 280-66218-4
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 03/09/2015 0849
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120012.D
Dilution:	1.0			Initial Weight/Volume:	32.9 g
Analysis Date:	03/12/2015 1619			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1700	J	920	3700
C10-C28		2000	J	630	3700

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N9**

Lab Sample ID: 280-66218-5
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 03/09/2015 0903
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120013.D
Dilution:	1.0			Initial Weight/Volume:	32.2 g
Analysis Date:	03/12/2015 1647			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1500	J	960	3800
C10-C28		1900	J	650	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	78		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P0**

Lab Sample ID: 280-66218-6
Client Matrix: Solid
% Moisture: 2.8

Date Sampled: 03/09/2015 0846
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120015.D
Dilution:	1.0			Initial Weight/Volume:	32.5 g
Analysis Date:	03/12/2015 1744			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		4700		950	3800
C10-C28		3500	J	640	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	76		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P1**

Lab Sample ID: 280-66218-7
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 03/09/2015 0844
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120016.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	03/12/2015 1813			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1700	J	950	3800
C10-C28		1900	J	650	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	87		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P2**

Lab Sample ID: 280-66218-8
Client Matrix: Solid

% Moisture: 2.4

Date Sampled: 03/09/2015 0842
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120017.D
Dilution:	1.0			Initial Weight/Volume:	31.3 g
Analysis Date:	03/12/2015 1841			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1500	J	980	3900
C10-C28		1900	J	670	3900

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P3**

Lab Sample ID: 280-66218-9
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 03/09/2015 0831
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120018.D
Dilution:	1.0			Initial Weight/Volume:	31.5 g
Analysis Date:	03/12/2015 1909			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		8600		960	3900
C10-C28		4100		660	3900

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P4**

Lab Sample ID: 280-66218-10
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 03/09/2015 0900
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120019.D
Dilution:	1.0			Initial Weight/Volume:	32.1 g
Analysis Date:	03/12/2015 1937			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		5500		950	3800
C10-C28		4200		650	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	82		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P5**

Lab Sample ID: 280-66218-11
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 03/09/2015 0857
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120020.D
Dilution:	1.0			Initial Weight/Volume:	33.0 g
Analysis Date:	03/12/2015 2005			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		1500	J	920	3700
C10-C28		1800	J	630	3700

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P6**

Lab Sample ID: 280-66218-12
Client Matrix: Solid

% Moisture: 2.1

Date Sampled: 03/09/2015 0839
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120021.D
Dilution:	1.0			Initial Weight/Volume:	33.0 g
Analysis Date:	03/12/2015 2033			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		9900		930	3700
C10-C28		4300		630	3700

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P7**

Lab Sample ID: 280-66218-13
Client Matrix: Solid

% Moisture: 2.4

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-267448	Lab File ID:	03120022.D
Dilution:	1.0			Initial Weight/Volume:	31.9 g
Analysis Date:	03/12/2015 2101			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		11000		960	3900
C10-C28		6100		650	3900

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	85		49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N5**

Lab Sample ID: 280-66218-1
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.1 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 0631			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.0	U	9.0	100
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.4	U	6.4	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.2	U	7.2	30
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	40
Pyrene		12	U	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	93		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N6**

Lab Sample ID: 280-66218-2
Client Matrix: Solid

% Moisture: 1.5

Date Sampled: 03/09/2015 0854
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 0803			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.0	U	7.0	29
Benzo[k]fluoranthene		3.8	U	3.8	15
Chrysene		4.7	U	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	87		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N7**

Lab Sample ID: 280-66218-3
Client Matrix: Solid
% Moisture: 1.9

Date Sampled: 03/09/2015 0852
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 0834			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

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

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N8**

Lab Sample ID: 280-66218-4
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 03/09/2015 0849
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	30.6 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 0904			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.0	U	9.0	100
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.4	U	6.4	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.2	U	7.2	30
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	40
Pyrene		12	U	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	94		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N9**

Lab Sample ID: 280-66218-5
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 03/09/2015 0903
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.8 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 0935			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.7	U	9.7	97
Acenaphthylene		8.7	U	8.7	97
Anthracene		3.0	U	3.0	19
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.2	U	6.2	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.0	U	7.0	29
Benzo[k]fluoranthene		3.8	U	3.8	15
Chrysene		4.7	U	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.1	U	5.1	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	97
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P0**

Lab Sample ID: 280-66218-6
Client Matrix: Solid
% Moisture: 2.8

Date Sampled: 03/09/2015 0846
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	32.7 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1005			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			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		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	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	90		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P1**

Lab Sample ID: 280-66218-7
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 03/09/2015 0844
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-268088	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.6 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/16/2015 0823			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	87		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P2**

Lab Sample ID: 280-66218-8
Client Matrix: Solid

% Moisture: 2.4

Date Sampled: 03/09/2015 0842
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.3 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1106			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.1	U	7.1	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P3**

Lab Sample ID: 280-66218-9
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 03/09/2015 0831
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	32.5 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1137			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			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		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		6.7	U	6.7	28
Benzo[k]fluoranthene		3.7	U	3.7	14
Chrysene		4.5	U	4.5	37
Dibenzo(a,h)anthracene		10	U	10	28
Fluoranthene		12	U	12	37
Fluorene		4.9	U	4.9	28
Indeno[1,2,3-cd]pyrene		11	U	11	28
Naphthalene		11	U	11	94
Phenanthrene		11	U	11	37
Pyrene		11	U	11	37

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	93		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P4**

Lab Sample ID: 280-66218-10
Client Matrix: Solid

% Moisture: 2.1

Date Sampled: 03/09/2015 0900
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1207			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.1	U	7.1	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P5**

Lab Sample ID: 280-66218-11
Client Matrix: Solid

% Moisture: 1.7

Date Sampled: 03/09/2015 0857
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.1 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1238			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.1	U	3.1	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.1	U	4.1	15
Benzo[g,h,i]perylene		7.1	U	7.1	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P6**

Lab Sample ID: 280-66218-12
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 03/09/2015 0839
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	31.0 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1308			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.9	U	9.9	99
Acenaphthylene		8.9	U	8.9	99
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.3	U	6.3	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.1	U	7.1	30
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.8	U	4.8	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
Fluorene		5.2	U	5.2	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	99
Phenanthrene		12	U	12	40
Pyrene		12	U	12	40

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P7**

Lab Sample ID: 280-66218-13
Client Matrix: Solid

% Moisture: 2.4

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-267438	Initial Weight/Volume:	30.0 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	03/14/2015 1339			Injection Volume:	20 uL
Prep Date:	03/10/2015 2117			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.2	U	9.2	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		3.3	U	3.3	15
Benzo[a]pyrene		6.6	U	6.6	15
Benzo[b]fluoranthene		4.3	U	4.3	15
Benzo[g,h,i]perylene		7.4	U	7.4	31
Benzo[k]fluoranthene		4.0	U	4.0	15
Chrysene		5.0	U	5.0	41
Dibenzo(a,h)anthracene		11	U	11	31
Fluoranthene		13	U	13	41
Fluorene		5.4	U	5.4	31
Indeno[1,2,3-cd]pyrene		12	U	12	31
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	41
Pyrene		12	U	12	41

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	93		72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N5**

Lab Sample ID: 280-66218-1
Client Matrix: Solid
% Moisture: 3.2

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.03 g
Analysis Date:	03/12/2015 0004			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5810	X	1.6	5.0
Arsenic		2.6		0.66	1.0
Barium		48.9	X	0.076	0.50
Beryllium		0.15	B	0.033	0.20
Boron		0.98	U	0.98	2.0
Calcium		6160	X	14.1	50.2
Chromium		9.1		0.058	0.20
Copper		11.7		0.22	1.0
Iron		15300		3.8	5.0
Lead		3.2		0.27	0.50
Magnesium		4460		3.7	20.1
Manganese		276		0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		9.5	X	0.12	4.0
Potassium		792		41.1	301
Selenium		0.86	U	0.86	1.0
Silicon		165	N	5.7	10.0
Sodium		189		59.2	120
Vanadium		42.0	X	0.094	2.0
Zinc		35.1		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.03 g
Analysis Date:	03/12/2015 1513			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.38	U	0.38	0.60
Cadmium		0.14	B	0.041	0.20
Cobalt		5.2		0.10	1.0
Silver		0.16	U	0.16	0.20

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N6**

Lab Sample ID: 280-66218-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 03/09/2015 0854
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	03/12/2015 0016			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3900	X	1.5	4.7
Arsenic		1.3		0.63	0.95
Barium		50.3	X	0.072	0.47
Boron		0.93	U	0.93	1.9
Calcium		4830	X	13.4	47.5
Chromium		5.6		0.055	0.19
Iron		23000		3.6	4.7
Manganese		305		0.095	0.95
Molybdenum		0.25	U	0.25	1.9
Nickel		9.2	X	0.12	3.8
Potassium		418		38.9	285
Selenium		0.82	U	0.82	0.95
Silicon		90.7	N	5.4	9.5
Sodium		270		56.0	114

Analysis Method:	6010B	Analysis Batch:	280-268097	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25A031315.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	03/13/2015 1247			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.14	B	0.039	0.19
Silver		0.15	U	0.15	0.19

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	5.0			Initial Weight/Volume:	1.07 g
Analysis Date:	03/12/2015 1523			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		1.8	U	1.8	2.8
Beryllium		0.16	U	0.16	0.95
Cobalt		8.6		0.47	4.7
Copper		15.4		1.0	4.7
Lead		2.6		1.3	2.4
Magnesium		4600		17.6	94.9
Vanadium		71.9	X	0.45	9.5
Zinc		45.7		1.9	4.7

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N7**

Lab Sample ID: 280-66218-3
Client Matrix: Solid
% Moisture: 1.9

Date Sampled: 03/09/2015 0852
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 0019			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4430	X	1.5	4.8
Arsenic		1.5		0.63	0.96
Barium		59.6	X	0.073	0.48
Boron		0.94	U	0.94	1.9
Calcium		4380	X	13.6	48.1
Chromium		5.4		0.056	0.19
Iron		23800		3.7	4.8
Manganese		316		0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		8.5	X	0.12	3.8
Potassium		481		39.4	288
Selenium		0.83	U	0.83	0.96
Silicon		100	N	5.4	9.6
Sodium		307		56.7	115

Analysis Method:	6010B	Analysis Batch:	280-268097	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25A031315.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/13/2015 1250			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.16	B	0.039	0.19
Silver		0.15	U	0.15	0.19

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	2.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 1526			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.73	U	0.73	1.2
Beryllium		0.15	B	0.063	0.38
Cobalt		8.5		0.19	1.9
Copper		15.1		0.42	1.9
Lead		2.2		0.52	0.96
Magnesium		4470		7.1	38.5
Vanadium		76.5	X	0.18	3.8
Zinc		47.3		0.77	1.9

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N8**

Lab Sample ID: 280-66218-4
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 03/09/2015 0849
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 0022			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4960	X	1.5	4.8
Arsenic		1.8		0.63	0.96
Barium		45.9	X	0.073	0.48
Beryllium		0.11	B	0.032	0.19
Boron		0.94	U	0.94	1.9
Calcium		4090	X	13.5	48.0
Chromium		7.5		0.056	0.19
Copper		11.9		0.21	0.96
Iron		18600		3.6	4.8
Lead		2.4		0.26	0.48
Magnesium		4720		3.6	19.2
Manganese		276		0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		11.3	X	0.12	3.8
Potassium		582		39.3	288
Selenium		0.83	U	0.83	0.96
Silicon		120	N	5.4	9.6
Sodium		215		56.6	115
Vanadium		55.2	X	0.090	1.9
Zinc		37.7		0.38	0.96

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 1528			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.36	U	0.36	0.58
Cadmium		0.12	B	0.039	0.19
Cobalt		6.2		0.096	0.96
Silver		0.15	U	0.15	0.19

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4N9**

Lab Sample ID: 280-66218-5
Client Matrix: Solid
% Moisture: 2.9

Date Sampled: 03/09/2015 0903
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.00 g
Analysis Date:	03/12/2015 0025			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5520	X	1.6	5.1
Arsenic		2.0		0.68	1.0
Barium		58.0	X	0.078	0.51
Beryllium		0.12	B	0.034	0.21
Boron		1.0	U	1.0	2.1
Calcium		3810	X	14.5	51.5
Chromium		7.3		0.060	0.21
Copper		12.8		0.22	1.0
Iron		20600		3.9	5.1
Lead		2.9		0.28	0.51
Magnesium		5100		3.8	20.6
Manganese		298		0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		13.6	X	0.13	4.1
Potassium		573		42.2	309
Selenium		0.89	U	0.89	1.0
Silicon		133	N	5.8	10.3
Sodium		211		60.8	124
Vanadium		61.4	X	0.097	2.1
Zinc		41.0		0.41	1.0

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.00 g
Analysis Date:	03/12/2015 1531			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.39	U	0.39	0.62
Cadmium		0.11	B	0.042	0.21
Cobalt		6.7		0.10	1.0
Silver		0.16	U	0.16	0.21

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P0**

Lab Sample ID: 280-66218-6
Client Matrix: Solid
% Moisture: 2.8

Date Sampled: 03/09/2015 0846
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Analysis Date:	03/12/2015 0040			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5720	X	1.4	4.6
Arsenic		3.0		0.61	0.92
Barium		60.4	X	0.070	0.46
Boron		0.90	U	0.90	1.8
Calcium		4570	X	12.9	45.9
Chromium		8.5		0.053	0.18
Iron		22600		3.5	4.6
Manganese		339		0.092	0.92
Molybdenum		0.24	U	0.24	1.8
Nickel		14.3	X	0.11	3.7
Potassium		679		37.7	275
Selenium		0.79	U	0.79	0.92
Silicon		144	N	5.2	9.2
Sodium		260		54.2	110

Analysis Method:	6010B	Analysis Batch:	280-268097	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25A031315.asc
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Analysis Date:	03/13/2015 1253			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.082	B	0.038	0.18
Silver		0.15	U	0.15	0.18

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	2.0			Initial Weight/Volume:	1.12 g
Analysis Date:	03/12/2015 1544			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.70	U	0.70	1.1
Beryllium		0.20	B	0.061	0.37
Cobalt		8.1		0.18	1.8
Copper		14.8		0.40	1.8
Lead		2.8		0.50	0.92
Magnesium		5210		6.8	36.7
Vanadium		69.7	X	0.17	3.7
Zinc		46.9		0.73	1.8

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P1**

Lab Sample ID: 280-66218-7
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 03/09/2015 0844
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	03/12/2015 0043			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4340	X	1.4	4.6
Arsenic		1.4		0.61	0.92
Barium		56.7	X	0.070	0.46
Boron		0.90	U	0.90	1.8
Calcium		4550	X	12.9	45.9
Chromium		6.2		0.053	0.18
Iron		23800		3.5	4.6
Manganese		306		0.092	0.92
Molybdenum		0.24	U	0.24	1.8
Nickel		9.6	X	0.11	3.7
Potassium		528		37.6	275
Selenium		0.79	U	0.79	0.92
Silicon		123	N	5.2	9.2
Sodium		290		54.1	110

Analysis Method:	6010B	Analysis Batch:	280-268097	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25A031315.asc
Dilution:	1.0			Initial Weight/Volume:	1.10 g
Analysis Date:	03/13/2015 1255			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.15	B	0.038	0.18
Silver		0.15	U	0.15	0.18

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	2.0			Initial Weight/Volume:	1.10 g
Analysis Date:	03/12/2015 1546			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.70	U	0.70	1.1
Beryllium		0.13	B	0.061	0.37
Cobalt		8.5		0.18	1.8
Copper		14.7		0.40	1.8
Lead		2.6		0.50	0.92
Magnesium		4590		6.8	36.7
Vanadium		75.9	X	0.17	3.7
Zinc		46.3		0.73	1.8

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P2**

Lab Sample ID: 280-66218-8
Client Matrix: Solid
% Moisture: 2.4

Date Sampled: 03/09/2015 0842
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	03/12/2015 0046			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5280	X	1.5	4.9
Arsenic		2.2		0.65	0.98
Barium		69.4	X	0.075	0.49
Boron		0.97	U	0.97	2.0
Calcium		4210	X	13.9	49.2
Chromium		6.7		0.057	0.20
Iron		23500		3.7	4.9
Manganese		317		0.098	0.98
Molybdenum		0.26	U	0.26	2.0
Nickel		11.7	X	0.12	3.9
Potassium		693		40.4	295
Selenium		0.85	U	0.85	0.98
Silicon		154	N	5.6	9.8
Sodium		240		58.1	118

Analysis Method:	6010B	Analysis Batch:	280-268097	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25A031315.asc
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Analysis Date:	03/13/2015 1258			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.15	B	0.040	0.20
Silver		0.16	U	0.16	0.20

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	2.0			Initial Weight/Volume:	1.04 g
Analysis Date:	03/12/2015 1549			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.75	U	0.75	1.2
Beryllium		0.18	B	0.065	0.39
Cobalt		8.2		0.20	2.0
Copper		15.5		0.43	2.0
Lead		3.1		0.53	0.98
Magnesium		4930		7.3	39.4
Vanadium		71.5	X	0.19	3.9
Zinc		46.9		0.78	2.0

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P3**

Lab Sample ID: 280-66218-9
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 03/09/2015 0831
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	03/12/2015 0049			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5260	X	1.4	4.4
Arsenic		1.9		0.58	0.88
Barium		71.4	X	0.067	0.44
Beryllium		0.12	B	0.029	0.18
Boron		0.87	U	0.87	1.8
Calcium		4610	X	12.4	44.1
Chromium		7.6		0.051	0.18
Copper		14.4		0.19	0.88
Iron		21600		3.4	4.4
Lead		3.9		0.24	0.44
Magnesium		4720		3.3	17.7
Manganese		310		0.088	0.88
Molybdenum		0.23	U	0.23	1.8
Nickel		10.3	X	0.11	3.5
Potassium		712		36.2	265
Selenium		0.76	U	0.76	0.88
Silicon		165	N	5.0	8.8
Sodium		240		52.1	106
Vanadium		62.6	X	0.083	1.8
Zinc		46.4		0.35	0.88

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	03/12/2015 1551			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.34	U	0.34	0.53
Cadmium		0.13	B	0.036	0.18
Cobalt		7.4		0.088	0.88
Silver		0.14	U	0.14	0.18

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P4**

Lab Sample ID: 280-66218-10
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 03/09/2015 0900
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 0052			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5900	X	1.5	4.8
Arsenic		2.9		0.64	0.96
Barium		57.9	X	0.073	0.48
Beryllium		0.14	B	0.032	0.19
Boron		0.94	U	0.94	1.9
Calcium		5120	X	13.6	48.2
Chromium		8.8		0.056	0.19
Copper		15.5		0.21	0.96
Iron		20600		3.7	4.8
Lead		3.1		0.26	0.48
Magnesium		4960		3.6	19.3
Manganese		313		0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		11.3	X	0.12	3.9
Potassium		779		39.5	289
Selenium		0.83	U	0.83	0.96
Silicon		166	N	5.5	9.6
Sodium		249		56.9	116
Vanadium		59.4	X	0.091	1.9
Zinc		41.8		0.38	0.96

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 1554			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	U	0.37	0.58
Cadmium		0.13	B	0.040	0.19
Cobalt		6.9		0.096	0.96
Silver		0.15	U	0.15	0.19

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P5**

Lab Sample ID: 280-66218-11
Client Matrix: Solid
% Moisture: 1.7

Date Sampled: 03/09/2015 0857
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 0055			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4150	X	1.5	4.8
Arsenic		1.5		0.63	0.96
Barium		72.2	X	0.073	0.48
Boron		0.94	U	0.94	1.9
Calcium		4330	X	13.5	48.0
Chromium		6.1		0.056	0.19
Iron		23100		3.6	4.8
Manganese		300		0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		9.8	X	0.12	3.8
Potassium		478		39.4	288
Selenium		0.83	U	0.83	0.96
Silicon		96.0	N	5.4	9.6
Sodium		289		56.6	115

Analysis Method:	6010B	Analysis Batch:	280-268097	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25A031315.asc
Dilution:	1.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/13/2015 1301			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Cadmium		0.13	B	0.039	0.19
Silver		0.15	U	0.15	0.19

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	2.0			Initial Weight/Volume:	1.06 g
Analysis Date:	03/12/2015 1557			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.73	U	0.73	1.2
Beryllium		0.16	B	0.063	0.38
Cobalt		8.1		0.19	1.9
Copper		14.1		0.42	1.9
Lead		2.4		0.52	0.96
Magnesium		4570		7.1	38.4
Vanadium		70.1	X	0.18	3.8
Zinc		45.9		0.76	1.9

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P6**

Lab Sample ID: 280-66218-12
Client Matrix: Solid
% Moisture: 2.1

Date Sampled: 03/09/2015 0839
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Analysis Date:	03/12/2015 0058			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5680	X	1.6	5.1
Arsenic		3.2		0.67	1.0
Barium		78.5	X	0.077	0.51
Beryllium		0.14	B	0.033	0.20
Boron		0.99	U	0.99	2.0
Calcium		5220	X	14.3	50.6
Chromium		10.2		0.059	0.20
Copper		13.1		0.22	1.0
Iron		17100		3.8	5.1
Lead		4.5		0.27	0.51
Magnesium		4440		3.7	20.2
Manganese		372		0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		10.7	X	0.12	4.0
Potassium		854		41.5	303
Selenium		0.87	U	0.87	1.0
Silicon		185	N	5.7	10.1
Sodium		160		59.7	121
Vanadium		45.1	X	0.095	2.0
Zinc		35.3		0.40	1.0

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Analysis Date:	03/12/2015 1559			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.38	U	0.38	0.61
Cadmium		0.14	B	0.041	0.20
Cobalt		6.2		0.10	1.0
Silver		0.16	U	0.16	0.20

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Client Sample ID: **J1V4P7**

Lab Sample ID: 280-66218-13
Client Matrix: Solid
% Moisture: 2.4

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-267674	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	03/12/2015 0101			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6100	X	1.5	4.9
Arsenic		2.7		0.64	0.98
Barium		56.6	X	0.074	0.49
Beryllium		0.15	B	0.032	0.20
Boron		0.96	U	0.96	2.0
Calcium		6480	X	13.8	48.8
Chromium		9.7		0.057	0.20
Copper		12.7		0.21	0.98
Iron		16000		3.7	4.9
Lead		3.1		0.26	0.49
Magnesium		4750		3.6	19.5
Manganese		270		0.098	0.98
Molybdenum		0.25	U	0.25	2.0
Nickel		10	X	0.12	3.9
Potassium		781		40.0	293
Selenium		0.84	U	0.84	0.98
Silicon		184	N	5.5	9.8
Sodium		191		57.6	117
Vanadium		41.7	X	0.092	2.0
Zinc		35.4		0.39	0.98

Analysis Method:	6010B	Analysis Batch:	280-267866	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	03/12/2015 1602			Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.37	U	0.37	0.59
Cadmium		0.11	B	0.040	0.20
Cobalt		5.3		0.098	0.98
Silver		0.16	U	0.16	0.20

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4N5**

Lab Sample ID: 280-66218-1
Client Matrix: Solid

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	3.2		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4N6**

Lab Sample ID: 280-66218-2
Client Matrix: Solid

Date Sampled: 03/09/2015 0854
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.5		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4N7**

Lab Sample ID: 280-66218-3
Client Matrix: Solid

Date Sampled: 03/09/2015 0852
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.9		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4N8**

Lab Sample ID: 280-66218-4
Client Matrix: Solid

Date Sampled: 03/09/2015 0849
Date Received: 03/10/2015 1310

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

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4N9**

Lab Sample ID: 280-66218-5
Client Matrix: Solid

Date Sampled: 03/09/2015 0903
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.9		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P0**

Lab Sample ID: 280-66218-6
Client Matrix: Solid

Date Sampled: 03/09/2015 0846
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.8		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P1**

Lab Sample ID: 280-66218-7
Client Matrix: Solid

Date Sampled: 03/09/2015 0844
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.95		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P2**

Lab Sample ID: 280-66218-8
Client Matrix: Solid

Date Sampled: 03/09/2015 0842
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.4		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P3**

Lab Sample ID: 280-66218-9
Client Matrix: Solid

Date Sampled: 03/09/2015 0831
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.5		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P4**

Lab Sample ID: 280-66218-10
Client Matrix: Solid

Date Sampled: 03/09/2015 0900
Date Received: 03/10/2015 1310

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

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P5**

Lab Sample ID: 280-66218-11
Client Matrix: Solid

Date Sampled: 03/09/2015 0857
Date Received: 03/10/2015 1310

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

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P6**

Lab Sample ID: 280-66218-12
Client Matrix: Solid

Date Sampled: 03/09/2015 0839
Date Received: 03/10/2015 1310

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

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

General Chemistry

Client Sample ID: **J1V4P7**

Lab Sample ID: 280-66218-13
Client Matrix: Solid

Date Sampled: 03/09/2015 0820
Date Received: 03/10/2015 1310

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.4		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-267647 Analysis Date: 03/11/2015 2130 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Surrogate Recovery Report

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

Client Matrix: Solid

Lab Sample ID	Client Sample ID	OTPH %Rec
280-66218-1	J1V4N5	83
280-66218-2	J1V4N6	82
280-66218-3	J1V4N7	87
280-66218-4	J1V4N8	83
280-66218-5	J1V4N9	78
280-66218-6	J1V4P0	76
280-66218-7	J1V4P1	87
280-66218-8	J1V4P2	80
280-66218-9	J1V4P3	86
280-66218-10	J1V4P4	82
280-66218-11	J1V4P5	80
280-66218-12	J1V4P6	83
280-66218-13	J1V4P7	85
MB 280-267448/1-A		80
LCS 280-267448/2-A		58
280-66218-1 MS	J1V4N5 MS	83
280-66218-1 MSD	J1V4N5 MSD	88

Surrogate	Acceptance Limits
OTPH = o-Terphenyl	49-115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Surrogate Recovery Report

8310 PAHs (HPLC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TPH1 %Rec
280-66218-1	J1V4N5	93
280-66218-2	J1V4N6	87
280-66218-3	J1V4N7	91
280-66218-4	J1V4N8	94
280-66218-5	J1V4N9	90
280-66218-6	J1V4P0	90
280-66218-7	J1V4P1	87
280-66218-8	J1V4P2	89
280-66218-9	J1V4P3	93
280-66218-10	J1V4P4	91
280-66218-11	J1V4P5	88
280-66218-12	J1V4P6	90
280-66218-13	J1V4P7	93
MB 280-267438/1-A		97
LCS 280-267438/2-A		88
280-66218-1 MS	J1V4N5 MS	86
280-66218-1 MSD	J1V4N5 MSD	95

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Method Blank - Batch: 280-267448

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-267448/1-A	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-267448	Lab File ID:	03120005.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 g
Analysis Date:	03/12/2015 1259	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	1000	U	1000	4000
C10-C28	680	U	680	4000

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

Lab Control Sample - Batch: 280-267448

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-267448/2-A	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-267448	Lab File ID:	03120006.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 g
Analysis Date:	03/12/2015 1328	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	66700	39000	58	57 - 115	
C10-C28	66700	38200	57	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	58	49 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-267448

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-66218-1	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-267448	Lab File ID:	03120008.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.5 g
Analysis Date:	03/12/2015 1425			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-66218-1	Analysis Batch:	280-267715	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-267448	Lab File ID:	03120009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	03/12/2015 1453			Final Weight/Volume:	1 mL
Prep Date:	03/10/2015 2208			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	78	82	57 - 115	7	23		
C10-C28	79	83	56 - 115	8	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	83	88	49 - 115

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-267448

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-66218-1	Units:	ug/Kg	MSD Lab Sample ID:	280-66218-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/12/2015 1425			Analysis Date:	03/12/2015 1453
Prep Date:	03/10/2015 2208			Prep Date:	03/10/2015 2208
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	11000	63600	66000	60900	65700
C10-C28	5900	63600	66000	55900	60800

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Method Blank - Batch: 280-267438

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-267438/1-A	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-267438	Lab File ID:	G0313038.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 g
Analysis Date:	03/14/2015 0530	Units:	ug/Kg	Final Weight/Volume:	4 mL
Prep Date:	03/10/2015 2117			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

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

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Lab Control Sample - Batch: 280-267438

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-267438/2-A	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-267438	Lab File ID:	G0313039.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 g
Analysis Date:	03/14/2015 0601	Units:	ug/Kg	Final Weight/Volume:	4 mL
Prep Date:	03/10/2015 2117			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2000	1710	85	78 - 116	
Acenaphthylene	2000	1670	84	66 - 115	
Anthracene	2000	1610	81	74 - 115	
Benzo[a]anthracene	2000	1750	88	77 - 120	
Benzo[a]pyrene	2000	1680	84	74 - 115	
Benzo[b]fluoranthene	2000	1720	86	56 - 115	
Benzo[g,h,i]perylene	2000	1920	96	72 - 120	
Benzo[k]fluoranthene	2000	1780	89	76 - 115	
Chrysene	2000	1730	86	79 - 115	
Dibenzo(a,h)anthracene	2000	1700	85	72 - 115	
Fluoranthene	2000	1740	87	77 - 115	
Fluorene	2000	1800	90	80 - 115	
Indeno[1,2,3-cd]pyrene	2000	1750	87	78 - 115	
Naphthalene	2000	1670	84	68 - 120	
Phenanthrene	2000	1690	84	80 - 115	
Pyrene	2000	1830	91	75 - 115	

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

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-267438

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-66218-1	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-267438	Lab File ID:	G0313041.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	03/14/2015 0702			Final Weight/Volume:	4 mL
Prep Date:	03/10/2015 2117			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-66218-1	Analysis Batch:	280-267925	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-267438	Lab File ID:	G0313042.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.4 g
Analysis Date:	03/14/2015 0732			Final Weight/Volume:	4 mL
Prep Date:	03/10/2015 2117			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	78	87	78 - 116	5	20		
Acenaphthylene	81	90	66 - 115	5	20		
Anthracene	79	89	74 - 115	6	20		
Benzo[a]anthracene	85	96	77 - 120	7	20		
Benzo[a]pyrene	80	91	74 - 115	8	20		
Benzo[b]fluoranthene	83	91	56 - 115	5	20		
Benzo[g,h,i]perylene	93	105	72 - 120	7	20		
Benzo[k]fluoranthene	85	97	76 - 115	9	20		
Chrysene	84	96	79 - 115	9	20		
Dibenzo(a,h)anthracene	80	92	72 - 115	8	20		
Fluoranthene	85	95	77 - 115	6	20		
Fluorene	87	97	80 - 115	5	20		
Indeno[1,2,3-cd]pyrene	85	103	78 - 115	14	20		
Naphthalene	81	89	68 - 120	5	20		
Phenanthrene	82	91	80 - 115	6	20		
Pyrene	89	99	75 - 115	6	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	86	95	72 - 115

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-267438

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-66218-1	Units:	ug/Kg	MSD Lab Sample ID:	280-66218-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/14/2015 0702			Analysis Date:	03/14/2015 0732
Prep Date:	03/10/2015 2117			Prep Date:	03/10/2015 2117
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Acenaphthene	10	U	2010	1910	1570	1660
Acenaphthylene	9.0	U	2010	1910	1640	1720
Anthracene	3.0	U	2010	1910	1590	1700
Benzo[a]anthracene	3.2	U	2010	1910	1720	1830
Benzo[a]pyrene	6.4	U	2010	1910	1610	1740
Benzo[b]fluoranthene	4.2	U	2010	1910	1660	1750
Benzo[g,h,i]perylene	7.2	U	2010	1910	1860	2010
Benzo[k]fluoranthene	3.9	U	2010	1910	1700	1860
Chrysene	4.8	U	2010	1910	1690	1840
Dibenzo(a,h)anthracene	11	U	2010	1910	1620	1750
Fluoranthene	13	U	2010	1910	1710	1820
Fluorene	5.3	U	2010	1910	1760	1850
Indeno[1,2,3-cd]pyrene	12	U	2010	1910	1720	1970
Naphthalene	12	U	2010	1910	1630	1710
Phenanthrene	12	U	2010	1910	1650	1750
Pyrene	12	U	2010	1910	1790	1900

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Method Blank - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-267503/1-A	Analysis Batch:	280-267674	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	03/11/2015 2359	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Arsenic	0.66	U	0.66	1.0
Barium	0.0950	B	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Calcium	18.63	B	14.1	50.0
Chromium	0.058	U	0.058	0.20
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	6.02	B	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
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Method Blank - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-267503/1-A	Analysis Batch:	280-267866	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	03/12/2015 1508	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony	0.38	U	0.38	0.60
Cadmium	0.041	U	0.041	0.20
Cobalt	0.10	U	0.10	1.0
Silver	0.16	U	0.16	0.20

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Lab Control Sample - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-267503/2-A	Analysis Batch:	280-267674	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	03/12/2015 0001	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	197.1	99	82 - 116	
Arsenic	100	98.17	98	85 - 110	
Barium	200	180.5	90	87 - 112	
Beryllium	5.00	4.62	92	84 - 114	
Boron	100	102.5	103	80 - 120	
Calcium	5000	4431	89	82 - 114	
Chromium	20.0	18.65	93	84 - 114	
Copper	25.0	25.13	101	88 - 110	
Iron	100	95.03	95	87 - 120	
Lead	50.0	48.64	97	86 - 110	
Magnesium	5000	5239	105	90 - 110	
Manganese	50.0	51.23	102	88 - 110	
Molybdenum	100	101.5	101	86 - 110	
Nickel	50.0	48.31	97	87 - 110	
Potassium	5000	4591	92	89 - 110	
Selenium	200	196.9	98	83 - 110	
Silicon	1000	61.35	6	10 - 70	N
Sodium	5000	4951	99	90 - 112	
Vanadium	50.0	52.84	106	88 - 110	
Zinc	50.0	49.87	100	76 - 114	

Lab Control Sample - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-267503/2-A	Analysis Batch:	280-267866	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	03/12/2015 1511	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	50.0	51.11	102	82 - 110	
Cadmium	10.0	10.36	104	87 - 110	
Cobalt	50.0	48.79	98	87 - 110	
Silver	5.00	5.36	107	87 - 114	

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Matrix Spike - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-66218-1	Analysis Batch:	280-267674	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.04 g
Analysis Date:	03/12/2015 0013	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	5810		199	8957	1585	50 - 200	4
Arsenic	2.6		99.4	93.55	92	76 - 111	
Barium	48.9		199	230.8	92	52 - 159	
Beryllium	0.15	B	4.97	4.49	87	72 - 105	
Boron	0.98	U	99.4	94.11	95	80 - 120	
Calcium	6160		4970	12930	136	43 - 165	
Chromium	9.1		19.9	29.61	103	70 - 200	
Copper	11.7		24.8	37.61	104	37 - 187	
Iron	15300		99.4	17910	2627	70 - 200	4
Lead	3.2		49.7	47.29	89	70 - 200	
Magnesium	4460		4970	10460	121	64 - 145	
Manganese	276		49.7	364.0	178	40 - 200	4
Molybdenum	0.26	U	99.4	91.53	92	75 - 103	
Nickel	9.5		49.7	54.59	91	61 - 126	
Potassium	792		4970	5403	93	56 - 172	
Selenium	0.86	U	199	182.3	92	76 - 104	
Silicon	165		994	360.9	20	20 - 200	
Sodium	189		4970	5048	98	78 - 111	
Vanadium	42.0		49.7	98.45	114	50 - 169	
Zinc	35.1		49.7	82.15	95	70 - 200	

Matrix Spike - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-66218-1	Analysis Batch:	280-267866	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.04 g
Analysis Date:	03/12/2015 1521	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.38	U	49.7	26.23	53	20 - 200	
Cadmium	0.14	B	9.94	9.74	97	40 - 130	
Cobalt	5.2		49.7	50.41	91	72 - 106	
Silver	0.16	U	4.97	5.05	102	75 - 141	

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Duplicate - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-66218-1	Analysis Batch:	280-267674	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	25B031115.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.08 g
Analysis Date:	03/12/2015 0010	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	5810		5818	0.2	40	
Arsenic	2.6		2.45	6	30	
Barium	48.9		47.48	3	30	
Beryllium	0.15	B	0.142	4	30	B
Boron	0.98	U	0.94	NC	30	U
Calcium	6160		6155	0.07	30	
Chromium	9.1		8.55	7	40	
Copper	11.7		11.73	0.2	30	
Iron	15300		15450	1	40	
Lead	3.2		3.00	7	40	
Magnesium	4460		4498	0.8	30	
Manganese	276		264.2	4	40	
Molybdenum	0.26	U	0.25	NC	30	U
Nickel	9.5		9.87	4	30	
Potassium	792		753.3	5	40	
Selenium	0.86	U	0.82	NC	30	U
Silicon	165		173.9	5	40	N
Sodium	189		200.2	6	30	
Vanadium	42.0		41.16	2	30	
Zinc	35.1		33.19	5	40	

Duplicate - Batch: 280-267503

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-66218-1	Analysis Batch:	280-267866	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-267503	Lab File ID:	26a031215a.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.08 g
Analysis Date:	03/12/2015 1518	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/11/2015 1345				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	0.38	U	0.36	NC	40	U
Cadmium	0.14	B	0.122	14	30	B
Cobalt	5.2		5.44	4	30	
Silver	0.16	U	0.15	NC	30	U

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

Duplicate - Batch: 280-267647

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-66218-4	Analysis Batch:	280-267647	Instrument ID:	No Equipment Assigned
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	03/11/2015 2130	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	1.7	1.8	9	20	

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-267448					
LCS 280-267448/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-267448/1-A	Method Blank	T	Solid	3550C	
280-66218-1	J1V4N5	T	Solid	3550C	
280-66218-1MS	Matrix Spike	T	Solid	3550C	
280-66218-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-66218-2	J1V4N6	T	Solid	3550C	
280-66218-3	J1V4N7	T	Solid	3550C	
280-66218-4	J1V4N8	T	Solid	3550C	
280-66218-5	J1V4N9	T	Solid	3550C	
280-66218-6	J1V4P0	T	Solid	3550C	
280-66218-7	J1V4P1	T	Solid	3550C	
280-66218-8	J1V4P2	T	Solid	3550C	
280-66218-9	J1V4P3	T	Solid	3550C	
280-66218-10	J1V4P4	T	Solid	3550C	
280-66218-11	J1V4P5	T	Solid	3550C	
280-66218-12	J1V4P6	T	Solid	3550C	
280-66218-13	J1V4P7	T	Solid	3550C	
Analysis Batch:280-267715					
LCS 280-267448/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-267448
MB 280-267448/1-A	Method Blank	T	Solid	NWTPH-Dx	280-267448
280-66218-1	J1V4N5	T	Solid	NWTPH-Dx	280-267448
280-66218-1MS	Matrix Spike	T	Solid	NWTPH-Dx	280-267448
280-66218-1MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-267448
280-66218-2	J1V4N6	T	Solid	NWTPH-Dx	280-267448
280-66218-3	J1V4N7	T	Solid	NWTPH-Dx	280-267448
280-66218-4	J1V4N8	T	Solid	NWTPH-Dx	280-267448
280-66218-5	J1V4N9	T	Solid	NWTPH-Dx	280-267448
280-66218-6	J1V4P0	T	Solid	NWTPH-Dx	280-267448
280-66218-7	J1V4P1	T	Solid	NWTPH-Dx	280-267448
280-66218-8	J1V4P2	T	Solid	NWTPH-Dx	280-267448
280-66218-9	J1V4P3	T	Solid	NWTPH-Dx	280-267448
280-66218-10	J1V4P4	T	Solid	NWTPH-Dx	280-267448
280-66218-11	J1V4P5	T	Solid	NWTPH-Dx	280-267448
280-66218-12	J1V4P6	T	Solid	NWTPH-Dx	280-267448
280-66218-13	J1V4P7	T	Solid	NWTPH-Dx	280-267448

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-267503					
LCS 280-267503/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-267503/1-A	Method Blank	T	Solid	3050B	
280-66218-1	J1V4N5	T	Solid	3050B	
280-66218-1DU	Duplicate	T	Solid	3050B	
280-66218-1MS	Matrix Spike	T	Solid	3050B	
280-66218-2	J1V4N6	T	Solid	3050B	
280-66218-3	J1V4N7	T	Solid	3050B	
280-66218-4	J1V4N8	T	Solid	3050B	
280-66218-5	J1V4N9	T	Solid	3050B	
280-66218-6	J1V4P0	T	Solid	3050B	
280-66218-7	J1V4P1	T	Solid	3050B	
280-66218-8	J1V4P2	T	Solid	3050B	
280-66218-9	J1V4P3	T	Solid	3050B	
280-66218-10	J1V4P4	T	Solid	3050B	
280-66218-11	J1V4P5	T	Solid	3050B	
280-66218-12	J1V4P6	T	Solid	3050B	
280-66218-13	J1V4P7	T	Solid	3050B	
Analysis Batch:280-267674					
LCS 280-267503/2-A	Lab Control Sample	T	Solid	6010B	280-267503
MB 280-267503/1-A	Method Blank	T	Solid	6010B	280-267503
280-66218-1	J1V4N5	T	Solid	6010B	280-267503
280-66218-1DU	Duplicate	T	Solid	6010B	280-267503
280-66218-1MS	Matrix Spike	T	Solid	6010B	280-267503
280-66218-2	J1V4N6	T	Solid	6010B	280-267503
280-66218-3	J1V4N7	T	Solid	6010B	280-267503
280-66218-4	J1V4N8	T	Solid	6010B	280-267503
280-66218-5	J1V4N9	T	Solid	6010B	280-267503
280-66218-6	J1V4P0	T	Solid	6010B	280-267503
280-66218-7	J1V4P1	T	Solid	6010B	280-267503
280-66218-8	J1V4P2	T	Solid	6010B	280-267503
280-66218-9	J1V4P3	T	Solid	6010B	280-267503
280-66218-10	J1V4P4	T	Solid	6010B	280-267503
280-66218-11	J1V4P5	T	Solid	6010B	280-267503
280-66218-12	J1V4P6	T	Solid	6010B	280-267503
280-66218-13	J1V4P7	T	Solid	6010B	280-267503

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-267866					
LCS 280-267503/2-A	Lab Control Sample	T	Solid	6010B	280-267503
MB 280-267503/1-A	Method Blank	T	Solid	6010B	280-267503
280-66218-1	J1V4N5	T	Solid	6010B	280-267503
280-66218-1DU	Duplicate	T	Solid	6010B	280-267503
280-66218-1MS	Matrix Spike	T	Solid	6010B	280-267503
280-66218-2	J1V4N6	T	Solid	6010B	280-267503
280-66218-3	J1V4N7	T	Solid	6010B	280-267503
280-66218-4	J1V4N8	T	Solid	6010B	280-267503
280-66218-5	J1V4N9	T	Solid	6010B	280-267503
280-66218-6	J1V4P0	T	Solid	6010B	280-267503
280-66218-7	J1V4P1	T	Solid	6010B	280-267503
280-66218-8	J1V4P2	T	Solid	6010B	280-267503
280-66218-9	J1V4P3	T	Solid	6010B	280-267503
280-66218-10	J1V4P4	T	Solid	6010B	280-267503
280-66218-11	J1V4P5	T	Solid	6010B	280-267503
280-66218-12	J1V4P6	T	Solid	6010B	280-267503
280-66218-13	J1V4P7	T	Solid	6010B	280-267503
Analysis Batch:280-268097					
280-66218-2	J1V4N6	T	Solid	6010B	280-267503
280-66218-3	J1V4N7	T	Solid	6010B	280-267503
280-66218-6	J1V4P0	T	Solid	6010B	280-267503
280-66218-7	J1V4P1	T	Solid	6010B	280-267503
280-66218-8	J1V4P2	T	Solid	6010B	280-267503
280-66218-11	J1V4P5	T	Solid	6010B	280-267503

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-267647					
280-66218-1	J1V4N5	T	Solid	D-2216	
280-66218-2	J1V4N6	T	Solid	D-2216	
280-66218-3	J1V4N7	T	Solid	D-2216	
280-66218-4	J1V4N8	T	Solid	D-2216	
280-66218-4DU	Duplicate	T	Solid	D-2216	
280-66218-5	J1V4N9	T	Solid	D-2216	
280-66218-6	J1V4P0	T	Solid	D-2216	
280-66218-7	J1V4P1	T	Solid	D-2216	
280-66218-8	J1V4P2	T	Solid	D-2216	
280-66218-9	J1V4P3	T	Solid	D-2216	
280-66218-10	J1V4P4	T	Solid	D-2216	
280-66218-11	J1V4P5	T	Solid	D-2216	
280-66218-12	J1V4P6	T	Solid	D-2216	
280-66218-13	J1V4P7	T	Solid	D-2216	

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-66218-1
Sdg Number: JP0915

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
HPLC/IC					
Prep Batch: 280-267438					
LCS 280-267438/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-267438/1-A	Method Blank	T	Solid	3550C	
280-66218-1	J1V4N5	T	Solid	3550C	
280-66218-1MS	Matrix Spike	T	Solid	3550C	
280-66218-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-66218-2	J1V4N6	T	Solid	3550C	
280-66218-3	J1V4N7	T	Solid	3550C	
280-66218-4	J1V4N8	T	Solid	3550C	
280-66218-5	J1V4N9	T	Solid	3550C	
280-66218-6	J1V4P0	T	Solid	3550C	
280-66218-7	J1V4P1	T	Solid	3550C	
280-66218-8	J1V4P2	T	Solid	3550C	
280-66218-9	J1V4P3	T	Solid	3550C	
280-66218-10	J1V4P4	T	Solid	3550C	
280-66218-11	J1V4P5	T	Solid	3550C	
280-66218-12	J1V4P6	T	Solid	3550C	
280-66218-13	J1V4P7	T	Solid	3550C	
Analysis Batch:280-267925					
LCS 280-267438/2-A	Lab Control Sample	T	Solid	8310	280-267438
MB 280-267438/1-A	Method Blank	T	Solid	8310	280-267438
280-66218-1	J1V4N5	T	Solid	8310	280-267438
280-66218-1MS	Matrix Spike	T	Solid	8310	280-267438
280-66218-1MSD	Matrix Spike Duplicate	T	Solid	8310	280-267438
280-66218-2	J1V4N6	T	Solid	8310	280-267438
280-66218-3	J1V4N7	T	Solid	8310	280-267438
280-66218-4	J1V4N8	T	Solid	8310	280-267438
280-66218-5	J1V4N9	T	Solid	8310	280-267438
280-66218-6	J1V4P0	T	Solid	8310	280-267438
280-66218-8	J1V4P2	T	Solid	8310	280-267438
280-66218-9	J1V4P3	T	Solid	8310	280-267438
280-66218-10	J1V4P4	T	Solid	8310	280-267438
280-66218-11	J1V4P5	T	Solid	8310	280-267438
280-66218-12	J1V4P6	T	Solid	8310	280-267438
280-66218-13	J1V4P7	T	Solid	8310	280-267438
Analysis Batch:280-268088					
280-66218-7	J1V4P1	T	Solid	8310	280-267438

Report Basis
T = Total

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-232-089

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: 600-20 (excavation, verification)		SAF No.: RC-232
Ice Chest No.: WCH-08-067	Field Logbook No.: EL-1667-02	COA: 0600202000	Method of Shipment: Commercial Carrier / Fed Ex
Shipped To: TestAmerica Denver	Offsite Property No.: A131330		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: Cool 4C

280-66218 Chain of Custody

Preservation			Cool 4C	Cool 4C	Cool 4C							
Type of Container			G/P	aG	aG							
No. of Container(s)			1	1	1							
Volume			250mL	125mL	250mL							
Sample Analysis			See item (1) in Special Instructions	TPH-Diesel Range - WTPH-D +	PAHs - 8310							
Sample No.	Matrix	Sample Date	Sample Time									
J1V4N5	SOIL	3/9/15	0820	X	X	X						
J1V4N6	SOIL	3/9/15	0854	X	X	X						
J1V4N7	SOIL	3/9/15	0852	X	X	X						
J1V4N8	SOIL	3/9/15	0849	X	X	X						
J1V4N9	SOIL	3/9/15	0903	X	X	X						

Page 8 of 8

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	3-9-15 0925	C Martinez/C Martinez	3/9/15 0925
C Martinez/C Martinez	3/9/15 1100	C Bingham	3-9-15 1100
C Bingham WCH	3-9-15 1115	Fed Ex	3-9-15
			3/10/15 13:10

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}

3.8 IRS +0.2

Transfered By RKS 3/10/15

REVIEWED BY D. St John Vaeno DATE 3/9/15

JP0915

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-232-089	Page 2 of 3

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: 600-20 (excavation, verification)	SAF No.: RC-232	
Ice Chest No.: WCH-08-067	Field Logbook No.: EL-1667-02	COA: 0600202000	Method of Shipment: Commercial Carrier \ Fed Ex
Shipped To: TestAmerica Denver	Offsite Property No.: A131330	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: Cool 4C

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	G/P	aG	aG									
No. of Container(s)	1	1	1									
Volume	250mL	125mL	250mL									
Sample Analysis	See item (1) in Special Instructions	TPH-Diesel Range - WTPH-D +	PAHs - 8310									

Sample No.	Matrix	Sample Date	Sample Time									
J1V4P0	SOIL	3/9/15	0846	X	X	X						
J1V4P1	SOIL	3/9/15	0844	X	X	X						
J1V4P2	SOIL	3/9/15	0842	X	X	X						
J1V4P3	SOIL	3/9/15	0831	X	X	X						
J1V4P4	SOIL	3/9/15	0900	X	X	X						

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Quincy Stowe	3-9-15 0925	C. Martinez/C. Martinez	3/9/15 0925
C. Martinez/C. Martinez 3/9/15	1100	C. Bingham	3-9-15 1100
C. Bingham WCH	3-9-15 1115	Fed Ex	3-9-15
			3-10-15 13:10

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}

REVIEWED BY D. St John/kgml DATE 3/9/15

JP0915

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-232-089	Page 3 of3

Collector: STOWE, QG	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: ~~7~~ 3 days 3-9-15 cmb		
Project Designation: 100-IU-2 & 100-IU-6 Remaining Waste Sites	Sampling Location: 600-20 (excavation, verification)		SAF No.: RC-232
Ice Chest No.: WCH-08-067	Field Logbook No.: EL-1667-02	COA: 0600202000	Method of Shipment: Commercial Carrier \ Fed Ex
Shipped To: TestAmerica Denver	Offsite Property No.: A131330		Bill of Lading/Air Bill No.: See OSPO

Other Labs Shipped To: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: Cool 4C

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	G/P	aG	aG									
No. of Container(s)	1	1	1									
Volume	250mL	125mL	250mL									
Sample Analysis	See item (1) in Special Instructions	TPH-Diesel Range - WTPH-D +	PAHs - 8310									

Sample No.	Matrix	Sample Date	Sample Time										
J1W4P5	SOIL	3/9/15	0857	X	X	X							
J1W4P6	SOIL	3/9/15	0839	X	X	X							
J1W4P7	SOIL	3/9/15	0820	X	X	X							

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: Quincy Stowe	Date/Time: 0925 3-9-15	Received By/Stored In: C Martinez/C Martinez	Date/Time: 0925 3/9/15
Relinquished By/Removed From: C Martinez/C Martinez	Date/Time: 1100 3/9/15	Received By/Stored In: C Bingham	Date/Time: 3-9-15 1100
Relinquished By/Removed From: C Bingham WCH	Date/Time: 3-9-15 1115	Received By/Stored In: fed Ex	Date/Time: 3-9-15
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time: 3/10/15 13:10
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

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}

REVIEWED BY D.St Johnhammel DATE 3/9/15

JP0915

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

90 w/Permission
Project 28002142
Report Due: 3/17/2015 D.b. 3-10-15
TALs TAT: Rush 5 day TAT

Temp 3.8 IR# 5
CF +0.2 Initals TO
Date: 03/10/15 1310

Sample Check-in List

Date/Time Received: 3/10/15 13:10 **GM Screen Result** 13 **microR/hr**

Client: Washington Closure Hanford **SDG #:** JP0915 NA[ ] **SAF #:** RC-232 NA [ ]

Job Number: 66218 **Chain of Custody #** RC-232-089

Shipping Container ID: WCH-08-074 **Air Bill #** 773081826890

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: 3.8 IR5 +0.2 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]
6. Number of samples in shipping container: 13
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:** 3/10/15

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ___ by ___ Person Contacted ___

[ ] No action necessary; process as is.

Project Manager Darlene Bandy Date 3-10-15

From: (509) 376-7492
1162 Shipping
US DOE co WCH
2355 STEVENS DR

RICHLAND, WA 99354

Origin ID: PSCA

FedEx. Express

J15121502230uv

Ship Date: 09MAR15
ActWgt: 82.0 LB
CAD: 105266502/INET3610

Delivery Address Bar Code

Ref # 0600202000
Invoice #
PO #
Dept #

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

Kae Yoder
TestAmerica
4955 Yarrow St.

ARVADA, CO 80002

2 of 2

TUE - 10 MAR 10:30A
PRIORITY OVERNIGHT

MPS# 7730 8182 6890
0263
Mstr# 7730 8182 6776 0261

XH WHHA

80002
CO-US
DEN

537J6879AEE4B

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