SAF-RC-233
100-IU-2 & 100-IU-6 Remaining Waste Sites – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 7/8/13
INITIAL/DATE

COMMENTS:

SDG J01835 SAF-RC-233

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 600-301 Below Pipe

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-43605-1

SDG Number: J01835

Job Description: SAF# RC-233

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

Attention: Joan H Kessner

Approved for release.
Michael T Dedio
Project Mgmt. Assistant
7/5/2013 4:27 PM

Designee for
Kae E Yoder, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0190
kae.yoder@testamericainc.com
07/05/2013

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

Cover Title Page 1
Report Narrative 3
Data Qualifiers 5
Sample Summary 6
Method Summary 7
Method / Analyst Summary 8
Sample Results 9
Sample Datasheets 10
QC Results 26
Surrogate Recovery Report 27
Qc Reports 31
Qc Association Summary 67
Client Chain of Custody 74
Sample Receipt Checklist 75

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-43605-1

SDG #: J01835
SAF#: RC-233

Date SDG Closed: June 20, 2013
Data Deliverable: 15 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1RPC8	280-43605-1	6010/7471/9056M/353.2/9045/9034/9012/ WTPH-D+/8270/8081/8151	6010B/7471A/9056M/353.2/9045C/9034/9012A/ NWTPH-Dx/8270C/8081A/8151A
J1RPJ2	280-43605-2	6010/7471/9056M/353.2/9045/9034/9012/ WTPH-D+/8270/8081/8151	6010B/7471A/9056M/353.2/9045C/9034/9012A/ NWTPH-Dx/8270C/8081A/8151A

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

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

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

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

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

RECEIPT
The samples were received on 6/20/2013 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1º C.

GC/MS SEMIVOLATILES - SW846 8270C
No anomalies were encountered.

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

GC SEMIVOLATILES - SW846 8151A - Herbicides
Dinoseb results in soil are reported for this project at the request of the client with the qualifier that the laboratory is not certified for this analyte and the reported results are considered biased low. The laboratory consistently obtains very low recoveries, typically $\leq$ 10%.

The LCS associated with batch 280-180272 exhibited the percent recovery outside the control limits, biased low, for Dinoseb, and the associated sample result has been flagged "N". The MS/MSD performed on sample J1RPJ2 in batch 280-105632 also exhibited percent recoveries outside the control limits, biased low, for Dinoseb. It can be noted that Dinoseb is a known poor performer under method 8151A and has a history of reacting inconsistently. The client was notified, and instructed the laboratory to report the data as is.

2,4-DB exhibited a percent recovery outside the control limits in the MSD aliquot of the MS/MSD performed on sample J1RPJ2, and the associated sample result has been flagged "N". The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

A Continuing Calibration Verification (CCV) standard exhibited the %Difference (%D) value >15%, biased high, for 2,4-DB (+46%), DCAA (+16%), MCPA (+21%) and MCPP (+18%) on the confirmation column. It can be noted that all sample results are reported from columns where the CCVs are in control.

.
No other anomalies were encountered.

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

TOTAL METALS - SW846 6010B/7471A
Low levels of Chromium are present in the method blank associated with batch 280-179990. Because the concentration in the method blank is not present at level 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 280-179990 and in the Matrix Spike performed on sample J1RPC8 in batch 280-179990. The associated sample result has been flagged "N". Silicon is a poor performer and has a history of reacting inconsistently. 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 J1RPC8; therefore, control limits are not applicable.

No other anomalies were encountered.

GENERAL CHEMISTRY - MCAWW 353.2 - NITRATE NITRITE as N
Low levels of Nitrate Nitrite as N are present in the method blank associated with batch 280-1801588. Because the concentration in the method blank is not present at a level greater than half the reporting limit, corrective action is deemed unnecessary

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9012A - TOTAL CYANIDE
Low levels of Total Cyanide are present in the method blank associated with batch 280-180764. Because the concentration in the method blank is not present at a level greater than half the reporting limit, corrective action is deemed unnecessary.

The duplicate analysis of sample J1RPC8 exceeded the RPD limit, and the associated sample result has been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9034 - SULFIDE
Low levels of Sulfide are present in the method blank associated with batch 280-180260. Because the concentration in the method blank is not present at a level greater than half the reporting limit, corrective action is deemed unnecessary.

Total Sulfide Matrix Spikes performed on sample J1RPJ2 exhibited percent recoveries outside the control limits, and the associated sample results have been flagged "N". There is no indication that the analytical systems were operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

Total Sulfide duplicate analysis of sample J1RPC8 exhibited RPD data outside the control limits. It can be noted that the RPD was calculated based on estimated values present below the reporting limit. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9056M - ANIONS
The Matrix Spike performed on sample J1RPJ2 exhibited percent recoveries outside the control limits for Orthophosphate as P and Fluoride, and the associated sample results have been flagged "N". There is no indication that the analytical systems were operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9045C - PH
SU = standard units

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Analyzed for but not detected.
	J	Indicates an Estimated Value for TICs
	N	Presumptive evidence of material.
GC Semi VOA		
	U	Analyzed for but not detected.
	N	LCS, LCSD: Recovery exceeds upper or lower control limits.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
General Chemistry		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	M	Sample duplicate precision not met.
	C	The analyte was detected in both the sample and the assoicated QC blank, and the sample concentration was </= 5X the blank concentration.

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-43605-1	J1RPC8	Solid	06/19/2013 1215	06/20/2013 0900
280-43605-2	J1RPJ2	Solid	06/19/2013 1200	06/20/2013 0900

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds (GC/MS)	TAL DEN	SW846 8270C	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Organochlorine Pesticides (GC)	TAL DEN	SW846 8081A	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Herbicides (GC)	TAL DEN	SW846 8151A	
Extraction (Herbicides)	TAL DEN		SW846 8151A
Northwest - Semi-Volatile Petroleum Products (GC)	TAL DEN	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
Total Cyanide (Automated Colorimetric]	TAL DEN	SW846 9012A	
Cyanide, Total and/or Amenable, Distillation	TAL DEN		SW846 9012A
Sulfide, Acid Soluble and Insoluble (Titrimetric)	TAL DEN	SW846 9034	
Sulfide, Distillation (Acid Soluble and Insoluble)	TAL DEN		SW846 9030B
pH	TAL DEN	SW846 9045C	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
Anions, Ion Chromatography	TAL DEN	SW846 9056M	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

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

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method	Analyst	Analyst ID
SW846 8270C	Hoffman, Michael G	MGH
SW846 8081A	Wells, David	DW
SW846 8151A	Jonsrud, Dennis M	DMJ
NWTPH NWTPH-Dx	Birdsell, Matthew R	MRB
SW846 6010B	Bowen, Heidi E	HEB
SW846 7471A	Mooney, Joseph C	JM
MCAWW 353.2	Scott, Samantha J	SJS
SW846 9012A	Allen, Andrew J	AJA
SW846 9034	Smith, Matthew P	MPS
SW846 9045C	Ayala, Delaina	DA
SW846 9056M	Phan, Thu L	TLP
ASTM D-2216	Benson, Alex F	AFB

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-179873	Lab File ID:	Y5206.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	06/26/2013 1540			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		42	U	42	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		48	U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		38	U	38	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		69	U	69	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		13	U	13	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		69	U	69	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		38	U	38	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-179873	Lab File ID:	Y5206.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	06/26/2013 1540			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		76	U	76	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	690
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	76		50 - 120
2-Fluorophenol	76		53 - 120
Nitrobenzene-d5	76		50 - 120
Phenol-d5	79		52 - 120
Terphenyl-d14	86		55 - 120
2,4,6-Tribromophenol	85		51 - 120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid % Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-179873	Lab File ID:	Y5206.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	06/26/2013 1540			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** **3**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.94	7200	N J
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.44	430	N J
	Unknown	13.45	440	N J

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-179873	Lab File ID:	Y5207.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	06/26/2013 1607			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	360
Acenaphthylene		18	U	18	360
Anthracene		18	U	18	360
Benzo[a]anthracene		22	U	22	360
Benzo[a]pyrene		22	U	22	360
Benzo[b]fluoranthene		29	U	29	360
Benzo[ghi]perylene		17	U	17	360
Benzo[k]fluoranthene		44	U	44	360
Bis(2-chloroethoxy)methane		25	U	25	360
Bis(2-chloroethyl)ether		18	U	18	360
bis (2-chloroisopropyl) ether		25	U	25	360
Bis(2-ethylhexyl) phthalate		50	U	50	360
4-Bromophenyl phenyl ether		21	U	21	360
Butyl benzyl phthalate		47	U	47	360
Carbazole		39	U	39	360
4-Chloroaniline		89	U	89	360
4-Chloro-3-methylphenol		72	U	72	360
2-Chloronaphthalene		11	U	11	360
2-Chlorophenol		23	U	23	360
4-Chlorophenyl phenyl ether		23	U	23	360
Chrysene		29	U	29	360
Dibenz(a,h)anthracene		21	U	21	360
Dibenzofuran		22	U	22	360
1,2-Dichlorobenzene		24	U	24	360
1,3-Dichlorobenzene		13	U	13	360
1,4-Dichlorobenzene		15	U	15	360
3,3'-Dichlorobenzidine		98	U	98	720
2,4-Dichlorophenol		11	U	11	360
Diethyl phthalate		28	U	28	360
2,4-Dimethylphenol		72	U	72	360
Dimethyl phthalate		25	U	25	360
Di-n-butyl phthalate		32	U	32	360
4,6-Dinitro-2-methylphenol		360	U	360	720
2,4-Dinitrophenol		360	U	360	900
2,4-Dinitrotoluene		72	U	72	360
2,6-Dinitrotoluene		30	U	30	360
Di-n-octyl phthalate		16	U	16	360
Fluoranthene		39	U	39	360
Fluorene		20	U	20	360
Hexachlorobenzene		32	U	32	360
Hexachlorobutadiene		11	U	11	360
Hexachlorocyclopentadiene		54	U	54	360
Hexachloroethane		23	U	23	360
Indeno[1,2,3-cd]pyrene		24	U	24	360
Isophorone		18	U	18	360
2-Methylnaphthalene		21	U	21	360

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-179873	Lab File ID:	Y5207.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	06/26/2013 1607			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	360
3 & 4 Methylphenol		36	U	36	360
Naphthalene		34	U	34	360
2-Nitroaniline		54	U	54	360
3-Nitroaniline		79	U	79	360
4-Nitroaniline		79	U	79	360
Nitrobenzene		24	U	24	360
2-Nitrophenol		11	U	11	360
4-Nitrophenol		110	U	110	720
N-Nitrosodi-n-propylamine		34	U	34	360
N-Nitrosodiphenylamine		23	U	23	360
Pentachlorophenol		360	U	360	720
Phenanthrene		18	U	18	360
Phenol		20	U	20	360
Pyrene		13	U	13	360
1,2,4-Trichlorobenzene		30	U	30	360
2,4,5-Trichlorophenol		11	U	11	360
2,4,6-Trichlorophenol		11	U	11	360

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol	81		53 - 120
Nitrobenzene-d5	81		50 - 120
Phenol-d5	83		52 - 120
Terphenyl-d14	90		55 - 120
2,4,6-Tribromophenol	81		51 - 120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid % Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-179873	Lab File ID:	Y5207.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	06/26/2013 1607			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** **5**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	1.83	190	N J
763-93-9	3-Hexen-2-one	2.62	150	N J
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.94	8100	N J
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.44	410	N J
	Unknown	13.44	640	N J

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-180067	Instrument ID:	SGC_P2
Prep Method:	3550C	Prep Batch:	280-179870	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	06/22/2013 1358			Injection Volume:	1 uL
Prep Date:	06/21/2013 1119			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.58	U	0.58	1.8
4,4'-DDE		0.25	U	0.25	1.8
4,4'-DDT		0.62	U	0.62	1.8
Aldrin		0.27	U	0.27	1.7
alpha-BHC		0.23	U	0.23	1.7
beta-BHC		0.70	U	0.70	1.7
delta-BHC		0.42	U	0.42	1.7
gamma-BHC (Lindane)		0.49	U	0.49	1.7
Heptachlor		0.23	U	0.23	1.7
Heptachlor epoxide		0.45	U	0.45	1.7
Endosulfan I		0.19	U	0.19	1.7
Endosulfan II		0.30	U	0.30	1.8
Endosulfan sulfate		0.29	U	0.29	1.8
Endrin		0.32	U	0.32	1.8
Endrin aldehyde		0.18	U	0.18	1.8
Endrin ketone		0.52	U	0.52	1.8
gamma-Chlordane		0.28	U	0.28	1.8
Methoxychlor		0.48	U	0.48	3.5
alpha-Chlordane		0.34	U	0.34	1.8
Dieldrin		0.22	U	0.22	1.8
Toxaphene		17	U	17	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	92		59 - 115
Decachlorobiphenyl	80		63 - 124

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-180067	Instrument ID:	SGC_P2
Prep Method:	3550C	Prep Batch:	280-179870	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	06/22/2013 1448			Injection Volume:	1 uL
Prep Date:	06/21/2013 1119			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.61	U	0.61	1.9
4,4'-DDE		0.26	U	0.26	1.9
4,4'-DDT		0.65	U	0.65	1.9
Aldrin		0.28	U	0.28	1.8
alpha-BHC		0.24	U	0.24	1.8
beta-BHC		0.74	U	0.74	1.8
delta-BHC		0.44	U	0.44	1.8
gamma-BHC (Lindane)		0.51	U	0.51	1.8
Heptachlor		0.24	U	0.24	1.8
Heptachlor epoxide		0.47	U	0.47	1.8
Endosulfan I		0.20	U	0.20	1.8
Endosulfan II		0.32	U	0.32	1.9
Endosulfan sulfate		0.31	U	0.31	1.9
Endrin		0.34	U	0.34	1.9
Endrin aldehyde		0.19	U	0.19	1.9
Endrin ketone		0.54	U	0.54	1.9
gamma-Chlordane		0.30	U	0.30	1.9
Methoxychlor		0.50	U	0.50	3.7
alpha-Chlordane		0.36	U	0.36	1.9
Dieldrin		0.23	U	0.23	1.9
Toxaphene		18	U	18	180

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	97		59 - 115
Decachlorobiphenyl	80		63 - 124

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

8151A Herbicides (GC)

Analysis Method:	8151A	Analysis Batch:	280-180869	Instrument ID:	SGC_M
Prep Method:	8151A	Prep Batch:	280-180272	Initial Weight/Volume:	50.6 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	06/28/2013 1000			Injection Volume:	1 uL
Prep Date:	06/24/2013 2213			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2,4,5-T		2.4	U	2.4	21
2,4-Dichlorophenoxyacetic acid		15	U	15	84
2,4-DB		7.8	U	7.8	84
Dalapon		1.5	U	1.5	42
Dicamba		1.5	U	1.5	42
Dichlorprop		3.4	U	3.4	84
Dinoseb		1.5	U N	1.5	13
MCPA		2100	U	2100	8400
2,4,5-TP (Silvex)		1.5	U	1.5	21
MCPP		2100	U	2100	8400

Surrogate	%Rec	Qualifier	Acceptance Limits
DCAA	88		31 - 105

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

8151A Herbicides (GC)

Analysis Method:	8151A	Analysis Batch:	280-180869	Instrument ID:	SGC_M
Prep Method:	8151A	Prep Batch:	280-180272	Initial Weight/Volume:	50.8 g
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	06/28/2013 1022			Injection Volume:	1 uL
Prep Date:	06/24/2013 2213			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2,4,5-T		2.6	U	2.6	22
2,4-Dichlorophenoxyacetic acid		16	U	16	89
2,4-DB		8.3	U N	8.3	89
Dalapon		1.6	U	1.6	44
Dicamba		3.3	J	1.6	44
Dichlorprop		3.6	U	3.6	89
Dinoseb		1.6	U N	1.6	13
MCPA		2200	U	2200	8900
2,4,5-TP (Silvex)		1.6	U	1.6	22
MCPP		2200	U	2200	8900

Surrogate	%Rec	Qualifier	Acceptance Limits
DCAA	88		31 - 105

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-180605	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-179866	Lab File ID:	0626A034.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	06/27/2013 0749			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1016			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		9300		1000	4200
C10-C28		4900		710	4200

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

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-180605	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-179866	Lab File ID:	0626A037.D
Dilution:	1.0			Initial Weight/Volume:	32.4 g
Analysis Date:	06/27/2013 0915			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1016			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2200	J	1000	4200
C10-C28		2100	J	710	4200

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

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1

Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-180323	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-179990	Lab File ID:	26b062413.asc
Dilution:	1.0			Initial Weight/Volume:	1.18 g
Analysis Date:	06/24/2013 2057			Final Weight/Volume:	100 mL
Prep Date:	06/24/2013 0900				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7050		1.4	4.5
Antimony		0.61		0.34	0.54
Arsenic		2.8		0.60	0.90
Barium		62.3		0.069	0.45
Beryllium		0.13	B	0.030	0.18
Boron		1.8		0.88	1.8
Cadmium		0.14	B	0.037	0.18
Calcium		4960		12.7	45.1
Chromium		11.3		0.052	0.18
Cobalt		6.4		0.090	0.90
Copper		12.1		0.20	0.90
Iron		16600		3.4	4.5
Lead		3.8		0.24	0.45
Magnesium		4470		3.3	18.0
Manganese		267		0.090	0.90
Molybdenum		0.23	U	0.23	1.8
Nickel		11.5		0.11	3.6
Potassium		1490		37.0	271
Selenium		0.78	U	0.78	0.90
Silicon		381	N	5.1	9.0
Silver		0.14	U	0.14	0.18
Sodium		228		53.2	108
Vanadium		39.5		0.085	1.8
Zinc		54.6		0.36	0.90

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-180205	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-179907	Lab File ID:	130621aa.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	06/21/2013 1643			Final Weight/Volume:	50 mL
Prep Date:	06/21/2013 1220				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0055	U	0.0055	0.017

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3

Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-180323	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-179990	Lab File ID:	26b062413.asc
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Analysis Date:	06/24/2013 2107			Final Weight/Volume:	100 mL
Prep Date:	06/24/2013 0900				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		8230		1.5	4.9
Antimony		0.40	B	0.37	0.59
Arsenic		4.0		0.65	0.98
Barium		82.7		0.075	0.49
Beryllium		0.18	B	0.032	0.20
Boron		6.1		0.96	2.0
Cadmium		0.19	B	0.040	0.20
Calcium		12000		13.8	49.0
Chromium		13.8		0.057	0.20
Cobalt		7.6		0.098	0.98
Copper		15.8		0.21	0.98
Iron		18700		3.7	4.9
Lead		4.3		0.26	0.49
Magnesium		5370		3.6	19.6
Manganese		325		0.098	0.98
Molybdenum		0.25	U	0.25	2.0
Nickel		13.1		0.12	3.9
Potassium		1680		40.2	294
Selenium		0.84	U	0.84	0.98
Silicon		345	N	5.6	9.8
Silver		3.2		0.16	0.20
Sodium		455		57.9	118
Vanadium		41.0		0.092	2.0
Zinc		41.0		0.39	0.98

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-180205	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-179907	Lab File ID:	130621aa.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Analysis Date:	06/21/2013 1655			Final Weight/Volume:	50 mL
Prep Date:	06/21/2013 1220				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0057	U	0.0057	0.017

General Chemistry

Client Sample ID: **J1RPC8**

Lab Sample ID: 280-43605-1
Client Matrix: Solid
% Moisture: 6.1
Date Sampled: 06/19/2013 1215
Date Received: 06/20/2013 0900

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	1.2	C	mg/Kg	0.32	0.79	1.0	353.2
Analysis Batch: 280-180158	Analysis Date: 06/22/2013 1603						DryWt Corrected: Y
Total Cyanide	0.23	B M	mg/Kg	0.11	0.52	1.0	9012A
Analysis Batch: 280-180921	Analysis Date: 06/28/2013 1003						DryWt Corrected: Y
Prep Batch: 280-180764	Prep Date: 06/27/2013 1213						
Sulfide	4.3	B M	mg/Kg	2.6	5.4	1.0	9034
Analysis Batch: 280-180389	Analysis Date: 06/24/2013 1642						DryWt Corrected: Y
Prep Batch: 280-180260	Prep Date: 06/24/2013 1642						
Chloride-Soluble	5.2		mg/Kg	2.1	5.2	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y
Nitrate as N-Soluble	1.3	B	mg/Kg	0.33	2.6	1.0	9056M
Analysis Batch: 280-180648	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y
Bromide-Soluble	0.41	U	mg/Kg	0.41	2.1	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y
Nitrite as N-Soluble	0.35	U	mg/Kg	0.35	2.6	1.0	9056M
Analysis Batch: 280-180648	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y
Orthophosphate as P-Soluble	1.3	U	mg/Kg	1.3	5.2	1.0	9056M
Analysis Batch: 280-180648	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y
Sulfate-Soluble	69.9		mg/Kg	1.8	5.2	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y
Fluoride-Soluble	0.89	B	mg/Kg	0.86	5.2	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0729						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	8.75		SU	0.100	0.100	1.0	9045C
Analysis Batch: 280-180040	Analysis Date: 06/21/2013 1847						DryWt Corrected: N
Percent Moisture	6.1		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-180090	Analysis Date: 06/22/2013 1459						DryWt Corrected: N

General Chemistry

Client Sample ID: **J1RPJ2**

Lab Sample ID: 280-43605-2
Client Matrix: Solid
% Moisture: 11.3
Date Sampled: 06/19/2013 1200
Date Received: 06/20/2013 0900

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	0.74	B C	mg/Kg	0.33	0.84	1.0	353.2
Analysis Batch: 280-180158	Analysis Date: 06/22/2013 1608						DryWt Corrected: Y
Total Cyanide	0.22	B	mg/Kg	0.11	0.55	1.0	9012A
Analysis Batch: 280-180921	Analysis Date: 06/28/2013 1008						DryWt Corrected: Y
Prep Batch: 280-180764	Prep Date: 06/27/2013 1213						
Sulfide	2.7	U N	mg/Kg	2.7	5.7	1.0	9034
Analysis Batch: 280-180389	Analysis Date: 06/24/2013 1642						DryWt Corrected: Y
Prep Batch: 280-180260	Prep Date: 06/24/2013 1642						
Chloride-Soluble	22.3		mg/Kg	2.2	5.6	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y
Nitrate as N-Soluble	0.72	B	mg/Kg	0.35	2.8	1.0	9056M
Analysis Batch: 280-180648	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y
Bromide-Soluble	0.72	B	mg/Kg	0.44	2.3	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y
Nitrite as N-Soluble	0.38	U	mg/Kg	0.38	2.8	1.0	9056M
Analysis Batch: 280-180648	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y
Orthophosphate as P-Soluble	1.4	U N	mg/Kg	1.4	5.6	1.0	9056M
Analysis Batch: 280-180648	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y
Sulfate-Soluble	177		mg/Kg	2.0	5.6	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y
Fluoride-Soluble	1.3	B N	mg/Kg	0.93	5.6	1.0	9056M
Analysis Batch: 280-180650	Analysis Date: 06/26/2013 0746						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.05		SU	0.100	0.100	1.0	9045C
Analysis Batch: 280-180040	Analysis Date: 06/21/2013 1847						DryWt Corrected: N
Percent Moisture	11.3		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-180090	Analysis Date: 06/22/2013 1459						DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Surrogate Recovery Report

8270C Semivolatile Organic Compounds (GC/MS)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPH %Rec	TBP %Rec
280-43605-1	J1RPC8	76	76	76	79	86	85
280-43605-2	J1RPJ2	78	81	81	83	90	81
MB 280-179873/1-A		78	79	82	81	87	82
LCS 280-179873/2-A		80	80	80	83	89	94
280-43605-2 MS	J1RPJ2 MS	75	73	74	76	85	86
280-43605-2 MSD	J1RPJ2 MSD	78	79	79	80	87	87

Surrogate	Acceptance Limits
FBP = 2-Fluorobiphenyl	50-120
2FP = 2-Fluorophenol	53-120
NBZ = Nitrobenzene-d5	50-120
PHL = Phenol-d5	52-120
TPH = Terphenyl-d14	55-120
TBP = 2,4,6-Tribromophenol	51-120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Surrogate Recovery Report

8081A Organochlorine Pesticides (GC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TCX2 %Rec	DCB1 %Rec
280-43605-1	J1RPC8	92	80
280-43605-2	J1RPJ2	97	80
MB 280-179870/1-A		93	104
LCS 280-179870/2-A		96	113
280-43605-1 MS	J1RPC8 MS	95	80
280-43605-1 MSD	J1RPC8 MSD	96	78

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	59-115
DCB = Decachlorobiphenyl	63-124

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Surrogate Recovery Report

8151A Herbicides (GC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	DCPA1 %Rec	DCPA2 %Rec
280-43605-1	J1RPC8	88	
280-43605-2	J1RPJ2		88
MB 280-180272/1-A		66	
LCS 280-180272/2-A		72	
280-43605-2 MS	J1RPJ2 MS		85
280-43605-2 MSD	J1RPJ2 MSD	86	

Surrogate	Acceptance Limits
DCPA = DCAA	31-105

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Surrogate Recovery Report

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

Client Matrix: Solid

Lab Sample ID	Client Sample ID	OTPH %Rec
280-43605-1	J1RPC8	80
280-43605-2	J1RPJ2	79
MB 280-179866/1-A		77
LCS 280-179866/2-A		75
280-43605-1 MS	J1RPC8 MS	74
280-43605-1 MSD	J1RPC8 MSD	72

Surrogate	Acceptance Limits
OTPH = o-Terphenyl	49-115

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-179873

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-179873/1-A	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5204.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	06/26/2013 1446	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.8	U	9.8	310
Acenaphthylene	16	U	16	310
Anthracene	16	U	16	310
Benzo[a]anthracene	19	U	19	310
Benzo[a]pyrene	19	U	19	310
Benzo[b]fluoranthene	25	U	25	310
Benzo[ghi]perylene	15	U	15	310
Benzo[k]fluoranthene	38	U	38	310
Bis(2-chloroethoxy)methane	22	U	22	310
Bis(2-chloroethyl)ether	16	U	16	310
bis (2-chloroisopropyl) ether	22	U	22	310
Bis(2-ethylhexyl) phthalate	44	U	44	310
4-Bromophenyl phenyl ether	18	U	18	310
Butyl benzyl phthalate	41	U	41	310
Carbazole	34	U	34	310
4-Chloroaniline	78	U	78	310
4-Chloro-3-methylphenol	63	U	63	310
2-Chloronaphthalene	9.5	U	9.5	310
2-Chlorophenol	20	U	20	310
4-Chlorophenyl phenyl ether	20	U	20	310
Chrysene	26	U	26	310
Dibenz(a,h)anthracene	18	U	18	310
Dibenzofuran	19	U	19	310
1,2-Dichlorobenzene	21	U	21	310
1,3-Dichlorobenzene	11	U	11	310
1,4-Dichlorobenzene	13	U	13	310
3,3'-Dichlorobenzidine	86	U	86	630
2,4-Dichlorophenol	9.5	U	9.5	310
Diethyl phthalate	25	U	25	310
2,4-Dimethylphenol	63	U	63	310
Dimethyl phthalate	22	U	22	310
Di-n-butyl phthalate	28	U	28	310
4,6-Dinitro-2-methylphenol	310	U	310	630
2,4-Dinitrophenol	320	U	320	790
2,4-Dinitrotoluene	63	U	63	310
2,6-Dinitrotoluene	27	U	27	310
Di-n-octyl phthalate	14	U	14	310
Fluoranthene	34	U	34	310
Fluorene	17	U	17	310
Hexachlorobenzene	28	U	28	310
Hexachlorobutadiene	9.5	U	9.5	310
Hexachlorocyclopentadiene	48	U	48	310
Hexachloroethane	20	U	20	310
Indeno[1,2,3-cd]pyrene	21	U	21	310
Isophorone	16	U	16	310

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-179873

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-179873/1-A	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5204.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	06/26/2013 1446	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	18	U	18	310
2-Methylphenol	12	U	12	310
3 & 4 Methylphenol	31	U	31	310
Naphthalene	30	U	30	310
2-Nitroaniline	48	U	48	310
3-Nitroaniline	70	U	70	310
4-Nitroaniline	69	U	69	310
Nitrobenzene	21	U	21	310
2-Nitrophenol	9.5	U	9.5	310
4-Nitrophenol	92	U	92	630
N-Nitrosodi-n-propylamine	30	U	30	310
N-Nitrosodiphenylamine	20	U	20	310
Pentachlorophenol	310	U	310	630
Phenanthrene	16	U	16	310
Phenol	17	U	17	310
Pyrene	12	U	12	310
1,2,4-Trichlorobenzene	27	U	27	310
2,4,5-Trichlorophenol	9.5	U	9.5	310
2,4,6-Trichlorophenol	9.5	U	9.5	310

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	78	50 - 120
2-Fluorophenol	79	53 - 120
Nitrobenzene-d5	82	50 - 120
Phenol-d5	81	52 - 120
Terphenyl-d14	87	55 - 120
2,4,6-Tribromophenol	82	51 - 120

Method Blank TICs- Batch: 280-179873

Cas Number	Analyte	RT	Est. Result	Qual
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	2.94	6620	N J
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.44	401	N J

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Control Sample - Batch: 280-179873

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-179873/2-A	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5205.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	06/26/2013 1513	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2640	2220	84	60 - 120	
Acenaphthylene	2640	2200	83	64 - 120	
Anthracene	2640	2290	87	63 - 120	
Benzo[a]anthracene	2640	2400	91	65 - 120	
Benzo[a]pyrene	2640	2330	88	59 - 120	
Benzo[b]fluoranthene	2640	2490	94	47 - 129	
Benzo[ghi]perylene	2640	2440	92	55 - 126	
Benzo[k]fluoranthene	2640	2460	93	48 - 130	
Bis(2-chloroethoxy)methane	2640	2130	81	56 - 120	
Bis(2-chloroethyl)ether	2640	2120	80	51 - 120	
bis (2-chloroisopropyl) ether	2640	1990	75	49 - 120	
Bis(2-ethylhexyl) phthalate	2640	2570	97	65 - 120	
4-Bromophenyl phenyl ether	2640	2270	86	64 - 120	
Butyl benzyl phthalate	2640	2490	94	65 - 120	
Carbazole	2640	2310	88	64 - 120	
4-Chloroaniline	2640	1350	51	28 - 120	
4-Chloro-3-methylphenol	2640	2340	89	63 - 120	
2-Chloronaphthalene	2640	2170	82	59 - 120	
2-Chlorophenol	2640	2080	79	57 - 120	
4-Chlorophenyl phenyl ether	2640	2290	87	64 - 120	
Chrysene	2640	2380	90	64 - 120	
Dibenz(a,h)anthracene	2640	2510	95	50 - 133	
Dibenzofuran	2640	2260	86	61 - 120	
1,2-Dichlorobenzene	2640	1990	75	53 - 120	
1,3-Dichlorobenzene	2640	1950	74	52 - 120	
1,4-Dichlorobenzene	2640	1990	75	52 - 120	
3,3'-Dichlorobenzidine	2640	1600	61	30 - 120	
2,4-Dichlorophenol	2640	2200	83	60 - 120	
Diethyl phthalate	2640	2340	89	66 - 120	
2,4-Dimethylphenol	2640	2160	82	54 - 120	
Dimethyl phthalate	2640	2320	88	65 - 120	
Di-n-butyl phthalate	2640	2370	90	67 - 120	
4,6-Dinitro-2-methylphenol	5280	4310	82	57 - 120	
2,4-Dinitrophenol	5280	4260	81	46 - 120	
2,4-Dinitrotoluene	2640	2450	93	68 - 120	
2,6-Dinitrotoluene	2640	2370	90	64 - 120	
Di-n-octyl phthalate	2640	2470	93	66 - 120	
Fluoranthene	2640	2360	89	66 - 120	
Fluorene	2640	2280	86	64 - 120	
Hexachlorobenzene	2640	2240	85	62 - 120	
Hexachlorobutadiene	2640	1910	73	53 - 120	
Hexachlorocyclopentadiene	2640	1920	73	47 - 120	
Hexachloroethane	2640	1940	73	51 - 120	
Indeno[1,2,3-cd]pyrene	2640	2610	99	63 - 120	
Isophorone	2640	2110	80	56 - 120	
2-Methylnaphthalene	2640	2140	81	57 - 120	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Control Sample - Batch: 280-179873

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-179873/2-A	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5205.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	06/26/2013 1513	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2-Methylphenol	2640	2160	82	56 - 120	
3 & 4 Methylphenol	2640	2200	83	53 - 120	
Naphthalene	2640	2050	78	57 - 120	
2-Nitroaniline	2640	2340	89	63 - 120	
3-Nitroaniline	2640	1680	64	47 - 120	
4-Nitroaniline	2640	2150	81	64 - 120	
Nitrobenzene	2640	2090	79	54 - 120	
2-Nitrophenol	2640	2190	83	56 - 120	
4-Nitrophenol	5280	4890	93	63 - 121	
N-Nitrosodi-n-propylamine	2640	2140	81	51 - 120	
N-Nitrosodiphenylamine	2640	2330	88	61 - 120	
Pentachlorophenol	5280	4470	85	56 - 120	
Phenanthrene	2640	2320	88	64 - 120	
Phenol	2640	2150	81	56 - 120	
Pyrene	2640	2410	91	64 - 120	
1,2,4-Trichlorobenzene	2640	2010	76	52 - 120	
2,4,5-Trichlorophenol	2640	2390	90	64 - 120	
2,4,6-Trichlorophenol	2640	2370	90	61 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	80	50 - 120
2-Fluorophenol	80	53 - 120
Nitrobenzene-d5	80	50 - 120
Phenol-d5	83	52 - 120
Terphenyl-d14	89	55 - 120
2,4,6-Tribromophenol	94	51 - 120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179873

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-43605-2	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5208.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	06/26/2013 1633			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-43605-2	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5209.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	06/26/2013 1701			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	79	82	60 - 120	3	30		
Acenaphthylene	79	83	64 - 120	3	30		
Anthracene	85	87	63 - 120	1	30		
Benzo[a]anthracene	86	90	65 - 120	2	30		
Benzo[a]pyrene	85	88	59 - 120	1	30		
Benzo[b]fluoranthene	91	92	47 - 129	0	44		
Benzo[ghi]perylene	87	91	55 - 126	2	31		
Benzo[k]fluoranthene	88	92	48 - 130	2	30		
Bis(2-chloroethoxy)methane	74	79	56 - 120	5	30		
Bis(2-chloroethyl)ether	72	79	51 - 120	7	30		
bis (2-chloroisopropyl) ether	69	74	49 - 120	6	30		
Bis(2-ethylhexyl) phthalate	94	97	65 - 120	2	30		
4-Bromophenyl phenyl ether	83	85	64 - 120	0	30		
Butyl benzyl phthalate	90	94	65 - 120	3	30		
Carbazole	85	89	64 - 120	2	30		
4-Chloroaniline	56	64	28 - 120	12	30		
4-Chloro-3-methylphenol	83	86	63 - 120	3	30		
2-Chloronaphthalene	76	80	59 - 120	4	30		
2-Chlorophenol	73	79	57 - 120	7	30		
4-Chlorophenyl phenyl ether	81	84	64 - 120	2	30		
Chrysene	86	90	64 - 120	2	35		
Dibenz(a,h)anthracene	92	91	50 - 133	3	30		
Dibenzofuran	80	84	61 - 120	2	30		
1,2-Dichlorobenzene	69	75	53 - 120	6	30		
1,3-Dichlorobenzene	68	74	52 - 120	6	32		
1,4-Dichlorobenzene	69	75	52 - 120	7	30		
3,3'-Dichlorobenzidine	65	73	30 - 120	11	30		
2,4-Dichlorophenol	78	82	60 - 120	4	30		
Diethyl phthalate	84	87	66 - 120	2	30		
2,4-Dimethylphenol	73	80	54 - 120	7	30		
Dimethyl phthalate	82	85	65 - 120	2	30		
Di-n-butyl phthalate	90	92	67 - 120	1	30		
4,6-Dinitro-2-methylphenol	87	90	57 - 120	1	30		

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179873

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-43605-2	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5208.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	06/26/2013 1633			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-43605-2	Analysis Batch:	280-180564	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-179873	Lab File ID:	Y5209.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	06/26/2013 1701			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1030			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2,4-Dinitrophenol	84	88	46 - 120	3	34		
2,4-Dinitrotoluene	88	90	68 - 120	0	30		
2,6-Dinitrotoluene	84	87	64 - 120	1	30		
Di-n-octyl phthalate	90	93	66 - 120	2	30		
Fluoranthene	89	91	66 - 120	0	30		
Fluorene	81	85	64 - 120	3	30		
Hexachlorobenzene	83	84	62 - 120	0	30		
Hexachlorobutadiene	69	72	53 - 120	3	30		
Hexachlorocyclopentadiene	68	78	47 - 120	12	30		
Hexachloroethane	69	75	51 - 120	7	30		
Indeno[1,2,3-cd]pyrene	88	97	63 - 120	8	30		
Isophorone	75	79	56 - 120	3	30		
2-Methylnaphthalene	76	79	57 - 120	3	30		
2-Methylphenol	81	88	56 - 120	7	30		
3 & 4 Methylphenol	78	87	53 - 120	10	30		
Naphthalene	72	77	57 - 120	5	30		
2-Nitroaniline	84	86	63 - 120	1	30		
3-Nitroaniline	69	75	47 - 120	7	30		
4-Nitroaniline	82	85	64 - 120	2	30		
Nitrobenzene	71	78	54 - 120	8	30		
2-Nitrophenol	74	82	56 - 120	8	30		
4-Nitrophenol	88	90	63 - 121	0	30		
N-Nitrosodi-n-propylamine	74	79	51 - 120	5	30		
N-Nitrosodiphenylamine	85	88	61 - 120	2	36		
Pentachlorophenol	81	82	56 - 120	0	30		
Phenanthrene	86	87	64 - 120	0	30		
Phenol	73	79	56 - 120	6	30		
Pyrene	89	91	64 - 120	1	38		
1,2,4-Trichlorobenzene	70	75	52 - 120	6	30		
2,4,5-Trichlorophenol	85	92	64 - 120	6	30		
2,4,6-Trichlorophenol	80	83	61 - 120	2	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	75	78	50 - 120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	73	79	53 - 120
Nitrobenzene-d5	74	79	50 - 120
Phenol-d5	76	80	52 - 120
Terphenyl-d14	85	87	55 - 120
2,4,6-Tribromophenol	86	87	51 - 120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179873

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-43605-2	Units: ug/Kg		MSD Lab Sample ID:	280-43605-2
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/26/2013 1633			Analysis Date:	06/26/2013 1701
Prep Date:	06/21/2013 1030			Prep Date:	06/21/2013 1030
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	11	U	2860	2820	2260	2320
Acenaphthylene	18	U	2860	2820	2250	2330
Anthracene	18	U	2860	2820	2430	2450
Benzo[a]anthracene	22	U	2860	2820	2480	2530
Benzo[a]pyrene	22	U	2860	2820	2440	2470
Benzo[b]fluoranthene	29	U	2860	2820	2600	2590
Benzo[ghi]perylene	17	U	2860	2820	2500	2550
Benzo[k]fluoranthene	44	U	2860	2820	2530	2590
Bis(2-chloroethoxy)methane	25	U	2860	2820	2130	2230
Bis(2-chloroethyl)ether	18	U	2860	2820	2080	2230
bis (2-chloroisopropyl) ether	25	U	2860	2820	1970	2100
Bis(2-ethylhexyl) phthalate	50	U	2860	2820	2690	2740
4-Bromophenyl phenyl ether	21	U	2860	2820	2390	2400
Butyl benzyl phthalate	47	U	2860	2820	2580	2660
Carbazole	39	U	2860	2820	2450	2500
4-Chloroaniline	89	U	2860	2820	1610	1810
4-Chloro-3-methylphenol	72	U	2860	2820	2360	2440
2-Chloronaphthalene	11	U	2860	2820	2170	2250
2-Chlorophenol	23	U	2860	2820	2090	2240
4-Chlorophenyl phenyl ether	23	U	2860	2820	2310	2360
Chrysene	29	U	2860	2820	2480	2530
Dibenz(a,h)anthracene	21	U	2860	2820	2640	2550
Dibenzofuran	22	U	2860	2820	2300	2360
1,2-Dichlorobenzene	24	U	2860	2820	1990	2120
1,3-Dichlorobenzene	13	U	2860	2820	1950	2080
1,4-Dichlorobenzene	15	U	2860	2820	1980	2130
3,3'-Dichlorobenzidine	98	U	2860	2820	1850	2060
2,4-Dichlorophenol	11	U	2860	2820	2220	2300
Diethyl phthalate	28	U	2860	2820	2420	2470
2,4-Dimethylphenol	72	U	2860	2820	2100	2260
Dimethyl phthalate	25	U	2860	2820	2350	2390
Di-n-butyl phthalate	32	U	2860	2820	2570	2590
4,6-Dinitro-2-methylphenol	360	U	5730	5640	4980	5060
2,4-Dinitrophenol	360	U	5730	5640	4800	4940
2,4-Dinitrotoluene	72	U	2860	2820	2520	2520
2,6-Dinitrotoluene	30	U	2860	2820	2410	2440
Di-n-octyl phthalate	16	U	2860	2820	2580	2630
Fluoranthene	39	U	2860	2820	2550	2550
Fluorene	20	U	2860	2820	2320	2390
Hexachlorobenzene	32	U	2860	2820	2360	2360
Hexachlorobutadiene	11	U	2860	2820	1980	2030
Hexachlorocyclopentadiene	54	U	2860	2820	1950	2190
Hexachloroethane	23	U	2860	2820	1970	2120

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179873

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-43605-2	Units:	ug/Kg	MSD Lab Sample ID:	280-43605-2
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/26/2013 1633			Analysis Date:	06/26/2013 1701
Prep Date:	06/21/2013 1030			Prep Date:	06/21/2013 1030
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Indeno[1,2,3-cd]pyrene	24	U	2860	2820	2530	2740
Isophorone	18	U	2860	2820	2150	2220
2-Methylnaphthalene	21	U	2860	2820	2160	2230
2-Methylphenol	14	U	2860	2820	2310	2470
3 & 4 Methylphenol	36	U	2860	2820	2220	2460
Naphthalene	34	U	2860	2820	2060	2170
2-Nitroaniline	54	U	2860	2820	2400	2430
3-Nitroaniline	79	U	2860	2820	1970	2120
4-Nitroaniline	79	U	2860	2820	2340	2390
Nitrobenzene	24	U	2860	2820	2030	2200
2-Nitrophenol	11	U	2860	2820	2130	2300
4-Nitrophenol	110	U	5730	5640	5060	5070
N-Nitrosodi-n-propylamine	34	U	2860	2820	2120	2220
N-Nitrosodiphenylamine	23	U	2860	2820	2440	2480
Pentachlorophenol	360	U	5730	5640	4660	4640
Phenanthrene	18	U	2860	2820	2450	2460
Phenol	20	U	2860	2820	2090	2210
Pyrene	13	U	2860	2820	2540	2550
1,2,4-Trichlorobenzene	30	U	2860	2820	2010	2130
2,4,5-Trichlorophenol	11	U	2860	2820	2430	2590
2,4,6-Trichlorophenol	11	U	2860	2820	2300	2340

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-179870

Method: 8081A
Preparation: 3550C

Lab Sample ID:	MB 280-179870/1-A	Analysis Batch:	280-180067	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-179870	Lab File ID:	06220017.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.5 g
Analysis Date:	06/22/2013 1504	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	06/21/2013 1119			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

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

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	93	59 - 115
Decachlorobiphenyl	104	63 - 124

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Control Sample - Batch: 280-179870

Method: 8081A
Preparation: 3550C

Lab Sample ID:	LCS 280-179870/2-A	Analysis Batch:	280-180067	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-179870	Lab File ID:	06220012.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.3 g
Analysis Date:	06/22/2013 1341	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	06/21/2013 1119			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	15.5	13.8	89	54 - 130	
4,4'-DDE	15.5	13.3	86	58 - 121	
4,4'-DDT	15.5	13.4	87	57 - 133	
Aldrin	15.5	14.9	96	63 - 115	
alpha-BHC	15.5	14.9	97	64 - 116	
beta-BHC	15.5	14.9	96	67 - 115	
delta-BHC	15.5	15.0	97	67 - 115	
gamma-BHC (Lindane)	15.5	15.0	97	63 - 118	
Heptachlor	15.5	14.0	91	68 - 115	
Heptachlor epoxide	15.5	14.6	95	66 - 117	
Endosulfan I	15.5	14.8	96	65 - 118	
Endosulfan II	15.5	14.0	91	71 - 118	
Endosulfan sulfate	15.5	13.7	89	67 - 123	
Endrin	15.5	16.6	107	77 - 134	
Endrin aldehyde	15.5	12.4	80	47 - 115	
Endrin ketone	15.5	12.7	82	62 - 115	
gamma-Chlordane	15.5	14.4	93	65 - 117	
Methoxychlor	15.5	13.4	86	67 - 130	
alpha-Chlordane	15.5	14.3	93	63 - 120	
Dieldrin	15.5	14.6	94	65 - 127	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	96	59 - 115
Decachlorobiphenyl	113	63 - 124

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179870

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-43605-1	Analysis Batch:	280-180067	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-179870	Lab File ID:	06220014.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	06/22/2013 1415			Final Weight/Volume:	10000 uL
Prep Date:	06/21/2013 1119			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-43605-1	Analysis Batch:	280-180067	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-179870	Lab File ID:	06220015.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	06/22/2013 1431			Final Weight/Volume:	10000 uL
Prep Date:	06/21/2013 1119			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	84	88	54 - 130	0	20		
4,4'-DDE	84	87	58 - 121	2	15		
4,4'-DDT	83	86	57 - 133	2	29		
Aldrin	92	95	63 - 115	2	50		
alpha-BHC	95	101	64 - 116	1	17		
beta-BHC	94	100	67 - 115	2	17		
delta-BHC	94	99	67 - 115	0	19		
gamma-BHC (Lindane)	95	100	63 - 118	1	24		
Heptachlor	88	93	68 - 115	1	18		
Heptachlor epoxide	91	95	66 - 117	1	18		
Endosulfan I	91	95	65 - 118	1	26		
Endosulfan II	86	89	71 - 118	1	20		
Endosulfan sulfate	84	87	67 - 123	2	22		
Endrin	104	109	77 - 134	0	30		
Endrin aldehyde	76	78	47 - 115	1	29		
Endrin ketone	77	79	62 - 115	2	20		
gamma-Chlordane	89	93	65 - 117	1	21		
Methoxychlor	81	83	67 - 130	2	23		
alpha-Chlordane	89	92	63 - 120	1	18		
Dieldrin	90	93	65 - 127	2	25		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	95	96	59 - 115
Decachlorobiphenyl	80	78	63 - 124

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179870

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-43605-1	Units:	ug/Kg	MSD Lab Sample ID:	280-43605-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/22/2013 1415			Analysis Date:	06/22/2013 1431
Prep Date:	06/21/2013 1119			Prep Date:	06/21/2013 1119
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
4,4'-DDD	0.58	U	17.5	16.6	14.6	14.6
4,4'-DDE	0.25	U	17.5	16.6	14.7	14.5
4,4'-DDT	0.62	U	17.5	16.6	14.5	14.2
Aldrin	0.27	U	17.5	16.6	16.1	15.8
alpha-BHC	0.23	U	17.5	16.6	16.6	16.7
beta-BHC	0.70	U	17.5	16.6	16.4	16.7
delta-BHC	0.42	U	17.5	16.6	16.4	16.4
gamma-BHC (Lindane)	0.49	U	17.5	16.6	16.6	16.7
Heptachlor	0.23	U	17.5	16.6	15.4	15.5
Heptachlor epoxide	0.45	U	17.5	16.6	15.9	15.7
Endosulfan I	0.19	U	17.5	16.6	15.9	15.8
Endosulfan II	0.30	U	17.5	16.6	15.0	14.8
Endosulfan sulfate	0.29	U	17.5	16.6	14.7	14.5
Endrin	0.32	U	17.5	16.6	18.2	18.1
Endrin aldehyde	0.18	U	17.5	16.6	13.2	13.1
Endrin ketone	0.52	U	17.5	16.6	13.4	13.2
gamma-Chlordane	0.28	U	17.5	16.6	15.6	15.4
Methoxychlor	0.48	U	17.5	16.6	14.1	13.8
alpha-Chlordane	0.34	U	17.5	16.6	15.5	15.3
Dieldrin	0.22	U	17.5	16.6	15.8	15.5

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-180272

Method: 8151A
Preparation: 8151A

Lab Sample ID:	MB 280-180272/1-A	Analysis Batch:	280-180869	Instrument ID:	SGC_M
Client Matrix:	Solid	Prep Batch:	280-180272	Lab File ID:	06280004.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 g
Analysis Date:	06/28/2013 0916	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	06/24/2013 2213			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
2,4,5-T	2.3	U	2.3	20
2,4-Dichlorophenoxyacetic acid	14	U	14	80
2,4-DB	7.5	U	7.5	80
Dalapon	1.4	U	1.4	40
Dicamba	1.4	U	1.4	40
Dichlorprop	3.2	U	3.2	80
Dinoseb	1.4	U	1.4	12
MCPA	2000	U	2000	8000
2,4,5-TP (Silvex)	1.4	U	1.4	20
MCPP	2000	U	2000	8000

Surrogate	% Rec	Acceptance Limits
DCAA	66	31 - 105

Lab Control Sample - Batch: 280-180272

Method: 8151A
Preparation: 8151A

Lab Sample ID:	LCS 280-180272/2-A	Analysis Batch:	280-180869	Instrument ID:	SGC_M
Client Matrix:	Solid	Prep Batch:	280-180272	Lab File ID:	06280005.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 g
Analysis Date:	06/28/2013 0938	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	06/24/2013 2213			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4,5-T	92.3	76.2	83	53 - 129	
2,4-Dichlorophenoxyacetic acid	91.5	79.2	87	50 - 136	J
2,4-DB	91.7	64.2	70	29 - 134	J
Dalapon	92.4	56.5	61	35 - 105	
Dicamba	90.4	70.2	78	45 - 120	
Dichlorprop	90.4	73.8	82	50 - 118	J
Dinoseb	92.2	3.78	4	5 - 166	J N
MCPA	9270	7900	85	42 - 123	J
2,4,5-TP (Silvex)	91.4	76.4	84	52 - 130	
MCPP	9320	7730	83	40 - 127	J

Surrogate	% Rec	Acceptance Limits
DCAA	72	31 - 105

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-180272

Method: 8151A
Preparation: 8151A

MS Lab Sample ID:	280-43605-2	Analysis Batch:	280-180869	Instrument ID:	SGC_M
Client Matrix:	Solid	Prep Batch:	280-180272	Lab File ID:	06280008.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50.3 g
Analysis Date:	06/28/2013 1045			Final Weight/Volume:	10000 uL
Prep Date:	06/24/2013 2213			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-43605-2	Analysis Batch:	280-180869	Instrument ID:	SGC_M
Client Matrix:	Solid	Prep Batch:	280-180272	Lab File ID:	06280009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	51.3 g
Analysis Date:	06/28/2013 1107			Final Weight/Volume:	10000 uL
Prep Date:	06/24/2013 2213			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2,4,5-T	91	78	24 - 115	18	40		
2,4-Dichlorophenoxyacetic acid	94	81	32 - 115	17	40		J
2,4-DB	28	61	37 - 119	21	50	J N	J
Dalapon	83	63	11 - 115	29	50		
Dicamba	90	74	11 - 115	20	50		
Dichlorprop	90	76	35 - 115	19	50		J
Dinoseb	4	7	5 - 166	2	50	J N	J
MCPA	102	92	37 - 115	12	50		
2,4,5-TP (Silvex)	91	78	53 - 134	18	40		
MCPP	93	78	48 - 132	19	50		J

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
DCAA	85	86	31 - 105

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-180272

Method: 8151A
Preparation: 8151A

MS Lab Sample ID:	280-43605-2	Units:	ug/Kg
Client Matrix:	Solid		
Dilution:	1.0		
Analysis Date:	06/28/2013 1045		
Prep Date:	06/24/2013 2213		
Leach Date:	N/A		

MSD Lab Sample ID:	280-43605-2
Client Matrix:	Solid
Dilution:	1.0
Analysis Date:	06/28/2013 1107
Prep Date:	06/24/2013 2213
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
2,4,5-T	2.6	U	103	101	94.5		78.9	
2,4-Dichlorophenoxyacetic acid	16	U	103	101	96.1		81.4	J
2,4-DB	46	J	103	101	75.3	J N	61.1	J
Dalapon	1.6	U	104	102	85.8		63.8	
Dicamba	2.3	J	101	99.3	93.1		76.6	
Dichlorprop	3.6	U	101	99.4	90.9		75.4	J
Dinoseb	3.7	J	103	101	7.41	J N	7.24	J
MCPA	2200	U	10400	10200	10600		9380	
2,4,5-TP (Silvex)	1.6	U	102	100	93.5		78.2	
MCPP	2200	U	10400	10200	9670		7990	J

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-179866

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-179866/1-A	Analysis Batch:	280-180605	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-179866	Lab File ID:	0626A032.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.6 g
Analysis Date:	06/27/2013 0652	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1016			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	920	U	920	3700
C10-C28	620	U	620	3700

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	77	49 - 115

Lab Control Sample - Batch: 280-179866

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-179866/2-A	Analysis Batch:	280-180605	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-179866	Lab File ID:	0626A033.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.2 g
Analysis Date:	06/27/2013 0720	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1016			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	62200	54100	87	57 - 115	
C10-C28	62200	53900	87	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	75	49 - 115

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179866

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-43605-1	Analysis Batch:	280-180605	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-179866	Lab File ID:	0626A035.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.2 g
Analysis Date:	06/27/2013 0817			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1016			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-43605-1	Analysis Batch:	280-180605	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-179866	Lab File ID:	0626A036.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	06/27/2013 0846			Final Weight/Volume:	1000 uL
Prep Date:	06/21/2013 1016			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	83	81	57 - 115	2	23		
C10-C28	85	82	56 - 115	3	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	74	72	49 - 115

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-179866

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-43605-1	Units:	ug/Kg	MSD Lab Sample ID:	280-43605-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/27/2013 0817			Analysis Date:	06/27/2013 0846
Prep Date:	06/21/2013 1016			Prep Date:	06/21/2013 1016
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	9300	70600	70300	67900	66500
C10-C28	4900	70600	70300	64600	62900

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-179990

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-179990/1-A	Analysis Batch:	280-180323	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-179990	Lab File ID:	26b062413.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	06/24/2013 2053	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/24/2013 0900				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.0740	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Control Sample - Batch: 280-179990

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-179990/2-A	Analysis Batch:	280-180323	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-179990	Lab File ID:	26b062413.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	06/24/2013 2055	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/24/2013 0900				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	192.0	96	82 - 116	
Antimony	50.0	49.58	99	82 - 110	
Arsenic	100	102.7	103	85 - 110	
Barium	200	203.8	102	87 - 112	
Beryllium	5.00	4.90	98	84 - 114	
Boron	100	97.73	98	80 - 120	
Cadmium	10.0	10.32	103	87 - 110	
Calcium	5000	4947	99	82 - 114	
Chromium	20.0	19.64	98	84 - 114	
Cobalt	50.0	49.91	100	87 - 110	
Copper	25.0	24.89	100	88 - 110	
Iron	100	96.49	96	87 - 120	
Lead	50.0	50.19	100	86 - 110	
Magnesium	5000	4902	98	90 - 110	
Manganese	50.0	49.57	99	88 - 110	
Molybdenum	100	96.07	96	86 - 110	
Nickel	50.0	48.72	97	87 - 110	
Potassium	5000	5164	103	89 - 110	
Selenium	200	202.5	101	83 - 110	
Silicon	1000	74.69	7	10 - 70	N
Silver	5.00	5.53	111	87 - 114	
Sodium	5000	5352	107	90 - 112	
Vanadium	50.0	49.14	98	88 - 110	
Zinc	50.0	49.67	99	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike - Batch: 280-179990

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180323	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-179990	Lab File ID:	26b062413.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.18 g
Analysis Date:	06/24/2013 2104	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/24/2013 0900				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	7050		180	8520	814	50 - 200	4
Antimony	0.61		45.1	25.89	56	20 - 200	
Arsenic	2.8		90.2	89.24	96	76 - 111	
Barium	62.3		180	239.6	98	52 - 159	
Beryllium	0.13	B	4.51	4.24	91	72 - 105	
Boron	1.8		90.2	83.02	90	80 - 120	
Cadmium	0.14	B	9.02	9.01	98	40 - 130	
Calcium	4960		4510	10580	125	43 - 165	
Chromium	11.3		18.0	28.98	98	70 - 200	
Cobalt	6.4		45.1	48.22	93	72 - 106	
Copper	12.1		22.6	32.99	93	37 - 187	
Iron	16600		90.2	16960	370	70 - 200	4
Lead	3.8		45.1	45.32	92	70 - 200	
Magnesium	4470		4510	8862	97	64 - 145	
Manganese	267		45.1	319.8	116	40 - 200	4
Molybdenum	0.23	U	90.2	79.60	88	75 - 103	
Nickel	11.5		45.1	51.84	89	61 - 126	
Potassium	1490		4510	6003	100	56 - 172	
Selenium	0.78	U	180	171.8	95	76 - 104	
Silicon	381		902	495.4	13	20 - 200	N
Silver	0.14	U	4.51	4.78	106	75 - 141	
Sodium	228		4510	4919	104	78 - 111	
Vanadium	39.5		45.1	83.68	98	50 - 169	
Zinc	54.6		45.1	86.53	71	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Duplicate - Batch: 280-179990

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180323	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-179990	Lab File ID:	26b062413.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.08 g
Analysis Date:	06/24/2013 2102	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/24/2013 0900				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	7050		6754	4	40	
Antimony	0.61		0.37	NC	40	U
Arsenic	2.8		2.75	2	30	
Barium	62.3		63.11	1	30	
Beryllium	0.13	B	0.132	2	30	B
Boron	1.8		1.81	3	30	B
Cadmium	0.14	B	0.142	4	30	B
Calcium	4960		4943	0.3	30	
Chromium	11.3		10.93	3	40	
Cobalt	6.4		6.91	7	30	
Copper	12.1		12.04	0.1	30	
Iron	16600		16550	0.5	40	
Lead	3.8		3.90	4	40	
Magnesium	4470		4321	3	30	
Manganese	267		270.0	0.9	40	
Molybdenum	0.23	U	0.26	NC	30	U
Nickel	11.5		13.40	16	30	
Potassium	1490		1437	3	40	
Selenium	0.78	U	0.85	NC	30	U
Silicon	381		354.5	7	40	N
Silver	0.14	U	0.16	NC	30	U
Sodium	228		217.9	5	30	
Vanadium	39.5		40.31	2	30	
Zinc	54.6		51.55	6	40	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-179907

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-179907/1-A	Analysis Batch:	280-180205	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-179907	Lab File ID:	130621aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	.6 g
Analysis Date:	06/21/2013 1639	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/21/2013 1220				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-179907

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-179907/2-A	Analysis Batch:	280-180205	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-179907	Lab File ID:	130621aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	.6 g
Analysis Date:	06/21/2013 1641	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/21/2013 1220				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.370	89	87 - 111	

Matrix Spike - Batch: 280-179907

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180205	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-179907	Lab File ID:	130621aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.64 g
Analysis Date:	06/21/2013 1648	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/21/2013 1220				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0055	U	0.416	0.361	87	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Duplicate - Batch: 280-179907

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180205	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-179907	Lab File ID:	130621aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.61 g
Analysis Date:	06/21/2013 1645	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/21/2013 1220				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0055	U	0.0058	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-180158

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-179955/1-A	Analysis Batch:	280-180158	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0621NXNP
Dilution:	1.0	Leach Batch:	280-179955	Initial Weight/Volume:	
Analysis Date:	06/22/2013 1609	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/21/2013 1308				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N-Soluble	0.376	B	0.31	0.77

Method Reporting Limit Check - Batch: 280-180158

Method: 353.2
Preparation: N/A

Lab Sample ID:	MRL 280-180158/18	Analysis Batch:	280-180158	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0621NXNP
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	06/22/2013 1530	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	0.100	0.120	120	50 - 150	

Lab Control Sample - Batch: 280-180158

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-179955/2-A	Analysis Batch:	280-180158	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0621NXNP
Dilution:	1.0	Leach Batch:	280-179955	Initial Weight/Volume:	
Analysis Date:	06/22/2013 1602	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/21/2013 1308				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	50.0	51.30	103	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike - Batch: 280-180158

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180158	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0621NXNP
Dilution:	1.0	Leach Batch:	280-179955	Initial Weight/Volume:	
Analysis Date:	06/22/2013 1606	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/21/2013 1308				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	1.2	43.5	45.51	102	90 - 110	

Duplicate - Batch: 280-180158

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180158	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0621NXNP
Dilution:	1.0	Leach Batch:	280-179955	Initial Weight/Volume:	
Analysis Date:	06/22/2013 1605	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/21/2013 1308				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate Nitrite as N-Soluble	1.2	1.27	2	10	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-180764

Method: 9012A
Preparation: 9012A

Lab Sample ID:	MB 280-180764/4-A	Analysis Batch:	280-180921	Instrument ID:	WC_Alp 1
Client Matrix:	Solid	Prep Batch:	280-180764	Lab File ID:	C:\FLOW_4\CN062813
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	06/28/2013 1002	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/27/2013 1213				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Cyanide	0.167	B	0.10	0.50

High Level Control Sample - Batch: 280-180764

Method: 9012A
Preparation: 9012A

Lab Sample ID:	HLCS 280-180764/1-A	Analysis Batch:	280-180921	Instrument ID:	WC_Alp 1
Client Matrix:	Solid	Prep Batch:	280-180764	Lab File ID:	C:\FLOW_4\CN062813
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	06/28/2013 0957	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/27/2013 1213				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Cyanide	20.0	20.02	100	90 - 110	

Low Level Control Sample - Batch: 280-180764

Method: 9012A
Preparation: 9012A

Lab Sample ID:	LLCS 280-180764/2-A	Analysis Batch:	280-180921	Instrument ID:	WC_Alp 1
Client Matrix:	Solid	Prep Batch:	280-180764	Lab File ID:	C:\FLOW_4\CN062813
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	06/28/2013 0959	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/27/2013 1213				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Cyanide	5.00	4.88	98	51 - 150	

Lab Control Sample - Batch: 280-180764

Method: 9012A
Preparation: 9012A

Lab Sample ID:	LCS 280-180764/3-A	Analysis Batch:	280-180921	Instrument ID:	WC_Alp 1
Client Matrix:	Solid	Prep Batch:	280-180764	Lab File ID:	C:\FLOW_4\CN062813
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	06/28/2013 1000	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/27/2013 1213				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Cyanide	5.00	5.04	101	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike - Batch: 280-180764

Method: 9012A
Preparation: 9012A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180921	Instrument ID:	WC_Alp 1
Client Matrix:	Solid	Prep Batch:	280-180764	Lab File ID:	C:\FLOW_4\CN062813
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	06/28/2013 1005	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/27/2013 1213				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Total Cyanide	0.23	B	5.32	4.99	90	90 - 110	

Duplicate - Batch: 280-180764

Method: 9012A
Preparation: 9012A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180921	Instrument ID:	WC_Alp 1
Client Matrix:	Solid	Prep Batch:	280-180764	Lab File ID:	C:\FLOW_4\CN062813
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.99 g
Analysis Date:	06/28/2013 1006	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	06/27/2013 1213				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Total Cyanide	0.23	B	0.200	12	10	B M

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-180260

Method: 9034
Preparation: 9030B

Lab Sample ID:	MB 280-180260/1-A	Analysis Batch:	280-180389	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	280-180260	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 g
Analysis Date:	06/24/2013 1642	Units:	mg/Kg	Final Weight/Volume:	250 mL
Prep Date:	06/24/2013 1642				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Sulfide	2.40	B	2.4	5.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-180260

Method: 9034
Preparation: 9030B

LCS Lab Sample ID:	LCS 280-180260/2-A	Analysis Batch:	280-180389	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	280-180260	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 g
Analysis Date:	06/24/2013 1642	Units:	mg/Kg	Final Weight/Volume:	250 mL
Prep Date:	06/24/2013 1642				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-180260/3-A	Analysis Batch:	280-180389	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	280-180260	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 g
Analysis Date:	06/24/2013 1642	Units:	mg/Kg	Final Weight/Volume:	250 mL
Prep Date:	06/24/2013 1642				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Sulfide	61	59	47 - 100	3	35		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-180260

Method: 9034
Preparation: 9030B

LCS Lab Sample ID:	LCS 280-180260/2-A	Units:	mg/Kg	LCSD Lab Sample ID:	LCSD 280-180260/3-A
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/24/2013 1642			Analysis Date:	06/24/2013 1642
Prep Date:	06/24/2013 1642			Prep Date:	06/24/2013 1642
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Sulfide	102	102	62.40	60.40

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-180260

Method: 9034
Preparation: 9030B

MS Lab Sample ID:	280-43605-2	Analysis Batch:	280-180389	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	280-180260	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50.23 g
Analysis Date:	06/24/2013 1642			Final Weight/Volume:	250 mL
Prep Date:	06/24/2013 1642				
Leach Date:	N/A				

MSD Lab Sample ID:	280-43605-2	Analysis Batch:	280-180389	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	280-180260	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50.27 g
Analysis Date:	06/24/2013 1642			Final Weight/Volume:	250 mL
Prep Date:	06/24/2013 1642				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Sulfide	46	46	47 - 100	0	35	N	N

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-180260

Method: 9034
Preparation: 9030B

MS Lab Sample ID:	280-43605-2	Units:	mg/Kg	MSD Lab Sample ID:	280-43605-2
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/24/2013 1642			Analysis Date:	06/24/2013 1642
Prep Date:	06/24/2013 1642			Prep Date:	06/24/2013 1642
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Sulfide	2.7	U	115	115	52.98	N	52.94	N

Duplicate - Batch: 280-180260

Method: 9034
Preparation: 9030B

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180389	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	280-180260	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	49.76 g
Analysis Date:	06/24/2013 1642	Units:	mg/Kg	Final Weight/Volume:	250 mL
Prep Date:	06/24/2013 1642				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Sulfide	4.3	B	3.00	36	35	B M

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-180040

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-180040/4	Analysis Batch:	280-180040	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	06/21/2013 1847	Units:	SU	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-180040/5	Analysis Batch:	280-180040	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	06/21/2013 1847	Units:	SU	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C-Soluble	100	100	97 - 103	0	5		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-180040

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-180040/4	Units:	SU	LCSD Lab Sample ID:	LCSD 280-180040/5
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	06/21/2013 1847			Analysis Date:	06/21/2013 1847
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
pH adj. to 25 deg C-Soluble	7.00	7.00	7.010	7.010

Duplicate - Batch: 280-180040

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180040	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-180017	Initial Weight/Volume:	
Analysis Date:	06/21/2013 1847	Units:	SU	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/21/2013 1728				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	8.75	8.750	0	5	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-180648

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-180433/2-A	Analysis Batch:	280-180648	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	151.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0712	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Result	Qual	MDL	RL
Nitrate as N-Soluble	0.31	U	0.31	2.5
Nitrite as N-Soluble	0.34	U	0.34	2.5
Orthophosphate as P-Soluble	1.2	U	1.2	5.0

Method Reporting Limit Check - Batch: 280-180648

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-180648/11	Analysis Batch:	280-180648	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	110.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	06/25/2013 1306	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.200	0.210	105	50 - 150	B
Nitrite as N-Soluble	0.200	0.200	100	50 - 150	B
Orthophosphate as P-Soluble	0.200	0.19	55	50 - 150	U

Lab Control Sample - Batch: 280-180648

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-180433/1-A	Analysis Batch:	280-180648	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	150.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0645	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	50.0	50.46	101	90 - 110	
Nitrite as N-Soluble	50.0	49.53	99	90 - 110	
Orthophosphate as P-Soluble	50.0	48.65	97	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike - Batch: 280-180648

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-43605-2	Analysis Batch:	280-180648	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	155.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0821	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.72	B	54.2	53.10	97	80 - 120	
Nitrite as N-Soluble	0.38	U	54.2	52.91	98	80 - 120	
Orthophosphate as P-Soluble	1.4	U	54.2	35.66	66	80 - 120	N

Duplicate - Batch: 280-180648

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-43605-2	Analysis Batch:	280-180648	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	154.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0804	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Nitrate as N-Soluble	0.72	B	0.722	0	15	B
Nitrite as N-Soluble	0.38	U	0.38	NC	15	U
Orthophosphate as P-Soluble	1.4	U	1.4	NC	15	U

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Method Blank - Batch: 280-180650

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-180433/2-A	Analysis Batch:	280-180650	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	151.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0712	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Result	Qual	MDL	RL
Chloride-Soluble	2.0	U	2.0	5.0
Bromide-Soluble	0.39	U	0.39	2.0
Sulfate-Soluble	1.7	U	1.7	5.0
Fluoride-Soluble	0.82	U	0.82	5.0

Method Reporting Limit Check - Batch: 280-180650

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-180650/11	Analysis Batch:	280-180650	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	110.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	06/25/2013 1306	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	1.00	0.998	100	50 - 150	B
Bromide-Soluble	0.200	0.219	110	50 - 150	B
Sulfate-Soluble	1.00	0.593	59	50 - 150	B
Fluoride-Soluble	0.200	0.212	106	50 - 150	B

Lab Control Sample - Batch: 280-180650

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-180433/1-A	Analysis Batch:	280-180650	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	150.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0645	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	250	252.1	101	90 - 110	
Bromide-Soluble	50.0	49.56	99	90 - 110	
Sulfate-Soluble	250	255.8	102	90 - 110	
Fluoride-Soluble	50.0	50.63	101	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Matrix Spike - Batch: 280-180650

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-43605-2	Analysis Batch:	280-180650	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	155.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0821	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	22.3		271	292.4	100	80 - 120	
Bromide-Soluble	0.72	B	54.2	54.49	99	80 - 120	
Sulfate-Soluble	177		271	412.8	87	80 - 120	
Fluoride-Soluble	1.3	B	54.2	30.37	54	80 - 120	N

Duplicate - Batch: 280-180650

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-43605-2	Analysis Batch:	280-180650	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	154.TXT
Dilution:	1.0	Leach Batch:	280-180433	Initial Weight/Volume:	
Analysis Date:	06/26/2013 0804	Units:	mg/Kg	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	06/25/2013 1501				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Chloride-Soluble	22.3		25.06	12	15	
Bromide-Soluble	0.72	B	0.756	5	15	B
Sulfate-Soluble	177		179.4	1	15	
Fluoride-Soluble	1.3	B	1.33	0	15	B

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

Duplicate - Batch: 280-180090

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-43605-1	Analysis Batch:	280-180090	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	06/22/2013 1459	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	6.1	6.0	2	20	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 280-179873					
LCS 280-179873/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-179873/1-A	Method Blank	T	Solid	3550C	
280-43605-1	J1RPC8	T	Solid	3550C	
280-43605-2	J1RPJ2	T	Solid	3550C	
280-43605-2MS	Matrix Spike	T	Solid	3550C	
280-43605-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-180564					
LCS 280-179873/2-A	Lab Control Sample	T	Solid	8270C	280-179873
MB 280-179873/1-A	Method Blank	T	Solid	8270C	280-179873
280-43605-1	J1RPC8	T	Solid	8270C	280-179873
280-43605-2	J1RPJ2	T	Solid	8270C	280-179873
280-43605-2MS	Matrix Spike	T	Solid	8270C	280-179873
280-43605-2MSD	Matrix Spike Duplicate	T	Solid	8270C	280-179873

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-179866					
LCS 280-179866/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-179866/1-A	Method Blank	T	Solid	3550C	
280-43605-1	J1RPC8	T	Solid	3550C	
280-43605-1MS	Matrix Spike	T	Solid	3550C	
280-43605-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-43605-2	J1RPJ2	T	Solid	3550C	
Prep Batch: 280-179870					
LCS 280-179870/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-179870/1-A	Method Blank	T	Solid	3550C	
280-43605-1	J1RPC8	T	Solid	3550C	
280-43605-1MS	Matrix Spike	T	Solid	3550C	
280-43605-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-43605-2	J1RPJ2	T	Solid	3550C	
Analysis Batch:280-180067					
LCS 280-179870/2-A	Lab Control Sample	T	Solid	8081A	280-179870
MB 280-179870/1-A	Method Blank	T	Solid	8081A	280-179870
280-43605-1	J1RPC8	T	Solid	8081A	280-179870
280-43605-1MS	Matrix Spike	T	Solid	8081A	280-179870
280-43605-1MSD	Matrix Spike Duplicate	T	Solid	8081A	280-179870
280-43605-2	J1RPJ2	T	Solid	8081A	280-179870
Prep Batch: 280-180272					
LCS 280-180272/2-A	Lab Control Sample	T	Solid	8151A	
MB 280-180272/1-A	Method Blank	T	Solid	8151A	
280-43605-1	J1RPC8	T	Solid	8151A	
280-43605-2	J1RPJ2	T	Solid	8151A	
280-43605-2MS	Matrix Spike	T	Solid	8151A	
280-43605-2MSD	Matrix Spike Duplicate	T	Solid	8151A	
Analysis Batch:280-180605					
LCS 280-179866/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-179866
MB 280-179866/1-A	Method Blank	T	Solid	NWTPH-Dx	280-179866
280-43605-1	J1RPC8	T	Solid	NWTPH-Dx	280-179866
280-43605-1MS	Matrix Spike	T	Solid	NWTPH-Dx	280-179866
280-43605-1MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-179866
280-43605-2	J1RPJ2	T	Solid	NWTPH-Dx	280-179866

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Analysis Batch:280-180869					
LCS 280-180272/2-A	Lab Control Sample	T	Solid	8151A	280-180272
MB 280-180272/1-A	Method Blank	T	Solid	8151A	280-180272
280-43605-1	J1RPC8	T	Solid	8151A	280-180272
280-43605-2	J1RPJ2	T	Solid	8151A	280-180272
280-43605-2MS	Matrix Spike	T	Solid	8151A	280-180272
280-43605-2MSD	Matrix Spike Duplicate	T	Solid	8151A	280-180272

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-179907					
LCS 280-179907/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-179907/1-A	Method Blank	T	Solid	7471A	
280-43605-1	J1RPC8	T	Solid	7471A	
280-43605-1DU	Duplicate	T	Solid	7471A	
280-43605-1MS	Matrix Spike	T	Solid	7471A	
280-43605-2	J1RPJ2	T	Solid	7471A	
Prep Batch: 280-179990					
LCS 280-179990/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-179990/1-A	Method Blank	T	Solid	3050B	
280-43605-1	J1RPC8	T	Solid	3050B	
280-43605-1DU	Duplicate	T	Solid	3050B	
280-43605-1MS	Matrix Spike	T	Solid	3050B	
280-43605-2	J1RPJ2	T	Solid	3050B	
Analysis Batch:280-180205					
LCS 280-179907/2-A	Lab Control Sample	T	Solid	7471A	280-179907
MB 280-179907/1-A	Method Blank	T	Solid	7471A	280-179907
280-43605-1	J1RPC8	T	Solid	7471A	280-179907
280-43605-1DU	Duplicate	T	Solid	7471A	280-179907
280-43605-1MS	Matrix Spike	T	Solid	7471A	280-179907
280-43605-2	J1RPJ2	T	Solid	7471A	280-179907
Analysis Batch:280-180323					
LCS 280-179990/2-A	Lab Control Sample	T	Solid	6010B	280-179990
MB 280-179990/1-A	Method Blank	T	Solid	6010B	280-179990
280-43605-1	J1RPC8	T	Solid	6010B	280-179990
280-43605-1DU	Duplicate	T	Solid	6010B	280-179990
280-43605-1MS	Matrix Spike	T	Solid	6010B	280-179990
280-43605-2	J1RPJ2	T	Solid	6010B	280-179990

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 280-179955					
LCS 280-179955/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-179955/1-A	Method Blank	S	Solid	DI Leach	
280-43605-1	J1RPC8	S	Solid	DI Leach	
280-43605-1DU	Duplicate	S	Solid	DI Leach	
280-43605-1MS	Matrix Spike	S	Solid	DI Leach	
280-43605-2	J1RPJ2	S	Solid	DI Leach	
Prep Batch: 280-180017					
280-43605-1	J1RPC8	S	Solid	DI Leach	
280-43605-1DU	Duplicate	S	Solid	DI Leach	
280-43605-2	J1RPJ2	S	Solid	DI Leach	
Analysis Batch:280-180040					
LCS 280-180040/4	Lab Control Sample	T	Solid	9045C	
LCSD 280-180040/5	Lab Control Sample Duplicate	T	Solid	9045C	
280-43605-1	J1RPC8	S	Solid	9045C	
280-43605-1DU	Duplicate	S	Solid	9045C	
280-43605-2	J1RPJ2	S	Solid	9045C	
Analysis Batch:280-180090					
280-43605-1	J1RPC8	T	Solid	D-2216	
280-43605-1DU	Duplicate	T	Solid	D-2216	
280-43605-2	J1RPJ2	T	Solid	D-2216	
Analysis Batch:280-180158					
LCS 280-179955/2-A	Lab Control Sample	S	Solid	353.2	
MB 280-179955/1-A	Method Blank	S	Solid	353.2	
280-43605-1	J1RPC8	S	Solid	353.2	
280-43605-1DU	Duplicate	S	Solid	353.2	
280-43605-1MS	Matrix Spike	S	Solid	353.2	
280-43605-2	J1RPJ2	S	Solid	353.2	
Prep Batch: 280-180260					
LCS 280-180260/2-A	Lab Control Sample	T	Solid	9030B	
LCSD 280-180260/3-A	Lab Control Sample Duplicate	T	Solid	9030B	
MB 280-180260/1-A	Method Blank	T	Solid	9030B	
280-43605-1	J1RPC8	T	Solid	9030B	
280-43605-1DU	Duplicate	T	Solid	9030B	
280-43605-2	J1RPJ2	T	Solid	9030B	
280-43605-2MS	Matrix Spike	T	Solid	9030B	
280-43605-2MSD	Matrix Spike Duplicate	T	Solid	9030B	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-180389					
LCS 280-180260/2-A	Lab Control Sample	T	Solid	9034	280-180260
LCSD 280-180260/3-A	Lab Control Sample Duplicate	T	Solid	9034	280-180260
MB 280-180260/1-A	Method Blank	T	Solid	9034	280-180260
280-43605-1	J1RPC8	T	Solid	9034	280-180260
280-43605-1DU	Duplicate	T	Solid	9034	280-180260
280-43605-2	J1RPJ2	T	Solid	9034	280-180260
280-43605-2MS	Matrix Spike	T	Solid	9034	280-180260
280-43605-2MSD	Matrix Spike Duplicate	T	Solid	9034	280-180260
Prep Batch: 280-180433					
LCS 280-180433/1-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-180433/2-A	Method Blank	S	Solid	DI Leach	
280-43605-1	J1RPC8	S	Solid	DI Leach	
280-43605-2	J1RPJ2	S	Solid	DI Leach	
280-43605-2DU	Duplicate	S	Solid	DI Leach	
280-43605-2MS	Matrix Spike	S	Solid	DI Leach	
Analysis Batch:280-180648					
LCS 280-180433/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-180433/2-A	Method Blank	S	Solid	9056M	
280-43605-1	J1RPC8	S	Solid	9056M	
280-43605-2	J1RPJ2	S	Solid	9056M	
280-43605-2DU	Duplicate	S	Solid	9056M	
280-43605-2MS	Matrix Spike	S	Solid	9056M	
Analysis Batch:280-180650					
LCS 280-180433/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-180433/2-A	Method Blank	S	Solid	9056M	
280-43605-1	J1RPC8	S	Solid	9056M	
280-43605-2	J1RPJ2	S	Solid	9056M	
280-43605-2DU	Duplicate	S	Solid	9056M	
280-43605-2MS	Matrix Spike	S	Solid	9056M	
Prep Batch: 280-180764					
HLCS 280-180764/1-A	High Level Control Sample	T	Solid	9012A	
LCS 280-180764/3-A	Lab Control Sample	T	Solid	9012A	
LLCS 280-180764/2-A	Low Level Control Sample	T	Solid	9012A	
MB 280-180764/4-A	Method Blank	T	Solid	9012A	
280-43605-1	J1RPC8	T	Solid	9012A	
280-43605-1DU	Duplicate	T	Solid	9012A	
280-43605-1MS	Matrix Spike	T	Solid	9012A	
280-43605-2	J1RPJ2	T	Solid	9012A	

Client: Washington Closure Hanford

Job Number: 280-43605-1
Sdg Number: J01835

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-180921					
HLCS 280-180764/1-A	High Level Control Sample	T	Solid	9012A	280-180764
LCS 280-180764/3-A	Lab Control Sample	T	Solid	9012A	280-180764
LLCS 280-180764/2-A	Low Level Control Sample	T	Solid	9012A	280-180764
MB 280-180764/4-A	Method Blank	T	Solid	9012A	280-180764
280-43605-1	J1RPC8	T	Solid	9012A	280-180764
280-43605-1DU	Duplicate	T	Solid	9012A	280-180764
280-43605-1MS	Matrix Spike	T	Solid	9012A	280-180764
280-43605-2	J1RPJ2	T	Solid	9012A	280-180764

Report Basis
S = Soluble
T = Total