SAF-RC-107
100-H Remaining Sites Burial Grounds – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 9/2/14
NITIAL/DATE

COMMENTS:

SDG JP0851 SAF-RC-107

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Waste Site: 100-H-43 (focused)

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica Inc

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: TARL

Data Package Contains 21 *Pages*

Report No.: 62009

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
JP0851	RC-107	J1TXD4	J4H210442-1	M4PWE1AA	9M4PWE10	4237042
		J1TXD5	J4H210442-2	M4PWF1AA	9M4PWF10	4237042
		J1TXD6	J4H210442-3	M4PWG1AA	9M4PWG10	4237042
		J1TXD7	J4H210442-4	M4PWH1AA	9M4PWH10	4237042

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

August 28, 2014

Attention: Joan Kessner

SAF Number	:	RC-107
Date SDG Closed	:	August 21, 2014
Number of Samples	:	Four (4)
Sample Type	:	Soil
SDG Number	:	JP0851
Data Deliverable	:	7-Day / Summary

CASE NARRATIVE

I. Introduction

On August 21, 2014, four soil samples were received at TestAmerica for chemistry analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1TXD4	M4PWE	SOIL	8/21/14
J1TXD5	M4PWF	SOIL	8/21/14
J1TXD6	M4PWG	SOIL	8/21/14
J1TXD7	M4PWH	SOIL	8/21/14

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analysis was:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The LCS, batch blank, samples, sample duplicate (J1TXD4) and sample matrix spike (J1TXD4) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. 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 following signature.

Reviewed and approved:

Rhonda Wagar
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**TestAmerica Richland's SOP No.**
EPA 901.1	Cs-134, I-131	RL-GAM-001
EPA 900.0	Alpha & Beta	RL-GPC-001
EPA 00-02	Gross Alpha (Coprecipitation)	RL-GPC-002
EPA 903.0	Total Alpha Radium (Ra-226)	RL-RA-002
EPA 903.1	Ra-226	RL-RA-001
EPA 904.0	Ra-228	RL-RA-001
EPA 905.0	Sr-89/90	RL-GPC-003
ASTM D5174	Uranium	RL-KPA-003
EPA 906.0	Tritium	RL-LSC-005

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/?n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c *the combined uncertainty.* The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 28-Aug-14

TestAmerica Inc TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 62009

SDG No: JP0851

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
4237042	7196_CR6								
	J1TXD4								
	M4PWE1AA	HEXCHROME	2.27E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	M4PWE1AD	HEXCHROME	2.28E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	0.4
	J1TXD5								
	M4PWF1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1TXD6								
	M4PWG1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1TXD7								
	M4PWH1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	

No. of Results: 5

TestAmerica Inc

rptTALRchSaSummary2 V5.3.3
A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

QC Results Summary

Date: 28-Aug-14

TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 62009

SDG No.: JP0851

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6								
4237042 MATRIX SPIKE, J1TXD4								
M4PWE1AC	HEXCHROME	2.65E+01 +- 0.0E+00		mg/kg	N/A	87%	-0.1	1.55E-01
4237042 LCS,								
M4QN81AC	HEXCHROME	1.87E+01 +- 0.0E+00		mg/kg	N/A	93%	-0.1	1.55E-01
4237042 BLANK QC,								
M4QN81AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 3

TestAmerica Inc

rptSTLRchQcSummary V5.3.3 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 28-Aug-14

Lab Name:	TestAmerica Inc	**SDG:**	JP0851	**Collection Date:**	8/20/2014 9:14:00 AM
Lot-Sample No.:	J4H210442-1	**Report No. :**	62009	**Received Date:**	8/21/2014 11:50:00 AM
Client Sample ID:	J1TXD4	**COC No. :**	RC-107-110	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:**	M4PWE1AA		**Report DB ID:**	9M4PWE10				
HEXCHROME	**2.27E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.5)*	8/27/14 05:08 p		2.524	
							1.55E-01	*N/A*			g	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 28-Aug-14

Lab Name:	**TestAmerica Inc**	**SDG:**	JP0851	**Collection Date:**	8/20/2014 9:24:00 AM
Lot-Sample No.:	**J4H210442-2**	**Report No. :**	62009	**Received Date:**	8/21/2014 11:50:00 AM
Client Sample ID:	**J1TXD5**	**COC No. :**	RC-107-110	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:** M4PWF1AA			**Report DB ID:** 9M4PWF10					
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	*1.*	8/27/14 05:08 p		2.5342	
							1.55E-01	*N/A*			g	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 28-Aug-14

Lab Name:	**TestAmerica Inc**	**SDG:**	JP0851	**Collection Date:**	8/20/2014 9:32:00 AM
Lot-Sample No.:	**J4H210442-3**	**Report No. :**	62009	**Received Date:**	8/21/2014 11:50:00 AM
Client Sample ID:	**J1TXD6**	**COC No. :**	RC-107-110	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:**	M4PWG1AA		**Report DB ID:**	9M4PWG10				
HEXCHROME	**1.55E-01**	U		0.0E+00	1.55E-01	mg/kg	N/A	*1.*	8/27/14 05:08 p		2.5081	
							1.55E-01	*N/A*			g	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 28-Aug-14

Lab Name:	TestAmerica Inc	**SDG:**	JP0851	**Collection Date:**	8/20/2014 9:05:00 AM
Lot-Sample No.:	J4H210442-4	**Report No. :**	62009	**Received Date:**	8/21/2014 11:50:00 AM
Client Sample ID:	J1TXD7	**COC No. :**	RC-107-110	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:** M4PWH1AA			**Report DB ID:** 9M4PWH10					
HEXCHROME	**1.55E-01**	U		0.0E+00	1.55E-01	mg/kg	N/A	*1.*	8/27/14 05:08 p		2.5053	
							1.55E-01	*N/A*			g	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 28-Aug-14

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	JP0851	**Collection Date:**	8/20/2014 9:14:00 AM
Lot-Sample No.:	**J4H210442-1**	**Report No. :**	62009	**Received Date:**	8/21/2014 11:50:00 AM
Client Sample ID:	**J1TXD4**	**COC No. :**	RC-107-110	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:**	M4PWE1AD		**Report DB ID:**	M4PWE1ER	**Orig Sa DB ID:**	9M4PWE10		
HEXCHROME	2.28E-01			0.0E+00	1.55E-01	mg/kg	N/A	(1.5)	8/27/14 05:08 p		2.5056	
	2.27E-01		**RPD**	**0.4**		1.55E-01		N/A			g	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchDupV5.
3.3 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II

BLANK RESULTS

Date: 28-Aug-14

Lab Name: TestAmerica Inc

SDG: JP0851

Matrix: SOIL

Report No. : 62009

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:**	M4QN81AA		**Report DB ID:**	M4QN81AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	8/27/14 05:08 p		2.5	
						1.55E-01		N/A			g	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchBlank
V5.3.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

LCS RESULTS

Date: 28-Aug-14

Lab Name: TestAmerica Inc

Matrix: SOIL

SDG: JP0851

Report No. : 62009

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 4237042	7196_CR6			**Work Order:**	M4QN81AC		**Report DB ID:**	M4QN81AS					
HEXCHROME	1.87E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		93%	8/27/14 05:08 p	2.5	
							Rec Limits:	80	120	-0.1		g	

No. of Results: 1 **Comments:**

TestAmerica Inc **Bias** - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V5.3.3 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 28-Aug-14

Lab Name: TestAmerica Inc **SDG:** JP0851

Lot-Sample No.: J4H210442-1, J1TXD4 **Report No. :** 62009 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 4237042	**Work Order:** M4PWE1AC			**Report DB ID:** M4PWE1CW			**Orig Sa DB ID:** 9M4PWE10					
HEXCHROME	2.65E+01			0.0E+00	1.55E-01	mg/kg	N/A	87.08%	3.04E+01	8/27/14 05:08 p	2.5128	7196_CR6
	2.27E-01										g	

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.3.3 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	4237042	Lab Sample Numbers or SDG:	JP0851
Method/Test/Parameter: Cr+6 ☐ RL-WC-003(Aqueous) ☒ RL-WC-004(Solid)			

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration 1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient greater than 0.97?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration 1. CCV analyzed at required frequency and all parameters within 10% of expected?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis 1. Were any samples with concentrations above the linear range diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples 1. All results for the preparation blank below limits?	✓			✓
2. LCS percent recovery within 85-115%	✓			✓
3. $PbCrO_4$ percent recovery within 75-125%?	✓			✓
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✓
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✓
6. On MS failure, PDMS within 85-115%?			✓	✓
E. Other 1. Are all nonconformances included and noted?			✓	✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response or list NCM number:

Analyst [signature] Date 8/28/14 2nd Review H. Rahari Date 8/28/14

CG-231 Rev 1 5/12

TestAmerica Laboratories, Inc.

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-107-110

Collector: H Weber	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: 100-H Field Remediation	Sampling Location: 100-H-43 (Focused)		SAF No.: RC-107
Ice Chest No.: SMS 8-21-14 WCH-13-013	Field Logbook No.: EL-1627-08	COA: 010H432000	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: n/A		Bill of Lading/Air Bill No.: n/A

Price Code: 8B

Data Turnaround: 7 days

Other Labs Shipped To: TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS
N/A

Special Handling and/or Storage
Cool 4C

Preservation	Cool 4C										
Type of Container	G/P										
No. of Container(s)	1										
Volume	125mL										
Sample Analysis	Chromium Hex - 7196										

Sample No.	Matrix	Sample Date	Sample Time										
J1TXD4 M4PWE	SOIL	08/20/14	0914	X									
J1TXD5 M4PWF	SOIL	08/20/14	0924	X									
J1TXD6 M4PWG	SOIL	08/20/14	0932	X									
J1TXD7 M4PWH	SOIL	08/20/14	0905	X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Heather Weber	08/20/14 0941	R. Fahlberg	0941 8-20-14
R. Fahlberg	8-20-14 1430	SM Sexton	1430 8/20/14
SM Sexton	8/20/14 1435	1060 Battelle Fridge 3A	8/20/14 1435
1060 Battelle Fridge 3A	8/21/14 0800	SM Sexton	0800 8/21/14
SM Sexton	8/21/14 1150	J. Bull TALK	8-21-14 1150

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

SPECIAL INSTRUCTIONS

J4H210442

J4H210442
Due 8-28-14

REVIEWED BY K. Worthington email DATE 8/21/14

SDG:

JP0851

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 8-21-14 | 1150 Container GM Screen Result: (Airlock) 40 cpm Initials [ ]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [ ]

Client: WCH SDG #: JP0851 SAF #: RC-107 NA [ ]

Lot Number: J4H210442

Chain of Custody # RC-107110

Shipping Container ID or Air Bill Number : hand deliv. NA [ ]

Samples received inside shipping container/cooler/box Yes [ ] Continue with 1 through 4. Initial appropriate response.
No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [ ] No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [ ]
3. Cooler temperature: 1.9 °C Ice NA [ ]
4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [ ] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 4
7. Containers received: 4 x 125mLp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
9. Samples have: ____tape ____hazard labels ____custody seals ____appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) ____I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
____are in good condition ____are leaking ____are broken
____have air bubbles (Only for samples requiring no head space) ____Other ____
12. Sample pH appropriate for analysis requested Yes [ ] No [ ] NA [ ]
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [ ]
14. Description of anomalies (include sample numbers): NA [ ]
15. Sample Location, Sample Collector Listed on COC? * Yes [ ] No [ ]
*For documentation only. No corrective action needed.
16. Additional Information: NA

[ ] Client/Courier denied temperature check. [ ] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 8-21-14

Client Notification needed? Yes [ ] No [ ] Date:
By:
Person contacted:

[ ] No action necessary; process as is

Project Manager [signature] Date 8/22/14

LS-023 Rev. 17, 05/13

8/27/2014 8:18:21 AM

Sample Preparation/Analysis

Balance Id:,,

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 08/28/2014

Sep1 DT/Tm Tech:

Batch: 4237042 SOIL mg/kg
SEQ Batch, Test: None All Tests: 4237042 DWEA,

PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

Prep Tech:

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M4PWE-1-AA													
J4H210442-1-SAMP													
08/20/2014 09:14			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:
2 M4PWE-1-AC-S													
J4H210442-1-MS													
08/20/2014 09:14			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:
3 M4PWE-1-AD-X													
J4H210442-1-DUP													
08/20/2014 09:14			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:
4 M4PWE-1-AE-S													
J4H210442-1-MS													
08/20/2014 09:14			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:
5 M4PWF-1-AA													
J4H210442-2-SAMP													
08/20/2014 09:24			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:
6 M4PWG-1-AA													
J4H210442-3-SAMP													
08/20/2014 09:32			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:
7 M4PWH-1-AA													
J4H210442-4-SAMP													
08/20/2014 09:05			AmtRec: 1X125MLP		#Containers: 1				Scr:		Alpha:		Beta:

8/27/2014 8:18:22 AM

Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:,,

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 08/28/2014

Batch: 4237042 **mg/kg**
SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 M4QN8-1-AA-B													
J4H250000-42-BLK													
08/27/2014 08:18 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
9 M4QN8-1-AC-C													
J4H250000-42-LCS													
08/27/2014 08:18 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

8/27/2014 8:18:22 AM

Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:,,

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 08/28/2014

Batch: 4237042 **mg/kg**
SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

```
All Clients for Batch:
   127642, Washington Closure Hanford LLC          Bechtel Hanford, Inc.        ,  RW2, 27038

M4PWE1AA-SAMP Constituent List:
  HEXCHROME   RDL:.1548      mg/kg     LCL:80      UCL:120     RPD:20
M4PWE1AC-MS Constituent List:
  HEXCHROME   RDL:0.35       mg/kg     LCL:75      UCL:125     RPD:20
M4PWE1AE-MS:
  HEXCHROME   RDL:0.35       mg/kg     LCL:75      UCL:125     RPD:20
M4QN81AA-BLK:
  HEXCHROME   RDL:.1548      mg/kg     LCL:        UCL:        RPD:
M4QN81AC-LCS:
  HEXCHROME   RDL:0.35       mg/kg     LCL:80      UCL:120     RPD:20

M4PWE1AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M4PWE1AC-MS Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M4PWE1AE-MS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M4QN81AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M4QN81AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

ANALYTICAL REPORT

Job Number: 280-59228-1

SDG Number: JP0851

Job Description: SAF# RC-107

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

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Senior Project Manager
8/29/2014 2:39 PM

Kae E Yoder, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0190
kae.yoder@testamericainc.com
08/29/2014

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

The Lab Certification ID# is 4025.

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

Table of Contents

Cover Title Page 1

Report Narrative 3

Data Qualifiers 5

Sample Summary 7

Method Summary 8

Method / Analyst Summary 9

Sample Results 10

Sample Datasheets 11

QC Results 51

Surrogate Recovery Report 52

Qc Reports 58

Qc Association Summary 89

Client Chain of Custody 95

Sample Receipt Checklist 96

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-59228-1

SDG #: JP0851
SAF#: RC-107

Date SDG Closed: August 22, 2014
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1TXD4	280-59228-1	6010/7471/8081/WTPH-D+/WTPH-G/ 8270/8310/8082	6010B/7471A/8081A/NWTPH-Dx/NWTPH-Gx/ 8270C/8310/8082
J1TXD5	280-59228-2	6010/7471/8081/WTPH-D+/WTPH-G/ 8270/8310/8082	6010B/7471A/8081A/NWTPH-Dx/NWTPH-Gx/ 8270C/8310/8082
J1TXD6	280-59228-3	6010/7471/8081/WTPH-D+/WTPH-G/ 8270/8310/8082	6010B/7471A/8081A/NWTPH-Dx/NWTPH-Gx/ 8270C/8310/8082
J1TXD7	280-59228-4	6010/7471/8081/WTPH-D+/WTPH-G/ 8270/8310/8082	6010B/7471A/8081A/NWTPH-Dx/NWTPH-Gx/ 8270C/8310/8082

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 8/22/2014 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8º C.

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

GC VOLATILES - NWTPH-Gx - GRO
No anomalies were encountered.

GC SEMIVOLATILES - SW846 8081A - Pesticides
The RPD between the primary and confirmation columns exceeded 40% for Endrin in sample J1TXD7. The higher of the two values has been reported. The result has been flagged with a "Y".

The MS/MSD performed on sample J1TXD5 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "N". The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Continuing Calibration Verification (CCV) standards exhibited %Difference (%D) values >15%, biased high, on the confirmation column for Endrin, as detailed below. The samples associated with these CCVs were either non-detect or less than the reporting limit for the affected analyte; therefore, corrective action is deemed unnecessary and data are reported from the column that is in control. The sequence is as follows:

CCV: Primary: OK
Confirmation: Endrin (+17%)
SAMPLES: 59228-1, -2, -3, -4
CCV: Primary: OK
Confirmation: Endrin (+21%)

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
The method blank associated with batch 280-240861 exhibited surrogate recoveries outside the control limits, biased low. The associated sample surrogates are 100% in control and there are samples in the batch with no detectable concentrations, indicating that lab contamination is not an issue; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

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

HPLC - SW846 8310 - PAHs
The RPD between the primary and confirmation columns exceeded 40% for analytes in sample J1TXD7. The lower of the two values has been reported, as matrix interference is evident on both columns. Associated results have been flagged with an “X”.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-240374 indicates that physical and chemical interferences are present for Zinc. Results have been flagged with an “X”.

Iron, a common laboratory contaminant, is present at a level greater than the reporting limit in the method blank associated with batch 280-240374. As the associated sample amounts are twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

Low levels of Barium, Calcium and Magnesium are present in the method blank associated with batch 280-240374. Because the concentrations in the method blank are not present at levels greater than half the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1TXD4; therefore, control limits are not applicable.

The Matrix Spike performed on sample J1TXD4 exhibited percent recoveries outside the control limits for Boron and Silicon, and the associated sample results have been flagged “N”. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

PERCENT MOISTURE
The duplicate analysis of sample J1TXD6 exceeded the RPD limit, and the associated sample result has been flagged “M”.

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

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.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC VOA		
	U	Analyzed for but not detected.
GC Semi VOA		
	U	Analyzed for but not detected.
	Y	More than 40% difference between columns, higher result reported.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	Surrogate exceeds the control limit
HPLC/IC		
	U	Analyzed for but not detected.
	X	More than 40% difference between columns, lower result reported.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Lab Section	Qualifier	Description
General Chemistry		
	M	Sample duplicate precision not met.

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-59228-1	J1TXD4	Solid	08/20/2014 0914	08/22/2014 1000
280-59228-2	J1TXD5	Solid	08/20/2014 0924	08/22/2014 1000
280-59228-3	J1TXD6	Solid	08/20/2014 0932	08/22/2014 1000
280-59228-4	J1TXD7	Solid	08/20/2014 0905	08/22/2014 1000

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds (GC/MS)	TAL DEN	SW846 8270C	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Northwest - Volatile Petroleum Products (GC)	TAL DEN	NWTPH NWTPH-Gx	
Purge and Trap	TAL DEN		SW846 5030B
Organochlorine Pesticides (GC)	TAL DEN	SW846 8081A	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Northwest - Semi-Volatile Petroleum Products (GC)	TAL DEN	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL DEN		SW846 3550C
PAHs (HPLC)	TAL DEN	SW846 8310	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

NWTPH = Northwest Total Petroleum Hydrocarbon

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

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method	Analyst	Analyst ID
SW846 8270C	Hoffman, Michael G	MGH
NWTPH NWTPH-Gx	Cokley, Cheyana D	CDC
SW846 8081A	Wells, David A	DAW
SW846 8082	Jackson, Todd D	TDJ
NWTPH NWTPH-Dx	Birdsell, Matthew R	MRB
SW846 6010B	Trudell, Lynn-Anne M	LMT
SW846 7471A	Grisdale, Christopher G	CGG
ASTM D-2216	Schwemin, Andrew J	AJS
SW846 8310	Fiedler, Heather K	HKF

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6530.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	08/28/2014 1603			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		40	U	40	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		46	U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		82	U	82	330
4-Chloro-3-methylphenol		66	U	66	330
2-Chloronaphthalene		10	U	10	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		14	U	14	330
3,3'-Dichlorobenzidine		91	U	91	660
2,4-Dichlorophenol		10	U	10	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		66	U	66	330
Dimethyl phthalate		23	U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	660
2,4-Dinitrophenol		330	U	330	830
2,4-Dinitrotoluene		66	U	66	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		10	U	10	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6530.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	08/28/2014 1603			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		50	U	50	330
3-Nitroaniline		73	U	73	330
4-Nitroaniline		73	U	73	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		98	U	98	660
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	660
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	90		50 - 120
2-Fluorophenol	82		53 - 120
Nitrobenzene-d5	85		50 - 120
Phenol-d5	84		52 - 120
Terphenyl-d14	105		55 - 120
2,4,6-Tribromophenol	90		51 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6530.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	08/28/2014 1603			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
994-05-8	Butane, 2-methoxy-2-methyl-	1.50	320	J N
141-79-7	3-Penten-2-one, 4-methyl-	2.61	300	J N
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	3.01	11000	J N
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.57	360	J N
	Unknown	13.71	140	J N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6533.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	08/28/2014 1725			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	320
Acenaphthylene		17	U	17	320
Anthracene		17	U	17	320
Benzo[a]anthracene		20	U	20	320
Benzo[a]pyrene		20	U	20	320
Benzo[b]fluoranthene		26	U	26	320
Benzo[ghi]perylene		16	U	16	320
Benzo[k]fluoranthene		39	U	39	320
Bis(2-chloroethoxy)methane		23	U	23	320
Bis(2-chloroethyl)ether		16	U	16	320
bis (2-chloroisopropyl) ether		23	U	23	320
Bis(2-ethylhexyl) phthalate		45	U	45	320
4-Bromophenyl phenyl ether		19	U	19	320
Butyl benzyl phthalate		42	U	42	320
Carbazole		35	U	35	320
4-Chloroaniline		80	U	80	320
4-Chloro-3-methylphenol		65	U	65	320
2-Chloronaphthalene		9.8	U	9.8	320
2-Chlorophenol		21	U	21	320
4-Chlorophenyl phenyl ether		21	U	21	320
Chrysene		26	U	26	320
Dibenz(a,h)anthracene		19	U	19	320
Dibenzofuran		20	U	20	320
1,2-Dichlorobenzene		22	U	22	320
1,3-Dichlorobenzene		12	U	12	320
1,4-Dichlorobenzene		13	U	13	320
3,3'-Dichlorobenzidine		88	U	88	650
2,4-Dichlorophenol		9.8	U	9.8	320
Diethyl phthalate		25	U	25	320
2,4-Dimethylphenol		65	U	65	320
Dimethyl phthalate		23	U	23	320
Di-n-butyl phthalate		28	U	28	320
4,6-Dinitro-2-methylphenol		320	U	320	650
2,4-Dinitrophenol		330	U	330	810
2,4-Dinitrotoluene		65	U	65	320
2,6-Dinitrotoluene		27	U	27	320
Di-n-octyl phthalate		14	U	14	320
Fluoranthene		35	U	35	320
Fluorene		18	U	18	320
Hexachlorobenzene		28	U	28	320
Hexachlorobutadiene		9.8	U	9.8	320
Hexachlorocyclopentadiene		49	U	49	320
Hexachloroethane		21	U	21	320
Indeno[1,2,3-cd]pyrene		22	U	22	320
Isophorone		17	U	17	320
2-Methylnaphthalene		19	U	19	320

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6533.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	08/28/2014 1725			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	320
3 & 4 Methylphenol		32	U	32	320
Naphthalene		30	U	30	320
2-Nitroaniline		49	U	49	320
3-Nitroaniline		71	U	71	320
4-Nitroaniline		71	U	71	320
Nitrobenzene		22	U	22	320
2-Nitrophenol		9.8	U	9.8	320
4-Nitrophenol		95	U	95	650
N-Nitrosodi-n-propylamine		30	U	30	320
N-Nitrosodiphenylamine		21	U	21	320
Pentachlorophenol		320	U	320	650
Phenanthrene		17	U	17	320
Phenol		18	U	18	320
Pyrene		26	J	12	320
1,2,4-Trichlorobenzene		27	U	27	320
2,4,5-Trichlorophenol		9.8	U	9.8	320
2,4,6-Trichlorophenol		9.8	U	9.8	320

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	91		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	78		50 - 120
Phenol-d5	82		52 - 120
Terphenyl-d14	106		55 - 120
2,4,6-Tribromophenol	93		51 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6533.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	08/28/2014 1725			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** **4**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
994-05-8	Butane, 2-methoxy-2-methyl-	1.50	300	N J
141-79-7	3-Penten-2-one, 4-methyl-	2.61	270	N J
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	3.01	9900	N J
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.58	320	N J

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6534.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	08/28/2014 1752			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	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
2-Methylnaphthalene		18	U	18	310

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6534.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	08/28/2014 1752			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
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		93	U	93	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	Qualifier	Acceptance Limits
2-Fluorobiphenyl	87		50 - 120
2-Fluorophenol	81		53 - 120
Nitrobenzene-d5	84		50 - 120
Phenol-d5	83		52 - 120
Terphenyl-d14	105		55 - 120
2,4,6-Tribromophenol	84		51 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6534.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	08/28/2014 1752			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
994-05-8	Butane, 2-methoxy-2-methyl-	1.51	220	J N
141-79-7	3-Penten-2-one, 4-methyl-	2.61	260	J N
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	3.01	10000	J N
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.57	320	J N
	Unknown	13.71	540	J N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6535.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	08/28/2014 1819			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	320
Acenaphthylene		17	U	17	320
Anthracene		17	U	17	320
Benzo[a]anthracene		75	J	20	320
Benzo[a]pyrene		80	J	20	320
Benzo[b]fluoranthene		110	J	26	320
Benzo[ghi]perylene		57	J	16	320
Benzo[k]fluoranthene		39	U	39	320
Bis(2-chloroethoxy)methane		23	U	23	320
Bis(2-chloroethyl)ether		16	U	16	320
bis (2-chloroisopropyl) ether		23	U	23	320
Bis(2-ethylhexyl) phthalate		45	U	45	320
4-Bromophenyl phenyl ether		19	U	19	320
Butyl benzyl phthalate		42	U	42	320
Carbazole		35	U	35	320
4-Chloroaniline		81	U	81	320
4-Chloro-3-methylphenol		65	U	65	320
2-Chloronaphthalene		9.8	U	9.8	320
2-Chlorophenol		21	U	21	320
4-Chlorophenyl phenyl ether		21	U	21	320
Chrysene		85	J	27	320
Dibenz(a,h)anthracene		19	U	19	320
Dibenzofuran		20	U	20	320
1,2-Dichlorobenzene		22	U	22	320
1,3-Dichlorobenzene		12	U	12	320
1,4-Dichlorobenzene		13	U	13	320
3,3'-Dichlorobenzidine		89	U	89	650
2,4-Dichlorophenol		9.8	U	9.8	320
Diethyl phthalate		26	U	26	320
2,4-Dimethylphenol		65	U	65	320
Dimethyl phthalate		23	U	23	320
Di-n-butyl phthalate		29	U	29	320
4,6-Dinitro-2-methylphenol		320	U	320	650
2,4-Dinitrophenol		330	U	330	810
2,4-Dinitrotoluene		65	U	65	320
2,6-Dinitrotoluene		28	U	28	320
Di-n-octyl phthalate		14	U	14	320
Fluoranthene		130	J	35	320
Fluorene		18	U	18	320
Hexachlorobenzene		29	U	29	320
Hexachlorobutadiene		9.8	U	9.8	320
Hexachlorocyclopentadiene		49	U	49	320
Hexachloroethane		21	U	21	320
Indeno[1,2,3-cd]pyrene		110	J	22	320
Isophorone		17	U	17	320
2-Methylnaphthalene		19	U	19	320

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6535.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	08/28/2014 1819			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	320
3 & 4 Methylphenol		32	U	32	320
Naphthalene		31	U	31	320
2-Nitroaniline		49	U	49	320
3-Nitroaniline		72	U	72	320
4-Nitroaniline		71	U	71	320
Nitrobenzene		22	U	22	320
2-Nitrophenol		9.8	U	9.8	320
4-Nitrophenol		96	U	96	650
N-Nitrosodi-n-propylamine		31	U	31	320
N-Nitrosodiphenylamine		21	U	21	320
Pentachlorophenol		320	U	320	650
Phenanthrene		71	J	17	320
Phenol		18	U	18	320
Pyrene		120	J	12	320
1,2,4-Trichlorobenzene		28	U	28	320
2,4,5-Trichlorophenol		9.8	U	9.8	320
2,4,6-Trichlorophenol		9.8	U	9.8	320

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	89		50 - 120
2-Fluorophenol	79		53 - 120
Nitrobenzene-d5	85		50 - 120
Phenol-d5	81		52 - 120
Terphenyl-d14	102		55 - 120
2,4,6-Tribromophenol	92		51 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Prep Method:	3550C	Prep Batch:	280-240754	Lab File ID:	D6535.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	08/28/2014 1819			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** **4**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
994-05-8	Butane, 2-methoxy-2-methyl-	1.50	260	J N
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	3.01	7800	J N
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.57	260	J N
	Unknown	13.71	370	J N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-240676	Initial Weight/Volume:	9.55 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/26/2014 2144			Injection Volume:	5 mL
Prep Date:	08/26/2014 1200			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Gasoline		340	U	340	1300

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	92		77 - 123

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-240676	Initial Weight/Volume:	9.84 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/26/2014 2209			Injection Volume:	5 mL
Prep Date:	08/26/2014 1200			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Gasoline		340	U	340	1200

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	97		77 - 123

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-240676	Initial Weight/Volume:	9.79 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/26/2014 2234			Injection Volume:	5 mL
Prep Date:	08/26/2014 1200			Result Type:	PRIMARY

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

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	94		77 - 123

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Gx	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Prep Method:	5030B	Prep Batch:	280-240676	Initial Weight/Volume:	9.64 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/26/2014 2258			Injection Volume:	5 mL
Prep Date:	08/26/2014 1200			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Gasoline		340	U	340	1300

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	94		77 - 123

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Prep Method:	3550C	Prep Batch:	280-240288	Initial Weight/Volume:	31.7 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/27/2014 0557			Injection Volume:	1 uL
Prep Date:	08/23/2014 1510			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.52	U	0.52	1.6
4,4'-DDE		0.23	U	0.23	1.6
4,4'-DDT		0.56	U	0.56	1.6
Aldrin		0.24	U	0.24	1.6
alpha-BHC		0.20	U	0.20	1.6
beta-BHC		0.63	U	0.63	1.6
delta-BHC		0.38	U	0.38	1.6
gamma-BHC (Lindane)		0.44	U	0.44	1.6
Heptachlor		0.20	U	0.20	1.6
Heptachlor epoxide		0.41	U	0.41	1.6
Endosulfan I		0.17	U	0.17	1.6
Endosulfan II		0.27	U	0.27	1.6
Endosulfan sulfate		0.26	U	0.26	1.6
Endrin		0.29	U	0.29	1.6
Endrin aldehyde		0.16	U	0.16	1.6
Endrin ketone		0.47	U	0.47	1.6
gamma-Chlordane		0.25	U	0.25	1.6
Methoxychlor		0.43	U	0.43	3.2
alpha-Chlordane		0.31	U	0.31	1.6
Dieldrin		0.20	U	0.20	1.6
Toxaphene		15	U	15	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	95		59 - 115
Decachlorobiphenyl	88		63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Prep Method:	3550C	Prep Batch:	280-240288	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/27/2014 0614			Injection Volume:	1 uL
Prep Date:	08/23/2014 1510			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.54	U N	0.54	1.7
4,4'-DDE		0.23	U N	0.23	1.7
4,4'-DDT		2.5	N	0.58	1.7
Aldrin		0.25	U N	0.25	1.6
alpha-BHC		0.21	U N	0.21	1.6
beta-BHC		0.65	U N	0.65	1.6
delta-BHC		0.40	U N	0.40	1.6
gamma-BHC (Lindane)		0.46	U N	0.46	1.6
Heptachlor		0.21	U	0.21	1.6
Heptachlor epoxide		0.42	U N	0.42	1.6
Endosulfan I		0.17	U N	0.17	1.6
Endosulfan II		0.28	U N	0.28	1.7
Endosulfan sulfate		0.27	U N	0.27	1.7
Endrin		0.30	U N	0.30	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.48	U N	0.48	1.7
gamma-Chlordane		0.26	U N	0.26	1.7
Methoxychlor		0.44	U N	0.44	3.3
alpha-Chlordane		0.32	U N	0.32	1.7
Dieldrin		0.21	U N	0.21	1.7
Toxaphene		16	U	16	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	79		59 - 115
Decachlorobiphenyl	86		63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Prep Method:	3550C	Prep Batch:	280-240288	Initial Weight/Volume:	30.3 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/27/2014 0705			Injection Volume:	1 uL
Prep Date:	08/23/2014 1510			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.55	U	0.55	1.7
4,4'-DDE		0.24	U	0.24	1.7
4,4'-DDT		0.59	U	0.59	1.7
Aldrin		0.25	U	0.25	1.6
alpha-BHC		0.21	U	0.21	1.6
beta-BHC		0.66	U	0.66	1.6
delta-BHC		0.40	U	0.40	1.6
gamma-BHC (Lindane)		0.46	U	0.46	1.6
Heptachlor		0.21	U	0.21	1.6
Heptachlor epoxide		0.43	U	0.43	1.6
Endosulfan I		0.18	U	0.18	1.6
Endosulfan II		0.29	U	0.29	1.7
Endosulfan sulfate		0.28	U	0.28	1.7
Endrin		0.31	U	0.31	1.7
Endrin aldehyde		0.17	U	0.17	1.7
Endrin ketone		0.49	U	0.49	1.7
gamma-Chlordane		0.27	U	0.27	1.7
Methoxychlor		0.45	U	0.45	3.3
alpha-Chlordane		0.32	U	0.32	1.7
Dieldrin		0.21	U	0.21	1.7
Toxaphene		16	U	16	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	91		59 - 115
Decachlorobiphenyl	96		63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Prep Method:	3550C	Prep Batch:	280-240288	Initial Weight/Volume:	31.7 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	08/27/2014 0721			Injection Volume:	1 uL
Prep Date:	08/23/2014 1510			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.52	U	0.52	1.6
4,4'-DDE		0.23	U	0.23	1.6
4,4'-DDT		0.57	U	0.57	1.6
Aldrin		0.24	U	0.24	1.6
alpha-BHC		0.21	U	0.21	1.6
beta-BHC		0.64	U	0.64	1.6
delta-BHC		0.38	U	0.38	1.6
gamma-BHC (Lindane)		0.45	U	0.45	1.6
Heptachlor		0.21	U	0.21	1.6
Heptachlor epoxide		0.41	U	0.41	1.6
Endosulfan I		0.17	U	0.17	1.6
Endosulfan II		0.28	U	0.28	1.6
Endosulfan sulfate		0.26	U	0.26	1.6
Endrin		0.53	J Y	0.29	1.6
Endrin aldehyde		0.16	U	0.16	1.6
Endrin ketone		0.47	U	0.47	1.6
gamma-Chlordane		0.26	U	0.26	1.6
Methoxychlor		0.43	U	0.43	3.2
alpha-Chlordane		0.31	U	0.31	1.6
Dieldrin		23		0.20	1.6
Toxaphene		15	U	15	160

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	87		59 - 115
Decachlorobiphenyl	80		63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-240861	Initial Weight/Volume:	30.9 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	08/28/2014 1057			Injection Volume:	1 uL
Prep Date:	08/27/2014 1155			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.8
Aroclor 1221		7.9	U	7.9	16
Aroclor 1232		2.0	U	2.0	9.8
Aroclor 1242		4.6	U	4.6	9.8
Aroclor 1248		4.6	U	4.6	9.8
Aroclor 1254		2.5	U	2.5	9.8
Aroclor 1260		2.5	U	2.5	9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	88		59 - 130
Tetrachloro-m-xylene	88		53 - 128

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-240861	Initial Weight/Volume:	31.3 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	08/28/2014 1121			Injection Volume:	1 uL
Prep Date:	08/27/2014 1155			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.7
Aroclor 1221		7.8	U	7.8	16
Aroclor 1232		1.9	U	1.9	9.7
Aroclor 1242		4.5	U	4.5	9.7
Aroclor 1248		4.5	U	4.5	9.7
Aroclor 1254		2.5	U	2.5	9.7
Aroclor 1260		2.5	U	2.5	9.7

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	75		59 - 130
Tetrachloro-m-xylene	90		53 - 128

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-240861	Initial Weight/Volume:	32.8 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	08/28/2014 1232			Injection Volume:	1 uL
Prep Date:	08/27/2014 1155			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.6	U	2.6	9.2
Aroclor 1221		7.4	U	7.4	15
Aroclor 1232		1.8	U	1.8	9.2
Aroclor 1242		4.3	U	4.3	9.2
Aroclor 1248		4.3	U	4.3	9.2
Aroclor 1254		2.4	U	2.4	9.2
Aroclor 1260		2.4	U	2.4	9.2

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	82		59 - 130
Tetrachloro-m-xylene	85		53 - 128

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Prep Method:	3550C	Prep Batch:	280-240861	Initial Weight/Volume:	31.1 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Analysis Date:	08/28/2014 1255			Injection Volume:	1 uL
Prep Date:	08/27/2014 1155			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.7	U	2.7	9.8
Aroclor 1221		7.8	U	7.8	16
Aroclor 1232		2.0	U	2.0	9.8
Aroclor 1242		4.6	U	4.6	9.8
Aroclor 1248		4.6	U	4.6	9.8
Aroclor 1254		2.5	U	2.5	9.8
Aroclor 1260		2.5	U	2.5	9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	80		59 - 130
Tetrachloro-m-xylene	87		53 - 128

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-240290	Lab File ID:	08260007.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	08/26/2014 2017			Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		7500		970	3900
C10-C28		3300	J	660	3900

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-240290	Lab File ID:	08260008.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Analysis Date:	08/26/2014 2045			Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		70000		1000	4000
C10-C28		30000		680	4000

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-240290	Lab File ID:	08260011.D
Dilution:	1.0			Initial Weight/Volume:	31.6 g
Analysis Date:	08/26/2014 2210			Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		2800	J	950	3800
C10-C28		1600	J	650	3800

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	71		49 - 115

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

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

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Prep Method:	3550C	Prep Batch:	280-240290	Lab File ID:	08260012.D
Dilution:	1.0			Initial Weight/Volume:	30.9 g
Analysis Date:	08/26/2014 2238			Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		25000		980	3900
C10-C28		11000		670	3900

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-240756	Initial Weight/Volume:	31.0 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	08/28/2014 1156			Injection Volume:	20 uL
Prep Date:	08/26/2014 2115			Result Type:	PRIMARY

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

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-240756	Initial Weight/Volume:	30.1 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	08/28/2014 1226			Injection Volume:	20 uL
Prep Date:	08/26/2014 2115			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	100
Acenaphthylene		9.1	U	9.1	100
Anthracene		3.1	U	3.1	20
Benzo[a]anthracene		3.2	U	3.2	15
Benzo[a]pyrene		6.5	U	6.5	15
Benzo[b]fluoranthene		4.2	U	4.2	15
Benzo[g,h,i]perylene		7.3	U	7.3	30
Benzo[k]fluoranthene		4.0	U	4.0	15
Chrysene		4.9	U	4.9	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
Fluorene		5.3	U	5.3	30
Indeno[1,2,3-cd]pyrene		12	U	12	30
Naphthalene		12	U	12	100
Phenanthrene		12	U	12	40
Pyrene		12	U	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	83		72 - 115

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-240756	Initial Weight/Volume:	32.0 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	08/28/2014 1257			Injection Volume:	20 uL
Prep Date:	08/26/2014 2115			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.5	U	9.5	95
Acenaphthylene		8.5	U	8.5	95
Anthracene		2.9	U	2.9	19
Benzo[a]anthracene		4.2	J	3.0	14
Benzo[a]pyrene		6.1	U	6.1	14
Benzo[b]fluoranthene		4.0	U	4.0	14
Benzo[g,h,i]perylene		6.8	U	6.8	28
Benzo[k]fluoranthene		3.7	U	3.7	14
Chrysene		6.0	J	4.6	38
Dibenzo(a,h)anthracene		10	U	10	28
Fluoranthene		12	U	12	38
Fluorene		5.0	U	5.0	28
Indeno[1,2,3-cd]pyrene		11	U	11	28
Naphthalene		11	U	11	95
Phenanthrene		11	U	11	38
Pyrene		11	U	11	38

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	86		72 - 115

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-240756	Initial Weight/Volume:	32.1 g
Dilution:	1.0			Final Weight/Volume:	4 mL
Analysis Date:	08/28/2014 1428			Injection Volume:	20 uL
Prep Date:	08/26/2014 2115			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		56	J X	9.5	95
Acenaphthylene		8.5	U	8.5	95
Anthracene		63		2.9	19
Benzo[a]anthracene		140	X	3.0	14
Benzo[a]pyrene		340		6.1	14
Benzo[b]fluoranthene		260		4.0	14
Benzo[g,h,i]perylene		290	X	6.8	28
Benzo[k]fluoranthene		89	X	3.7	14
Chrysene		210		4.6	38
Dibenzo(a,h)anthracene		10	U	10	28
Fluoranthene		430		12	38
Fluorene		36	X	5.0	28
Indeno[1,2,3-cd]pyrene		290		11	28
Naphthalene		16	J X	11	95
Phenanthrene		250		11	38
Pyrene		440		11	38

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid
% Moisture: 0.9

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-240654	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	08/26/2014 0907			Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5630		1.5	4.7
Antimony		0.36	U	0.36	0.57
Arsenic		5.7		0.62	0.94
Barium		34.1		0.072	0.47
Beryllium		0.17	B	0.031	0.19
Boron		1.0	B N	0.92	1.9
Cadmium		0.039	U	0.039	0.19
Calcium		4010		13.3	47.2
Chromium		9.8		0.055	0.19
Cobalt		5.2		0.094	0.94
Copper		12.0		0.20	0.94
Iron		13600		3.6	4.7
Lead		11.8		0.25	0.47
Magnesium		3840		3.5	18.9
Manganese		228		0.094	0.94
Molybdenum		0.25	U	0.25	1.9
Nickel		9.0		0.12	3.8
Potassium		669		38.7	283
Selenium		0.81	U	0.81	0.94
Silicon		147	N	5.3	9.4
Silver		0.15	U	0.15	0.19
Sodium		236		55.6	113
Vanadium		38.3		0.089	1.9
Zinc		29.2	X	0.38	0.94

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-240865	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0			Initial Weight/Volume:	0.64 g
Analysis Date:	08/26/2014 1944			Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid
% Moisture: 1.5

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-240654	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0			Initial Weight/Volume:	1.18 g
Analysis Date:	08/26/2014 0917			Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5180		1.3	4.3
Antimony		0.33	U	0.33	0.52
Arsenic		3.0		0.57	0.86
Barium		31.2		0.065	0.43
Beryllium		0.16	B	0.028	0.17
Boron		2.0		0.84	1.7
Cadmium		0.035	U	0.035	0.17
Calcium		5140		12.1	43.0
Chromium		10.1		0.050	0.17
Cobalt		5.1		0.086	0.86
Copper		11.5		0.19	0.86
Iron		12000		3.3	4.3
Lead		3.9		0.23	0.43
Magnesium		3820		3.2	17.2
Manganese		256		0.086	0.86
Molybdenum		0.22	U	0.22	1.7
Nickel		9.7		0.11	3.4
Potassium		616		35.3	258
Selenium		0.74	U	0.74	0.86
Silicon		140		4.9	8.6
Silver		0.14	U	0.14	0.17
Sodium		156		50.7	103
Vanadium		32.5		0.081	1.7
Zinc		27.0	X	0.34	0.86

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-240865	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0			Initial Weight/Volume:	0.67 g
Analysis Date:	08/26/2014 1951			Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0050	U	0.0050	0.015

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid
% Moisture: 0.8

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-240654	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Analysis Date:	08/26/2014 0920			Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5740		1.4	4.5
Antimony		0.35	U	0.35	0.55
Arsenic		13.0		0.60	0.91
Barium		47.9		0.069	0.45
Beryllium		0.18		0.030	0.18
Boron		1.1	B	0.89	1.8
Cadmium		0.048	B	0.037	0.18
Calcium		5840		12.8	45.4
Chromium		8.8		0.053	0.18
Cobalt		5.5		0.091	0.91
Copper		12.2		0.20	0.91
Iron		13400		3.5	4.5
Lead		37.7		0.25	0.45
Magnesium		3720		3.4	18.2
Manganese		226		0.091	0.91
Molybdenum		0.24	U	0.24	1.8
Nickel		9.7		0.11	3.6
Potassium		809		37.2	273
Selenium		0.78	U	0.78	0.91
Silicon		166		5.1	9.1
Silver		0.15	U	0.15	0.18
Sodium		236		53.6	109
Vanadium		38.4		0.085	1.8
Zinc		33.6	X	0.36	0.91

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-240865	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0			Initial Weight/Volume:	0.63 g
Analysis Date:	08/26/2014 1954			Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0053	U	0.0053	0.016

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid
% Moisture: 1.4

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-240654	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0			Initial Weight/Volume:	1.18 g
Analysis Date:	08/26/2014 0922			Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5920		1.3	4.3
Antimony		0.33	U	0.33	0.52
Arsenic		8.5		0.57	0.86
Barium		46.8		0.065	0.43
Beryllium		0.19		0.028	0.17
Boron		0.84	U	0.84	1.7
Cadmium		0.035	U	0.035	0.17
Calcium		5330		12.1	43.0
Chromium		11.7		0.050	0.17
Cobalt		5.2		0.086	0.86
Copper		11.9		0.19	0.86
Iron		12600		3.3	4.3
Lead		29.7		0.23	0.43
Magnesium		4090		3.2	17.2
Manganese		217		0.086	0.86
Molybdenum		0.22	U	0.22	1.7
Nickel		11.0		0.11	3.4
Potassium		905		35.2	258
Selenium		0.74	U	0.74	0.86
Silicon		163		4.9	8.6
Silver		0.14	U	0.14	0.17
Sodium		202		50.7	103
Vanadium		32.4		0.081	1.7
Zinc		32.9	X	0.34	0.86

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-240865	Instrument ID:	MT_034
Prep Method:	7471A	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0			Initial Weight/Volume:	0.68 g
Analysis Date:	08/26/2014 1956			Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.017		0.0049	0.015

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

General Chemistry

Client Sample ID: **J1TXD4**

Lab Sample ID: 280-59228-1
Client Matrix: Solid

Date Sampled: 08/20/2014 0914
Date Received: 08/22/2014 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.90		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-240546 Analysis Date: 08/25/2014 1850 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

General Chemistry

Client Sample ID: **J1TXD5**

Lab Sample ID: 280-59228-2
Client Matrix: Solid

Date Sampled: 08/20/2014 0924
Date Received: 08/22/2014 1000

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

Analysis Batch: 280-240546 Analysis Date: 08/25/2014 1850 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

General Chemistry

Client Sample ID: **J1TXD6**

Lab Sample ID: 280-59228-3
Client Matrix: Solid

Date Sampled: 08/20/2014 0932
Date Received: 08/22/2014 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.83	M	%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-240546 Analysis Date: 08/25/2014 1850 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

General Chemistry

Client Sample ID: **J1TXD7**

Lab Sample ID: 280-59228-4
Client Matrix: Solid

Date Sampled: 08/20/2014 0905
Date Received: 08/22/2014 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.4		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-240546 Analysis Date: 08/25/2014 1850 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

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
280-59228-1	J1TXD4	90	82	85	84	105	90
280-59228-2	J1TXD5	91	78	78	82	106	93
280-59228-3	J1TXD6	87	81	84	83	105	84
280-59228-4	J1TXD7	89	79	85	81	102	92
MB 280-240754/1-A		89	81	84	84	103	87
LCS 280-240754/2-A		87	83	86	83	102	93
280-59228-1 MS	J1TXD4 MS	87	76	81	78	101	92
280-59228-1 MSD	J1TXD4 MSD	91	80	85	83	105	95

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: 280-59228-1
Sdg Number: JP0851

Surrogate Recovery Report

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TFT1 %Rec
280-59228-1	J1TXD4	92
280-59228-2	J1TXD5	97
280-59228-3	J1TXD6	94
280-59228-4	J1TXD7	94
MB 280-240676/1-A		94
LCS 280-240676/2-A		93
LCSD 280-240676/3-A		93
280-59228-4 MS	J1TXD7 MS	92
280-59228-4 MSD	J1TXD7 MSD	90

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Surrogate Recovery Report

8081A Organochlorine Pesticides (GC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TCX1 %Rec	DCB1 %Rec	DCB2 %Rec
280-59228-1	J1TXD4	95	88	
280-59228-2	J1TXD5	79	86	
280-59228-3	J1TXD6	91	96	
280-59228-4	J1TXD7	87	80	
MB 280-240288/1-A		64	75	
LCS 280-240288/2-A		76	96	
280-59228-2 MS	J1TXD5 MS	69	92	
280-59228-2 MSD	J1TXD5 MSD	60		66

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample ID	DCB1 %Rec	TCX1 %Rec
280-59228-1	J1TXD4	88	88
280-59228-2	J1TXD5	75	90
280-59228-3	J1TXD6	82	85
280-59228-4	J1TXD7	80	87
MB 280-240861/1-A		53*	46*
LCS 280-240861/2-A		95	90
280-59228-2 MS	J1TXD5 MS	71	89
280-59228-2 MSD	J1TXD5 MSD	73	91

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Surrogate Recovery Report

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

Client Matrix: Solid

Lab Sample ID	Client Sample ID	OTPH %Rec
280-59228-1	J1TXD4	77
280-59228-2	J1TXD5	80
280-59228-3	J1TXD6	71
280-59228-4	J1TXD7	75
MB 280-240290/1-A		75
LCS 280-240290/2-A		84
280-59228-2 MS	J1TXD5 MS	82
280-59228-2 MSD	J1TXD5 MSD	85

Surrogate	Acceptance Limits
OTPH = o-Terphenyl	49-115

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Surrogate Recovery Report

8310 PAHs (HPLC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TPH1 %Rec
280-59228-1	J1TXD4	88
280-59228-2	J1TXD5	83
280-59228-3	J1TXD6	86
280-59228-4	J1TXD7	93
MB 280-240756/1-A		89
LCS 280-240756/2-A		91
280-59228-3 MS	J1TXD6 MS	89
280-59228-3 MSD	J1TXD6 MSD	91

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240754

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-240754/1-A	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6526.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	08/28/2014 1414	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	10	U	10	320
Acenaphthylene	16	U	16	320
Anthracene	16	U	16	320
Benzo[a]anthracene	19	U	19	320
Benzo[a]pyrene	19	U	19	320
Benzo[b]fluoranthene	25	U	25	320
Benzo[ghi]perylene	15	U	15	320
Benzo[k]fluoranthene	39	U	39	320
Bis(2-chloroethoxy)methane	22	U	22	320
Bis(2-chloroethyl)ether	16	U	16	320
bis (2-chloroisopropyl) ether	22	U	22	320
Bis(2-ethylhexyl) phthalate	45	U	45	320
4-Bromophenyl phenyl ether	18	U	18	320
Butyl benzyl phthalate	42	U	42	320
Carbazole	35	U	35	320
4-Chloroaniline	79	U	79	320
4-Chloro-3-methylphenol	64	U	64	320
2-Chloronaphthalene	9.7	U	9.7	320
2-Chlorophenol	20	U	20	320
4-Chlorophenyl phenyl ether	20	U	20	320
Chrysene	26	U	26	320
Dibenz(a,h)anthracene	18	U	18	320
Dibenzofuran	19	U	19	320
1,2-Dichlorobenzene	21	U	21	320
1,3-Dichlorobenzene	12	U	12	320
1,4-Dichlorobenzene	13	U	13	320
3,3'-Dichlorobenzidine	87	U	87	640
2,4-Dichlorophenol	9.7	U	9.7	320
Diethyl phthalate	25	U	25	320
2,4-Dimethylphenol	64	U	64	320
Dimethyl phthalate	22	U	22	320
Di-n-butyl phthalate	28	U	28	320
4,6-Dinitro-2-methylphenol	320	U	320	640
2,4-Dinitrophenol	320	U	320	800
2,4-Dinitrotoluene	64	U	64	320
2,6-Dinitrotoluene	27	U	27	320
Di-n-octyl phthalate	14	U	14	320
Fluoranthene	35	U	35	320
Fluorene	17	U	17	320
Hexachlorobenzene	28	U	28	320
Hexachlorobutadiene	9.7	U	9.7	320
Hexachlorocyclopentadiene	48	U	48	320
Hexachloroethane	21	U	21	320
Indeno[1,2,3-cd]pyrene	21	U	21	320
Isophorone	16	U	16	320

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240754

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-240754/1-A	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6526.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	08/28/2014 1414	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	18	U	18	320
2-Methylphenol	13	U	13	320
3 & 4 Methylphenol	32	U	32	320
Naphthalene	30	U	30	320
2-Nitroaniline	48	U	48	320
3-Nitroaniline	71	U	71	320
4-Nitroaniline	70	U	70	320
Nitrobenzene	21	U	21	320
2-Nitrophenol	9.7	U	9.7	320
4-Nitrophenol	94	U	94	640
N-Nitrosodi-n-propylamine	30	U	30	320
N-Nitrosodiphenylamine	20	U	20	320
Pentachlorophenol	320	U	320	640
Phenanthrene	16	U	16	320
Phenol	17	U	17	320
Pyrene	12	U	12	320
1,2,4-Trichlorobenzene	27	U	27	320
2,4,5-Trichlorophenol	9.7	U	9.7	320
2,4,6-Trichlorophenol	9.7	U	9.7	320

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	89	50 - 120
2-Fluorophenol	81	53 - 120
Nitrobenzene-d5	84	50 - 120
Phenol-d5	84	52 - 120
Terphenyl-d14	103	55 - 120
2,4,6-Tribromophenol	87	51 - 120

Method Blank TICs- Batch: 280-240754

Cas Number	Analyte	RT	Est. Result (ug/K	Qual
994-05-8	Butane, 2-methoxy-2-methyl-	1.50	474	N J
141-79-7	3-Penten-2-one, 4-methyl-	2.61	191	N J
123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	3.00	7410	N J
107-70-0	2-Pentanone, 4-methoxy-4-methyl-	3.57	227	N J

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Lab Control Sample - Batch: 280-240754

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-240754/2-A	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6527.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	08/28/2014 1441	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2560	2470	97	60 - 120	
Acenaphthylene	2560	2320	91	64 - 120	
Anthracene	2560	2500	98	63 - 120	
Benzo[a]anthracene	2560	2550	100	65 - 120	
Benzo[a]pyrene	2560	2630	103	59 - 120	
Benzo[b]fluoranthene	2560	2630	103	47 - 129	
Benzo[ghi]perylene	2560	2600	102	55 - 126	
Benzo[k]fluoranthene	2560	2630	103	48 - 130	
Bis(2-chloroethoxy)methane	2560	2170	85	56 - 120	
Bis(2-chloroethyl)ether	2560	2070	81	51 - 120	
bis (2-chloroisopropyl) ether	2560	2020	79	49 - 120	
Bis(2-ethylhexyl) phthalate	2560	2770	109	65 - 120	
4-Bromophenyl phenyl ether	2560	2430	95	64 - 120	
Butyl benzyl phthalate	2560	2800	110	65 - 120	
Carbazole	2560	2520	99	64 - 120	
4-Chloroaniline	2560	1660	65	28 - 120	
4-Chloro-3-methylphenol	2560	2640	103	63 - 120	
2-Chloronaphthalene	2560	2300	90	59 - 120	
2-Chlorophenol	2560	2210	87	57 - 120	
4-Chlorophenyl phenyl ether	2560	2570	101	64 - 120	
Chrysene	2560	2570	100	64 - 120	
Dibenz(a,h)anthracene	2560	2700	106	50 - 133	
Dibenzofuran	2560	2430	95	61 - 120	
1,2-Dichlorobenzene	2560	2160	85	53 - 120	
1,3-Dichlorobenzene	2560	2170	85	52 - 120	
1,4-Dichlorobenzene	2560	2190	86	52 - 120	
3,3'-Dichlorobenzidine	2560	1880	73	30 - 120	
2,4-Dichlorophenol	2560	2420	95	60 - 120	
Diethyl phthalate	2560	2600	102	66 - 120	
2,4-Dimethylphenol	2560	2310	90	54 - 120	
Dimethyl phthalate	2560	2600	102	65 - 120	
Di-n-butyl phthalate	2560	2660	104	67 - 120	
4,6-Dinitro-2-methylphenol	5110	5760	113	57 - 120	
2,4-Dinitrophenol	5110	5050	99	46 - 120	
2,4-Dinitrotoluene	2560	2760	108	68 - 120	
2,6-Dinitrotoluene	2560	2580	101	64 - 120	
Di-n-octyl phthalate	2560	2770	108	66 - 120	
Fluoranthene	2560	2590	101	66 - 120	
Fluorene	2560	2520	98	64 - 120	
Hexachlorobenzene	2560	2340	91	62 - 120	
Hexachlorobutadiene	2560	2280	89	53 - 120	
Hexachlorocyclopentadiene	2560	1480	58	47 - 120	
Hexachloroethane	2560	2080	81	51 - 120	
Indeno[1,2,3-cd]pyrene	2560	2550	100	63 - 120	
Isophorone	2560	2160	85	56 - 120	
2-Methylnaphthalene	2560	2380	93	57 - 120	

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Lab Control Sample - Batch: 280-240754

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-240754/2-A	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6527.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	08/28/2014 1441	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2-Methylphenol	2560	2170	85	56 - 120	
3 & 4 Methylphenol	2560	2250	88	53 - 120	
Naphthalene	2560	2250	88	57 - 120	
2-Nitroaniline	2560	2510	98	63 - 120	
3-Nitroaniline	2560	2070	81	47 - 120	
4-Nitroaniline	2560	2430	95	64 - 120	
Nitrobenzene	2560	2280	89	54 - 120	
2-Nitrophenol	2560	2440	95	56 - 120	
4-Nitrophenol	5110	4900	96	63 - 121	
N-Nitrosodi-n-propylamine	2560	2370	93	51 - 120	
N-Nitrosodiphenylamine	2560	2450	96	61 - 120	
Pentachlorophenol	5110	4110	80	56 - 120	
Phenanthrene	2560	2530	99	64 - 120	
Phenol	2560	2220	87	56 - 120	
Pyrene	2560	2610	102	64 - 120	
1,2,4-Trichlorobenzene	2560	2260	89	52 - 120	
2,4,5-Trichlorophenol	2560	2460	96	64 - 120	
2,4,6-Trichlorophenol	2560	2520	98	61 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	87	50 - 120
2-Fluorophenol	83	53 - 120
Nitrobenzene-d5	86	50 - 120
Phenol-d5	83	52 - 120
Terphenyl-d14	102	55 - 120
2,4,6-Tribromophenol	93	51 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240754

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-59228-1	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6531.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	08/28/2014 1630			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-59228-1	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6532.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.2 g
Analysis Date:	08/28/2014 1658			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	93	98	60 - 120	7	30		
Acenaphthylene	90	94	64 - 120	6	30		
Anthracene	94	101	63 - 120	9	30		
Benzo[a]anthracene	97	102	65 - 120	7	30		
Benzo[a]pyrene	98	102	59 - 120	7	30		
Benzo[b]fluoranthene	100	105	47 - 129	7	44		
Benzo[ghi]perylene	96	101	55 - 126	7	31		
Benzo[k]fluoranthene	100	102	48 - 130	4	30		
Bis(2-chloroethoxy)methane	81	86	56 - 120	9	30		
Bis(2-chloroethyl)ether	75	81	51 - 120	9	30		
bis (2-chloroisopropyl) ether	73	77	49 - 120	9	30		
Bis(2-ethylhexyl) phthalate	106	112	65 - 120	8	30		
4-Bromophenyl phenyl ether	94	100	64 - 120	8	30		
Butyl benzyl phthalate	109	113	65 - 120	6	30		
Carbazole	96	102	64 - 120	8	30		
4-Chloroaniline	70	64	28 - 120	6	30		
4-Chloro-3-methylphenol	100	105	63 - 120	7	30		
2-Chloronaphthalene	88	93	59 - 120	8	30		
2-Chlorophenol	82	86	57 - 120	7	30		
4-Chlorophenyl phenyl ether	98	103	64 - 120	8	30		
Chrysene	98	103	64 - 120	7	35		
Dibenz(a,h)anthracene	100	104	50 - 133	6	30		
Dibenzofuran	94	98	61 - 120	6	30		
1,2-Dichlorobenzene	77	84	53 - 120	12	30		
1,3-Dichlorobenzene	76	83	52 - 120	10	32		
1,4-Dichlorobenzene	77	82	52 - 120	8	30		
3,3'-Dichlorobenzidine	84	72	30 - 120	13	30		
2,4-Dichlorophenol	91	96	60 - 120	7	30		
Diethyl phthalate	99	104	66 - 120	7	30		
2,4-Dimethylphenol	89	96	54 - 120	10	30		
Dimethyl phthalate	97	103	65 - 120	8	30		
Di-n-butyl phthalate	100	107	67 - 120	9	30		
4,6-Dinitro-2-methylphenol	98	106	57 - 120	9	30		

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240754

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-59228-1	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6531.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	08/28/2014 1630			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-59228-1	Analysis Batch:	280-241096	Instrument ID:	SMS_D
Client Matrix:	Solid	Prep Batch:	280-240754	Lab File ID:	D6532.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.2 g
Analysis Date:	08/28/2014 1658			Final Weight/Volume:	1 mL
Prep Date:	08/26/2014 2130			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2,4-Dinitrophenol	67	66	46 - 120	1	34		
2,4-Dinitrotoluene	104	107	68 - 120	5	30		
2,6-Dinitrotoluene	100	105	64 - 120	7	30		
Di-n-octyl phthalate	106	112	66 - 120	8	30		
Fluoranthene	98	105	66 - 120	9	30		
Fluorene	98	102	64 - 120	7	30		
Hexachlorobenzene	89	95	62 - 120	9	30		
Hexachlorobutadiene	84	89	53 - 120	8	30		
Hexachlorocyclopentadiene	56	58	47 - 120	6	30		
Hexachloroethane	74	79	51 - 120	9	30		
Indeno[1,2,3-cd]pyrene	96	99	63 - 120	5	30		
Isophorone	81	86	56 - 120	8	30		
2-Methylnaphthalene	89	94	57 - 120	8	30		
2-Methylphenol	80	87	56 - 120	10	30		
3 & 4 Methylphenol	84	91	53 - 120	10	30		
Naphthalene	82	87	57 - 120	8	30		
2-Nitroaniline	95	100	63 - 120	7	30		
3-Nitroaniline	87	85	47 - 120	0	30		
4-Nitroaniline	90	94	64 - 120	6	30		
Nitrobenzene	84	87	54 - 120	6	30		
2-Nitrophenol	88	94	56 - 120	8	30		
4-Nitrophenol	92	95	63 - 121	5	30		
N-Nitrosodi-n-propylamine	86	92	51 - 120	9	30		
N-Nitrosodiphenylamine	92	98	61 - 120	8	36		
Pentachlorophenol	79	82	56 - 120	7	30		
Phenanthrene	96	102	64 - 120	9	30		
Phenol	77	84	56 - 120	10	30		
Pyrene	100	105	64 - 120	7	38		
1,2,4-Trichlorobenzene	84	87	52 - 120	6	30		
2,4,5-Trichlorophenol	96	99	64 - 120	5	30		
2,4,6-Trichlorophenol	97	102	61 - 120	8	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	87	91	50 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	76	80	53 - 120
Nitrobenzene-d5	81	85	50 - 120
Phenol-d5	78	83	52 - 120
Terphenyl-d14	101	105	55 - 120
2,4,6-Tribromophenol	92	95	51 - 120

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240754

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-59228-1	Units:	ug/Kg	MSD Lab Sample ID:	280-59228-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/28/2014 1630			Analysis Date:	08/28/2014 1658
Prep Date:	08/26/2014 2130			Prep Date:	08/26/2014 2130
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Acenaphthene	10	U	2610	2670	2430	2610
Acenaphthylene	17	U	2610	2670	2360	2500
Anthracene	17	U	2610	2670	2460	2700
Benzo[a]anthracene	20	U	2610	2670	2540	2730
Benzo[a]pyrene	20	U	2610	2670	2560	2730
Benzo[b]fluoranthene	26	U	2610	2670	2600	2800
Benzo[ghi]perylene	16	U	2610	2670	2510	2710
Benzo[k]fluoranthene	40	U	2610	2670	2600	2720
Bis(2-chloroethoxy)methane	23	U	2610	2670	2120	2310
Bis(2-chloroethyl)ether	17	U	2610	2670	1970	2160
bis (2-chloroisopropyl) ether	23	U	2610	2670	1900	2070
Bis(2-ethylhexyl) phthalate	46	U	2610	2670	2760	3000
4-Bromophenyl phenyl ether	19	U	2610	2670	2470	2680
Butyl benzyl phthalate	43	U	2610	2670	2850	3030
Carbazole	36	U	2610	2670	2510	2730
4-Chloroaniline	82	U	2610	2670	1820	1710
4-Chloro-3-methylphenol	66	U	2610	2670	2620	2820
2-Chloronaphthalene	10	U	2610	2670	2300	2490
2-Chlorophenol	21	U	2610	2670	2130	2290
4-Chlorophenyl phenyl ether	21	U	2610	2670	2550	2760
Chrysene	27	U	2610	2670	2550	2740
Dibenz(a,h)anthracene	19	U	2610	2670	2610	2770
Dibenzofuran	20	U	2610	2670	2460	2610
1,2-Dichlorobenzene	22	U	2610	2670	2010	2250
1,3-Dichlorobenzene	12	U	2610	2670	1990	2210
1,4-Dichlorobenzene	14	U	2610	2670	2020	2180
3,3'-Dichlorobenzidine	91	U	2610	2670	2200	1920
2,4-Dichlorophenol	10	U	2610	2670	2380	2560
Diethyl phthalate	26	U	2610	2670	2590	2790
2,4-Dimethylphenol	66	U	2610	2670	2320	2560
Dimethyl phthalate	23	U	2610	2670	2540	2760
Di-n-butyl phthalate	29	U	2610	2670	2610	2860
4,6-Dinitro-2-methylphenol	330	U	5220	5350	5130	5640
2,4-Dinitrophenol	330	U	5220	5350	3510	3530
2,4-Dinitrotoluene	66	U	2610	2670	2720	2860
2,6-Dinitrotoluene	28	U	2610	2670	2600	2800
Di-n-octyl phthalate	14	U	2610	2670	2780	3000
Fluoranthene	36	U	2610	2670	2560	2800
Fluorene	18	U	2610	2670	2550	2720
Hexachlorobenzene	29	U	2610	2670	2330	2540
Hexachlorobutadiene	10	U	2610	2670	2190	2370
Hexachlorocyclopentadiene	50	U	2610	2670	1450	1550
Hexachloroethane	21	U	2610	2670	1920	2110

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240754

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-59228-1	Units:	ug/Kg	MSD Lab Sample ID:	280-59228-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/28/2014 1630			Analysis Date:	08/28/2014 1658
Prep Date:	08/26/2014 2130			Prep Date:	08/26/2014 2130
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	22	U	2610	2670	2520	2650
Isophorone	17	U	2610	2670	2120	2300
2-Methylnaphthalene	19	U	2610	2670	2320	2510
2-Methylphenol	13	U	2610	2670	2100	2320
3 & 4 Methylphenol	33	U	2610	2670	2210	2430
Naphthalene	31	U	2610	2670	2150	2330
2-Nitroaniline	50	U	2610	2670	2490	2680
3-Nitroaniline	73	U	2610	2670	2260	2270
4-Nitroaniline	73	U	2610	2670	2350	2510
Nitrobenzene	22	U	2610	2670	2190	2320
2-Nitrophenol	10	U	2610	2670	2310	2510
4-Nitrophenol	98	U	5220	5350	4820	5070
N-Nitrosodi-n-propylamine	31	U	2610	2670	2240	2460
N-Nitrosodiphenylamine	21	U	2610	2670	2420	2630
Pentachlorophenol	330	U	5220	5350	4110	4390
Phenanthrene	17	U	2610	2670	2510	2740
Phenol	18	U	2610	2670	2020	2230
Pyrene	12	U	2610	2670	2620	2800
1,2,4-Trichlorobenzene	28	U	2610	2670	2190	2320
2,4,5-Trichlorophenol	10	U	2610	2670	2500	2630
2,4,6-Trichlorophenol	10	U	2610	2670	2530	2740

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240676

Method: NWTPH-Gx
Preparation: 5030B

Lab Sample ID:	MB 280-240676/1-A	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-240676	Lab File ID:	026F2601.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 g
Analysis Date:	08/26/2014 2030	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	08/26/2014 1200			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline	330	U	330	1200

Surrogate	% Rec	Acceptance Limits
a,a,a-Trifluorotoluene	94	77 - 123

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-240676

Method: NWTPH-Gx
Preparation: 5030B

LCS Lab Sample ID:	LCS 280-240676/2-A	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-240676	Lab File ID:	027F2701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 g
Analysis Date:	08/26/2014 2055	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	08/26/2014 1200			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY

LCSD Lab Sample ID:	LCSD 280-240676/3-A	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-240676	Lab File ID:	028F2801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 g
Analysis Date:	08/26/2014 2120	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	08/26/2014 1200			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	98	103	85 - 153	5	30		

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-240676

Method: NWTPH-Gx
Preparation: 5030B

LCS Lab Sample ID:	LCS 280-240676/2-A	Units:	ug/Kg	LCSD Lab Sample ID:	LCSD 280-240676/3-A
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/26/2014 2055			Analysis Date:	08/26/2014 2120
Prep Date:	08/26/2014 1200			Prep Date:	08/26/2014 1200
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Gasoline	5500	5500	5390	5680

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240676

Method: NWTPH-Gx
Preparation: 5030B

MS Lab Sample ID:	280-59228-4	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-240676	Lab File ID:	033F3301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	9.68 g
Analysis Date:	08/26/2014 2323			Final Weight/Volume:	10 mL
Prep Date:	08/26/2014 1200			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY
MSD Lab Sample ID:	280-59228-4	Analysis Batch:	280-240699	Instrument ID:	VGC_Q
Client Matrix:	Solid	Prep Batch:	280-240676	Lab File ID:	034F3401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	9.61 g
Analysis Date:	08/26/2014 2348			Final Weight/Volume:	10 mL
Prep Date:	08/26/2014 1200			Injection Volume:	5 mL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Gasoline	102	93	85 - 153	9	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
a,a,a-Trifluorotoluene	92	90	77 - 123

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240676

Method: NWTPH-Gx
Preparation: 5030B

MS Lab Sample ID:	280-59228-4	Units:	ug/Kg	MSD Lab Sample ID:	280-59228-4
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/26/2014 2323			Analysis Date:	08/26/2014 2348
Prep Date:	08/26/2014 1200			Prep Date:	08/26/2014 1200
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Gasoline	340	U	5760	5800	5900	5400

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240288

Method: 8081A
Preparation: 3550C

Lab Sample ID:	MB 280-240288/1-A	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-240288	Lab File ID:	08260054.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.4 g
Analysis Date:	08/27/2014 0506	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	08/23/2014 1510			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.52	U	0.52	1.6
4,4'-DDE	0.23	U	0.23	1.6
4,4'-DDT	0.56	U	0.56	1.6
Aldrin	0.24	U	0.24	1.6
alpha-BHC	0.20	U	0.20	1.6
beta-BHC	0.63	U	0.63	1.6
delta-BHC	0.38	U	0.38	1.6
gamma-BHC (Lindane)	0.44	U	0.44	1.6
Heptachlor	0.20	U	0.20	1.6
Heptachlor epoxide	0.41	U	0.41	1.6
Endosulfan I	0.17	U	0.17	1.6
Endosulfan II	0.27	U	0.27	1.6
Endosulfan sulfate	0.26	U	0.26	1.6
Endrin	0.29	U	0.29	1.6
Endrin aldehyde	0.16	U	0.16	1.6
Endrin ketone	0.47	U	0.47	1.6
gamma-Chlordane	0.25	U	0.25	1.6
Methoxychlor	0.43	U	0.43	3.2
alpha-Chlordane	0.31	U	0.31	1.6
Dieldrin	0.20	U	0.20	1.6
Toxaphene	15	U	15	160

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	64	59 - 115
Decachlorobiphenyl	75	63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Lab Control Sample - Batch: 280-240288

Method: 8081A
Preparation: 3550C

Lab Sample ID:	LCS 280-240288/2-A	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-240288	Lab File ID:	08260047.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	08/27/2014 0308	Units:	ug/Kg	Final Weight/Volume:	10 mL
Prep Date:	08/23/2014 1510			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	16.2	14.7	91	69 - 126	
4,4'-DDE	16.2	13.9	86	71 - 116	
4,4'-DDT	16.2	14.7	91	67 - 132	
Aldrin	16.2	13.3	82	69 - 116	
alpha-BHC	16.2	13.5	84	65 - 122	
beta-BHC	16.2	12.5	77	62 - 121	
delta-BHC	16.2	13.3	82	67 - 122	
gamma-BHC (Lindane)	16.2	13.6	84	66 - 120	
Heptachlor	16.2	14.2	88	61 - 126	
Heptachlor epoxide	16.2	13.9	86	71 - 119	
Endosulfan I	16.2	13.1	81	67 - 115	
Endosulfan II	16.2	13.5	83	69 - 120	
Endosulfan sulfate	16.2	16.0	99	69 - 126	
Endrin	16.2	14.8	92	69 - 129	
Endrin aldehyde	16.2	12.8	79	41 - 128	
Endrin ketone	16.2	14.8	92	70 - 125	
gamma-Chlordane	16.2	13.9	86	69 - 122	
Methoxychlor	16.2	15.1	93	65 - 139	
alpha-Chlordane	16.2	13.8	85	71 - 118	
Dieldrin	16.2	14.0	87	71 - 120	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	76	59 - 115
Decachlorobiphenyl	96	63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240288

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-59228-2	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-240288	Lab File ID:	08260059.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	08/27/2014 0631			Final Weight/Volume:	10 mL
Prep Date:	08/23/2014 1510			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-59228-2	Analysis Batch:	280-240713	Instrument ID:	SGC_P2
Client Matrix:	Solid	Prep Batch:	280-240288	Lab File ID:	08260060.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	08/27/2014 0648			Final Weight/Volume:	10 mL
Prep Date:	08/23/2014 1510			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	69	61	69 - 126	10	20		N
4,4'-DDE	68	61	71 - 116	8	15	N	N
4,4'-DDT	55	47	67 - 132	11	29	N	N
Aldrin	71	63	69 - 116	10	50		N
alpha-BHC	68	60	65 - 122	10	17		N
beta-BHC	58	53	62 - 121	6	17	N	N
delta-BHC	65	59	67 - 122	8	19	N	N
gamma-BHC (Lindane)	67	60	66 - 120	9	24		N
Heptachlor	74	63	61 - 126	14	18		
Heptachlor epoxide	72	63	71 - 119	10	18		N
Endosulfan I	66	58	67 - 115	10	26	N	N
Endosulfan II	67	57	69 - 120	13	20	N	N
Endosulfan sulfate	77	65	69 - 126	14	22		N
Endrin	73	64	69 - 129	11	30		N
Endrin aldehyde	58	51	41 - 128	10	29		
Endrin ketone	65	57	70 - 125	11	20	N	N
gamma-Chlordane	70	62	69 - 122	9	21		N
Methoxychlor	66	57	65 - 139	12	23		N
alpha-Chlordane	68	61	71 - 118	9	18	N	N
Dieldrin	70	61	71 - 120	10	25	N	N

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	69	60	59 - 115
Decachlorobiphenyl	92	66	63 - 124

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240288

Method: 8081A
Preparation: 3550C

MS Lab Sample ID:	280-59228-2	Units:	ug/Kg	MSD Lab Sample ID:	280-59228-2
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/27/2014 0631			Analysis Date:	08/27/2014 0648
Prep Date:	08/23/2014 1510			Prep Date:	08/23/2014 1510
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	0.54	U	16.1	16.5	11.1		10.1	N
4,4'-DDE	0.23	U	16.1	16.5	10.9	N	10.1	N
4,4'-DDT	2.5		16.1	16.5	11.5	N	10.3	N
Aldrin	0.25	U	16.1	16.5	11.3		10.3	N
alpha-BHC	0.21	U	16.1	16.5	10.9		9.90	N
beta-BHC	0.65	U	16.1	16.5	9.30	N	8.74	N
delta-BHC	0.40	U	16.1	16.5	10.5	N	9.65	N
gamma-BHC (Lindane)	0.46	U	16.1	16.5	10.8		9.90	N
Heptachlor	0.21	U	16.1	16.5	11.8		10.3	
Heptachlor epoxide	0.42	U	16.1	16.5	11.5		10.4	N
Endosulfan I	0.17	U	16.1	16.5	10.6	N	9.57	N
Endosulfan II	0.28	U	16.1	16.5	10.7	N	9.36	N
Endosulfan sulfate	0.27	U	16.1	16.5	12.3		10.6	N
Endrin	0.30	U	16.1	16.5	11.7		10.5	N
Endrin aldehyde	0.17	U	16.1	16.5	9.30		8.42	
Endrin ketone	0.48	U	16.1	16.5	10.5	N	9.37	N
gamma-Chlordane	0.26	U	16.1	16.5	11.2		10.2	N
Methoxychlor	0.44	U	16.1	16.5	10.5		9.31	N
alpha-Chlordane	0.32	U	16.1	16.5	10.9	N	9.98	N
Dieldrin	0.21	U	16.1	16.5	11.2	N	10.1	N

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240861

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-240861/1-A	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-240861	Lab File ID:	08281404.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	08/28/2014 1010	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	08/27/2014 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.7	U	2.7	9.8
Aroclor 1221	7.9	U	7.9	16
Aroclor 1232	2.0	U	2.0	9.8
Aroclor 1242	4.6	U	4.6	9.8
Aroclor 1248	4.6	U	4.6	9.8
Aroclor 1254	2.5	U	2.5	9.8
Aroclor 1260	2.5	U	2.5	9.8

Surrogate	% Rec		Acceptance Limits
Decachlorobiphenyl	53	*	59 - 130
Tetrachloro-m-xylene	46	*	53 - 128

Lab Control Sample - Batch: 280-240861

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-240861/2-A	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-240861	Lab File ID:	08281405.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	08/28/2014 1034	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	08/27/2014 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.6	31.0	95	54 - 132	
Aroclor 1260	32.6	32.4	100	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	95	59 - 130
Tetrachloro-m-xylene	90	53 - 128

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240861

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-59228-2	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-240861	Lab File ID:	08281408.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	08/28/2014 1145			Final Weight/Volume:	5 mL
Prep Date:	08/27/2014 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-59228-2	Analysis Batch:	280-240989	Instrument ID:	SGC_W
Client Matrix:	Solid	Prep Batch:	280-240861	Lab File ID:	08281409.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.5 g
Analysis Date:	08/28/2014 1208			Final Weight/Volume:	5 mL
Prep Date:	08/27/2014 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	94	98	54 - 132	3	26		
Aroclor 1260	87	80	62 - 129	11	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	71	73	59 - 130
Tetrachloro-m-xylene	89	91	53 - 128

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240861

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-59228-2	Units: ug/Kg	MSD Lab Sample ID: 280-59228-2
Client Matrix:	Solid		Client Matrix: Solid
Dilution:	1.0		Dilution: 1.0
Analysis Date:	08/28/2014 1145		Analysis Date: 08/28/2014 1208
Prep Date:	08/27/2014 1155		Prep Date: 08/27/2014 1155
Leach Date:	N/A		Leach Date: N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Aroclor 1016	2.7	U	31.7	31.2	29.7	30.6
Aroclor 1260	2.5	U	31.7	31.2	27.7	24.9

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240290

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-240290/1-A	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-240290	Lab File ID:	08260005.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	08/26/2014 1920	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	960	U	960	3900
C10-C28	660	U	660	3900

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

Lab Control Sample - Batch: 280-240290

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	LCS 280-240290/2-A	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-240290	Lab File ID:	08260006.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	08/26/2014 1949	Units:	ug/Kg	Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
C10-C36	65400	61600	94	57 - 115	
C10-C28	65400	61600	94	53 - 115	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	84	49 - 115

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240290

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-59228-2	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-240290	Lab File ID:	08260009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.1 g
Analysis Date:	08/26/2014 2113			Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-59228-2	Analysis Batch:	280-240745	Instrument ID:	SGC_U
Client Matrix:	Solid	Prep Batch:	280-240290	Lab File ID:	08260010.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	08/26/2014 2142			Final Weight/Volume:	1 mL
Prep Date:	08/23/2014 1415			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
C10-C36	65	62	57 - 115	3	23		
C10-C28	84	86	56 - 115	0	23		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	82	85	49 - 115

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240290

Method: NWTPH-Dx
Preparation: 3550C

MS Lab Sample ID:	280-59228-2	Units:	ug/Kg	MSD Lab Sample ID:	280-59228-2
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/26/2014 2113			Analysis Date:	08/26/2014 2142
Prep Date:	08/23/2014 1415			Prep Date:	08/23/2014 1415
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	70000	65300	63900	113000	110000
C10-C28	30000	65300	63900	84700	84400

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240756

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-240756/1-A	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-240756	Lab File ID:	G0828008.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	08/28/2014 1055	Units:	ug/Kg	Final Weight/Volume:	4 mL
Prep Date:	08/26/2014 2115			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

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

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Lab Control Sample - Batch: 280-240756

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-240756/2-A	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-240756	Lab File ID:	G0828009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	08/28/2014 1125	Units:	ug/Kg	Final Weight/Volume:	4 mL
Prep Date:	08/26/2014 2115			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1970	1820	92	78 - 116	
Acenaphthylene	1970	1790	91	76 - 115	
Anthracene	1970	1880	95	74 - 115	
Benzo[a]anthracene	1970	1890	96	85 - 120	
Benzo[a]pyrene	1970	1980	100	74 - 121	
Benzo[b]fluoranthene	1970	1880	95	85 - 115	
Benzo[g,h,i]perylene	1970	2070	105	85 - 120	
Benzo[k]fluoranthene	1970	1880	95	85 - 115	
Chrysene	1970	1970	100	83 - 115	
Dibenzo(a,h)anthracene	1970	1790	91	83 - 115	
Fluoranthene	1970	1840	93	83 - 115	
Fluorene	1970	1850	94	80 - 115	
Indeno[1,2,3-cd]pyrene	1970	2000	102	85 - 123	
Naphthalene	1970	1800	91	80 - 121	
Phenanthrene	1970	1810	92	80 - 115	
Pyrene	1970	1930	98	75 - 116	

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

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240756

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-59228-3	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-240756	Lab File ID:	G0828013.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	08/28/2014 1327			Final Weight/Volume:	4 mL
Prep Date:	08/26/2014 2115			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-59228-3	Analysis Batch:	280-240994	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-240756	Lab File ID:	G0828014.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.0 g
Analysis Date:	08/28/2014 1358			Final Weight/Volume:	4 mL
Prep Date:	08/26/2014 2115			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	91	92	78 - 116	4	20		
Acenaphthylene	87	90	76 - 115	2	21		
Anthracene	92	94	74 - 115	4	20		
Benzo[a]anthracene	94	95	85 - 120	4	20		
Benzo[a]pyrene	103	102	74 - 121	6	20		
Benzo[b]fluoranthene	98	100	85 - 115	4	20		
Benzo[g,h,i]perylene	110	109	85 - 120	6	20		
Benzo[k]fluoranthene	97	98	85 - 115	5	20		
Chrysene	98	100	83 - 115	4	20		
Dibenzo(a,h)anthracene	98	97	83 - 115	7	20		
Fluoranthene	91	92	83 - 115	4	20		
Fluorene	91	94	80 - 115	3	20		
Indeno[1,2,3-cd]pyrene	109	107	85 - 123	8	20		
Naphthalene	90	92	80 - 121	3	20		
Phenanthrene	90	91	80 - 115	4	20		
Pyrene	95	97	75 - 116	4	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	89	91	72 - 115

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-240756

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-59228-3	Units:	ug/Kg	MSD Lab Sample ID:	280-59228-3
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	08/28/2014 1327			Analysis Date:	08/28/2014 1358
Prep Date:	08/26/2014 2115			Prep Date:	08/26/2014 2115
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	9.5	U	2000	1890	1810	1730
Acenaphthylene	8.5	U	2000	1890	1740	1700
Anthracene	2.9	U	2000	1890	1840	1770
Benzo[a]anthracene	4.2	J	2000	1890	1870	1800
Benzo[a]pyrene	6.1	U	2000	1890	2060	1930
Benzo[b]fluoranthene	4.0	U	2000	1890	1960	1890
Benzo[g,h,i]perylene	6.8	U	2000	1890	2200	2060
Benzo[k]fluoranthene	3.7	U	2000	1890	1940	1850
Chrysene	6.0	J	2000	1890	1970	1890
Dibenzo(a,h)anthracene	10	U	2000	1890	1960	1830
Fluoranthene	12	U	2000	1890	1810	1740
Fluorene	5.0	U	2000	1890	1820	1770
Indeno[1,2,3-cd]pyrene	11	U	2000	1890	2180	2020
Naphthalene	11	U	2000	1890	1790	1730
Phenanthrene	11	U	2000	1890	1800	1730
Pyrene	11	U	2000	1890	1910	1840

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240374

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-240374/1-A	Analysis Batch:	280-240654	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	08/26/2014 0901	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				
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	0.133	B	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	18.63	B	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	5.51		3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	4.98	B	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
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: 280-59228-1
Sdg Number: JP0851

Lab Control Sample - Batch: 280-240374

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-240374/2-A	Analysis Batch:	280-240654	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	08/26/2014 0904	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	190.4	95	82 - 116	
Antimony	50.0	49.20	98	82 - 110	
Arsenic	100	95.51	96	85 - 110	
Barium	200	197.3	99	87 - 112	
Beryllium	5.00	4.59	92	84 - 114	
Boron	100	95.53	96	80 - 120	
Cadmium	10.0	9.95	99	87 - 110	
Calcium	5000	4520	90	82 - 114	
Chromium	20.0	19.25	96	84 - 114	
Cobalt	50.0	47.61	95	87 - 110	
Copper	25.0	24.73	99	88 - 110	
Iron	100	91.85	92	87 - 120	
Lead	50.0	47.81	96	86 - 110	
Magnesium	5000	4688	94	90 - 110	
Manganese	50.0	46.71	93	88 - 110	
Molybdenum	100	97.22	97	86 - 110	
Nickel	50.0	47.02	94	87 - 110	
Potassium	5000	5253	105	89 - 110	
Selenium	200	189.5	95	83 - 110	
Silicon	1000	138.7	14	10 - 70	
Silver	5.00	4.73	95	87 - 114	
Sodium	5000	5410	108	90 - 112	
Vanadium	50.0	47.18	94	88 - 110	
Zinc	50.0	45.43	91	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Matrix Spike - Batch: 280-240374

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-59228-1	Analysis Batch:	280-240654	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.14 g
Analysis Date:	08/26/2014 0914	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	5630		177	6396	436	50 - 200	4
Antimony	0.36	U	44.3	23.52	53	20 - 200	
Arsenic	5.7		88.5	74.38	78	76 - 111	
Barium	34.1		177	175.9	80	52 - 159	
Beryllium	0.17	B	4.43	3.47	74	72 - 105	
Boron	1.0	B	88.5	68.05	76	80 - 120	N
Cadmium	0.039	U	8.85	7.25	82	40 - 130	
Calcium	4010		4430	8125	93	43 - 165	
Chromium	9.8		17.7	23.38	77	70 - 200	
Cobalt	5.2		44.3	38.82	76	72 - 106	
Copper	12.0		22.1	28.77	76	37 - 187	
Iron	13600		88.5	13330	-267	70 - 200	4
Lead	11.8		44.3	43.45	72	70 - 200	
Magnesium	3840		4430	7331	79	64 - 145	
Manganese	228		44.3	268.0	91	40 - 200	4
Molybdenum	0.25	U	88.5	68.86	78	75 - 103	
Nickel	9.0		44.3	41.87	74	61 - 126	
Potassium	669		4430	4519	87	56 - 172	
Selenium	0.81	U	177	136.8	77	76 - 104	
Silicon	147		885	309.4	18	20 - 200	N
Silver	0.15	U	4.43	3.40	77	75 - 141	
Sodium	236		4430	4300	92	78 - 111	
Vanadium	38.3		44.3	75.08	83	50 - 169	
Zinc	29.2		44.3	60.93	72	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Duplicate - Batch: 280-240374

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-59228-1	Analysis Batch:	280-240654	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-240374	Lab File ID:	26m082514.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.05 g
Analysis Date:	08/26/2014 0912	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	08/25/2014 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	5630		5204	8	40	
Antimony	0.36	U	0.37	NC	40	U
Arsenic	5.7		5.08	11	30	
Barium	34.1		27.60	21	30	
Beryllium	0.17	B	0.160	8	30	B
Boron	1.0	B	0.94	NC	30	U
Cadmium	0.039	U	0.039	NC	30	U
Calcium	4010		3753	7	30	
Chromium	9.8		9.74	0.6	40	
Cobalt	5.2		4.73	10	30	
Copper	12.0		11.01	9	30	
Iron	13600		12080	12	40	
Lead	11.8		10.71	10	40	
Magnesium	3840		3666	5	30	
Manganese	228		203.6	11	40	
Molybdenum	0.25	U	0.25	NC	30	U
Nickel	9.0		9.53	6	30	
Potassium	669		591.8	12	40	
Selenium	0.81	U	0.83	NC	30	U
Silicon	147		133.3	10	40	
Silver	0.15	U	0.15	NC	30	U
Sodium	236		206.7	13	30	
Vanadium	38.3		33.57	13	30	
Zinc	29.2		26.16	11	40	

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Method Blank - Batch: 280-240420

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-240420/1-A	Analysis Batch:	280-240865	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	08/26/2014 1940	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-240420

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-240420/2-A	Analysis Batch:	280-240865	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	08/26/2014 1942	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.409	98	87 - 111	

Matrix Spike - Batch: 280-240420

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-59228-1	Analysis Batch:	280-240865	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.69 g
Analysis Date:	08/26/2014 1949	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0052	U	0.366	0.364	100	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Duplicate - Batch: 280-240420

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-59228-1	Analysis Batch:	280-240865	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-240420	Lab File ID:	140826ba.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.63 g
Analysis Date:	08/26/2014 1947	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	08/26/2014 1215				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0052	U	0.0053	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

Duplicate - Batch: 280-240546

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-59228-3	Analysis Batch:	280-240546	Instrument ID:	No Equipment Assigned
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	08/25/2014 1850	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	0.83	0.57	36	20	M

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 280-240754					
LCS 280-240754/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-240754/1-A	Method Blank	T	Solid	3550C	
280-59228-1	J1TXD4	T	Solid	3550C	
280-59228-1MS	Matrix Spike	T	Solid	3550C	
280-59228-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-59228-2	J1TXD5	T	Solid	3550C	
280-59228-3	J1TXD6	T	Solid	3550C	
280-59228-4	J1TXD7	T	Solid	3550C	
Analysis Batch:280-241096					
LCS 280-240754/2-A	Lab Control Sample	T	Solid	8270C	280-240754
MB 280-240754/1-A	Method Blank	T	Solid	8270C	280-240754
280-59228-1	J1TXD4	T	Solid	8270C	280-240754
280-59228-1MS	Matrix Spike	T	Solid	8270C	280-240754
280-59228-1MSD	Matrix Spike Duplicate	T	Solid	8270C	280-240754
280-59228-2	J1TXD5	T	Solid	8270C	280-240754
280-59228-3	J1TXD6	T	Solid	8270C	280-240754
280-59228-4	J1TXD7	T	Solid	8270C	280-240754

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Prep Batch: 280-240676					
LCS 280-240676/2-A	Lab Control Sample	T	Solid	5030B	
LCSD 280-240676/3-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 280-240676/1-A	Method Blank	T	Solid	5030B	
280-59228-1	J1TXD4	T	Solid	5030B	
280-59228-2	J1TXD5	T	Solid	5030B	
280-59228-3	J1TXD6	T	Solid	5030B	
280-59228-4	J1TXD7	T	Solid	5030B	
280-59228-4MS	Matrix Spike	T	Solid	5030B	
280-59228-4MSD	Matrix Spike Duplicate	T	Solid	5030B	
Analysis Batch:280-240699					
LCS 280-240676/2-A	Lab Control Sample	T	Solid	NWTPH-Gx	280-240676
LCSD 280-240676/3-A	Lab Control Sample Duplicate	T	Solid	NWTPH-Gx	280-240676
MB 280-240676/1-A	Method Blank	T	Solid	NWTPH-Gx	280-240676
280-59228-1	J1TXD4	T	Solid	NWTPH-Gx	280-240676
280-59228-2	J1TXD5	T	Solid	NWTPH-Gx	280-240676
280-59228-3	J1TXD6	T	Solid	NWTPH-Gx	280-240676
280-59228-4	J1TXD7	T	Solid	NWTPH-Gx	280-240676
280-59228-4MS	Matrix Spike	T	Solid	NWTPH-Gx	280-240676
280-59228-4MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Gx	280-240676

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-240288					
LCS 280-240288/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-240288/1-A	Method Blank	T	Solid	3550C	
280-59228-1	J1TXD4	T	Solid	3550C	
280-59228-2	J1TXD5	T	Solid	3550C	
280-59228-2MS	Matrix Spike	T	Solid	3550C	
280-59228-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-59228-3	J1TXD6	T	Solid	3550C	
280-59228-4	J1TXD7	T	Solid	3550C	
Prep Batch: 280-240290					
LCS 280-240290/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-240290/1-A	Method Blank	T	Solid	3550C	
280-59228-1	J1TXD4	T	Solid	3550C	
280-59228-2	J1TXD5	T	Solid	3550C	
280-59228-2MS	Matrix Spike	T	Solid	3550C	
280-59228-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-59228-3	J1TXD6	T	Solid	3550C	
280-59228-4	J1TXD7	T	Solid	3550C	
Analysis Batch:280-240713					
LCS 280-240288/2-A	Lab Control Sample	T	Solid	8081A	280-240288
MB 280-240288/1-A	Method Blank	T	Solid	8081A	280-240288
280-59228-1	J1TXD4	T	Solid	8081A	280-240288
280-59228-2	J1TXD5	T	Solid	8081A	280-240288
280-59228-2MS	Matrix Spike	T	Solid	8081A	280-240288
280-59228-2MSD	Matrix Spike Duplicate	T	Solid	8081A	280-240288
280-59228-3	J1TXD6	T	Solid	8081A	280-240288
280-59228-4	J1TXD7	T	Solid	8081A	280-240288
Analysis Batch:280-240745					
LCS 280-240290/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-240290
MB 280-240290/1-A	Method Blank	T	Solid	NWTPH-Dx	280-240290
280-59228-1	J1TXD4	T	Solid	NWTPH-Dx	280-240290
280-59228-2	J1TXD5	T	Solid	NWTPH-Dx	280-240290
280-59228-2MS	Matrix Spike	T	Solid	NWTPH-Dx	280-240290
280-59228-2MSD	Matrix Spike Duplicate	T	Solid	NWTPH-Dx	280-240290
280-59228-3	J1TXD6	T	Solid	NWTPH-Dx	280-240290
280-59228-4	J1TXD7	T	Solid	NWTPH-Dx	280-240290

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-240861					
LCS 280-240861/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-240861/1-A	Method Blank	T	Solid	3550C	
280-59228-1	J1TXD4	T	Solid	3550C	
280-59228-2	J1TXD5	T	Solid	3550C	
280-59228-2MS	Matrix Spike	T	Solid	3550C	
280-59228-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-59228-3	J1TXD6	T	Solid	3550C	
280-59228-4	J1TXD7	T	Solid	3550C	
Analysis Batch:280-240989					
LCS 280-240861/2-A	Lab Control Sample	T	Solid	8082	280-240861
MB 280-240861/1-A	Method Blank	T	Solid	8082	280-240861
280-59228-1	J1TXD4	T	Solid	8082	280-240861
280-59228-2	J1TXD5	T	Solid	8082	280-240861
280-59228-2MS	Matrix Spike	T	Solid	8082	280-240861
280-59228-2MSD	Matrix Spike Duplicate	T	Solid	8082	280-240861
280-59228-3	J1TXD6	T	Solid	8082	280-240861
280-59228-4	J1TXD7	T	Solid	8082	280-240861

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-240374					
LCS 280-240374/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-240374/1-A	Method Blank	T	Solid	3050B	
280-59228-1	J1TXD4	T	Solid	3050B	
280-59228-1DU	Duplicate	T	Solid	3050B	
280-59228-1MS	Matrix Spike	T	Solid	3050B	
280-59228-2	J1TXD5	T	Solid	3050B	
280-59228-3	J1TXD6	T	Solid	3050B	
280-59228-4	J1TXD7	T	Solid	3050B	
Prep Batch: 280-240420					
LCS 280-240420/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-240420/1-A	Method Blank	T	Solid	7471A	
280-59228-1	J1TXD4	T	Solid	7471A	
280-59228-1DU	Duplicate	T	Solid	7471A	
280-59228-1MS	Matrix Spike	T	Solid	7471A	
280-59228-2	J1TXD5	T	Solid	7471A	
280-59228-3	J1TXD6	T	Solid	7471A	
280-59228-4	J1TXD7	T	Solid	7471A	
Analysis Batch:280-240654					
LCS 280-240374/2-A	Lab Control Sample	T	Solid	6010B	280-240374
MB 280-240374/1-A	Method Blank	T	Solid	6010B	280-240374
280-59228-1	J1TXD4	T	Solid	6010B	280-240374
280-59228-1DU	Duplicate	T	Solid	6010B	280-240374
280-59228-1MS	Matrix Spike	T	Solid	6010B	280-240374
280-59228-2	J1TXD5	T	Solid	6010B	280-240374
280-59228-3	J1TXD6	T	Solid	6010B	280-240374
280-59228-4	J1TXD7	T	Solid	6010B	280-240374
Analysis Batch:280-240865					
LCS 280-240420/2-A	Lab Control Sample	T	Solid	7471A	280-240420
MB 280-240420/1-A	Method Blank	T	Solid	7471A	280-240420
280-59228-1	J1TXD4	T	Solid	7471A	280-240420
280-59228-1DU	Duplicate	T	Solid	7471A	280-240420
280-59228-1MS	Matrix Spike	T	Solid	7471A	280-240420
280-59228-2	J1TXD5	T	Solid	7471A	280-240420
280-59228-3	J1TXD6	T	Solid	7471A	280-240420
280-59228-4	J1TXD7	T	Solid	7471A	280-240420

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-59228-1
Sdg Number: JP0851

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-240546					
280-59228-1	J1TXD4	T	Solid	D-2216	
280-59228-2	J1TXD5	T	Solid	D-2216	
280-59228-3	J1TXD6	T	Solid	D-2216	
280-59228-3DU	Duplicate	T	Solid	D-2216	
280-59228-4	J1TXD7	T	Solid	D-2216	

Report Basis
T = Total

HPLC/IC					
Prep Batch: 280-240756					
LCS 280-240756/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-240756/1-A	Method Blank	T	Solid	3550C	
280-59228-1	J1TXD4	T	Solid	3550C	
280-59228-2	J1TXD5	T	Solid	3550C	
280-59228-3	J1TXD6	T	Solid	3550C	
280-59228-3MS	Matrix Spike	T	Solid	3550C	
280-59228-3MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-59228-4	J1TXD7	T	Solid	3550C	
Analysis Batch:280-240994					
LCS 280-240756/2-A	Lab Control Sample	T	Solid	8310	280-240756
MB 280-240756/1-A	Method Blank	T	Solid	8310	280-240756
280-59228-1	J1TXD4	T	Solid	8310	280-240756
280-59228-2	J1TXD5	T	Solid	8310	280-240756
280-59228-3	J1TXD6	T	Solid	8310	280-240756
280-59228-3MS	Matrix Spike	T	Solid	8310	280-240756
280-59228-3MSD	Matrix Spike Duplicate	T	Solid	8310	280-240756
280-59228-4	J1TXD7	T	Solid	8310	280-240756

Report Basis
T = Total

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-107-110

Collector: H. Walker	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 days		
Project Designation: 100-H Field Remediation	Sampling Location: 100-H-43 (Focused)		SAF No.: RC-107
Ice Chest No.: WCH-11-009	Field Logbook No.: EL-1627-08	COA: 010H432000	Method of Shipment: Commercial Carrier / Fed Ex
Shipped To: TestAmerica Denver	Offsite Property No.: A131237		Bill of Lading/Air Bill No.: See OSPC

Other Labs Shipped To: TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

Cool 4C

Sample No.	Matrix	Sample Date	Sample Time	Preservation: Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
				Type of Container: G/P	aG	aG	Gs*	aG	aG	aG			
				No. of Container(s): 1	1	1	3	1	1	1			
				Volume: 250mL	250mL	125mL	40mL	250mL	250mL	250mL			
				Sample Analysis: See item (1) in Special Instructions	Pesticides - 8081	TPH-Diesel Range - WTPH-D +	TPH-Gasoline Range - WTPH-G	Semi-VOA - 8270 (TCL)	PAHs - 8310	PCBs - 8082			
J1TXD4	SOIL	08/20/14	0914	X	X	X	X	X	X	X			
J1TXD5	SOIL	08/20/14	0925	X	X	X	X	X	X	X			
J1TXD6	SOIL	08/20/14	0932	X	X	X	X	X	X	X			
J1TXD7	SOIL	08/20/14	0905	X	X	X	X	X	X	X			

Page 95 of 99

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Heather Walker	08/20/14 0941	R. Fahlberg	0941 8.20.14
R. Fahlberg	8.20.14 1430	SM Sexton	1430 8/20/14
SM Sexton	8/20/14 1435	1060 Battelle Fridge 3A	1435 8/20/14
1060 Battelle Fridge 3A	8/21/14 0800	SM Sexton	0800 8/21/14
SM Sexton	8/21/14 0805	FED EX	
			8/22/14 10:00

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

2.8 IR6 0.0 MM 8/22/14

REVIEWED BY K. Woodward via email DATE 8/21/14

JP0851

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

90 dy w/Permission

Project 28002142

Report Due: 8-29-14 D.B. 8-25-14

TALs TAT: Rush 5 day

Sample Check-in List

Date/Time Received: 8/22/14 10:00 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG #: JP0851 NA[ ] SAF #: RC-107 NA [ ]

Job Number: 59228 Chain of Custody # RC-107-110

Shipping Container ID: WCH-11-009 Air Bill # 7709 0300 9371

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 2.8 IRC 0.0 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [✓] Dry [ ]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   ✓ Tape
   ✓ Custody Seals
   ✓ Hazard Labels
   ✓ Appropriate Sample Labels
9. Samples are:
   ✓ In Good Condition
   ___ Broken
   ___ Leaking
   ___ Have Air Bubbles
   (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ] **Amount HNO_3 Added** ___
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): ___

Sample Custodian: [signature] **Date:** 8/22/14

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ___ by ___ Person Contacted ___

[ ] No action necessary; process as is.

Project Manager Darlene Bandy Date 8-25-14

LS-023, Rev. 7, 1/08

From: (509) 376-7492
1162 Shipping
US DOE c/o WHC
2355 Stevens Dr

Richland, WA 99354

Origin ID: PSCA

FedEx Express

J142014061903uv

Ship Date: 21AUG14
ActWgt: 107.0 LB
CAD: 105266502/INET3550

Delivery Address Bar Code

Ref # 010H432000
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0190 BILL THIRD PARTY

Kae Yoder
TestAmerica
4955 YARROW ST
A131237
ARVADA, CO 80002

FRI - 22 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 7709 0300 9371
0201

XH WHHA

80002
CO-US
DEN

522G1/ECF2/8A09

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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