0098086

SAF-RC-074
100-D/DR Burial Grounds & Remaining Sites – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 7/27/11
INITIAL/DATE

COMMENTS:

SDG JP0227 SAF RC-074

Rad only Chem only ☑ Rad & Chem

☑ Complete Partial

Waste Site: 100-D-50:6

RECEIVED
AUG 11 2011
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
JUL 2011

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains 26 ***Pages***

Report No.: 47530

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.
JP0227	RC-074	J1K7D3	J1G140512-1	MKXP11AA	9MKXP110	1196056
		J1K7D3	J1G140512-1	MKXP11AC	9MKXP110	1196109

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

July 21, 2011

Attention: Joan Kessner

SAF Number	:	RC-074
Date SDG Closed	:	July 14, 2011
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	JP0227
Data Deliverable	:	7– Day / Summary

CASE NARRATIVE

I. Introduction

On July 14, 2011, one soil sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1K7D3	MKXP1	SOIL	7/14/11

II. Sample Receipt

The sample was 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 analyses were:

Gamma Spectroscopy
Gamma Spec by method RL-GAM-001
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

Gamma Spectroscopy

Gamma Spec by method RL-GAM-001:

The CRDL was not met for some of the analytes. Except as noted, the LCS, batch blank, sample and sample duplicate (J1K7D3) results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, sample, sample duplicate (J1K7D3) and sample matrix spike (J1K7D3) 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: 21-Jul-11

TestAmerica TARL

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

Report No. : 47530 **SDG No:** JP0227

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1196109 GAMMA_GS									
J1K7D3									
	MKXP11AC	AG-108M	2.10E-03 +- 1.0E-02	U	pCi/g		1.74E-02		
		AMERICIUM 241	4.73E-02 +- 8.9E-02	U	pCi/g		1.51E-01		
		CO-60	-9.82E-04 +- 1.2E-02	U	pCi/g		2.14E-02	5.00E-02	
		CS-137	3.13E-02 +- 1.6E-02	U	pCi/g		2.87E-02	1.00E-01	
		EU-152	-2.29E-02 +- 3.4E-02	U	pCi/g		5.48E-02	1.00E-01	
		EU-154	3.55E-02 +- 4.5E-02	U	pCi/g		8.19E-02	1.00E-01	
		EU-155	7.10E-03 +- 3.9E-02	U	pCi/g		6.67E-02	1.00E-01	
J1K7D3 DUP									
	MKXP11AF	AG-108M	5.91E-03 +- 1.7E-02	U	pCi/g		3.02E-02		95.3
		AMERICIUM 241	-3.64E-03 +- 4.3E-02	U	pCi/g		7.09E-02		233.3
		CO-60	6.52E-03 +- 2.2E-02	U	pCi/g		3.92E-02	5.00E-02	271.0
		CS-137	6.11E-02 +- 2.6E-02	U	pCi/g		4.66E-02	1.00E-01	64.5
		EU-152	-1.14E-02 +- 6.6E-02	U	pCi/g		9.70E-02	1.00E-01	-66.8
		EU-154	-1.17E-02 +- 6.4E-02	U	pCi/g		1.11E-01	1.00E-01	396.9
		EU-155	-3.42E-02 +- 5.8E-02	U	pCi/g		9.66E-02	1.00E-01	-304.8
1196056 7196_CR6									
J1K7D3									
	MKXP11AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	MKXP11AE	HEXCHROME	2.22E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	3.50E-01	35.5

No. of Results: 16

TestAmerica

rptSTLRchSaSummary2 V5.2.15 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: 21-Jul-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 47530 **SDG No.:** JP0227

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
GAMMA_GS								
1196109 BLANK QC,								
MKX161AA	AG-108M	7.07E-03 +- 1.1E-02	U	pCi/g				2.04E-02
	AMERICIUM 241	3.26E-03 +- 1.8E-02	U	pCi/g				3.17E-02
	CO-60	-1.39E-03 +- 1.3E-02	U	pCi/g				2.39E-02
	CS-137	-2.17E-03 +- 1.3E-02	U	pCi/g				2.34E-02
	EU-152	-1.87E-02 +- 3.5E-02	U	pCi/g				5.98E-02
	EU-154	-1.09E-02 +- 3.7E-02	U	pCi/g				6.64E-02
	EU-155	-7.77E-03 +- 2.6E-02	U	pCi/g				4.43E-02
1196109 LCS,								
MKX161AC	CS-137	1.05E+00 +- 1.4E-01		pCi/g		97%	0.0	2.77E-02
7196_CR6								
1196056 MATRIX SPIKE, J1K7D3								
MKXP11AD	HEXCHROME	1.23E+01 +- 0.0E+00		mg/kg	N/A	97%	0.0	1.55E-01
1196056 LCS,								
MKXT81AC	HEXCHROME	1.93E+01 +- 0.0E+00		mg/kg	N/A	96%	0.0	1.55E-01
1196056 BLANK QC,								
MKXT81AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 11

TestAmerica
rptSTLRchQcSummary V5.2.15
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: 21-Jul-11

Lab Name:	TestAmerica	**SDG:**	JP0227	**Collection Date:**	7/14/2011 2:00:00 PM
Lot-Sample No.:	J1G140512-1	**Report No. :**	47530	**Received Date:**	7/14/2011 5:50:00 PM
Client Sample ID:	J1K7D3	**COC No. :**	RC-074-232	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1196056	7196_CR6			**Work Order:** MKXP11AA			**Report DB ID:** 9MKXP110					
HEXCHROME	***1.55E-01***	U		0.0E+00	1.55E-01	mg/kg	N/A	*1.*	7/20/11 08:30 a		2.5958	
							1.55E-01	*N/A*			g	
Batch: 1196109	GAMMA_GS			**Work Order:** MKXP11AC			**Report DB ID:** 9MKXP110					
AG-108M	***2.10E-03***	U	1.0E-02	1.0E-02	1.74E-02	pCi/g		*0.12*	7/18/11 01:31 p		399.1	GER11$1
								0.42			g	
AMERICIUM 241	***4.73E-02***	U	8.9E-02	8.9E-02	1.51E-01	pCi/g		*0.31*	7/18/11 01:31 p		399.1	GER11$1
								(1.1)			g	
CO-60	***-9.82E-04***	U	1.2E-02	1.2E-02	2.14E-02	pCi/g		*-0.05*	7/18/11 01:31 p		399.1	GER11$1
							5.00E-02	*-0.16*			g	
CS-137	***3.13E-02***	U	1.6E-02	1.6E-02	2.87E-02	pCi/g		*(1.1)*	7/18/11 01:31 p		399.1	GER11$1
							1.00E-01	*(4.)*			g	
EU-152	***-2.29E-02***	U	3.4E-02	3.4E-02	5.48E-02	pCi/g		*-0.42*	7/18/11 01:31 p		399.1	GER11$1
							1.00E-01	*-(1.4)*			g	
EU-154	***3.55E-02***	U	4.5E-02	4.5E-02	8.19E-02	pCi/g		*0.43*	7/18/11 01:31 p		399.1	GER11$1
							1.00E-01	*(1.6)*			g	
EU-155	***7.10E-03***	U	3.9E-02	3.9E-02	6.67E-02	pCi/g		*0.11*	7/18/11 01:31 p		399.1	GER11$1
							1.00E-01	*0.36*			g	

No. of Results: 8 **Comments:**

TestAmerica
rptSTLRchSample
V5.2.15 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

Date: 21-Jul-11

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	JP0227	**Collection Date:**	7/14/2011 2:00:00 PM
Lot-Sample No.:	**J1G140512-1**	**Report No. :**	47530	**Received Date:**	7/14/2011 5:50:00 PM
Client Sample ID:	**J1K7D3**	**COC No. :**	RC-074-232	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1196056	7196_CR6			**Work Order:** MKXP11AE		**Report DB ID:** MKXP11ER			**Orig Sa DB ID:** 9MKXP110			
HEXCHROME	2.22E-01			0.0E+00	1.55E-01	mg/kg	N/A	(1.4)	7/20/11 08:30 a		2.5667	
	1.55E-01	U	**RPD**	**35.5**		3.50E-01		N/A			g	

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

TestAmerica
rptSTLRchDupV5.2
.15 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.
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: 21-Jul-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	JP0227	**Collection Date:**	7/14/2011 2:00:00 PM
Lot-Sample No.:	J1G140512-1	**Report No. :**	47530	**Received Date:**	7/14/2011 5:50:00 PM
Client Sample ID:	J1K7D3 DUP	**COC No. :**	RC-074-232	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1196109	GAMMA_GS			**Work Order:**	MKXP11AF	**Report DB ID:**	MKXP11FR		**Orig Sa DB ID:** 9MKXP110			
AG-108M	5.91E-03	U	1.7E-02	1.7E-02	3.02E-02	pCi/g		0.2	7/18/11 05:31 p		399.1	GER14$1
	2.10E-03	U	**RPD**	**95.3**				0.68			g	
AMERICIUM 241	-3.64E-03	U	4.3E-02	4.3E-02	7.09E-02	pCi/g		-0.05	7/18/11 05:31 p		399.1	GER14$1
	4.73E-02	U	**RPD**	**233.3**				-0.17			g	
CO-60	6.52E-03	U	2.2E-02	2.2E-02	3.92E-02	pCi/g		0.17	7/18/11 05:31 p		399.1	GER14$1
	-9.82E-04	U	**RPD**	**271.0**		5.00E-02		0.6			g	
CS-137	6.11E-02	U	2.6E-02	2.6E-02	4.66E-02	pCi/g		(1.3)	7/18/11 05:31 p		399.1	GER14$1
	3.13E-02	U	**RPD**	**64.5**		1.00E-01		(4.8)			g	
EU-152	-1.14E-02	U	6.6E-02	6.6E-02	9.70E-02	pCi/g		-0.12	7/18/11 05:31 p		399.1	GER14$1
	-2.29E-02	U	**RPD**	**-66.8**		1.00E-01		-0.35			g	
EU-154	-1.17E-02	U	6.4E-02	6.4E-02	1.11E-01	pCi/g		-0.11	7/18/11 05:31 p		399.1	GER14$1
	3.55E-02	U	**RPD**	**396.9**		1.00E-01		-0.37			g	
EU-155	-3.42E-02	U	5.8E-02	5.8E-02	9.66E-02	pCi/g		-0.35	7/18/11 05:31 p		399.1	GER14$1
	7.10E-03	U	**RPD**	**-304.8**		1.00E-01		-(1.2)			g	

No. of Results: 7 **Comments:**

TestAmerica
rptSTLRchDupV5.2
.15 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.
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

BLANK RESULTS

Date: 21-Jul-11

Lab Name: TestAmerica

Matrix: SOIL

SDG: JP0227

Report No. : 47530

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1196056	7196_CR6			**Work Order:**	MKXT81AA		**Report DB ID:**	MKXT81AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	7/20/11 08:30 a		2.5	
						1.55E-01		N/A			g	
Batch: 1196109	GAMMA_GS			**Work Order:**	MKX161AA		**Report DB ID:**	MKX161AB				
AG-108M	7.07E-03	U	1.1E-02	1.1E-02	2.04E-02	pCi/g		0.35	7/18/11 02:42 p		348.0	GER15$1
								(1.3)			g	
AMERICIUM 241	3.26E-03	U	1.8E-02	1.8E-02	3.17E-02	pCi/g		0.1	7/18/11 02:42 p		348.0	GER15$1
								0.37			g	
CO-60	-1.39E-03	U	1.3E-02	1.3E-02	2.39E-02	pCi/g		-0.06	7/18/11 02:42 p		348.0	GER15$1
						5.00E-02		-0.21			g	
CS-137	-2.17E-03	U	1.3E-02	1.3E-02	2.34E-02	pCi/g		-0.09	7/18/11 02:42 p		348.0	GER15$1
						1.00E-01		-0.32			g	
EU-152	-1.87E-02	U	3.5E-02	3.5E-02	5.98E-02	pCi/g		-0.31	7/18/11 02:42 p		348.0	GER15$1
						1.00E-01		-(1.1)			g	
EU-154	-1.09E-02	U	3.7E-02	3.7E-02	6.64E-02	pCi/g		-0.16	7/18/11 02:42 p		348.0	GER15$1
						1.00E-01		-0.58			g	
EU-155	-7.77E-03	U	2.6E-02	2.6E-02	4.43E-02	pCi/g		-0.18	7/18/11 02:42 p		348.0	GER15$1
						1.00E-01		-0.59			g	

No. of Results: 8 **Comments:**

TestAmerica
rptSTLRchBlank
V5.2.15 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: 21-Jul-11

Lab Name: TestAmerica

Matrix: SOIL

SDG: JP0227

Report No. : 47530

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 1196056	7196_CR6			**Work Order:**	MKXT81AC		**Report DB ID:**	MKXT81AS					
HEXCHROME	1.93E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		96%	7/20/11 08:30 a	2.5	
							Rec Limits:	80	120	0.0		g	
Batch: 1196109	GAMMA_GS			**Work Order:**	MKX161AC		**Report DB ID:**	MKX161CS					
CS-137	1.05E+00		1.4E-01	1.4E-01	2.77E-02	pCi/g		1.08E+00	1.1E-02	97%	7/18/11 05:35 p	350.1	GER11$1
							Rec Limits:	70	130	0.0		g	

No. of Results: 2 **Comments:**

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

rptSTLRchLcs
V5.2.15 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 21-Jul-11

Lab Name: TestAmerica **SDG:** JP0227

Lot-Sample No.: J1G140512-1, J1K7D3 **Report No. :** 47530 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 1196056	**Work Order:** MKXP11AD			**Report DB ID:** MKXP11CW			**Orig Sa DB ID:** 9MKXP110					
HEXCHROME	1.23E+01			0.0E+00	1.55E-01	mg/kg	N/A	97.14%	1.26E+01	7/20/11 08:30 a	2.5741	7196_CR6
	1.55E-01										g	

Number of Results: 1

Comments:

TestAmerica
rptSTLRchMs
V5.2.15 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

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

7/19/2011 9:15:25 AM

Lot No., Due Date: J1G140512; 07/21/2011
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 1196109; RGAMMA Gamma by GER
SDG, Matrix: JP0227; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?		✓	
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
NCM 10-18798

First Level Lisa Autonson Date 7/19/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 1196109

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓	✓	
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Non-conformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: SRDL = 0.1 pci/g
See NCM #: 10-18798

Second Level Review: [signature] Date: 7/19/11

LS-038B, Rev. 10, 9/07

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-18798
NCM Initiated By: Lisa Antonson
Date Opened: 07/19/2011
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Counting
Tests: Gamma by GER
Lot #'s (Sample #'s): J1G140512 (1), J1G150000 (109),
QC Batches: 1196109,

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	07/19/2011	MDA is slightly above CRDL for EU-154 for sample MKXP11AF.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	07/19/2011	none

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 7/19/2011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): 1196056

Lab Sample Numbers or SDG: **JP0227**

Method/Test/Parameter: **Cr+6 in SOLID / RL-WC-004**

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 within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
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 QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?	✓			✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
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:

Analyst: H.B. Date: 7-20-11

Second-Level Review: Date: 7/21/11

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-074-232	Page 1 of 1

Collector: K Lucas	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~8L~~ 8B 7-14-11	Data Turnaround: ~~21~~ 7 Days 7-14-11		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location: 100-D-50:6		SAF No.: RC-074
Ice Chest No.: N/A	Field Logbook No.: EL-1607-10	COA: 00D5062600	Method of Shipment: HAND DELIVER
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

REVIEWED BY DATE 7-14-11

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None					
Type of Container	G/P	G/P	G/P	aG	aG	G/P					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	60mL	60mL	60mL	60mL	~~500g~~ 500ml	AB 7-14-11				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 9056 Modified NO2/NO3 353.1; [illegible] (Soil) - 9045	Semi-VOA - 8270A (TCL)	PCBs - 8032	See item (2) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time										
J1K7D3	SOIL	7-14-11	1400		X				X	MIXPL			

J1G140512

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
K Lucas	7-14-11 1510	DWOOLERY	7-14-11 1510
DWOOLERY	7-14-11 1710	A. Freier A. Freier	7-14-11 1710
WCH A. Freier A. Freier	7-14-11 1750	TAL Ryan Retana RYAN RETANA	7-14-11 1750

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client 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) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Silver-108 metastable}

SDG JP0227
Due 7-21-11

JP0227

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

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THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 7-14-11 / 1750 GM Screen Result: (Airlock) .02 Initials [JB]
(Sample Receiving) .02 Initials [JB]

Client: WCH SDG #: JP0227 NA [ ] SAF #: RC-074 NA [ ]

Lot Number: J1G140512

Chain of Custody # RC-074-232

Shipping Container ID: hand delivered NA [ ]

Samples received inside shipping container/cooler/box Yes [JB] 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 [JB]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [JB]
3. Cooler temperature: ON ICE ~~10.5 °C~~ ~~NA [JB]~~ SKS 7/15/11
4. Vermiculite/packing materials is NA [JB] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [JB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 1 Sample 2 ~~bottles~~ AG
7. Containers received: 1 x 60 mL Ag, 1 x 500 mL Ag
8. Sample holding times exceeded? NA [ ] Yes [ ] No [JB]
9. Samples have:
   ____ tape
   JB custody seals
   ____ hazard labels
   JB appropriate sample labels

J1G140512

10. Matrix:
    JB A (FLT, Wipe, Solid, Soil)
    ____ S (Air, Niosh 7400)
    JB I (Water)
    ____ T (Biological, Ni-63)
11. Samples:
    JB are in good condition
    ____ are broken
    ____ Other
    ____ are leaking
    ____ have air bubbles (Only for samples requiring no head space)
12. Sample pH appropriate for analysis requested Yes [ ] No [ ] NA [JB]
    (If acidification is necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition on table overleaf)

    RPL ID # of preservative used :
13. Were any anomalies identified in sample receipt? Yes [ ] No [JB]
14. Description of anomalies (include sample numbers): NA [JB]

LS-023, Rev. 14, 06/11 See over for additional information.

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15. Sample Location, Sample Collector Listed on COC? * Yes [✓] No [ ]
*For documentation only. No corrective action needed.

16. Additional Information: N/A

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

Sample Custodian: Juan Back / 1750 Date: 7-14-11

Client Informed on N/A by N/A Person contacted N/A

[✓] No action necessary, process as is

Project Manager Sandra Segan Date 7/15/11

SAMPLE ID	Initial pH	Acid Amt	Final pH	SAMPLE ID	Initial pH	Acid Amt	Final pH

SKS 7/15/11

SKS 7/15/11

J16140512

See over for additional information.

7/18/2011 10:59:43 AM

Sample Preparation/Analysis

TRLSP.NLB Balance Id:1120421763

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

AX Gamma Prp PRP003/GAM001
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 07/21/2011

Sep1 DT/Tm Tech:

Batch: 1196109 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 1196056 DWEA, 1196109 AXTA,

Prep Tech: SannohS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MKXP1-1-AC J1G140512-1-SAMP 07/14/2011 14:00		AmtRec: 1X60MLAG;1X500MLAG	399.10g,in #Containers: 2	399.10g		S200	200	~~G14~~ G11	1651	7/18/11	
2 MKXP1-1-AF-X J1G140512-1-DUP 07/14/2011 14:00		AmtRec: 1X60MLAG;1X500MLAG	fi ✓ #Containers: 2					G14	2051	7/18/11 OKD	
3 MKX16-1-AA-B J1G150000-109-BLK 07/15/2011 11:19 pd		AmtRec:	348.00g,in #Containers: 1	348.00g				~~G11~~ G11	1802	7/18/11	
4 MKX16-1-AC-C J1G150000-109-LCS 07/15/2011 11:19 pd		AmtRec:	350.10g,in #Containers: 1	350.10g	qc20009 08/04/09,pd 09/01/09,r			G11	2055	7/18/11 OKD	

Comments: MKXP1-SAMP "Comments ISV-Recount DUP on a different detecor."

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

MKXP11AC-SAMP Constituent List:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

MKX161AA-BLK:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

TestAmerica Laboratories, Inc.

22

7/18/2011 10:59:44 AM

Sample Preparation/Analysis

AX Gamma Prp PRP003/GAM001
TA Gamma by HPGE
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: SannohS

AnalyDueDate: 07/21/2011

Batch: 1196109 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
MKX161AC-LCS:											
Cs-137	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35	Cs-137DA	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
K-40	RDL:--	pCi/g	LCL:70	UCL:130	RPD:35	Ra-226	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
RA-228	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35	RA-228DA	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35
U-238	RDL:	pCi/g	LCL:70	UCL:130	RPD:35						

MKXP11AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MKX161AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MKX161AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

7/19/2011 9:07:45 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/19/2010, 7/24/2011, Batch: '1196109', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1196109						
AC		Rev1C	**SannohS**	7/18/2011 10:06:51		
SC			MaucieriS	IsBatched	7/15/2011 11:22:37 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	7/18/2011 10:06:51 AM	rl-gam-001 revision 1
SC			ClarkR	InCnt1	7/18/2011 11:18:53 AM	RL-CI-007 REVISION 1
SC			DawkinsO	CalcC	7/19/2011 12:19:13 AM	RL-CI-007 REVISION 1
SC			antonsonl	Rev1C	7/19/2011 9:04:49 AM	RL-DR-001 Rev 2
AC			**ClarkR**	7/18/2011 11:18:53		
AC			**DawkinsO**	7/19/2011 12:19:13		
AC			**antonsonl**	7/19/2011 9:04:49		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 4

ICOCFractions v4.8.44

7/15/2011 9:48:10 AM

Sample Preparation/Analysis

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

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

AnalyDueDate: 07/21/2011

Batch: 1196056 SOIL mg/kg PM, Quote: RW2, 27038
SEQ Batch, Test: None All Tests: AXTA, 1196056 DWEA,

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: JP0227

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MKXP1-1-AA J1G140512-1-SAMP 07/14/2011 14:00		2.5958 AmtRec: 1X60MLAG;1X500MLAG	#Containers: 2					Scr:	Alpha:	Beta:
2 MKXP1-1-AD-S J1G140512-1-MS 07/14/2011 14:00		2.5741 AmtRec: 1X60MLAG;1X500MLAG	#Containers: 2					Scr:	Alpha:	Beta:
3 MKXP1-1-AE-X J1G140512-1-DUP 07/14/2011 14:00		2.5667 / phcro4: 2.6598 AmtRec: 1X60MLAG;1X500MLAG	#Containers: 2					Scr:	Alpha:	Beta:
4 MKXT8-1-AA-B J1G150000-56-BLK 07/15/2011 09:48 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
5 MKXT8-1-AC-C J1G150000-56-LCS 07/15/2011 09:48 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

Comments:

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

MKXP11AA-SAMP Constituent List:
HEXCHROME RDL:0.1548 mg/kg LCL:80 UCL:120 RPD:20

Test America Laboratories, Inc.

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: 07/21/2011

Batch: 1196056 mg/kg
SEQ Batch, Test: None

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

MKXP11AD-MS Constituent List:

MKXT81AA-BLK:

MKXT81AC-LCS:

MKXP11AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MKXP11AD-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MKXT81AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MKXT81AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-18142-1

SDG Number: JP0227

Job Description: SAF# RC-074

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

Attention: Joan H Kessner

RECEIVED 2011

Approved for release.
Kae E Yoder
Project Manager II
7/25/2011 3:28 PM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
07/25/2011

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

The Lab Certification ID# is E87667.

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

TestAmerica Laboratories, Inc.
TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002
Tel (303) 736-0100 Fax (303) 431-7171 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-18142-1

SDG #: JP0227
SAF#: RC-074

Date SDG Closed: July 16, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1K7D3	280-18142-1	6010/7471/9056M/353.1/9045/8270A/8082	6010B/7471A/9056M/353.2/9045C/8270C/8082

The Nitrate+Nitrite method substitution noted above, as agreed to by all parties, has no technical impact on the data.

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

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

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

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

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

RECEIPT
The sample was received on 7/16/2011; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 3.6 C.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in sample J1K7D3 due to matrix interferences. It can be noted that these compounds were adequately resolved in associated standards, indicating the instrument is achieving separation. The combined peak was reported as Benzo(b)fluoranthene, while Benzo(k)fluoranthene was reported as undetected even though it may be present. Associated results have been flagged with a "K".

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
Surrogate Decachlorobiphenyl was recovered outside the control limits, biased low, in the MSD aliquot of the MS/MSD performed on sample J1K7D3. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-76931 indicates that physical and chemical interferences are present for Cobalt. Results have been flagged with an "X".

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1K7D3; therefore, control limits are not applicable.

The Matrix Spike performed on sample J1K7D3 exhibited percent recoveries outside the control limits for Silicon and Zinc, and the associated sample results have been flagged "N". There is no indication that the analytical systems were operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The duplicate analysis of sample J1K7D3 exhibited RPD data outside the control limits for Chromium and Mercury, and the associated sample results have been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - MCAWW 353.2 - NITRATE+NITRITE as N
No anomalies were encountered.

GENERAL CHEMISTRY - SW846 9056M - ANIONS
Low levels of Chloride are present in the method blank associated with batch 280-77625. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The Matrix Spike performed on sample J1K7D3 exhibited percent recoveries outside the control limits for Orthophosphate as P and Fluoride, and the associated sample results have been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9045C - PH
No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-18142-1
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Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Analyzed for but not detected.
	K	Benzo (b&k) fluoranthene are unresolved due to matrix, result is reported as Benzo(b)fluoranthene.
	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 Semi VOA		
	U	Analyzed for but not detected.
	*	Surrogate exceeds the control limit
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	M	Sample duplicate precision not met.
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Lab Section	Qualifier	Description
General Chemistry		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	C	The analyte was detected in both the sample and the assoicated QC blank, and the sample concentration was </= 5X the blank concentration.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds (GC/MS)	TAL DEN	SW846 8270C	
Ultrasonic Extraction			SW846 3550C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction			SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals			SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury			SW846 7471A
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Deionized Water Leaching Procedure			ASTM DI Leach
pH	TAL DEN	SW846 9045C	
Deionized Water Leaching Procedure			ASTM DI Leach
Anions, Ion Chromatography	TAL DEN	SW846 9056M	
Deionized Water Leaching Procedure			ASTM DI Leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

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

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: 280-18142-1
Sdg Number: JP0227

Method	Analyst	Analyst ID
SW846 8270C	Kiekel, Daniel C	DCK
SW846 8082	Pavlakovich, Adam M	AMP
SW846 6010B	Harre, John K	JKH
SW846 7471A	Niman, Katie M	KMN
MCAWW 353.2	Scott, Samantha J	SJS
SW846 9045C	Taylor, Juli M	JMT
SW846 9056M	Kudla, Ewa	EK
ASTM D-2216	Berry III, Paul B	PBB

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-18142-1	J1K7D3	Solid	07/14/2011 1400	07/16/2011 0930

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Client Sample ID: **J1K7D3**

Lab Sample ID: 280-18142-1
Client Matrix: Solid
% Moisture: 10.6

Date Sampled: 07/14/2011 1400
Date Received: 07/16/2011 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Prep Method:	3550C	Prep Batch:	280-77112	Lab File ID:	K1246.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	07/19/2011 1802			Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	360
Acenaphthylene		19	U	19	360
Anthracene		23	J	19	360
Benzo[a]anthracene		51	J	22	360
Benzo[a]pyrene		37	J	22	360
Benzo[b]fluoranthene		72	J K	29	360
Benzo[ghi]perylene		26	J	18	360
Benzo[k]fluoranthene		44	U K	44	360
Bis(2-chloroethoxy)methane		25	U	25	360
Bis(2-chloroethyl)ether		18	U	18	360
bis (2-chloroisopropyl) ether		25	U	25	360
Bis(2-ethylhexyl) phthalate		51	U	51	360
4-Bromophenyl phenyl ether		21	U	21	360
Butyl benzyl phthalate		47	U	47	360
Carbazole		40	U	40	360
4-Chloroaniline		90	U	90	360
4-Chloro-3-methylphenol		73	U	73	360
2-Chloronaphthalene		11	U	11	360
2-Chlorophenol		23	U	23	360
4-Chlorophenyl phenyl ether		23	U	23	360
Chrysene		56	J	30	360
Dibenz(a,h)anthracene		21	U	21	360
Dibenzofuran		22	U	22	360
1,2-Dichlorobenzene		24	U	24	360
1,3-Dichlorobenzene		13	U	13	360
1,4-Dichlorobenzene		15	U	15	360
3,3'-Dichlorobenzidine		99	U	99	730
2,4-Dichlorophenol		11	U	11	360
Diethyl phthalate		29	U	29	360
2,4-Dimethylphenol		73	U	73	360
Dimethyl phthalate		25	U	25	360
Di-n-butyl phthalate		32	U	32	360
4,6-Dinitro-2-methylphenol		360	U	360	730
2,4-Dinitrophenol		370	U	370	910
2,4-Dinitrotoluene		73	U	73	360
2,6-Dinitrotoluene		31	U	31	360
Di-n-octyl phthalate		16	U	16	360
Fluoranthene		89	J	40	360
Fluorene		20	U	20	360
Hexachlorobenzene		32	U	32	360
Hexachlorobutadiene		11	U	11	360
Hexachlorocyclopentadiene		55	U	55	360
Hexachloroethane		24	U	24	360
Indeno[1,2,3-cd]pyrene		24	U	24	360
Isophorone		19	U	19	360
2-Methylnaphthalene		21	U	21	360

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Client Sample ID: **J1K7D3**

Lab Sample ID: 280-18142-1
Client Matrix: Solid
% Moisture: 10.6

Date Sampled: 07/14/2011 1400
Date Received: 07/16/2011 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Prep Method:	3550C	Prep Batch:	280-77112	Lab File ID:	K1246.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	07/19/2011 1802			Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	360
3 & 4 Methylphenol		36	U	36	360
Naphthalene		34	U	34	360
2-Nitroaniline		55	U	55	360
3-Nitroaniline		81	U	81	360
4-Nitroaniline		80	U	80	360
Nitrobenzene		24	U	24	360
2-Nitrophenol		11	U	11	360
4-Nitrophenol		110	U	110	730
N-Nitrosodi-n-propylamine		34	U	34	360
N-Nitrosodiphenylamine		23	U	23	360
Pentachlorophenol		360	U	360	730
Phenanthrene		81	J	19	360
Phenol		20	U	20	360
Pyrene		76	J	13	360
1,2,4-Trichlorobenzene		31	U	31	360
2,4,5-Trichlorophenol		11	U	11	360
2,4,6-Trichlorophenol		11	U	11	360

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	88		50 - 120
2-Fluorophenol	78		53 - 120
Nitrobenzene-d5	74		50 - 120
Phenol-d5	83		52 - 120
Terphenyl-d14	91		55 - 120
2,4,6-Tribromophenol	72		51 - 120

Client: Washington Closure Hanford

Job Number: 280-18142-1
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Client Sample ID: **J1K7D3**

Lab Sample ID: 280-18142-1
Client Matrix: Solid
% Moisture: 10.6

Date Sampled: 07/14/2011 1400
Date Received: 07/16/2011 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Prep Method:	3550C	Prep Batch:	280-77112	Lab File ID:	K1246.D
Dilution:	1.0			Initial Weight/Volume:	30.4 g
Analysis Date:	07/19/2011 1802			Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.88	2200	N J
	Unknown	2.97	380	N J
	Unknown	3.37	6000	N J

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Client Sample ID: **J1K7D3**

Lab Sample ID: 280-18142-1
Client Matrix: Solid
% Moisture: 10.6

Date Sampled: 07/14/2011 1400
Date Received: 07/16/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-77620	Instrument ID:	GCS_P3
Prep Method:	3550C	Prep Batch:	280-77111	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	07/20/2011 1313			Injection Volume:	1 uL
Prep Date:	07/18/2011 1444			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.0	U	3.0	11
Aroclor 1221		8.8	U	8.8	18
Aroclor 1232		2.2	U	2.2	11
Aroclor 1242		5.1	U	5.1	11
Aroclor 1248		5.1	U	5.1	11
Aroclor 1254		2.9	U	2.9	11
Aroclor 1260		2.9	U	2.9	11

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	68		59 - 130
Tetrachloro-m-xylene	89		53 - 128

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Client Sample ID: **J1K7D3**

Lab Sample ID: 280-18142-1
Client Matrix: Solid
% Moisture: 10.6

Date Sampled: 07/14/2011 1400
Date Received: 07/16/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-77377	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-76931	Lab File ID:	25A1071911.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	07/19/2011 1529			Final Weight/Volume:	100 mL
Prep Date:	07/18/2011 1500				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6450		1.6	5.2
Antimony		0.40	U	0.40	0.63
Arsenic		2.7		0.69	1.0
Barium		63.3		0.079	0.52
Beryllium		0.12	B	0.034	0.21
Boron		1.5	B	1.0	2.1
Cadmium		0.12	B	0.043	0.21
Calcium		12000		14.7	52.3
Chromium		32.1	M	0.061	0.21
Cobalt		7.7	X	0.10	1.0
Copper		15.7		0.23	1.0
Iron		23200		4.0	5.2
Lead		15.9		0.28	0.52
Magnesium		3850		3.9	20.9
Manganese		268		0.10	1.0
Molybdenum		0.44	B	0.27	2.1
Nickel		11.3		0.13	4.2
Potassium		1020		42.9	314
Selenium		0.90	U	0.90	1.0
Silicon		357	N	5.9	10.5
Silver		0.17	U	0.17	0.21
Sodium		376		61.7	125
Vanadium		46.6		0.098	2.1
Zinc		58.7	N	0.42	1.0

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-77622	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-77044	Lab File ID:	110720AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Analysis Date:	07/20/2011 1724			Final Weight/Volume:	50 mL
Prep Date:	07/20/2011 1415				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.031	M	0.0060	0.018

General Chemistry

Client Sample ID: **J1K7D3**

Lab Sample ID: 280-18142-1
Client Matrix: Solid
% Moisture: 10.6

Date Sampled: 07/14/2011 1400
Date Received: 07/16/2011 0930

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	0.41	B	mg/Kg	0.34	0.84	1.0	353.2
Analysis Batch: 280-77573	Analysis Date: 07/20/2011 1153						DryWt Corrected: Y
Chloride-Soluble	5.1	B C	mg/Kg	2.2	5.6	1.0	9056M
Analysis Batch: 280-77625	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y
Nitrate as N-Soluble	1.0	B	mg/Kg	0.35	2.8	1.0	9056M
Analysis Batch: 280-77626	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y
Bromide-Soluble	0.43	U	mg/Kg	0.43	2.2	1.0	9056M
Analysis Batch: 280-77625	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y
Nitrite as N-Soluble	0.38	U	mg/Kg	0.38	2.8	1.0	9056M
Analysis Batch: 280-77626	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y
Orthophosphate as P-Soluble	1.4	U N	mg/Kg	1.4	5.6	1.0	9056M
Analysis Batch: 280-77626	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y
Sulfate-Soluble	107		mg/Kg	1.9	5.6	1.0	9056M
Analysis Batch: 280-77625	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y
Fluoride-Soluble	0.92	U N	mg/Kg	0.92	5.6	1.0	9056M
Analysis Batch: 280-77625	Analysis Date: 07/20/2011 1036						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	11.0		SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-77440	Analysis Date: 07/19/2011 1527						DryWt Corrected: N
Percent Moisture	10.6		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-77101	Analysis Date: 07/18/2011 1228						DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 280-77112					
LCS 280-77112/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-77112/1-A	Method Blank	T	Solid	3550C	
280-18142-1	J1K7D3	T	Solid	3550C	
280-18142-1MS	Matrix Spike	T	Solid	3550C	
280-18142-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-77403					
LCS 280-77112/2-A	Lab Control Sample	T	Solid	8270C	280-77112
MB 280-77112/1-A	Method Blank	T	Solid	8270C	280-77112
280-18142-1	J1K7D3	T	Solid	8270C	280-77112
280-18142-1MS	Matrix Spike	T	Solid	8270C	280-77112
280-18142-1MSD	Matrix Spike Duplicate	T	Solid	8270C	280-77112

Report Basis
T = Total

GC Semi VOA					
Prep Batch: 280-77111					
LCS 280-77111/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-77111/1-A	Method Blank	T	Solid	3550C	
280-18142-1	J1K7D3	T	Solid	3550C	
280-18142-1MS	Matrix Spike	T	Solid	3550C	
280-18142-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-77620					
LCS 280-77111/2-A	Lab Control Sample	T	Solid	8082	280-77111
MB 280-77111/1-A	Method Blank	T	Solid	8082	280-77111
280-18142-1	J1K7D3	T	Solid	8082	280-77111
280-18142-1MS	Matrix Spike	T	Solid	8082	280-77111
280-18142-1MSD	Matrix Spike Duplicate	T	Solid	8082	280-77111

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-76931					
LCS 280-76931/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-76931/1-A	Method Blank	T	Solid	3050B	
280-18142-1	J1K7D3	T	Solid	3050B	
280-18142-1DU	Duplicate	T	Solid	3050B	
280-18142-1MS	Matrix Spike	T	Solid	3050B	
Prep Batch: 280-77044					
LCS 280-77044/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-77044/1-A	Method Blank	T	Solid	7471A	
280-18142-1	J1K7D3	T	Solid	7471A	
280-18142-1DU	Duplicate	T	Solid	7471A	
280-18142-1MS	Matrix Spike	T	Solid	7471A	
Analysis Batch:280-77377					
LCS 280-76931/2-A	Lab Control Sample	T	Solid	6010B	280-76931
MB 280-76931/1-A	Method Blank	T	Solid	6010B	280-76931
280-18142-1	J1K7D3	T	Solid	6010B	280-76931
280-18142-1DU	Duplicate	T	Solid	6010B	280-76931
280-18142-1MS	Matrix Spike	T	Solid	6010B	280-76931
Analysis Batch:280-77622					
LCS 280-77044/2-A	Lab Control Sample	T	Solid	7471A	280-77044
MB 280-77044/1-A	Method Blank	T	Solid	7471A	280-77044
280-18142-1	J1K7D3	T	Solid	7471A	280-77044
280-18142-1DU	Duplicate	T	Solid	7471A	280-77044
280-18142-1MS	Matrix Spike	T	Solid	7471A	280-77044

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-77101					
280-18142-1	J1K7D3	T	Solid	D-2216	
280-18142-1DU	Duplicate	T	Solid	D-2216	
Prep Batch: 280-77289					
280-18142-1	J1K7D3	S	Solid	DI Leach	
280-18142-1DU	Duplicate	S	Solid	DI Leach	
Prep Batch: 280-77321					
LCS 280-77321/1-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-77321/2-A	Method Blank	S	Solid	DI Leach	
280-18142-1	J1K7D3	S	Solid	DI Leach	
280-18142-1DU	Duplicate	S	Solid	DI Leach	
280-18142-1MS	Matrix Spike	S	Solid	DI Leach	
Prep Batch: 280-77396					
LCS 280-77396/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-77396/1-A	Method Blank	S	Solid	DI Leach	
280-18142-1	J1K7D3	S	Solid	DI Leach	
280-18142-1DU	Duplicate	S	Solid	DI Leach	
280-18142-1MS	Matrix Spike	S	Solid	DI Leach	
Analysis Batch:280-77440					
LCS 280-77440/4	Lab Control Sample	T	Water	9045C	
LCSD 280-77440/5	Lab Control Sample Duplicate	T	Water	9045C	
280-18142-1	J1K7D3	S	Solid	9045C	
280-18142-1DU	Duplicate	S	Solid	9045C	
Analysis Batch:280-77573					
LCS 280-77396/2-A	Lab Control Sample	S	Solid	353.2	
MB 280-77396/1-A	Method Blank	S	Solid	353.2	
280-18142-1	J1K7D3	S	Solid	353.2	
280-18142-1DU	Duplicate	S	Solid	353.2	
280-18142-1MS	Matrix Spike	S	Solid	353.2	
Analysis Batch:280-77625					
LCS 280-77321/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-77321/2-A	Method Blank	S	Solid	9056M	
280-18142-1	J1K7D3	S	Solid	9056M	
280-18142-1DU	Duplicate	S	Solid	9056M	
280-18142-1MS	Matrix Spike	S	Solid	9056M	

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-77626					
LCS 280-77321/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-77321/2-A	Method Blank	S	Solid	9056M	
280-18142-1	J1K7D3	S	Solid	9056M	
280-18142-1DU	Duplicate	S	Solid	9056M	
280-18142-1MS	Matrix Spike	S	Solid	9056M	

Report Basis
S = Soluble
T = Total

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77112

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-77112/1-A	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Client Matrix:	Solid	Prep Batch:	280-77112	Lab File ID:	K1239.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	07/19/2011 1522	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	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	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	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	64	U	64	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	21	U	21	320
1,3-Dichlorobenzene	12	U	12	320
1,4-Dichlorobenzene	13	U	13	320
3,3'-Dichlorobenzidine	88	U	88	640
2,4-Dichlorophenol	9.8	U	9.8	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	330	U	330	810
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	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	21	U	21	320
Isophorone	17	U	17	320

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77112

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-77112/1-A	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Client Matrix:	Solid	Prep Batch:	280-77112	Lab File ID:	K1239.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	07/19/2011 1522	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	19	U	19	320
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	21	U	21	320
2-Nitrophenol	9.8	U	9.8	320
4-Nitrophenol	95	U	95	640
N-Nitrosodi-n-propylamine	30	U	30	320
N-Nitrosodiphenylamine	21	U	21	320
Pentachlorophenol	320	U	320	640
Phenanthrene	17	U	17	320
Phenol	18	U	18	320
Pyrene	12	U	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	Acceptance Limits
2-Fluorobiphenyl	82	50 - 120
2-Fluorophenol	81	53 - 120
Nitrobenzene-d5	78	50 - 120
Phenol-d5	84	52 - 120
Terphenyl-d14	89	55 - 120
2,4,6-Tribromophenol	93	51 - 120

Method Blank TICs- Batch: 280-77112

Cas Number	Analyte	RT	Est. Result	Qual
	Unknown	3.37	5520	N J

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Lab Control Sample - Batch: 280-77112

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-77112/2-A	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Client Matrix:	Solid	Prep Batch:	280-77112	Lab File ID:	K1240.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	07/19/2011 1545	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2540	2070	82	52 - 120	
Anthracene	2540	2260	89	57 - 120	
Carbazole	2540	2240	88	54 - 120	
4-Chloro-3-methylphenol	2540	2180	86	57 - 120	
2-Chlorophenol	2540	2060	81	53 - 120	
1,4-Dichlorobenzene	2540	1940	76	46 - 120	
2,4-Dinitrotoluene	2540	2280	90	53 - 120	
2-Methylnaphthalene	2540	2020	80	55 - 120	
2-Methylphenol	2540	2030	80	51 - 120	
4-Nitrophenol	2540	2130	84	41 - 120	
N-Nitrosodi-n-propylamine	2540	1910	75	51 - 120	
Pentachlorophenol	2540	2210	87	30 - 120	
Phenol	2540	2040	81	54 - 120	
Pyrene	2540	2300	91	50 - 120	
1,2,4-Trichlorobenzene	2540	1880	74	50 - 120	
2,4,6-Trichlorophenol	2540	2230	88	50 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	84	50 - 120
2-Fluorophenol	81	53 - 120
Nitrobenzene-d5	78	50 - 120
Phenol-d5	83	52 - 120
Terphenyl-d14	93	55 - 120
2,4,6-Tribromophenol	95	51 - 120

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-77112

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-18142-1	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Client Matrix:	Solid	Prep Batch:	280-77112	Lab File ID:	K1247.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.1 g
Analysis Date:	07/19/2011 1824			Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-18142-1	Analysis Batch:	280-77403	Instrument ID:	MSS_K
Client Matrix:	Solid	Prep Batch:	280-77112	Lab File ID:	K1248.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	07/19/2011 1847			Final Weight/Volume:	1000 uL
Prep Date:	07/18/2011 1512			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	89	85	52 - 120	2	30		
Anthracene	93	87	57 - 120	3	30		
Carbazole	89	84	54 - 120	3	30		
4-Chloro-3-methylphenol	87	83	57 - 120	2	30		
2-Chlorophenol	82	80	53 - 120	0	30		
1,4-Dichlorobenzene	71	70	46 - 120	1	30		
2,4-Dinitrotoluene	91	86	53 - 120	3	30		
2-Methylnaphthalene	84	79	55 - 120	2	30		
2-Methylphenol	84	82	51 - 120	1	30		
4-Nitrophenol	71	66	41 - 120	4	30		
N-Nitrosodi-n-propylamine	75	73	51 - 120	1	30		
Pentachlorophenol	64	60	30 - 120	4	30		
Phenol	84	82	54 - 120	0	30		
Pyrene	95	91	50 - 120	1	38		
1,2,4-Trichlorobenzene	75	72	50 - 120	1	30		
2,4,6-Trichlorophenol	79	75	50 - 120	2	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	92	87	50 - 120
2-Fluorophenol	79	78	53 - 120
Nitrobenzene-d5	78	75	50 - 120
Phenol-d5	87	84	52 - 120
Terphenyl-d14	97	92	55 - 120
2,4,6-Tribromophenol	81	78	51 - 120

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77111

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-77111/1-A	Analysis Batch:	280-77620	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-77111	Lab File ID:	010F1001.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	07/20/2011 1230	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	07/18/2011 1444			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	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	Acceptance Limits
Decachlorobiphenyl	91	59 - 130
Tetrachloro-m-xylene	87	53 - 128

Lab Control Sample - Batch: 280-77111

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-77111/2-A	Analysis Batch:	280-77620	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-77111	Lab File ID:	011F1101.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	07/20/2011 1251	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	07/18/2011 1444			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.5	29.6	91	54 - 132	
Aroclor 1260	32.5	29.9	92	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	91	59 - 130
Tetrachloro-m-xylene	88	53 - 128

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-77111

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-18142-1	Analysis Batch:	280-77620	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-77111	Lab File ID:	013F1301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	07/20/2011 1334			Final Weight/Volume:	5000 uL
Prep Date:	07/18/2011 1444			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-18142-1	Analysis Batch:	280-77620	Instrument ID:	GCS_P3
Client Matrix:	Solid	Prep Batch:	280-77111	Lab File ID:	015F1501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	07/20/2011 1417			Final Weight/Volume:	5000 uL
Prep Date:	07/18/2011 1444			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	98	84	54 - 132	15	26		
Aroclor 1260	77	66	62 - 129	15	26		

Surrogate	MS % Rec	MSD % Rec		Acceptance Limits
Decachlorobiphenyl	62	50	*	59 - 130
Tetrachloro-m-xylene	88	80		53 - 128

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-76931

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-76931/1-A	Analysis Batch:	280-77377	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-76931	Lab File ID:	25A1071911.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	07/19/2011 1524	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	07/18/2011 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	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Lab Control Sample - Batch: 280-76931

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-76931/2-A	Analysis Batch:	280-77377	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-76931	Lab File ID:	25A1071911.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	07/19/2011 1527	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	07/18/2011 1500				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	186.3	93	82 - 116	
Antimony	50.0	49.32	99	82 - 110	
Arsenic	100	97.79	98	85 - 110	
Barium	200	198.3	99	87 - 112	
Beryllium	5.00	4.75	95	84 - 114	
Boron	100	96.25	96	81 - 110	
Cadmium	10.0	10.20	102	87 - 110	
Calcium	5000	4626	93	82 - 114	
Chromium	20.0	20.07	100	84 - 114	
Cobalt	50.0	49.15	98	87 - 110	
Copper	25.0	24.62	98	88 - 110	
Iron	100	93.17	93	87 - 120	
Lead	50.0	49.27	99	86 - 110	
Magnesium	5000	4645	93	90 - 110	
Manganese	50.0	47.65	95	88 - 110	
Molybdenum	100	99.43	99	86 - 110	
Nickel	50.0	48.71	97	87 - 110	
Potassium	5000	4843	97	89 - 110	
Selenium	200	194.6	97	83 - 110	
Silicon	1000	174.9	17	10 - 70	
Silver	5.00	4.96	99	87 - 114	
Sodium	5000	5076	102	90 - 112	
Vanadium	50.0	48.85	98	88 - 110	
Zinc	50.0	46.22	92	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Matrix Spike - Batch: 280-76931

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77377	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-76931	Lab File ID:	25A1071911.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.14 g
Analysis Date:	07/19/2011 1533	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	07/18/2011 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	6450		196	7703	639	50 - 200	4
Antimony	0.40	U	49.1	29.07	59	20 - 200	
Arsenic	2.7		98.1	90.34	89	76 - 111	
Barium	63.3		196	242.6	91	52 - 159	
Beryllium	0.12	B	4.91	4.38	87	72 - 105	
Boron	1.5	B	98.1	86.42	87	75 - 107	
Cadmium	0.12	B	9.81	9.26	93	40 - 130	
Calcium	12000		4910	14610	52	43 - 165	
Chromium	32.1		19.6	52.70	105	70 - 200	
Cobalt	7.7		49.1	50.19	87	72 - 106	
Copper	15.7		24.5	36.15	83	37 - 187	
Iron	23200		98.1	19300	-3952	70 - 200	4
Lead	15.9		49.1	55.61	81	70 - 200	
Magnesium	3850		4910	8060	86	64 - 145	
Manganese	268		49.1	309.6	85	40 - 200	4
Molybdenum	0.44	B	98.1	86.84	88	75 - 103	
Nickel	11.3		49.1	53.46	86	61 - 126	
Potassium	1020		4910	5590	93	56 - 172	
Selenium	0.90	U	196	172.5	88	76 - 104	
Silicon	357		981	480.4	13	20 - 200	N
Silver	0.17	U	4.91	4.52	92	75 - 141	
Sodium	376		4910	5221	99	78 - 111	
Vanadium	46.6		49.1	88.88	86	50 - 169	
Zinc	58.7		49.1	91.94	68	70 - 200	N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Duplicate - Batch: 280-76931

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77377	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-76931	Lab File ID:	25A1071911.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.12 g
Analysis Date:	07/19/2011 1536	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	07/18/2011 1500				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	6450		6441	0.1	40	
Antimony	0.40	U	0.38	NC	40	U
Arsenic	2.7		2.64	4	30	
Barium	63.3		59.25	7	30	
Beryllium	0.12	B	0.109	6	30	B
Boron	1.5	B	1.41	5	30	B
Cadmium	0.12	B	0.144	14	30	B
Calcium	12000		9562	23	30	
Chromium	32.1		185.6	141	40	M
Cobalt	7.7		8.24	7	30	
Copper	15.7		16.17	3	30	
Iron	23200		28410	20	40	
Lead	15.9		15.35	4	40	
Magnesium	3850		3645	5	30	
Manganese	268		283.1	6	40	
Molybdenum	0.44	B	0.481	9	30	B
Nickel	11.3		12.45	10	30	
Potassium	1020		1012	0.7	40	
Selenium	0.90	U	0.86	NC	30	U
Silicon	357		389.0	9	40	
Silver	0.17	U	0.16	NC	30	U
Sodium	376		430.9	14	30	
Vanadium	46.6		45.25	3	30	
Zinc	58.7		57.05	3	40	

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77044

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-77044/1-A	Analysis Batch:	280-77622	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-77044	Lab File ID:	110720AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	07/20/2011 1719	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/20/2011 1415				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-77044

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-77044/2-A	Analysis Batch:	280-77622	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-77044	Lab File ID:	110720AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	07/20/2011 1721	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/20/2011 1415				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.414	99	87 - 111	

Matrix Spike - Batch: 280-77044

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77622	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-77044	Lab File ID:	110720AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.65 g
Analysis Date:	07/20/2011 1728	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/20/2011 1415				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.031	0.430	0.465	101	87 - 111	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Duplicate - Batch: 280-77044

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77622	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-77044	Lab File ID:	110720AB.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.69 g
Analysis Date:	07/20/2011 1726	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/20/2011 1415				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.031	0.0435	35	20	M

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77573

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-77396/1-A	Analysis Batch:	280-77573	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0720NXNB
Dilution:	1.0	Leach Batch:	280-77396	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1150	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/20/2011 0801				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N-Soluble	0.30	U	0.30	0.75

Method Reporting Limit Check - Batch: 280-77573

Method: 353.2
Preparation: N/A

Lab Sample ID:	MRL 280-77573/18	Analysis Batch:	280-77573	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0720NXNB
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	07/20/2011 1147	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	0.100	0.0859	86	50 - 150	B

Lab Control Sample - Batch: 280-77573

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-77396/2-A	Analysis Batch:	280-77573	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0720NXNB
Dilution:	1.0	Leach Batch:	280-77396	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1152	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/20/2011 0801				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	49.9	46.75	94	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Matrix Spike - Batch: 280-77573

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77573	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0720NXNB
Dilution:	1.0	Leach Batch:	280-77396	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1156	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/20/2011 0801				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	0.41	B	44.6	45.05	100	90 - 110	

Duplicate - Batch: 280-77573

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77573	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0720NXNB
Dilution:	1.0	Leach Batch:	280-77396	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1155	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/20/2011 0801				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Nitrate Nitrite as N-Soluble	0.41	B	0.34	NC	10	U

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-77440

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-77440/4	Analysis Batch:	280-77440	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/19/2011 1525	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-77440/5	Analysis Batch:	280-77440	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/19/2011 1525	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C-Soluble	101	100	97 - 103	0	5		

Duplicate - Batch: 280-77440

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77440	Instrument ID:	WC_pH Probe
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-77289	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/19/2011 1529	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1326				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	11.0	10.96	0.09	5	

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77625

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-77321/2-A	Analysis Batch:	280-77625	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1019	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Result	Qual	MDL	RL
Chloride-Soluble	2.31	B	2.0	5.0
Bromide-Soluble	0.39	U	0.39	2.0
Sulfate-Soluble	1.7	U	1.7	5.0
Fluoride-Soluble	0.82	U	0.82	5.0

Lab Control Sample - Batch: 280-77625

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-77321/1-A	Analysis Batch:	280-77625	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	111.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1001	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	250	248.5	99	90 - 110	
Bromide-Soluble	50.0	49.47	99	90 - 110	
Sulfate-Soluble	250	245.6	98	90 - 110	
Fluoride-Soluble	50.0	49.55	99	90 - 110	

Method Reporting Limit Check - Batch: 280-77625

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-77625/17	Analysis Batch:	280-77625	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1128	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	1.00	1.07	107	50 - 150	B
Bromide-Soluble	0.200	0.207	104	50 - 150	B
Sulfate-Soluble	1.00	0.980	98	50 - 150	B
Fluoride-Soluble	0.200	0.246	123	50 - 150	B

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Matrix Spike - Batch: 280-77625

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77625	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	115.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1111	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	5.1	B	280	287.1	101	80 - 120	
Bromide-Soluble	0.43	U	55.9	54.41	97	80 - 120	
Sulfate-Soluble	107		280	404.7	107	80 - 120	
Fluoride-Soluble	0.92	U	55.9	32.30	58	80 - 120	N

Duplicate - Batch: 280-77625

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77625	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	114.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1053	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Chloride-Soluble	5.1	B	5.08	0.4	15	B C
Bromide-Soluble	0.43	U	0.43	NC	15	U
Sulfate-Soluble	107		106.6	0.2	15	
Fluoride-Soluble	0.92	U	0.92	NC	15	U

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Method Blank - Batch: 280-77626

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-77321/2-A	Analysis Batch:	280-77626	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1019	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

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

Lab Control Sample - Batch: 280-77626

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-77321/1-A	Analysis Batch:	280-77626	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	111.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1001	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	50.0	49.81	100	90 - 110	
Nitrite as N-Soluble	50.0	50.03	100	90 - 110	
Orthophosphate as P-Soluble	50.0	49.63	99	90 - 110	

Method Reporting Limit Check - Batch: 280-77626

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-77626/17	Analysis Batch:	280-77626	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1128	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.200	0.208	104	50 - 150	B
Nitrite as N-Soluble	0.200	0.232	116	50 - 150	B
Orthophosphate as P-Soluble	0.200	0.224	112	50 - 150	B

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Matrix Spike - Batch: 280-77626

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77626	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	115.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1111	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	1.0	B	55.9	53.76	94	80 - 120	
Nitrite as N-Soluble	0.38	U	55.9	55.98	100	80 - 120	
Orthophosphate as P-Soluble	1.4	U	55.9	1.4	0	80 - 120	U N

Duplicate - Batch: 280-77626

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77626	Instrument ID:	WC_IC6
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	114.TXT
Dilution:	1.0	Leach Batch:	280-77321	Initial Weight/Volume:	1.0 mL
Analysis Date:	07/20/2011 1053	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/19/2011 1607				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Nitrate as N-Soluble	1.0	B	1.02	0	15	B
Nitrite as N-Soluble	0.38	U	0.38	NC	15	U
Orthophosphate as P-Soluble	1.4	U	1.4	NC	15	U

Client: Washington Closure Hanford

Job Number: 280-18142-1
Sdg Number: JP0227

Duplicate - Batch: 280-77101

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-18142-1	Analysis Batch:	280-77101	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	07/18/2011 1228	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	10.6	10.7	1	20	

3.6°

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-074-232	Page 1 of 1
Collector: K Lucas	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ 8B 7-14-11
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location: 100-D-50:6		SAF No.: RC-074	Data Turnaround: ~~21~~ 7 Days
Ice Chest No.: ~~N/A~~ 7-14-11 ERC-96-061	Field Logbook No.: EL-1607-10	COA: 00D5062600	Method of Shipment: FED EX ~~HAND DELIVER~~ AJ 7-14-11	7-14-11
Shipped To: TestAmerica Incorporated, ~~Richland~~ Denver AJ 7-14-11	Offsite Property No.: ~~N/A~~ 7-14-11 A100700		Bill of Lading/Air Bill No.: ~~N/A~~ 7-14-11 See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None					
Type of Container	G/P	G/P	G/P	aG	aG	G/P					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	60mL	60mL	60mL	60mL	500g					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 9056 Modified; NO2/NO3 - 353.1; pH (Soil) - 9045	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (2) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time										
J1K7D3	SOIL	7-14-11	1400	X		X	X	X					

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/~~Stored In~~	Date/Time
K Lucas Kevin Lucas	7-14-11 1510	Dwoolfry	7-14-11 1510
Dwoolfry	7-14-11 1710	1060, #1 A. Freier A. Freier	7-14-11 1710
1060, #1 A Freier A. Freier	0700 7-15-11 WCH	Fed Ex	
		[signature]	7/16/11 0930

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client 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) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Silver-108 metastable}

REVIEWED BY AJ DATE 7-15-11

JP0227

REVIEWED BY DATE

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Project 28002142 -Solid -Colorie

Analytical Due:

Report Due: 7/25/11 (Rush 6dy TAT)

Sample Check-in List

Date/Time Received: 7/16/11 0930 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG #: JP0227 NA[ ] SAF #: RC-074 NA [ ]

Job Number: 18142 Chain of Custody # RC-074-232

Shipping Container ID: ERC-96-061 Air Bill # 7949 7693 3752

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 3.6° NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [✓] Dry [ ]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ Tape
   - ✓ Custody Seals
   - ___ Hazard Lables
   - ✓ Appropriate Sample Lables
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: 7/16/11

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ___ by ___ Person Contacted ___

[ ] No action necessary; process as is.

Project Manager [signature] Date 7/18/11

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

RICHLAND, WA 99354

Origin ID: PSCA

FedEx. Express

J11201104290225

Ship Date: 15JUL11
ActWgt: 15.0 LB
CAD: 5851986/INET3180

Delivery Address Bar Code

Ref # R00D502 2000
Invoice #
PO #
Dept #

SHIP TO: (303) 736-1000 BILL THIRD PARTY

KAE YODER
TEST AMERICA
4955 YARROW ST # A100667

ARVADA, CO 80002

SATURDAY ### A1
PRIORITY OVERNIGHT

TRK# 0201 7949 7693 3752

X0 WHHA

80002
CO-US
DEN

50FG2/F558/F5F4

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