SAF-RC-189
100N Field Remediation – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 11/1/12
INITIAL/DATE

COMMENTS:

SDG J01605 SAF-RC-189

Rad only Chem only ☑ Rad & Chem

☑ Complete Partial

Sample Location: 116-N-2 Verification

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains 66 *Pages*

Report No.: 53533

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.
J01605	RC-189	J1R3J1	J2J180456-1	MW17C1AA	9MW17C10	2293043
		J1R3J1	J2J180456-1	MW17C1AJ	9MW17C10	2293051
		J1R3J1	J2J180456-1	MW17C1AD	9MW17C10	2293054
		J1R3J1	J2J180456-1	MW17C1AH	9MW17C10	2293055
		J1R3J1	J2J180456-1	MW17C1AE	9MW17C10	2293056
		J1R3J1	J2J180456-1	MW17C1AG	9MW17C10	2293057
		J1R3J1	J2J180456-1	MW17C1AC	9MW17C10	2293058
		J1R3J1	J2J180456-1	MW17C1AF	9MW17C10	2293059

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

October 30, 2012

Attention: Joan Kessner

SAF Number	:	RC-189
Date SDG Closed	:	October 18, 2012
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J01605
Data Deliverable	:	15-- Day / Summary

CASE NARRATIVE

I. Introduction

On October 18, 2012, one soil sample was received at TestAmerica for radiochemical and chemical 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
J1R3J1	MW17C	SOIL	10/18/12

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:

Alpha Spectroscopy
Plutonium-238, -239/240 by method RL-ALP-002
Thorium-228,230,232 by method RL-ALP-005
Uranium 234, 235 and 238 by method RL-ALP-015
Gas Proportional Counting
Strontium-90 by method RL-GPC-003
Gamma Spectroscopy

Gamma Spec by method RL-GAM-001
Liquid Scintillation Counting
Tritium by method RL-LSC-005
Nickel-63 by method RL-LCS-017
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

Alpha Spectroscopy
Plutonium-238, -239/240 by method RL-ALP-002:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Thorium-228,230,232 by method RL-ALP-005:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Uranium 234, 235 and 238 by method RL-ALP-015:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Gas Proportional Counting
Strontium-90 by method RL-GPC-003:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RL-GAM-001:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Liquid Scintillation Counting
Tritium by method RL-LSC-005:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Nickel-63 by method RL-LCS-017:
The LCS, batch blank, sample and sample duplicate (J1R3J1) results are within contractual requirements.

Chemical Analysis
Hexavalent Chromium by EPA method 7196A
The LCS, batch blank, sample, sample duplicate (J1R3J1) and sample matrix spike (J1R3J1) results are within contractual requirements.

Washington Closure Hanford
October 30, 2012

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

TestAmerica TARL

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

Date: 30-Oct-12

Report No. : 53533

SDG No: J01605

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
2293059 PUISO_PLATE_AEA									
J1R3J1									
	MW17C1AF	PU-238	-1.13E-03 +- 2.8E-02	U	pCi/g	95%	5.68E-02	1.00E+00	
		PU239/40	1.11E-03 +- 2.9E-02	U	pCi/g	95%	1.01E-01	1.00E+00	
J1R3J1 DUP									
	MW17C1AU	PU-238	1.56E-02 +- 3.3E-02	U	pCi/g	100%	5.91E-02	1.00E+00	231.3
		PU239/40	7.98E-02 +- 7.4E-02		pCi/g	100%	6.53E-02	1.00E+00	194.5
2293057 THISO_IE_PRECIP_AEA									
J1R3J1									
	MW17C1AG	TH-228	2.90E-01 +- 1.7E-01		pCi/g	92%	9.72E-02	1.00E+00	
		TH-230	2.64E-01 +- 1.6E-01		pCi/g	92%	1.02E-01	1.00E+00	
		TH-232	3.34E-01 +- 1.8E-01		pCi/g	92%	8.13E-02	1.00E+00	
J1R3J1 DUP									
	MW17C1AR	TH-228	3.41E-01 +- 1.8E-01		pCi/g	92%	9.91E-02	1.00E+00	16.4
		TH-230	1.54E-01 +- 1.2E-01		pCi/g	92%	1.14E-01	1.00E+00	52.8
		TH-232	2.48E-01 +- 1.6E-01		pCi/g	92%	9.84E-02	1.00E+00	29.7
2293058 UISO_IE_PLATE_AEA									
J1R3J1									
	MW17C1AC	U-234	1.22E-01 +- 8.1E-02		pCi/g	85%	5.67E-02	1.00E+00	
		U-235	-1.49E-03 +- 2.5E-02	U	pCi/g	85%	5.36E-02	1.00E+00	
		U-238	1.73E-01 +- 9.8E-02		pCi/g	85%	4.99E-02	1.00E+00	
J1R3J1 DUP									
	MW17C1AT	U-234	1.26E-01 +- 9.0E-02		pCi/g	85%	7.74E-02	1.00E+00	3.0
		U-235	-1.74E-03 +- 2.9E-02	U	pCi/g	85%	6.26E-02	1.00E+00	-15.6
		U-238	1.72E-01 +- 1.0E-01		pCi/g	85%	6.26E-02	1.00E+00	0.3
2293051 GAMMA_GS									
J1R3J1									
	MW17C1AJ	AMERICIUM 241	-9.28E-03 +- 2.6E-02	U	pCi/g		4.28E-02		
		CO-60	1.96E+00 +- 2.3E-01		pCi/g		2.93E-02	5.00E-02	
		CS-137	8.08E-02 +- 3.4E-02		pCi/g		3.37E-02	1.00E-01	
		EU-152	7.25E-03 +- 4.3E-02	U	pCi/g		7.19E-02	1.00E-01	
		EU-154	8.02E-03 +- 4.9E-02	U	pCi/g		8.59E-02	1.00E-01	
		EU-155	3.98E-03 +- 3.8E-02	U	pCi/g		6.35E-02	1.00E-01	
		RA-226	4.45E-01 +- 8.4E-02		pCi/g		5.43E-02		
J1R3J1 DUP									
	MW17C1AM	AMERICIUM 241	1.42E-02 +- 1.9E-02	U	pCi/g		3.26E-02		952.9
		CO-60	1.92E+00 +- 2.2E-01		pCi/g		2.71E-02	5.00E-02	2.0
		CS-137	9.95E-02 +- 3.3E-02		pCi/g		2.81E-02	1.00E-01	20.7
		EU-152	-8.18E-03 +- 3.3E-02	U	pCi/g		5.61E-02	1.00E-01	-3308.6

TestAmerica

rptSTLRchSaSummary2 V5.2.22 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.

Sample Results Summary

TestAmerica TARL

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

Date: 30-Oct-12

Report No. : 53533

SDG No: J01605

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
2293051 GAMMA_GS									
J1R3J1 DUP									
	MW17C1AM	EU-154	-3.17E-02 +- 5.0E-02	U	pCi/g		8.18E-02	1.00E-01	-335.3
		EU-155	5.37E-02 +- 3.0E-02	U	pCi/g		5.16E-02	1.00E-01	172.4
		RA-226	4.08E-01 +- 7.9E-02		pCi/g		4.49E-02		8.6
2293054 SRTOT_SEP_PRECIP_GPC									
J1R3J1									
	MW17C1AD	STRONTIUM	2.00E-01 +- 1.2E-01		pCi/g	59%	1.93E-01		
J1R3J1 DUP									
	MW17C1AN	STRONTIUM	1.15E-01 +- 9.6E-02	U	pCi/g	60%	1.82E-01		54.4
2293043 7196_CR6									
J1R3J1									
	MW17C1AA	HEXCHROME	1.98E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	MW17C1AL	HEXCHROME	2.18E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	3.50E-01	9.6
2293055 906.0_H3_LSC									
J1R3J1									
	MW17C1AH	H-3	1.22E-02 +- 2.3E-02	U	pCi/g	100%	4.62E-02	4.00E+02	
J1R3J1 DUP									
	MW17C1AP	H-3	8.13E-03 +- 1.7E-02	U	pCi/g	100%	3.47E-02	4.00E+02	39.9
2293056 NI63_LSC									
J1R3J1									
	MW17C1AE	NI-63	3.30E+00 +- 7.8E+00	U	pCi/g	91%	1.55E+01	3.00E+01	
J1R3J1 DUP									
	MW17C1AQ	NI-63	4.92E+00 +- 7.2E+00	U	pCi/g	99%	1.34E+01	3.00E+01	39.6

No. of Results: 38

TestAmerica

rptSTLRchSaSummary2 V5.2.22 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

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 30-Oct-12

Report No. : 53533

SDG No.: J01605

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
PUISO_PLATE_AEA								
2293059 BLANK QC,								
MW2ER1AA	PU-238	-5.54E-04 +- 2.8E-02	U	pCi/g	100%			5.03E-02
	PU239/40	-4.43E-03 +- 2.8E-02	U	pCi/g	100%			7.38E-02
2293059 LCS,								
MW2ER1AC	PU239/40	6.63E+00 +- 1.4E+00		pCi/g	99%	100%	0.0	6.61E-02
THISO_IE_PRECIP_AEA								
2293057 BLANK QC,								
MW2EK1AA	TH-228	3.01E-02 +- 6.0E-02	U	pCi/g	97%			1.10E-01
	TH-230	-1.20E-03 +- 6.0E-02	U	pCi/g	97%			1.09E-01
	TH-232	2.99E-02 +- 6.0E-02	U	pCi/g	97%			1.09E-01
2293057 LCS,								
MW2EK1AC	TH-230	1.86E+00 +- 5.7E-01		pCi/g	89%	83%	-0.2	1.44E-01
UISO_IE_PLATE_AEA								
2293058 BLANK QC,								
MW2EN1AA	U-234	-1.23E-03 +- 3.1E-02	U	pCi/g	74%			6.19E-02
	U-235	-6.16E-04 +- 3.1E-02	U	pCi/g	74%			5.60E-02
	U-238	-6.16E-04 +- 3.1E-02	U	pCi/g	74%			5.60E-02
2293058 LCS,								
MW2EN1AC	U-234	2.63E+00 +- 6.1E-01		pCi/g	77%	82%	-0.2	6.42E-02
	U-238	2.97E+00 +- 6.8E-01		pCi/g	77%	89%	-0.1	6.79E-02
GAMMA_GS								
2293051 BLANK QC,								
MW2D71AA	AMERICIUM 241	1.30E-03 +- 8.4E-03	U	pCi/g				1.44E-02
	CO-60	-3.29E-03 +- 7.8E-03	U	pCi/g				1.36E-02
	CS-137	1.38E-04 +- 6.8E-03	U	pCi/g				1.25E-02
	EU-152	6.60E-03 +- 1.7E-02	U	pCi/g				3.03E-02
	EU-154	-8.94E-03 +- 2.1E-02	U	pCi/g				3.70E-02
	EU-155	2.25E-03 +- 1.2E-02	U	pCi/g				2.08E-02
	RA-226	8.34E-02 +- 2.5E-02	U	pCi/g				4.31E-02
2293051 LCS,								
MW2D71AC	CS-137	9.92E-01 +- 1.2E-01		pCi/g		95%	-0.1	2.67E-02
	RA-226	9.63E-01 +- 1.3E-01		pCi/g		85%	-0.2	4.84E-02
SRTOT_SEP_PRECIP_GPC								
2293054 BLANK QC,								
MW2EA1AA	STRONTIUM	7.86E-02 +- 6.9E-02	U	pCi/g	84%			1.31E-01
2293054 LCS,								
MW2EA1AC	STRONTIUM	1.12E+00 +- 3.2E-01		pCi/g	85%	100%	0.0	1.27E-01
7196_CR6								
2293043 MATRIX SPIKE, J1R3J1								
MW17C1AK	HEXCHROME	2.38E+01 +- 0.0E+00		mg/kg	N/A	80%	-0.2	1.55E-01
2293043 LCS,								

TestAmerica
rptSTLRchQcSummary V5.2.22
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.

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 30-Oct-12

Report No. : 53533

SDG No.: J01605

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
MW2DQ1AC	HEXCHROME	1.80E+01 +- 0.0E+00		mg/kg	N/A	95%	-0.1	1.55E-01
2293043 BLANK QC,								
MW2DQ1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
906.0_H3_LSC								
2293055 BLANK QC,								
MW2EC1AA	H-3	-8.23E-03 +- 2.4E-02	U	pCi/g	100%			5.05E-02
2293055 LCS,								
MW2EC1AC	H-3	3.06E-01 +- 3.1E-02		pCi/g	100%	100%	0.0	4.03E-02
NI63_LSC								
2293056 BLANK QC,								
MW2EF1AA	NI-63	-5.55E+00 +- 6.5E+00	U	pCi/g	98%			1.40E+01
2293056 LCS,								
MW2EF1AC	NI-63	5.14E+02 +- 5.4E+01		pCi/g	100%	84%	-0.2	1.32E+01

No. of Results: 30

TestAmerica

rptSTLRchQcSummary V5.2.22 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: 30-Oct-12

Lab Name:	TestAmerica	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	J2J180456-1	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	J1R3J1	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2293043	7196_CR6			**Work Order:**	MW17C1AA		**Report DB ID:**	9MW17C10				
HEXCHROME	**1.98E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.3)*	10/25/12 09:00 a		2.5174	
							1.55E-01	*N/A*			g	
Batch: 2293051	GAMMA_GS			**Work Order:**	MW17C1AJ		**Report DB ID:**	9MW17C10				
AMERICIUM 241	**-9.28E-03**	U	2.6E-02	2.6E-02	4.28E-02	pCi/g		*-0.22*	10/22/12 08:39 a		406.3	GER15$1
								-0.7			g	
CO-60	**1.96E+00**		2.3E-01	2.3E-01	2.93E-02	pCi/g		*(66.8)*	10/22/12 08:39 a		406.3	GER15$1
							5.00E-02	*(17.3)*			g	
CS-137	**8.08E-02**		3.4E-02	3.4E-02	3.37E-02	pCi/g		*(2.4)*	10/22/12 08:39 a		406.3	GER15$1
							1.00E-01	*(4.8)*			g	
EU-152	**7.25E-03**	U	4.3E-02	4.3E-02	7.19E-02	pCi/g		*0.1*	10/22/12 08:39 a		406.3	GER15$1
							1.00E-01	*0.34*			g	
EU-154	**8.02E-03**	U	4.9E-02	4.9E-02	8.59E-02	pCi/g		*0.09*	10/22/12 08:39 a		406.3	GER15$1
							1.00E-01	*0.33*			g	
EU-155	**3.98E-03**	U	3.8E-02	3.8E-02	6.35E-02	pCi/g		*0.06*	10/22/12 08:39 a		406.3	GER15$1
							1.00E-01	*0.21*			g	
RA-226	**4.45E-01**		8.4E-02	8.4E-02	5.43E-02	pCi/g		*(8.2)*	10/22/12 08:39 a		406.3	GER15$1
								(10.6)			g	
Batch: 2293054	SRTOT_SEP_PRECIP_GPC			**Work Order:**	MW17C1AD		**Report DB ID:**	9MW17C10				
STRONTIUM	**2.00E-01**		1.0E-01	1.2E-01	1.93E-01	pCi/g	59%	*(1.)*	10/26/12 07:25 p		6.03	GPC26A
						9.00E-02		*(3.4)*			g	
Batch: 2293055	906.0_H3_LSC			**Work Order:**	MW17C1AH		**Report DB ID:**	9MW17C10				

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

FORM I

SAMPLE RESULTS

Date: 30-Oct-12

Lab Name:	**TestAmerica**	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	**J2J180456-1**	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	**J1R3J1**	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
H-3	**1.22E-02**	U	1.9E-02	2.3E-02	4.62E-02	pCi/g	100%	*0.26*	10/22/12 08:24 p		100.7	LSC6
						2.20E-02	4.00E+02	*(1.1)*			g	
Batch: 2293056	NI63_LSC			**Work Order:**	MW17C1AE		**Report DB ID:**	9MW17C10				
NI-63	**3.30E+00**	U	6.2E+00	7.8E+00	1.55E+01	pCi/g	91%	*0.21*	10/25/12 08:33 p		0.25	LSC3
						7.25E+00	3.00E+01	*0.85*			g	
Batch: 2293057	THISO_IE_PRECIP_AEA			**Work Order:**	MW17C1AG		**Report DB ID:**	9MW17C10				
TH-228	**2.90E-01**		1.6E-01	1.7E-01	9.72E-02	pCi/g	92%	*(3.)*	10/24/12 05:28 p		1.03	ALP171
						1.81E-02	1.00E+00	*(3.5)*			g	
TH-230	**2.64E-01**		1.5E-01	1.6E-01	1.02E-01	pCi/g	92%	*(2.6)*	10/24/12 05:28 p		1.03	ALP171
						2.08E-02	1.00E+00	*(3.3)*			g	
TH-232	**3.34E-01**		1.7E-01	1.8E-01	8.13E-02	pCi/g	92%	*(4.1)*	10/24/12 05:28 p		1.03	ALP171
						1.04E-02	1.00E+00	*(3.7)*			g	
Batch: 2293058	UISO_IE_PLATE_AEA			**Work Order:**	MW17C1AC		**Report DB ID:**	9MW17C10				
U-234	**1.22E-01**		7.8E-02	8.1E-02	5.67E-02	pCi/g	85%	*(2.2)*	10/26/12 06:01 p		1.02	ALP6
						1.15E-02	1.00E+00	*(3.)*			g	
U-235	**-1.49E-03**	U	2.5E-02	2.5E-02	5.36E-02	pCi/g	85%	*-0.03*	10/26/12 06:01 p		1.02	ALP6
						1.00E-02	1.00E+00	*-0.12*			g	
U-238	**1.73E-01**		9.3E-02	9.8E-02	4.99E-02	pCi/g	85%	*(3.5)*	10/26/12 06:01 p		1.02	ALP6
						8.16E-03	1.00E+00	*(3.5)*			g	
							Ratio U-234/238 = 0.7					
Batch: 2293059	PUISO_PLATE_AEA			**Work Order:**	MW17C1AF		**Report DB ID:**	9MW17C10				

TestAmerica
rptSTLRchSample
V5.2.22 A2002

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

FORM I

SAMPLE RESULTS

Date: 30-Oct-12

Lab Name:	**TestAmerica**	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	**J2J180456-1**	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	**J1R3J1**	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
PU-238	**-1.13E-03**	U	2.8E-02	2.8E-02	5.68E-02	pCi/g	95%	*-0.02*	10/24/12 07:33 p		1.02	ALP41
						9.29E-03	1.00E+00	*-0.08*			g	
PU239/40	**1.11E-03**	U	2.9E-02	2.9E-02	1.01E-01	pCi/g	95%	*0.01*	10/24/12 07:33 p		1.02	ALP41
						3.15E-02	1.00E+00	*0.08*			g	

No. of Results: 19 **Comments:**

TestAmerica
rptSTLRchSample
V5.2.22 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: 30-Oct-12

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	**J2J180456-1**	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	**J1R3J1**	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2293043	7196_CR6			**Work Order:** MW17C1AL		**Report DB ID:** MW17C1ER			**Orig Sa DB ID:** 9MW17C10			
HEXCHROME	2.18E-01			0.0E+00	1.55E-01	mg/kg	N/A	(1.4)	10/25/12 09:00 a		2.5157	
	1.98E-01		**RPD**	**9.6**		3.50E-01		N/A			g	

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

TestAmerica **RPD** - Relative Percent Difference.

rptSTLRchDupV5.2.22 A2002 **MDC|MDA,Lc** - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II

Date: 30-Oct-12

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	**J2J180456-1**	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	**J1R3J1 DUP**	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2293051	GAMMA_GS			**Work Order:** MW17C1AM		**Report DB ID:** MW17C1MR			**Orig Sa DB ID:** 9MW17C10			
AMERICIUM 241	1.42E-02	U	1.9E-02	1.9E-02	3.26E-02	pCi/g		0.44	10/22/12 12:18 p		406.3	GER19$1
	-9.28E-03	U	**RPD**	**952.9**				(1.5)			g	
CO-60	1.92E+00		2.2E-01	2.2E-01	2.71E-02	pCi/g		(70.9)	10/22/12 12:18 p		406.3	GER19$1
	1.96E+00		**RPD**	**2.0**		5.00E-02		(17.3)			g	
CS-137	9.95E-02		3.3E-02	3.3E-02	2.81E-02	pCi/g		(3.5)	10/22/12 12:18 p		406.3	GER19$1
	8.08E-02		**RPD**	**20.7**		1.00E-01		(6.)			g	
EU-152	-8.18E-03	U	3.3E-02	3.3E-02	5.61E-02	pCi/g		-0.15	10/22/12 12:18 p		406.3	GER19$1
	7.25E-03	U	**RPD**	**-3308.6**		1.00E-01		-0.49			g	
EU-154	-3.17E-02	U	5.0E-02	5.0E-02	8.18E-02	pCi/g		-0.39	10/22/12 12:18 p		406.3	GER19$1
	8.02E-03	U	**RPD**	**-335.3**		1.00E-01		-(1.3)			g	
EU-155	5.37E-02	U	3.0E-02	3.0E-02	5.16E-02	pCi/g		(1.)	10/22/12 12:18 p		406.3	GER19$1
	3.98E-03	U	**RPD**	**172.4**		1.00E-01		(3.5)			g	
RA-226	4.08E-01		7.9E-02	7.9E-02	4.49E-02	pCi/g		(9.1)	10/22/12 12:18 p		406.3	GER19$1
	4.45E-01		**RPD**	**8.6**				(10.3)			g	
Batch: 2293054	SRTOT_SEP_PRECIP_GPC			**Work Order:** MW17C1AN		**Report DB ID:** MW17C1NR			**Orig Sa DB ID:** 9MW17C10			
STRONTIUM	1.15E-01	U	9.1E-02	9.6E-02	1.82E-01	pCi/g	60%	0.63	10/26/12 07:25 p		6.02	GPC26B
	2.00E-01		**RPD**	**54.4**				(2.4)			g	
Batch: 2293055	906.0_H3_LSC			**Work Order:** MW17C1AP		**Report DB ID:** MW17C1PR			**Orig Sa DB ID:** 9MW17C10			
H-3	8.13E-03	U	1.5E-02	1.7E-02	3.47E-02	pCi/g	100%	0.23	10/22/12 09:47 p		141.5	LSC6
	1.22E-02	U	**RPD**	**39.9**		4.00E+02		0.96			g	

TestAmerica
rptSTLRchDupV5.2.22 A2002

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FORM II

Date: 30-Oct-12

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	**J2J180456-1**	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	**J1R3J1 DUP**	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2293056	NI63_LSC			**Work Order:** MW17C1AQ		**Report DB ID:** MW17C1QR			**Orig Sa DB ID:** 9MW17C10			
NI-63	4.92E+00	U	5.7E+00	7.2E+00	1.34E+01	pCi/g	99%	0.37	10/25/12 08:56 p		0.25	LSC3
	3.30E+00	U	**RPD**	**39.6**		3.00E+01		(1.4)			g	
Batch: 2293057	THISO_IE_PRECIP_AEA			**Work Order:** MW17C1AR		**Report DB ID:** MW17C1RR			**Orig Sa DB ID:** 9MW17C10			
TH-228	3.41E-01		1.8E-01	1.8E-01	9.91E-02	pCi/g	92%	(3.4)	10/24/12 05:28 p		1.02	ALP172
	2.90E-01		**RPD**	**16.4**		1.00E+00		(3.7)			g	
TH-230	1.54E-01		1.2E-01	1.2E-01	1.14E-01	pCi/g	92%	(1.4)	10/24/12 05:28 p		1.02	ALP172
	2.64E-01		**RPD**	**52.8**		1.00E+00		(2.5)			g	
TH-232	2.48E-01		1.5E-01	1.6E-01	9.84E-02	pCi/g	92%	(2.5)	10/24/12 05:28 p		1.02	ALP172
	3.34E-01		**RPD**	**29.7**		1.00E+00		(3.2)			g	
									Alpha Spec Result Sum = 7.4E-01			
Batch: 2293058	UISO_IE_PLATE_AEA			**Work Order:** MW17C1AT		**Report DB ID:** MW17C1TR			**Orig Sa DB ID:** 9MW17C10			
U-234	1.26E-01		8.7E-02	9.0E-02	7.74E-02	pCi/g	85%	(1.6)	10/26/12 06:01 p		1.01	ALP7
	1.22E-01		**RPD**	**3.0**		1.00E+00		(2.8)			g	
U-235	-1.74E-03	U	2.9E-02	2.9E-02	6.26E-02	pCi/g	85%	-0.03	10/26/12 06:01 p		1.01	ALP7
	-1.49E-03	U	**RPD**	**-15.6**		1.00E+00		-0.12			g	
U-238	1.72E-01		1.0E-01	1.0E-01	6.26E-02	pCi/g	85%	(2.7)	10/26/12 06:01 p		1.01	ALP7
	1.73E-01		**RPD**	**0.3**		1.00E+00		(3.3)			g	
						Ratio U-234/238 = 0.7			*Alpha Spec Result Sum = 1.0E+00*			
Batch: 2293059	PUISO_PLATE_AEA			**Work Order:** MW17C1AU		**Report DB ID:** MW17C1UR			**Orig Sa DB ID:** 9MW17C10			

TestAmerica
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RPD - Relative Percent Difference.
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FORM II

Date: 30-Oct-12

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	J01605	**Collection Date:**	10/17/2012 10:00:00 AM
Lot-Sample No.:	**J2J180456-1**	**Report No. :**	53533	**Received Date:**	10/18/2012 3:40:00 PM
Client Sample ID:	**J1R3J1 DUP**	**COC No. :**	RC-189-127	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
PU-238	1.56E-02	U	3.2E-02	3.3E-02	5.91E-02	pCi/g	100%	0.26	10/24/12 07:33 p		1.02	ALP42
	-1.13E-03	U	**RPD**	**231.3**		1.00E+00		0.96			g	
PU239/40	7.98E-02		7.3E-02	7.4E-02	6.53E-02	pCi/g	100%	(1.2)	10/24/12 07:33 p		1.02	ALP42
	1.11E-03	U	**RPD**	**194.5**		1.00E+00		(2.2)			g	

Alpha Spec Result Sum = 9.5E-02

No. of Results: 18 **Comments:**

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: 30-Oct-12

Lab Name: TestAmerica

Matrix: SOIL

SDG: J01605

Report No. : 53533

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2293043	7196_CR6			**Work Order:**	MW2DQ1AA		**Report DB ID:**	MW2DQ1AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	10/25/12 09:00 a		2.5	
						1.55E-01		N/A			g	
Batch: 2293059	PUISO_PLATE_AEA			**Work Order:**	MW2ER1AA		**Report DB ID:**	MW2ER1AB				
PU-238	-5.54E-04	U	2.8E-02	2.8E-02	5.03E-02	pCi/g	100%	-0.01	10/24/12 07:33 p		1.03	ALP43
					6.43E-03	1.00E+00		-0.04			g	
PU239/40	-4.43E-03	U	2.8E-02	2.8E-02	7.38E-02	pCi/g	100%	-0.06	10/24/12 07:33 p		1.03	ALP43
					1.82E-02	1.00E+00		-0.32			g	
Batch: 2293058	UISO_IE_PLATE_AEA			**Work Order:**	MW2EN1AA		**Report DB ID:**	MW2EN1AB				
U-234	-1.23E-03	U	3.1E-02	3.1E-02	6.19E-02	pCi/g	74%	-0.02	10/26/12 06:01 p		1.03	ALP8
					1.01E-02	1.00E+00		-0.08			g	
U-235	-6.16E-04	U	3.1E-02	3.1E-02	5.60E-02	pCi/g	74%	-0.01	10/26/12 06:01 p		1.03	ALP8
					7.16E-03	1.00E+00		-0.04			g	
U-238	-6.16E-04	U	3.1E-02	3.1E-02	5.60E-02	pCi/g	74%	-0.01	10/26/12 06:01 p		1.03	ALP8
					7.16E-03	1.00E+00		-0.04			g	
								Ratio U-234/238 = 2.0				
Batch: 2293057	THISO_IE_PRECIP_AEA			**Work Order:**	MW2EK1AA		**Report DB ID:**	MW2EK1AB				
TH-228	3.01E-02	U	6.0E-02	6.0E-02	1.10E-01	pCi/g	97%	0.27	10/24/12 05:28 p		1.02	ALP173
					1.40E-02	1.00E+00		1.			g	
TH-230	-1.20E-03	U	6.0E-02	6.0E-02	1.09E-01	pCi/g	97%	-0.01	10/24/12 05:28 p		1.02	ALP173
					1.39E-02	1.00E+00		-0.04			g	
TH-232	2.99E-02	U	6.0E-02	6.0E-02	1.09E-01	pCi/g	97%	0.27	10/24/12 05:28 p		1.02	ALP173
					1.39E-02	1.00E+00		1.			g	

TestAmerica
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V5.2.22 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

BLANK RESULTS

Date: 30-Oct-12

Lab Name: TestAmerica

Matrix: SOIL

SDG: J01605

Report No. : 53533

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2293056	NI63_LSC			**Work Order:**	MW2EF1AA		**Report DB ID:**	MW2EF1AB				
NI-63	-5.55E+00	U	5.2E+00	6.5E+00	1.40E+01	pCi/g	98%	-0.4	10/25/12 09:19 p		0.25	LSC3
					6.54E+00	3.00E+01		-(1.7)			g	
Batch: 2293055	906.0_H3_LSC			**Work Order:**	MW2EC1AA		**Report DB ID:**	MW2EC1AB				
H-3	-8.23E-03	U	2.0E-02	2.4E-02	5.05E-02	pCi/g	100%	-0.16	10/22/12 11:11 p		70.8	LSC6
					2.41E-02	4.00E+02		-0.69			g	
Batch: 2293051	GAMMA_GS			**Work Order:**	MW2D71AA		**Report DB ID:**	MW2D71AB				
AMERICIUM 241	1.30E-03	U	8.4E-03	8.4E-03	1.44E-02	pCi/g		0.09	10/22/12 08:43 a		348.0	GER16$1
								0.31			g	
CO-60	-3.29E-03	U	7.8E-03	7.8E-03	1.36E-02	pCi/g		-0.24	10/22/12 08:43 a		348.0	GER16$1
						5.00E-02		-0.84			g	
CS-137	1.38E-04	U	6.8E-03	6.8E-03	1.25E-02	pCi/g		0.01	10/22/12 08:43 a		348.0	GER16$1
						1.00E-01		0.04			g	
EU-152	6.60E-03	U	1.7E-02	1.7E-02	3.03E-02	pCi/g		0.22	10/22/12 08:43 a		348.0	GER16$1
						1.00E-01		0.8			g	
EU-154	-8.94E-03	U	2.1E-02	2.1E-02	3.70E-02	pCi/g		-0.24	10/22/12 08:43 a		348.0	GER16$1
						1.00E-01		-0.85			g	
EU-155	2.25E-03	U	1.2E-02	1.2E-02	2.08E-02	pCi/g		0.11	10/22/12 08:43 a		348.0	GER16$1
						1.00E-01		0.38			g	
RA-226	8.34E-02	U	2.5E-02	2.5E-02	4.31E-02	pCi/g		(1.9)	10/22/12 08:43 a		348.0	GER16$1
								(6.8)			g	
Batch: 2293054	SRTOT_SEP_PRECIP_GPC			**Work Order:**	MW2EA1AA		**Report DB ID:**	MW2EA1AB				
STRONTIUM	7.86E-02	U	6.5E-02	6.9E-02	1.31E-01	pCi/g	84%	0.6	10/26/12 07:25 p		6.0	GPC26C
					6.05E-02			(2.3)			g	

TestAmerica
rptSTLRchBlank
V5.2.22 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

BLANK RESULTS

Date: 30-Oct-12

Lab Name: TestAmerica

Matrix: SOIL

SDG: J01605

Report No. : 53533

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 19 Comments:

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

rptSTLRchBlank
V5.2.22 A2002

FORM II

LCS RESULTS

Date: 30-Oct-12

Lab Name: TestAmerica

Matrix: SOIL

SDG: J01605

Report No. : 53533

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 2293043	7196_CR6			**Work Order:**	MW2DQ1AC		**Report DB ID:**	MW2DQ1AS					
HEXCHROME	1.80E+01			0.0E+00	1.55E-01	mg/kg	N/A	1.90E+01		95%	10/25/12 09:00 a	2.5	
							Rec Limits:	80	120	-0.1		g	
Batch: 2293059	PUISO_PLATE_AEA			**Work Order:**	MW2ER1AC		**Report DB ID:**	MW2ER1CS					
PU239/40	6.63E+00		6.6E-01	1.4E+00	6.61E-02	pCi/g	99%	6.61E+00	2.0E-01	100%	10/24/12 07:34 p	1.04	ALP44
							Rec Limits:	70	130	0.0		g	
Batch: 2293058	UISO_IE_PLATE_AEA			**Work Order:**	MW2EN1AC		**Report DB ID:**	MW2EN1CS					
U-234	2.63E+00		4.0E-01	6.1E-01	6.42E-02	pCi/g	77%	3.20E+00	1.7E-02	82%	10/26/12 06:01 p	1.02	ALP9
							Rec Limits:	70	130	-0.2		g	
U-238	2.97E+00		4.2E-01	6.8E-01	6.79E-02	pCi/g	77%	3.35E+00	1.8E-02	89%	10/26/12 06:01 p	1.02	ALP9
							Rec Limits:	70	130	-0.1		g	
Batch: 2293057	THISO_IE_PRECIP_AEA			**Work Order:**	MW2EK1AC		**Report DB ID:**	MW2EK1CS					
TH-230	1.86E+00		5.0E-01	5.7E-01	1.44E-01	pCi/g	89%	2.25E+00	4.6E-02	83%	10/24/12 05:28 p	1.01	ALP174
							Rec Limits:	70	130	-0.2		g	
Batch: 2293056	NI63_LSC			**Work Order:**	MW2EF1AC		**Report DB ID:**	MW2EF1CS					
NI-63	5.14E+02		1.9E+01	5.4E+01	1.32E+01	pCi/g	100%	6.10E+02	1.0E+01	84%	10/25/12 09:42 p	0.25	LSC3
							Rec Limits:	70	130	-0.2		g	
Batch: 2293055	906.0_H3_LSC			**Work Order:**	MW2EC1AC		**Report DB ID:**	MW2EC1CS					
H-3	3.06E-01		2.7E-02	3.1E-02	4.03E-02	pCi/g	100%	3.07E-01	9.2E-03	100%	10/23/12 12:33 a	86.2	LSC6
							Rec Limits:	70	130	0.0		g	
Batch: 2293051	GAMMA_GS			**Work Order:**	MW2D71AC		**Report DB ID:**	MW2D71CS					
CS-137	9.92E-01		1.2E-01	1.2E-01	2.67E-02	pCi/g		1.05E+00	1.1E-02	95%	10/22/12 08:46 a	350.1	GER11$1
							Rec Limits:	70	130	-0.1		g	

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

rptSTLRchLcs
V5.2.22 A2002

FORM II

LCS RESULTS

Date: 30-Oct-12

Lab Name: TestAmerica

Matrix: SOIL

SDG: J01605

Report No. : 53533

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
RA-226	9.63E-01		1.3E-01	1.3E-01	4.84E-02	pCi/g		1.14E+00	1.2E-02	85%	10/22/12 08:46 a	350.1	GER11$1
							Rec Limits:	70	130	-0.2		g	
Batch: 2293054	SRTOT_SEP_PRECIP_GPC			**Work Order:**	MW2EA1AC		**Report DB ID:**	MW2EA1CS					
STRONTIUM	1.12E+00		1.4E-01	3.2E-01	1.27E-01	pCi/g	85%	1.12E+00	1.3E-02	100%	10/26/12 07:25 p	6.04	GPC26D
							Rec Limits:	70	130	0.0		g	

No. of Results: 10 **Comments:**

FORM II

MATRIX SPIKE RESULTS

Date: 30-Oct-12

Lab Name: TestAmerica **SDG:** J01605

Lot-Sample No.: J2J180456-1, J1R3J1 **Report No. :** 53533 **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: 2293043	**Work Order:** MW17C1AK			**Report DB ID:** MW17C1CW			**Orig Sa DB ID:** 9MW17C10					
HEXCHROME	2.38E+01			0.0E+00	1.55E-01	mg/kg	N/A	79.79%	2.99E+01	10/25/12 09:00 a	2.5029	7196_CR6
	1.98E-01										g	

Number of Results: 1

Comments:

TestAmerica
rptSTLRchMs
V5.2.22 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

10/25/2012 2:12:57 PM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293059; RPUISO Pulso by ALP
SDG, Matrix: J01605; 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:

First Level [signature] **Date** 10-25-12

TestAmerica Richland
QAS_RADCALCv4.8.44

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 2293059

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: CRDL = 1.0 pCi/g

Second Level Review: Rhonda W Jones Date: 10/26/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/25/2012 2:12:31 PM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293057; RTHISO Thiso by ALP
SDG, Matrix: J01605; 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:

First Level [signature] **Date** 10-25-12

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 22913057

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: CRDL=

Second Level Review: Rhonda L. Jar Date: 10/25/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/29/2012 10:40:17 AM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293058; RUISO Uiso by ALP
SDG, Matrix: J01605; SOIL

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

6.0 Comments on any No response:

First Level John Norton **Date** 10-29-12

TestAmerica Richland
QAS_RADCALCv4.8.44

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 2293058

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: CRDL= 1.0 pci/g

Second Level Review: Rhonda Wyer Date: 10/30/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/29/2012 10:27:36 AM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293054; RSRTOT SrTot by GPC
SDG, Matrix: J01605; 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:

First Level John Thornton **Date** 10-29-12

TestAmerica Richland
QAS_RADCALCv4.8.44

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 2293054

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: CRDL= 1.0 pci/g

Second Level Review: [signature] Date: 10/30/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/23/2012 9:20:31 AM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293051; RGAMMA Gamma by GER
SDG, Matrix: J01605; SOIL

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

6.0 Comments on any No response:
The sample was re-counted in order to provide a duplicate.

First Level John Norton **Date** 10-23-12

TestAmerica Richland
QAS_RADCALCv4.8.44

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 2293051

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: CRDL = 0.1 pCi/g

Second Level Review: Rhonda [illegible] Date: 10/28/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/23/2012 12:43:19 PM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293055; RTRITIUM H-3 by LSC
SDG, Matrix: J01605; SOIL

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

6.0 Comments on any No response:

First Level John Norton **Date** 10-23-12

TestAmerica Richland
QAS_RADCALCv4.8.44

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 22930055

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: CRDL = 10.0 pCi/g

Second Level Review: Ronda Wyatt Date: 10/24/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/29/2012 10:49:51 AM

Lot No., Due Date: J2J180456; 11/02/2012
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 2293056; RNI63 Ni-63 by LSC
SDG, Matrix: J01605; SOIL

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

6.0 Comments on any No response:

First Level John Norton **Date** 10-29-12

TestAmerica Richland
QAS_RADCALCv4.8.44

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 2293056

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: CRDL = 30 pCi/g

Second Level Review: [signature] Date: 10/30/12

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	2293043	Lab Sample Numbers or SDG:	J01605
Method/Test/Parameter: Cr+6 ☐ RL-WC-003(Aqueous) ☒ RL-WC-004(Solid)			

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

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

Analyst H. Rahavi Date 10/29/12 2nd Review [signature] Date 10/29/12

CG-231 Rev 1 5/12

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-189-127	Page 1 of 2

Collector Q. Stowe	**Company Contact** Joan Kessner **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** ~~8L~~ 8K on 10/17/12 **Data Turnaround** ~~21~~ 15 Days on 10/17/12
Project Designation 100N Field Remediation - Soil Full Protocol	**Sampling Location** 116-N-2 Verification	**SAF No.** RC-189	
Ice Chest No. NA	**Field Logbook No.** El-1652-07 **COA** R116N22000	**Method of Shipment** ~~Fed Ex~~ / Hand Deliver on 10/17/12	
Shipped To TestAmerica Incorporated, Richland	**Offsite Property No.** NA	**Bill of Lading/Air Bill No.** NA	

POSSIBLE SAMPLE HAZARDS/REMARKS
~~Potential~~ Rad < DOT limits 10-18-12 cmB

Special Handling and/or Storage
Cool 4C

J2J180456

J01605
Due 11-2-12

SAMPLE ANALYSIS

Preservation	Cool 4C	Cool 4C	Cool 4C	Freeze	Cool 4C	Cool 4C	Cool 4C	None	None	None
Type of Container	G/P	G/P	G/P	Gs*	aG	aG	aG	G/P	G/P	G/P
No. of Container(s)	1	1	1	5	1	1	1	1	0	0
Volume	120mL	60mL	60mL	40mL	120mL	120mL	120mL	500mL	500mL	500mL
	See item (1) in Special Instructions.	Chromium Hex - 7196	IC Anions - 9056 Modified; NO2/NO3 - 353.2; pH - 9045	VOA - 5035/8260 (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310 RCF	See item (2) in Special Instructions. 34697	Isotopic Uranium	Isotopic Thorium

Sample No.	Matrix *	Sample Date	Sample Time										
J1R3J1 MW17C	SOIL	10-17-12	1000		X						X	X	X

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From Quincy Stowe	Date/Time 1520 10/17/12	Received By/Stored In Dennis Newman	Date/Time 1520 10/17/12
Relinquished By/Removed From Dennis Newman	Date/Time 1740 10/17/12	Received By/Stored In Cindy Bingham	Date/Time 1660#3 10-17-12 1740
Relinquished By/Removed From Cindy Bingham	Date/Time 1660#3 WCH 10-18-12 1540	Received By/Stored In TALE J. Bock	Date/Time J. Bock 10-18-12 1540
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226}

J2J180456

REVIEWED BY DATE 10/18/12

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-189-127	Page 2 of 2

Collector Q. Stowe	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code ~~8L~~ 8K 10/17/12	**Data Turnaround** ~~21~~ Days 15 10/17/12		
Project Designation 100N Field Remediation - Soil Full Protocol	**Sampling Location** 116-N-2 Verification		**SAF No.** RC-189
Ice Chest No. NA	**Field Logbook No.** EI-1652-07	**COA** R116N22000	**Method of Shipment** ~~Fed Ex~~ Hand Deliver 10/17/12
Shipped To TestAmerica Incorporated, Richland	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad < Dot limits

10-18-12 cmb

Special Handling and/or Storage

Cool 4C

J2J180456

J01605

Due 11-2-12

SAMPLE ANALYSIS

			Preservation	None	None	None	None						
			Type of Container	G/P	G	G/P	G/P						
			No. of Container(s)	0	1	0	0						
			Volume	500mL	60mL	500mL	500mL						
				Isotopic Plutonium	Tritium - H3 Low Level Soil	Nickel-63	Strontium-89,90 -- Total Sr	RCF 34697					
Sample No.	Matrix *	Sample Date	Sample Time										
J1R3J1 MW17C	SOIL	10-17-12	1000	X	X	X	X						

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From Quincy Stowe	Date/Time 1520 10/17/12	Received By/Stored In Dennis Newman	Date/Time 1520 10/17/12
Relinquished By/Removed From Dennis Newman	Date/Time 1740 10/17/12	Received By/Stored In Ingram 10-17-12	Date/Time 1060#3 1740
Relinquished By/Removed From WCH	Date/Time 10-18-12 1540	Received By/Stored In TALR A. Beck J. Beck	Date/Time 10-18-12 1540
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

REVIEWED BY Quiges DATE 10/18/12

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

Analysis Report for RCF34697

J1R2H1 SAF:RC-189 100NFR/116-N-2 Verification

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF34697
Sample Description	: J1R2H1 SAF:RC-189 100NFR/116-N-2 Verification
Sample Type	: 80g pillbox
Sample Size	: 7.400E+01 grams
Facility	: Default
Sample Taken On	: 10/17/2012 9:45:00AM
Acquisition Started	: 10/18/2012 8:52:14AM
Procedure	: 80 Gram Pill Box
Operator	: RCT
Detector Name	: NEWBEGE
Geometry	: 80 Gram Pill Box
Live Time	: 1800.0 seconds
Real Time	: 1800.2 seconds
Dead Time	: 0.01 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 40 - 4096
Peak Area Range (in channels)	: 40 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2012
Efficiency Calibration Used Done On	: 3/9/2012
Efficiency Calibration Description	: NBEGE 80gPB EC030712 SN85269-238
Sample Number	: 28495

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.950	1.07E+01	2.92E+00	
PB-212	0.709	7.63E-01	1.50E-01	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 10-18-12 | 1540 Container GM Screen Result: (Airlock) .10 Initials [BS]
Sample GM Screen Result (Sample Receiving) .06 Initials [BS]

Client: WCH SDG #: J01605 NA [ ] SAF #: RC-189 NA [ ]

Lot Number: J2J180456

Chain of Custody # RC-189-127

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

Samples received inside shipping container/cooler/box Yes [BS]] 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 [BS]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [BS]
3. Cooler temperature: 5.7 °C on Ice ~~NA~~]
4. Vermiculite/packing materials is NA [BS] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [BS] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 2 x 60 mLAG; 1 x 500 mLP
8. Sample holding times exceeded? NA [ ] Yes [ ] No [BS]
9. Samples have:
   - ____ tape
   - [BS] custody seals
   - ____ hazard labels
   - [BS] appropriate sample labels
10. Matrix:
    - [BS] A (FLT, Wipe, Solid, Soil)
    - ____ S (Air, Niosh 7400)
    - ____ I (Water)
    - ____ T (Biological, Ni-63)
11. Samples:
    - [BS] are in good condition
    - ____ are broken
    - ____ are leaking
    - ____ have air bubbles (Only for samples requiring no head space)
    - ____ Other
12. Sample pH appropriate for analysis requested Yes [ ] No [ ] NA [BS]
    (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 [BS]
14. Description of anomalies (include sample numbers): NA [BS]

LS-023, Rev. 15, 07/11 See over for additional information.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

16. Additional Information:

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

Sample Custodian: Date: ~~10-18-12~~ 10-18-12

Client Informed on by Person contacted

[✓] No action necessary, process as is

Project Manager Date 10/19/12

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

10-18-12

10-18-12

10-18-12

10-18-12

J2J180456 10/19/12

LS-023, Rev. 15, 07/11

See over for additional information.

10/22/2012 11:02:26 AM

Sample Preparation/Analysis

Balance Id:1120373922

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

6A Pu Prp PRP003/PRP005, Sep ALP002(ALP015)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293059 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AF J2J180456-1-SAMP 10/17/2012 10:00			1.02g,in AmtRec: 2X60MLAG;1X500MLP	1.02g #Containers: 3	PUTC13189 08/28/12,pd 01/01/10,r				100 min		Scr:	Alpha:	Beta:
2 MW17C-1-AU-X J2J180456-1-DUP 10/17/2012 10:00			1.02g,in AmtRec: 2X60MLAG;1X500MLP	1.02g #Containers: 3	PUTC13190 08/28/12,pd 01/01/10,r						Scr:	Alpha:	Beta:
3 MW2ER-1-AA-B J2J190000-59-BLK 10/19/2012 10:03 pd			1.03g,in AmtRec:	1.03g #Containers: 1	PUTC13191 08/28/12,pd 01/01/10,r						Scr:	Alpha:	Beta:
4 MW2ER-1-AC-C J2J190000-59-LCS 10/19/2012 10:03 pd			1.04g,in AmtRec:	1.04g #Containers: 1	PUSK0957 08/17/12,pd 01/01/10,r						Scr:	Alpha:	Beta:

Comments: MW17C-SAMP "CommentsISV Gamma-Recount DUP On a Different Detector"
MW2ER-BLK CommentsP-12-00023,P-12-00477

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

MW17C1AF-SAMP Constituent List:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

MW2ER1AA-BLK:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

10/22/2012 11:02:28 AM

Sample Preparation/Analysis

6A Pu Prp PRP003/PRP005, Sep ALP002(ALP015)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: SannohS

AnalyDueDate: 11/02/2012

Batch: 2293059 pCi/g

SEQ Batch, Test: None

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

```
MW2ER1AC-LCS:
  PU-239      RDL:1          pCi/g     LCL:70     UCL:130     RPD:35      Pu-242      RDL:          pCi/g     LCL:20     UCL:105     RPD:35

MW17C1AF-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2ER1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2ER1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

10/25/2012 1:47:36 PM

ICOC Fraction Transfer/Status Report

ByDate: 10/26/2011, 10/30/2012, Batch: '2293059', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293059						
AC		**Rev1C**	**SannohS**	10/22/2012 10:50:57		
SC			davilan	IsBatched	10/19/2012 10:13:00 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	10/22/2012 10:50:57 AM	RL-PRP-004 REVISION 2
SC			WoodT	Prep1C	10/23/2012 2:30:29 AM	RL-PRP-003 REVISION 2
SC			HayesA	Sep1C	10/23/2012 3:13:50 PM	RL-ALP-001 REVISION 3
SC			RitariN	Prep2C	10/24/2012 3:12:03 PM	RL-ALP-016 REVISION 2
SC			ClarkR	InCnt1	10/24/2012 3:36:58 PM	RL-CI-008 REV. 2
SC			DawkinsO	CalcC	10/25/2012 12:17:20 AM	RL-CI-008 REV. 2
SC			NortonJ	Rev1C	10/25/2012 1:47:10 PM	RL-DR-001 Rev 2
AC			**WoodT**	10/23/2012 2:30:29		
AC			**HayesA**	10/23/2012 3:13:50		
AC			**RitariN**	10/24/2012 3:12:03		
AC			**ClarkR**	10/24/2012 3:36:58		
AC			**DawkinsO**	10/25/2012 12:17:20		
AC			**NortonJ**	10/25/2012 1:47:10		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt:7

ICOCFractions v4.8.44

10/22/2012 10:47:00 AM

Sample Preparation/Analysis

Balance Id:1120373922

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

9R Thiso Prp PRP003/PRP005, Sep ALP005(ALP016)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293057 SOIL pCi/g PM, Quote: RW2, 27038

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: NyeM,SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AG			1.03g,in	1.03g	THTC24501								
J2J180456-1-SAMP					10/17/12,pd 09/11/12,r				100min				
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:	Alpha:		Beta:	
2 MW17C-1-AR-X			1.02g,in	1.02g	THTC24502								
J2J180456-1-DUP					10/17/12,pd 09/11/12,r								
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:	Alpha:		Beta:	
3 MW2EK-1-AA-B			1.02g,in	1.02g	THTC24503								
J2J190000-57-BLK					10/17/12,pd 09/11/12,r								
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	
4 MW2EK-1-AC-C			1.01g,in	1.01g	THSI3326								
J2J190000-57-LCS					10/17/12,pd 09/11/12,r								
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	

Comments: MW17C-SAMP "CommentsISV Gamma-Recount DUP On a Different Detector"
MW2EK-BLK CommentsP-12-00023,P-12-00477

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

MW17C1AG-SAMP Constituent List:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

MW2EK1AA-BLK:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:	UCL:	RPD:

10/22/2012 10:47:01 AM

Sample Preparation/Analysis

9R Thlso Prp PRP003/PRP005, Sep ALP005(ALP016)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293057 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: SannohS

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

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 Th-232      RDL:1          pCi/g     LCL:        UCL:        RPD:          Th-234      RDL:          pCi/g     LCL:20      UCL:105     RPD:35

MW2EK1AC-LCS:
 Th-230      RDL:1          pCi/g     LCL:70      UCL:130     RPD:35        Th-234      RDL:          pCi/g     LCL:20      UCL:105     RPD:35

MW17C1AG-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EK1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EK1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

10/25/2012 1:49:20 PM

ICOC Fraction Transfer/Status Report

ByDate: 10/26/2011, 10/30/2012, Batch: '2293057', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293057						
AC		**Rev1C**	**SannohS**	10/22/2012 10:40:07		
SC			davilan	IsBatched	10/19/2012 10:12:44 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	10/22/2012 10:40:07 AM	RL-PRP-004 REVISION 2
SC			WoodT	Prep1C	10/23/2012 2:30:51 AM	RL-PRP-003 REVISION 2
SC			HayesA	Sep1C	10/23/2012 2:28:22 PM	RL-ALP-001 REVISION 3
SC			RitariN	Prep2C	10/24/2012 3:12:14 PM	RL-ALP-016 REVISION 2
SC			ClarkR	InCnt1	10/24/2012 3:37:15 PM	RL-CI-008 REV. 2
SC			DawkinsO	CalcC	10/25/2012 12:17:11 AM	RL-CI-008 REV. 2
SC			NortonJ	Rev1C	10/25/2012 1:49:07 PM	RL-DR-001 Rev 2
AC			**WoodT**	10/23/2012 2:30:51		
AC			**HayesA**	10/23/2012 2:28:22		
AC			**RitariN**	10/24/2012 3:12:14		
AC			**ClarkR**	10/24/2012 3:37:15		
AC			**DawkinsO**	10/25/2012 12:17:11		
AC			**NortonJ**	10/25/2012 1:49:07		

AC: Accepting Entry; SC: Status Change

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Grp Rec Cnt: 7

ICOCFractions v4.8.44

10/22/2012 11:16:22 AM

Sample Preparation/Analysis

Balance Id:1120373922

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

7S Ulso Prp PRP003/PRP005, Sep ALP009(ALP015)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293058 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AC			1.02g,in	1.02g	UITC29275								
J2J180456-1-SAMP					07/13/12,pd 06/15/01,r				100 Min				
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
2 MW17C-1-AT-X			1.01g,in	1.01g	UITC29276								
J2J180456-1-DUP					07/13/12,pd 06/15/01,r								
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
3 MW2EN-1-AA-B			1.03g,in	1.03g	UITC29277								
J2J190000-58-BLK					07/13/12,pd 06/15/01,r								
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
4 MW2EN-1-AC-C			1.02g,in	1.02g	UISH1635								
J2J190000-58-LCS					05/30/12,pd 06/15/01,r								
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

Comments: MW17C-SAMP "CommentsISV Gamma-Recount DUP On a Different Detector"
MW2EN-BLK CommentsP-12-00477,P-12-00512,P-12-00023

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

MW17C1AC-SAMP Constituent List:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:

MW2EN1AA-BLK:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:

10/22/2012 11:16:23 AM

Sample Preparation/Analysis

7S Uiso Prp PRP003/PRP005, Sep ALP009(ALP015)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: SannohS

AnalyDueDate: 11/02/2012

Batch: 2293058 pCi/g
SEQ Batch, Test: None

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

```
 U-235        RDL:1.00E+00    pCi/g    LCL:        UCL:        RPD:        U-238        RDL:1.00E+00    pCi/g    LCL:        UCL:        RPD:

MW2EN1AC-LCS:
 U-232        RDL:            pCi/g    LCL:20      UCL:105     RPD:35      Uranium      RDL:            pCi/g    LCL:70      UCL:130     RPD:35

MW17C1AC-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EN1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EN1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

10/29/2012 10:39:31 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/30/2011, 11/3/2012, Batch: '2293058', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293058						
AC		**Rev1C**	**SannohS**	10/22/2012 11:08:55		
SC			davilan	IsBatched	10/19/2012 10:12:48 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	10/22/2012 11:08:55 AM	RL-PRP-004 REVISION 2
SC			WoodT	Prep1C	10/23/2012 2:29:54 AM	RL-PRP-003 REVISION 2
SC			HayesA	Sep1C	10/23/2012 5:03:12 PM	RL-ALP-004 REVISION 4
SC			SannohS	Prep1C	10/26/2012 3:26:30 PM	RL-GAM-001 REVISION 2
SC			DawkinsO	InCnt1	10/26/2012 4:24:03 PM	RL-CI-008 REV. 2
SC			DawkinsO	CalcC	10/26/2012 11:26:56 PM	RL-CI-008 REV. 2
SC			NortonJ	Rev1C	10/29/2012 10:39:25 AM	RL-DR-001 Rev 2
AC			**WoodT**	10/23/2012 2:29:54		
AC			**HayesA**	10/23/2012 5:03:12		
AC			**SannohS**	10/26/2012 3:26:30		
AC			**DawkinsO**	10/26/2012 4:24:03		
AC			**DawkinsO**	10/26/2012 11:26:56		
AC			**NortonJ**	10/29/2012 10:39:25		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt:7

ICOCFractions v4.8.44

10/26/2012 4:45:24 PM

Sample Preparation/Analysis

Balance Id:1120373922

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

CH Sr-Total Prp PRP003, Sep GPC003
TH Total Strontium by GPC
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech: 1445 10/26/12 APA

Batch: 2293054 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 2293043 DWEA, 2293051 AXTA, 2293054 CHTH, 2293055 ATS6, 2293056 AFS4, 2293057 9RS1, 2293058 7SSR, 2293059 6ASO,

Prep Tech: Millerkv,SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AD J2J180456-1-SAMP 10/17/2012 10:00			6.03g,in	6.03g	SRTA23855 09/18/12		1.5"	58.9mg	50	26A	1950	10/26/12 APA	
			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
2 MW17C-1-AN-X J2J180456-1-DUP 10/17/2012 10:00			6.02g,in	6.02g	SRTA23856 09/18/12			60.2mg		26B			
			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
3 MW2EA-1-AA-B J2J190000-54-BLK 10/19/2012 10:03 pd			6.00g,in	6.00g	SRTA23857 09/18/12			84.2mg		26C			
			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
4 MW2EA-1-AC-C J2J190000-54-LCS 10/19/2012 10:03 pd			6.04g,in	6.04g	STSB1878 08/08/12			84.6mg		26D			
			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

Comments: ~~MW17C-SAMP "CommentsISV Gamma Recount DUP On a Different Detector ;12-047"~~ 10/26/12 APA
MW2EA-BLK " P-12-00023",P-12-00477,,P-12-00477

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

MW17C1AD-SAMP Constituent List:

Sr-90	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
MW2EA1AA-BLK:					
Sr-90	RDL:1	pCi/g	LCL:	UCL:	RPD:
MW2EA1AC-LCS:					
Sr-90	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35

10/26/2012 4:45:25 PM

Sample Preparation/Analysis

CH Sr-Total Prp PRP003, Sep GPC003
TH Total Strontium by GPC
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293054 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: SannohS

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

```
MW17C1AD-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EA1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EA1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

10/29/2012 10:22:52 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/30/2011, 11/3/2012, Batch: '2293054', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293054						
AC		**Rev1C**	**SannohS**	10/22/2012 9:32:42		
SC			davilan	IsBatched	10/19/2012 10:12:31 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	10/22/2012 9:32:42 AM	RL-PRP-004 REVISION 2
SC			WoodT	Prep1C	10/23/2012 2:30:46 AM	RL-PRP-004 REVISION 2
SC			AshworthA	Sep2C	10/26/2012 4:53:33 PM	RL-GPC-003 REV. 2
SC			DawkinsO	InCnt1	10/26/2012 5:04:34 PM	RL-CI-006 REVISION 3
SC			DawkinsO	CalcC	10/26/2012 11:22:23 PM	RL-CI-006 REVISION 3
SC			NortonJ	Rev1C	10/29/2012 10:22:40 AM	RL-DR-001 Rev 2
AC			**WoodT**	10/23/2012 2:30:46		
AC			**AshworthA**	10/26/2012 4:53:33		
AC			**DawkinsO**	10/26/2012 5:04:34		
AC			**DawkinsO**	10/26/2012 11:22:23		
AC			**NortonJ**	10/29/2012 10:22:40		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 6

ICOCFractions v4.8.44

10/22/2012 8:22:28 AM

Sample Preparation/Analysis

Balance Id:1120421763

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

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

PRIORITY

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293051 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 2293043 DWEA, 2293051 AXTA, 2293054 CHTH, 2293055 ATS6, 2293056 AFS4, 2293057 9RS1, 2293058 7SSR, 2293059 6ASO,

Prep Tech: SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AJ J2J180456-1-SAMP 10/17/2012 10:00			406.30g,in AmtRec: 2X60MLAG;1X500MLP	406.30g #Containers: 3					5200 200min	G15	1159	10/22/12 CJH Scr: Alpha: Beta:	
2 MW17C-1-AM-X J2J180456-1-DUP 10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP	#Containers: 3			I.S.V			G19	1538	10/22/12 CJH Scr: Alpha: Beta:	
3 MW2D7-1-AA-B J2J190000-51-BLK 10/19/2012 10:03 pd			348.00g,in AmtRec:	348.00g #Containers: 1						G16	1203	10/22/12 CJH Scr: Alpha: Beta:	
4 MW2D7-1-AC-C J2J190000-51-LCS 10/19/2012 10:03 pd			350.10g,in AmtRec:	350.10g #Containers: 1	qc20009 08/04/09,pd 09/01/09,r					G11	1204	Scr: Alpha: Beta:	

Comments: MW17C-SAMP "CommentsISV-Recount DUP On a Different Detector"

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

MW17C1AJ-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:

MW2D71AA-BLK:

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

10/22/2012 8:22:29 AM

Sample Preparation/Analysis

Balance Id:1120421763

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

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293051 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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:		
MW2D71AC-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								

MW17C1AJ-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MW2D71AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MW2D71AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

10/23/2012 9:18:09 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/24/2011, 10/28/2012, Batch: '2293051', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293051						
AC		**Rev1C**	**SannohS**	10/19/2012 10:50:43		
SC			davilan	IsBatched	10/19/2012 10:12:26 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	10/19/2012 10:50:43 AM	RL-GAM-001 Revision 2
SC			SannohS	Prep1C	10/22/2012 8:28:20 AM	RL-GAM-001 REVISION 2
SC			HiattC	InCnt1	10/22/2012 8:37:17 AM	RL-CI-007 REV. 2
SC			DawkinsO	CalcC	10/22/2012 9:48:09 PM	RL-CI-007 REV. 2
SC			NortonJ	Rev1C	10/23/2012 9:18:00 AM	RL-DR-001 Rev 2
AC			**SannohS**	10/22/2012 8:28:20		
AC			**HiattC**	10/22/2012 8:37:17		
AC			**DawkinsO**	10/22/2012 9:48:09		
AC			**NortonJ**	10/23/2012 9:18:00		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 5

ICOCFractions v4.8.44

25

10/19/2012 10:03:40 AM

Sample Preparation/Analysis

PRIORITY

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

AT H-3 Prp/Sep LSC002
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

AnalyDueDate: 11/02/2012

Batch: 2293055 SOIL pCi/g
SEQ Batch, Test: None

PM, Quote: RW2, 27038

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

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AH													
J2J180456-1-SAMP													
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
2 MW17C-1-AP-X													
J2J180456-1-DUP													
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
3 MW2EC-1-AA-B													
J2J190000-55-BLK													
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
4 MW2EC-1-AC-C													
J2J190000-55-LCS													
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
5 MW2EC-1-AD-BN													
J2J190000-55-IBLK													
10/19/2012 10:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

Comments:

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

MW17C1AH-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35

10/19/2012 10:03:40 AM

Sample Preparation/Analysis

AT H-3 Prp/Sep LSC002
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

Balance Id:

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 11/02/2012

Batch: 2293055 **pCi/g**
SEQ Batch, Test: None

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

```
MW2EC1AA-BLK:

MW2EC1AC-LCS:

MW2EC1AD-IBLK:

MW17C1AH-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EC1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EC1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EC1AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

10/23/2012 12:42:15 PM

ICOC Fraction Transfer/Status Report

ByDate: 10/24/2011, 10/28/2012, Batch: '2293055', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293055						
AC		**Rev1C**	**NyeM**	10/22/2012 8:19:16		
SC			davilan	IsBatched	10/19/2012 10:12:35 AM	ICOC_RADCALC v4.8.49
SC			NyeM	InPrep	10/22/2012 8:19:16 AM	RL-LSC-002 REVISION 2
SC			NyeM	Sep1C	10/22/2012 12:44:34 PM	RL-LSC-002 REVISION 2
SC			HiattC	InCnt1	10/22/2012 1:02:40 PM	RL-CI-005 REV. 2
SC			ClarkR	CalcC	10/23/2012 11:25:28 AM	RL-CI-005 REV. 2
SC			NortonJ	Rev1C	10/23/2012 12:41:49 PM	RL-DR-001 Rev 2
AC			**NyeM**	10/22/2012 12:44:34		
AC			**HiattC**	10/22/2012 1:02:40		
AC			**ClarkR**	10/23/2012 11:25:28		
AC			**NortonJ**	10/23/2012 12:41:49		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 5

ICOCFractions v4.8.44

10/22/2012 10:37:15 AM

Sample Preparation/Analysis

Balance Id:1120373922

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

AF Ni-63 Prp PRP003/PRP005, Sep LSC017
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293056 SOIL pCi/g PM, Quote: RW2, 27038

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: NyeM,SannohS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AE J2J180456-1-SAMP 10/17/2012 10:00			0.25g,in AmtRec: 2X60MLAG;1X500MLP	0.25g	NITA8138 10/01/12 #Containers: 3				20 min		Scr:	Alpha:	Beta:
2 MW17C-1-AQ-X J2J180456-1-DUP 10/17/2012 10:00			0.25g,in AmtRec: 2X60MLAG;1X500MLP	0.25g	NITA8139 10/01/12 #Containers: 3						Scr:	Alpha:	Beta:
3 MW2EF-1-AA-B J2J190000-56-BLK 10/19/2012 10:03 pd			0.25g,in AmtRec:	0.25g	NITA8140 10/01/12 #Containers: 1						Scr:	Alpha:	Beta:
4 MW2EF-1-AC-C J2J190000-56-LCS 10/19/2012 10:03 pd			0.25g,in AmtRec:	0.25g	NISA1763 09/14/12 #Containers: 1						Scr:	Alpha:	Beta:
5 MW2EF-1-AD-BN J2J190000-56-IBLK 10/19/2012 10:03 pd			AmtRec:		#Containers: 1						Scr:	Alpha:	Beta:

Comments: MW17C-SAMP "CommentsISV Gamma-Recount DUP On a Different Detector"
MW2EF-BLK CommentsP-12-00023,P-12-00477

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

10/22/2012 10:37:17 AM

Sample Preparation/Analysis

AF Ni-63 Prp PRP003/PRP005, Sep LSC017
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

Balance Id:

Pipet #:

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:

Batch: 2293056 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech:

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

```
MW17C1AE-SAMP Constituent List:
  Ni-63        RDL:30          pCi/g     LCL:70      UCL:130     RPD:35
MW2EF1AA-BLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
MW2EF1AC-LCS:
  Ni-63        RDL:30          pCi/g     LCL:70      UCL:130     RPD:35
MW2EF1AD-IBLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:

MW17C1AE-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EF1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EF1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2EF1AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

10/29/2012 10:48:39 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/30/2011, 11/3/2012, Batch: '2293056', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2293056						
AC		**Rev1C**	**SannohS**	10/22/2012 9:52:03		
SC			davilan	IsBatched	10/19/2012 10:12:40 AM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	10/22/2012 9:52:03 AM	RL-PRP-004 REVISION 2
SC			WoodT	Prep1C	10/23/2012 2:30:36 AM	RL-PRP-004 REVISION 2
SC			JorgensonD	Sep2C	10/24/2012 2:04:49 PM	RL-LSC-017 REVISION 3
SC			ClarkR	InCnt1	10/24/2012 2:20:38 PM	RL-CI-005 REV. 2
SC			ClarkR	CalcC	10/26/2012 3:45:18 PM	RL-CI-005 REV. 2
SC			NortonJ	Rev1C	10/29/2012 10:48:31 AM	RL-DR-001 Rev 2
AC			**WoodT**	10/23/2012 2:30:36		
AC			**JorgensonD**	10/24/2012 2:04:49		
AC			**ClarkR**	10/24/2012 2:20:38		
AC			**ClarkR**	10/26/2012 3:45:18		
AC			**NortonJ**	10/29/2012 10:48:31		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 6

ICOCFractions v4.8.44

10/19/2012 10:34:52 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

Balance Id:
Pipet #:

AnalyDueDate: 11/02/2012

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

Batch: 2293043 SOIL mg/kg PM, Quote: RW2, 27038

SEQ Batch, Test: None All Tests: 2293043 DWEA, 2293051 AXTA, 2293054 CHTH, 2293055 ATS6, 2293056 AFS4, 2293057 9RS1, 2293058 7SSR, 2293059 6ASO,

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MW17C-1-AA													
J2J180456-1-SAMP													
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
2 MW17C-1-AK-S													
J2J180456-1-MS													
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
3 MW17C-1-AL-X													
J2J180456-1-DUP													
10/17/2012 10:00			AmtRec: 2X60MLAG;1X500MLP		#Containers: 3				Scr:		Alpha:		Beta:
4 MW2DQ-1-AA-B													
J2J190000-43-BLK													
10/19/2012 10:34 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
5 MW2DQ-1-AC-C													
J2J190000-43-LCS													
10/19/2012 10:34 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

Comments:

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

MW17C1AA-SAMP Constituent List:
HEXCHROME RDL:.1548 mg/kg LCL:80 UCL:120 RPD:20

TestAmerica Richland Wa. Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 5

ICOC v4.8.49

10/19/2012 10:34:53 AM

Sample Preparation/Analysis

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

Balance Id:

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 11/02/2012

Batch: 2293043 **mg/kg**
SEQ Batch, Test: None

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

```
MW17C1AK-MS Constituent List:

MW2DQ1AA-BLK:

MW2DQ1AC-LCS:

MW17C1AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW17C1AK-MS Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2DQ1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MW2DQ1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

ANALYTICAL REPORT

Job Number: 280-34865-1

SDG Number: J01605

Job Description: SAF# RC-189

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

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Project Manager II
11/1/2012 10:31 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
11/01/2012

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.

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-34865-1

SDG #: J01605
SAF#: RC-189

Date SDG Closed: October 19, 2012
Data Deliverable: 15 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1R3J1	280-34865-1	6010/7471/9056M/353.2/9045/8260/8270A/ 8082/8310	6010B/7471A/9056M/353.2/9045C/8260B/8270C/ 8082/8310

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

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

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

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

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

RECEIPT
The sample was received on 10/19/2012 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1º C.

Sample J1R3J1, requesting 5035/8260B VOA analysis, was received at the laboratory at a temperature of 1.1º C; however, it can be noted that the chain-of-custody indicates that VOA samples were frozen upon collection.

GC/MS VOLATILES - SW846 8260B
Due to instrument failure, MS/MSD data are not available for batch 280-143210. A duplicate LCS (LCSD) was analyzed to provide some evidence of batch precision. The client was notified on 10/31/2012.

No other anomalies were encountered.

GC/MS SEMIVOLATILES - SW846 8270C
Compounds Benzo(b)fluoranthene and Benzo(k)fluoranthene were unresolved in sample J1R3J1 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".

The MS/MSD performed on sample J1R3J1 exhibited percent recoveries outside the control limits for 2,4-Dinitrophenol and Fluoranthene, and the associated sample results have been flagged "T". 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.

GC SEMIVOLATILES - SW846 8082 - PCBs
No anomalies were encountered.

HPLC - SW846 8310 - PAHs
The RPD between the primary and confirmation columns exceeded 40% for Chrysene in sample J1R3J1. The lower of the two values has been reported, as matrix interference is evident on both columns. The result has been flagged with an “X”.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-143215 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an “X”.

Low levels of Chromium are present at a level greater than half the reporting limit in the method blank associated with batch 280-143215. As the associated sample amount is twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1R3J1; therefore, control limits are not applicable.

Silicon was recovered outside the control limits in the Matrix Spike performed on sample J1R3J1, and the associated sample result has 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.

The duplicate analysis of sample J1R3J1 exhibited RPD data outside the control limits for Molybdenum, and the associated sample result has been flagged “M”. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - MCAWW 353.2 - NITRATE NITRITE as N
The duplicate analysis of sample J1R3J1 exceeded the RPD limit, and the associated sample result has been flagged “M”. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9056M - ANIONS
No anomalies were encountered.

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

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an Estimated Value for TICs
	N	Presumptive evidence of material.
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
	T	MS, MSD: Recovery exceeds upper or lower control limits.
	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.
HPLC/IC		
	U	Analyzed for but not detected.
	X	More than 40% difference between columns, lower result reported.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is 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: 280-34865-1
Sdg Number: J01605

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
	M	Sample duplicate precision not met.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL DEN	SW846 8260B	
Closed System Purge and Trap	TAL DEN		SW846 5035
Semivolatile Organic Compounds (GC/MS)	TAL DEN	SW846 8270C	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction	TAL DEN		SW846 3550C
PAHs (HPLC)	TAL DEN	SW846 8310	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
pH	TAL DEN	SW846 9045C	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
Anions, Ion Chromatography	TAL DEN	SW846 9056M	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

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

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: 280-34865-1
Sdg Number: J01605

Method	Analyst	Analyst ID
SW846 8260B	Reinhardt, Jason	JR
SW846 8270C	Kiekel, Daniel C	DCK
SW846 8082	Jackson, Todd D	TDJ
SW846 6010B	Harre, John K	JKH
SW846 7471A	Mooney, Joseph C	JM
MCAWW 353.2	Scott, Samantha J	SJS
SW846 9045C	Ayala, Delaina	DA
SW846 9056M	Kudla, Ewa	EK
ASTM D-2216	Graham, Shane	SG
SW846 8310	Fiedler, Heather K	HKF

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-34865-1	J1R3J1	Solid	10/17/2012 1000	10/19/2012 0900

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-143320	Instrument ID:	VMS_MS7
Prep Method:	5035	Prep Batch:	280-143210	Lab File ID:	ms7_1495.D
Dilution:	1.0			Initial Weight/Volume:	4.603 g
Analysis Date:	10/22/2012 1037			Final Weight/Volume:	5 mL
Prep Date:	10/20/2012 1054				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.1	U	6.1	23
Benzene		0.53	U	0.53	5.6
Bromodichloromethane		0.25	U	0.25	5.6
Bromoform		0.26	U	0.26	5.6
Bromomethane		0.56	U	0.56	11
2-Butanone (MEK)		2.1	U	2.1	11
Carbon disulfide		0.47	U	0.47	5.6
Carbon tetrachloride		0.71	U	0.71	5.6
Chlorobenzene		0.61	U	0.61	5.6
Dibromochloromethane		0.64	U	0.64	5.6
Chloroethane		1.0	U	1.0	11
Chloroform		0.33	U	0.33	5.6
Chloromethane		0.87	U	0.87	11
1,1-Dichloroethane		0.24	U	0.24	5.6
1,2-Dichloroethane		0.79	U	0.79	5.6
1,1-Dichloroethene		0.67	U	0.67	5.6
1,2-Dichloroethene, Total		0.44	U	0.44	5.6
1,2-Dichloropropane		0.62	U	0.62	5.6
cis-1,3-Dichloropropene		1.5	U	1.5	5.6
trans-1,3-Dichloropropene		0.76	U	0.76	5.6
Ethylbenzene		0.76	U	0.76	5.6
2-Hexanone		5.5	U	5.5	23
Methylene Chloride		1.8	U	1.8	5.6
4-Methyl-2-pentanone (MIBK)		4.9	U	4.9	11
Styrene		0.71	U	0.71	5.6
1,1,2,2-Tetrachloroethane		0.69	U	0.69	5.6
Tetrachloroethene		0.67	U	0.67	5.6
Toluene		0.78	U	0.78	5.6
1,1,1-Trichloroethane		0.59	U	0.59	5.6
1,1,2-Trichloroethane		0.99	U	0.99	5.6
Trichloroethene		0.26	U	0.26	5.6
Vinyl chloride		1.5	U	1.5	5.6
Xylenes, Total		0.69	U	0.69	5.6

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		58 - 140
Toluene-d8 (Surr)	110		80 - 126
4-Bromofluorobenzene (Surr)	103		76 - 127
Dibromofluoromethane (Surr)	106		75 - 121

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-143320	Instrument ID:	VMS_MS7
Prep Method:	5035	Prep Batch:	280-143210	Lab File ID:	ms7_1495.D
Dilution:	1.0			Initial Weight/Volume:	4.603 g
Analysis Date:	10/22/2012 1037			Final Weight/Volume:	5 mL
Prep Date:	10/20/2012 1054				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-143339	Lab File ID:	Y0925.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	10/25/2012 2300			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		28	J	11	340
Acenaphthylene		17	U	17	340
Anthracene		91	J	17	340
Benzo[a]anthracene		380		21	340
Benzo[a]pyrene		230	J	21	340
Benzo[b]fluoranthene		490	K	27	340
Benzo[ghi]perylene		95	J	16	340
Benzo[k]fluoranthene		41	U K	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		47	U	47	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		46	J	37	340
4-Chloroaniline		84	U	84	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		360		28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		92	U	92	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		24	U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U T	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		700	T	37	340
Fluorene		22	J	18	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		51	U	51	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		100	J	23	340
Isophorone		17	U	17	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-143339	Lab File ID:	Y0925.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	10/25/2012 2300			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		51	U	51	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		390		17	340
Phenol		18	U	18	340
Pyrene		600		12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol	81		53 - 120
Nitrobenzene-d5	82		50 - 120
Phenol-d5	84		52 - 120
Terphenyl-d14	87		55 - 120
2,4,6-Tribromophenol	74		51 - 120

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Prep Method:	3550C	Prep Batch:	280-143339	Lab File ID:	Y0925.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	10/25/2012 2300			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL

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

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	3.26	7000	N J
	Unknown	4.54	3300	N J
605-2-7	Naphthalene, 1-phenyl-	10.33	140	N J
207-8-9	Benzo[k]fluoranthene	12.58	170	N J

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-144232	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-143363	Initial Weight/Volume:	30.2 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	10/25/2012 1028			Injection Volume:	1 uL
Prep Date:	10/22/2012 1128			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.9	U	2.9	10
Aroclor 1221		8.3	U	8.3	17
Aroclor 1232		2.1	U	2.1	10
Aroclor 1242		4.8	U	4.8	10
Aroclor 1248		4.8	U	4.8	10
Aroclor 1254		2.7	U	2.7	10
Aroclor 1260		2.7	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	67		59 - 130
Tetrachloro-m-xylene	88		53 - 128

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-144757	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-143350	Initial Weight/Volume:	32.3 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	10/30/2012 1509			Injection Volume:	20 uL
Prep Date:	10/22/2012 1123			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.6	U	9.6	96
Acenaphthylene		8.7	U	8.7	96
Anthracene		2.9	U	2.9	19
Benzo[a]anthracene		3.1	U	3.1	14
Benzo[a]pyrene		6.2	U	6.2	14
Benzo[b]fluoranthene		5.2	J	4.0	14
Benzo[g,h,i]perylene		6.9	U	6.9	29
Benzo[k]fluoranthene		3.8	U	3.8	14
Chrysene		4.7	J X	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.1	U	5.1	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	96
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	95		72 - 115

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-143982	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-143215	Lab File ID:	25A3102412.asc
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Analysis Date:	10/24/2012 1834			Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6580	X	1.4	4.6
Arsenic		2.5		0.61	0.93
Barium		55.1		0.070	0.46
Beryllium		0.27		0.031	0.19
Boron		0.91	U	0.91	1.9
Cadmium		0.11	B	0.038	0.19
Calcium		5210	X	13.1	46.3
Chromium		6.9		0.054	0.19
Cobalt		7.7	X	0.093	0.93
Copper		15.4		0.20	0.93
Iron		23300	X	3.5	4.6
Magnesium		4120		3.4	18.5
Manganese		272	X	0.093	0.93
Molybdenum		0.60	B M	0.24	1.9
Nickel		10.4	X	0.11	3.7
Potassium		1040		38.0	278
Selenium		0.92	B	0.80	0.93
Silicon		267	X N	5.2	9.3
Silver		0.15	U	0.15	0.19
Sodium		575		54.7	111
Vanadium		52.0		0.087	1.9
Zinc		41.2	X	0.37	0.93

Analysis Method:	6010B	Analysis Batch:	280-144950	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-143215	Lab File ID:	25A1103012.asc
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Analysis Date:	10/30/2012 1222			Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.35	U	0.35	0.56
Lead		3.1		0.25	0.46

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-143843	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-143482	Lab File ID:	121023ab.txt
Dilution:	1.0			Initial Weight/Volume:	.72 g
Analysis Date:	10/23/2012 2022			Final Weight/Volume:	50 mL
Prep Date:	10/23/2012 1310				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0055	B	0.0048	0.015

General Chemistry

Client Sample ID: **J1R3J1**

Lab Sample ID: 280-34865-1
Client Matrix: Solid
% Moisture: 3.7
Date Sampled: 10/17/2012 1000
Date Received: 10/19/2012 0900

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	1.8	M	mg/Kg	0.31	0.78	1.0	353.2
Analysis Batch: 280-144993	Analysis Date: 10/30/2012 1544						DryWt Corrected: Y
Chloride-Soluble	19.0		mg/Kg	2.0	5.0	1.0	9056M
Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y
Nitrate as N-Soluble	1.6	B	mg/Kg	0.32	2.5	1.0	9056M
Analysis Batch: 280-144285	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y
Bromide-Soluble	0.39	U	mg/Kg	0.39	2.0	1.0	9056M
Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y
Nitrite as N-Soluble	0.34	U	mg/Kg	0.34	2.5	1.0	9056M
Analysis Batch: 280-144285	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y
Orthophosphate as P-Soluble	12.5		mg/Kg	1.2	5.0	1.0	9056M
Analysis Batch: 280-144285	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y
Sulfate-Soluble	20.7		mg/Kg	1.7	5.0	1.0	9056M
Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y
Fluoride-Soluble	0.83	U	mg/Kg	0.83	5.0	1.0	9056M
Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1009						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.52		SU	0.100	0.100	1.0	9045C
Analysis Batch: 280-143253	Analysis Date: 10/20/2012 1456						DryWt Corrected: N
Percent Moisture	3.7		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-144067	Analysis Date: 10/25/2012 1108						DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Prep Batch: 280-143210					
LCS 280-143210/3-A	Lab Control Sample	T	Solid	5035	
LCSD 280-143210/8-A	Lab Control Sample Duplicate	T	Solid	5035	
MB 280-143210/2-A	Method Blank	T	Solid	5035	
280-34865-1	J1R3J1	T	Solid	5035	
Analysis Batch:280-143320					
LCS 280-143210/3-A	Lab Control Sample	T	Solid	8260B	280-143210
LCSD 280-143210/8-A	Lab Control Sample Duplicate	T	Solid	8260B	280-143210
MB 280-143210/2-A	Method Blank	T	Solid	8260B	280-143210
280-34865-1	J1R3J1	T	Solid	8260B	280-143210

Report Basis
T = Total

GC/MS Semi VOA					
Prep Batch: 280-143339					
LCS 280-143339/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-143339/1-A	Method Blank	T	Solid	3550C	
280-34865-1	J1R3J1	T	Solid	3550C	
280-34865-1MS	Matrix Spike	T	Solid	3550C	
280-34865-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-144098					
LCS 280-143339/2-A	Lab Control Sample	T	Solid	8270C	280-143339
MB 280-143339/1-A	Method Blank	T	Solid	8270C	280-143339
280-34865-1	J1R3J1	T	Solid	8270C	280-143339
280-34865-1MS	Matrix Spike	T	Solid	8270C	280-143339
280-34865-1MSD	Matrix Spike Duplicate	T	Solid	8270C	280-143339

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-143363					
LCS 280-143363/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-143363/1-A	Method Blank	T	Solid	3550C	
280-34865-1	J1R3J1	T	Solid	3550C	
280-34865-1MS	Matrix Spike	T	Solid	3550C	
280-34865-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-144232					
LCS 280-143363/2-A	Lab Control Sample	T	Solid	8082	280-143363
MB 280-143363/1-A	Method Blank	T	Solid	8082	280-143363
280-34865-1	J1R3J1	T	Solid	8082	280-143363
280-34865-1MS	Matrix Spike	T	Solid	8082	280-143363
280-34865-1MSD	Matrix Spike Duplicate	T	Solid	8082	280-143363

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-143215					
LCS 280-143215/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-143215/1-A	Method Blank	T	Solid	3050B	
280-34865-1	J1R3J1	T	Solid	3050B	
280-34865-1DU	Duplicate	T	Solid	3050B	
280-34865-1MS	Matrix Spike	T	Solid	3050B	
Prep Batch: 280-143482					
LCS 280-143482/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-143482/1-A	Method Blank	T	Solid	7471A	
280-34865-1	J1R3J1	T	Solid	7471A	
280-34865-1DU	Duplicate	T	Solid	7471A	
280-34865-1MS	Matrix Spike	T	Solid	7471A	
Analysis Batch:280-143843					
LCS 280-143482/2-A	Lab Control Sample	T	Solid	7471A	280-143482
MB 280-143482/1-A	Method Blank	T	Solid	7471A	280-143482
280-34865-1	J1R3J1	T	Solid	7471A	280-143482
280-34865-1DU	Duplicate	T	Solid	7471A	280-143482
280-34865-1MS	Matrix Spike	T	Solid	7471A	280-143482
Analysis Batch:280-143982					
LCS 280-143215/2-A	Lab Control Sample	T	Solid	6010B	280-143215
MB 280-143215/1-A	Method Blank	T	Solid	6010B	280-143215
280-34865-1	J1R3J1	T	Solid	6010B	280-143215
280-34865-1DU	Duplicate	T	Solid	6010B	280-143215
280-34865-1MS	Matrix Spike	T	Solid	6010B	280-143215
Analysis Batch:280-144950					
LCS 280-143215/2-A	Lab Control Sample	T	Solid	6010B	280-143215
MB 280-143215/1-A	Method Blank	T	Solid	6010B	280-143215
280-34865-1	J1R3J1	T	Solid	6010B	280-143215
280-34865-1DU	Duplicate	T	Solid	6010B	280-143215
280-34865-1MS	Matrix Spike	T	Solid	6010B	280-143215

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 280-143246					
280-34865-1	J1R3J1	S	Solid	DI Leach	
280-34865-1DU	Duplicate	S	Solid	DI Leach	
Analysis Batch:280-143253					
LCS 280-143253/4	Lab Control Sample	T	Water	9045C	
LCSD 280-143253/5	Lab Control Sample Duplicate	T	Water	9045C	
280-34865-1	J1R3J1	S	Solid	9045C	
280-34865-1DU	Duplicate	S	Solid	9045C	
Prep Batch: 280-143904					
LCS 280-143904/1-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-143904/2-A	Method Blank	S	Solid	DI Leach	
280-34865-1	J1R3J1	S	Solid	DI Leach	
280-34865-1DU	Duplicate	S	Solid	DI Leach	
280-34865-1MS	Matrix Spike	S	Solid	DI Leach	
Analysis Batch:280-144067					
280-34865-1	J1R3J1	T	Solid	D-2216	
280-34865-1DU	Duplicate	T	Solid	D-2216	
Analysis Batch:280-144285					
LCS 280-143904/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-143904/2-A	Method Blank	S	Solid	9056M	
280-34865-1	J1R3J1	S	Solid	9056M	
280-34865-1DU	Duplicate	S	Solid	9056M	
280-34865-1MS	Matrix Spike	S	Solid	9056M	
Analysis Batch:280-144286					
LCS 280-143904/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-143904/2-A	Method Blank	S	Solid	9056M	
280-34865-1	J1R3J1	S	Solid	9056M	
280-34865-1DU	Duplicate	S	Solid	9056M	
280-34865-1MS	Matrix Spike	S	Solid	9056M	
Prep Batch: 280-144826					
LCS 280-144826/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-144826/1-A	Method Blank	S	Solid	DI Leach	
280-34865-1	J1R3J1	S	Solid	DI Leach	
280-34865-1DU	Duplicate	S	Solid	DI Leach	
280-34865-1MS	Matrix Spike	S	Solid	DI Leach	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-144993					
LCS 280-144826/2-A	Lab Control Sample	S	Solid	353.2	
MB 280-144826/1-A	Method Blank	S	Solid	353.2	
280-34865-1	J1R3J1	S	Solid	353.2	
280-34865-1DU	Duplicate	S	Solid	353.2	
280-34865-1MS	Matrix Spike	S	Solid	353.2	

Report Basis
S = Soluble
T = Total

HPLC/IC					
Prep Batch: 280-143350					
LCS 280-143350/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-143350/1-A	Method Blank	T	Solid	3550C	
280-34865-1	J1R3J1	T	Solid	3550C	
280-34865-1MS	Matrix Spike	T	Solid	3550C	
280-34865-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-144757					
LCS 280-143350/2-A	Lab Control Sample	T	Solid	8310	280-143350
MB 280-143350/1-A	Method Blank	T	Solid	8310	280-143350
280-34865-1	J1R3J1	T	Solid	8310	280-143350
280-34865-1MS	Matrix Spike	T	Solid	8310	280-143350
280-34865-1MSD	Matrix Spike Duplicate	T	Solid	8310	280-143350

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143210

Method: 8260B
Preparation: 5035

Lab Sample ID:	MB 280-143210/2-A	Analysis Batch:	280-143320	Instrument ID:	VMS_MS7
Client Matrix:	Solid	Prep Batch:	280-143210	Lab File ID:	ms7_1494.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.013 g
Analysis Date:	10/22/2012 1018	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	10/20/2012 1054				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acetone	5.4	U	5.4	20
Benzene	0.47	U	0.47	5.0
Bromodichloromethane	0.22	U	0.22	5.0
Bromoform	0.23	U	0.23	5.0
Bromomethane	0.50	U	0.50	10
2-Butanone (MEK)	1.8	U	1.8	10
Carbon disulfide	0.42	U	0.42	5.0
Carbon tetrachloride	0.63	U	0.63	5.0
Chlorobenzene	0.54	U	0.54	5.0
Dibromochloromethane	0.57	U	0.57	5.0
Chloroethane	0.89	U	0.89	10
Chloroform	0.29	U	0.29	5.0
Chloromethane	0.77	U	0.77	10
1,1-Dichloroethane	0.21	U	0.21	5.0
1,2-Dichloroethane	0.70	U	0.70	5.0
1,1-Dichloroethene	0.59	U	0.59	5.0
1,2-Dichloroethene, Total	0.39	U	0.39	5.0
1,2-Dichloropropane	0.55	U	0.55	5.0
cis-1,3-Dichloropropene	1.3	U	1.3	5.0
trans-1,3-Dichloropropene	0.67	U	0.67	5.0
Ethylbenzene	0.67	U	0.67	5.0
2-Hexanone	4.9	U	4.9	20
Methylene Chloride	1.6	U	1.6	5.0
4-Methyl-2-pentanone (MIBK)	4.3	U	4.3	10
Styrene	0.63	U	0.63	5.0
1,1,2,2-Tetrachloroethane	0.61	U	0.61	5.0
Tetrachloroethene	0.59	U	0.59	5.0
Toluene	0.69	U	0.69	5.0
1,1,1-Trichloroethane	0.52	U	0.52	5.0
1,1,2-Trichloroethane	0.88	U	0.88	5.0
Trichloroethene	0.23	U	0.23	5.0
Vinyl chloride	1.3	U	1.3	5.0
Xylenes, Total	0.61	U	0.61	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	58 - 140
Toluene-d8 (Surr)	111	80 - 126
4-Bromofluorobenzene (Surr)	100	76 - 127
Dibromofluoromethane (Surr)	104	75 - 121

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank TICs- Batch: 280-143210

Cas Number	Analyte	RT	Est. Result	Qual
	Unknown	3.72	184	J N
	Unknown	4.54	7.17	J N

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-143210

Method: 8260B
Preparation: 5035

LCS Lab Sample ID:	LCS 280-143210/3-A	Analysis Batch:	280-143320	Instrument ID:	VMS_MS7
Client Matrix:	Solid	Prep Batch:	280-143210	Lab File ID:	ms7_1491.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	10/22/2012 0919	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	10/20/2012 1054				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-143210/8-A	Analysis Batch:	280-143320	Instrument ID:	VMS_MS7
Client Matrix:	Solid	Prep Batch:	280-143210	Lab File ID:	ms7_1492.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	10/22/2012 0938	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	10/20/2012 1054				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Acetone	103	98	65 - 150	5	28		
Benzene	95	92	75 - 135	4	20		
Bromodichloromethane	103	99	73 - 135	4	20		
Bromoform	90	90	77 - 135	1	20		
Bromomethane	90	85	52 - 135	6	22		
2-Butanone (MEK)	130	120	45 - 177	8	32		
Carbon disulfide	81	77	45 - 150	5	24		
Carbon tetrachloride	101	97	69 - 138	4	20		
Chlorobenzene	91	90	78 - 135	2	20		
Dibromochloromethane	100	97	77 - 135	3	20		
Chloroethane	83	79	51 - 145	5	22		
Chloroform	98	93	73 - 123	5	20		
Chloromethane	85	82	41 - 138	4	25		
1,1-Dichloroethane	97	92	70 - 135	6	20		
1,2-Dichloroethane	102	95	69 - 135	7	20		
1,1-Dichloroethene	103	100	79 - 135	3	20		
1,2-Dichloroethene, Total	99	95	78 - 135	4	20		
1,2-Dichloropropane	98	93	72 - 121	5	20		
cis-1,3-Dichloropropene	103	101	71 - 135	2	20		
trans-1,3-Dichloropropene	104	100	71 - 135	4	20		
Ethylbenzene	95	93	73 - 125	2	20		
2-Hexanone	109	102	67 - 150	7	29		
Methylene Chloride	100	95	76 - 136	5	21		
4-Methyl-2-pentanone (MIBK)	122	114	69 - 150	7	25		
Styrene	107	104	76 - 135	3	20		
1,1,2,2-Tetrachloroethane	86	82	65 - 135	4	21		
Tetrachloroethene	93	92	76 - 135	1	20		
Toluene	96	93	77 - 122	3	20		
1,1,1-Trichloroethane	100	97	70 - 135	4	20		
1,1,2-Trichloroethane	95	92	78 - 135	3	20		
Trichloroethene	90	90	77 - 135	1	20		
Vinyl chloride	79	78	43 - 145	1	24		
Xylenes, Total	97	93	76 - 135	4	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101	92	58 - 140

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8 (Surr)	112	109	80 - 126
4-Bromofluorobenzene (Surr)	109	108	76 - 127
Dibromofluoromethane (Surr)	105	102	75 - 121

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143339

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-143339/1-A	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0909.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.7 g
Analysis Date:	10/25/2012 1739	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.4	U	9.4	300
Acenaphthylene	16	U	16	300
Anthracene	16	U	16	300
Benzo[a]anthracene	18	U	18	300
Benzo[a]pyrene	18	U	18	300
Benzo[b]fluoranthene	24	U	24	300
Benzo[ghi]perylene	15	U	15	300
Benzo[k]fluoranthene	37	U	37	300
Bis(2-chloroethoxy)methane	21	U	21	300
Bis(2-chloroethyl)ether	15	U	15	300
bis (2-chloroisopropyl) ether	21	U	21	300
Bis(2-ethylhexyl) phthalate	42	U	42	300
4-Bromophenyl phenyl ether	17	U	17	300
Butyl benzyl phthalate	39	U	39	300
Carbazole	33	U	33	300
4-Chloroaniline	75	U	75	300
4-Chloro-3-methylphenol	61	U	61	300
2-Chloronaphthalene	9.2	U	9.2	300
2-Chlorophenol	19	U	19	300
4-Chlorophenyl phenyl ether	19	U	19	300
Chrysene	25	U	25	300
Dibenz(a,h)anthracene	17	U	17	300
Dibenzofuran	18	U	18	300
1,2-Dichlorobenzene	20	U	20	300
1,3-Dichlorobenzene	11	U	11	300
1,4-Dichlorobenzene	12	U	12	300
3,3'-Dichlorobenzidine	83	U	83	610
2,4-Dichlorophenol	9.2	U	9.2	300
Diethyl phthalate	24	U	24	300
2,4-Dimethylphenol	61	U	61	300
Dimethyl phthalate	21	U	21	300
Di-n-butyl phthalate	27	U	27	300
4,6-Dinitro-2-methylphenol	300	U	300	610
2,4-Dinitrophenol	310	U	310	760
2,4-Dinitrotoluene	61	U	61	300
2,6-Dinitrotoluene	26	U	26	300
Di-n-octyl phthalate	13	U	13	300
Fluoranthene	33	U	33	300
Fluorene	17	U	17	300
Hexachlorobenzene	27	U	27	300
Hexachlorobutadiene	9.2	U	9.2	300
Hexachlorocyclopentadiene	46	U	46	300
Hexachloroethane	20	U	20	300
Indeno[1,2,3-cd]pyrene	20	U	20	300
Isophorone	16	U	16	300

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143339

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-143339/1-A	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0909.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.7 g
Analysis Date:	10/25/2012 1739	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	17	U	17	300
2-Methylphenol	12	U	12	300
3 & 4 Methylphenol	30	U	30	300
Naphthalene	28	U	28	300
2-Nitroaniline	46	U	46	300
3-Nitroaniline	67	U	67	300
4-Nitroaniline	67	U	67	300
Nitrobenzene	20	U	20	300
2-Nitrophenol	9.2	U	9.2	300
4-Nitrophenol	89	U	89	610
N-Nitrosodi-n-propylamine	28	U	28	300
N-Nitrosodiphenylamine	19	U	19	300
Pentachlorophenol	300	U	300	610
Phenanthrene	16	U	16	300
Phenol	17	U	17	300
Pyrene	11	U	11	300
1,2,4-Trichlorobenzene	26	U	26	300
2,4,5-Trichlorophenol	9.2	U	9.2	300
2,4,6-Trichlorophenol	9.2	U	9.2	300

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	78	50 - 120
2-Fluorophenol	82	53 - 120
Nitrobenzene-d5	81	50 - 120
Phenol-d5	83	52 - 120
Terphenyl-d14	87	55 - 120
2,4,6-Tribromophenol	68	51 - 120

Method Blank TICs- Batch: 280-143339

Cas Number	Analyte	RT	Est. Result	Qual
	Unknown	2.08	177	N J
	Unknown	1.87	204	N J
	Unknown	1.91	237	N J
	Unknown	4.53	2930	N J
	Unknown	3.25	6300	N J

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Control Sample - Batch: 280-143339

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-143339/2-A	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0910.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	10/25/2012 1759	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2620	2170	83	60 - 120	
Acenaphthylene	2620	2260	86	64 - 120	
Anthracene	2620	2290	87	63 - 120	
Benzo[a]anthracene	2620	2320	88	65 - 120	
Benzo[a]pyrene	2620	2070	79	59 - 120	
Benzo[b]fluoranthene	2620	2330	89	47 - 129	
Benzo[ghi]perylene	2620	2340	89	55 - 126	
Benzo[k]fluoranthene	2620	2250	86	48 - 130	
Bis(2-chloroethoxy)methane	2620	2160	82	56 - 120	
Bis(2-chloroethyl)ether	2620	2410	92	51 - 120	
bis (2-chloroisopropyl) ether	2620	2080	79	49 - 120	
Bis(2-ethylhexyl) phthalate	2620	2590	99	65 - 120	
4-Bromophenyl phenyl ether	2620	2120	81	64 - 120	
Butyl benzyl phthalate	2620	2580	98	65 - 120	
Carbazole	2620	2310	88	64 - 120	
4-Chloroaniline	2620	1370	52	28 - 120	
4-Chloro-3-methylphenol	2620	2240	85	63 - 120	
2-Chloronaphthalene	2620	2120	81	59 - 120	
2-Chlorophenol	2620	2200	84	57 - 120	
4-Chlorophenyl phenyl ether	2620	2080	79	64 - 120	
Chrysene	2620	2340	89	64 - 120	
Dibenz(a,h)anthracene	2620	2330	89	50 - 133	
Dibenzofuran	2620	2150	82	61 - 120	
1,2-Dichlorobenzene	2620	2070	79	53 - 120	
1,3-Dichlorobenzene	2620	1980	76	52 - 120	
1,4-Dichlorobenzene	2620	2020	77	52 - 120	
3,3'-Dichlorobenzidine	2620	1580	60	30 - 120	
2,4-Dichlorophenol	2620	2040	78	60 - 120	
Diethyl phthalate	2620	2270	86	66 - 120	
2,4-Dimethylphenol	2620	2020	77	54 - 120	
Dimethyl phthalate	2620	2230	85	65 - 120	
Di-n-butyl phthalate	2620	2440	93	67 - 120	
4,6-Dinitro-2-methylphenol	2620	2340	89	57 - 120	
2,4-Dinitrophenol	2620	1940	74	46 - 120	
2,4-Dinitrotoluene	2620	2380	91	68 - 120	
2,6-Dinitrotoluene	2620	2280	87	64 - 120	
Di-n-octyl phthalate	2620	2640	100	66 - 120	
Fluoranthene	2620	2280	87	66 - 120	
Fluorene	2620	2190	83	64 - 120	
Hexachlorobenzene	2620	2060	79	62 - 120	
Hexachlorobutadiene	2620	1780	68	53 - 120	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Control Sample - Batch: 280-143339

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-143339/2-A	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0910.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	10/25/2012 1759	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Hexachlorocyclopentadiene	2620	1910	73	47 - 120	
Hexachloroethane	2620	2040	78	51 - 120	
Indeno[1,2,3-cd]pyrene	2620	2220	85	63 - 120	
Isophorone	2620	2190	83	56 - 120	
2-Methylnaphthalene	2620	2000	76	57 - 120	
2-Methylphenol	2620	2140	82	56 - 120	
3 & 4 Methylphenol	5250	4270	81	53 - 120	
Naphthalene	2620	2100	80	57 - 120	
2-Nitroaniline	2620	2470	94	63 - 120	
3-Nitroaniline	2620	1840	70	47 - 120	
4-Nitroaniline	2620	2250	86	64 - 120	
Nitrobenzene	2620	2180	83	54 - 120	
2-Nitrophenol	2620	2190	84	56 - 120	
4-Nitrophenol	2620	2490	95	63 - 121	
N-Nitrosodi-n-propylamine	2620	2160	82	51 - 120	
N-Nitrosodiphenylamine	2240	2010	90	61 - 120	
Pentachlorophenol	2620	1900	72	56 - 120	
Phenanthrene	2620	2320	88	64 - 120	
Phenol	2620	2250	86	56 - 120	
Pyrene	2620	2340	89	64 - 120	
1,2,4-Trichlorobenzene	2620	1920	73	52 - 120	
2,4,5-Trichlorophenol	2620	2200	84	64 - 120	
2,4,6-Trichlorophenol	2620	2090	80	61 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	77	50 - 120
2-Fluorophenol	80	53 - 120
Nitrobenzene-d5	80	50 - 120
Phenol-d5	82	52 - 120
Terphenyl-d14	87	55 - 120
2,4,6-Tribromophenol	75	51 - 120

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-143339

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-34865-1	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0926.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	10/25/2012 2320			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-34865-1	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0927.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	10/25/2012 2340			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	81	80	60 - 120	5	30		
Acenaphthylene	85	84	64 - 120	6	30		
Anthracene	84	84	63 - 120	5	30		
Benzo[a]anthracene	77	75	65 - 120	6	30		
Benzo[a]pyrene	69	68	59 - 120	6	30		
Benzo[b]fluoranthene	71	66	47 - 129	9	44		
Benzo[ghi]perylene	83	83	55 - 126	5	31		
Benzo[k]fluoranthene	85	85	48 - 130	5	30		
Bis(2-chloroethoxy)methane	80	76	56 - 120	10	30		
Bis(2-chloroethyl)ether	87	80	51 - 120	12	30		
bis (2-chloroisopropyl) ether	77	71	49 - 120	12	30		
Bis(2-ethylhexyl) phthalate	100	100	65 - 120	4	30		
4-Bromophenyl phenyl ether	81	82	64 - 120	4	30		
Butyl benzyl phthalate	98	98	65 - 120	5	30		
Carbazole	86	86	64 - 120	5	30		
4-Chloroaniline	65	62	28 - 120	9	30		
4-Chloro-3-methylphenol	86	85	63 - 120	5	30		
2-Chloronaphthalene	80	78	59 - 120	7	30		
2-Chlorophenol	82	75	57 - 120	13	30		
4-Chlorophenyl phenyl ether	80	79	64 - 120	6	30		
Chrysene	77	74	64 - 120	6	35		
Dibenz(a,h)anthracene	85	85	50 - 133	4	30		
Dibenzofuran	83	81	61 - 120	6	30		
1,2-Dichlorobenzene	76	69	53 - 120	14	30		
1,3-Dichlorobenzene	74	67	52 - 120	14	32		
1,4-Dichlorobenzene	74	67	52 - 120	14	30		
3,3'-Dichlorobenzidine	75	75	30 - 120	5	30		
2,4-Dichlorophenol	77	73	60 - 120	9	30		
Diethyl phthalate	88	87	66 - 120	6	30		
2,4-Dimethylphenol	83	79	54 - 120	9	30		
Dimethyl phthalate	86	86	65 - 120	4	30		
Di-n-butyl phthalate	92	92	67 - 120	5	30		

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-143339

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-34865-1	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0926.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	10/25/2012 2320			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-34865-1	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0927.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	10/25/2012 2340			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,6-Dinitro-2-methylphenol	69	69	57 - 120	5	30		
2,4-Dinitrophenol	40	36	46 - 120	14	34	T	T
2,4-Dinitrotoluene	92	91	68 - 120	6	30		
2,6-Dinitrotoluene	87	87	64 - 120	4	30		
Di-n-octyl phthalate	102	102	66 - 120	5	30		
Fluoranthene	67	62	66 - 120	8	30		T
Fluorene	83	82	64 - 120	5	30		
Hexachlorobenzene	79	78	62 - 120	6	30		
Hexachlorobutadiene	67	62	53 - 120	12	30		
Hexachlorocyclopentadiene	62	60	47 - 120	8	30		
Hexachloroethane	76	69	51 - 120	14	30		
Indeno[1,2,3-cd]pyrene	80	79	63 - 120	6	30		
Isophorone	82	79	56 - 120	8	30		
2-Methylnaphthalene	75	71	57 - 120	10	30		
2-Methylphenol	81	75	56 - 120	11	30		
3 & 4 Methylphenol	81	76	53 - 120	10	30		
Naphthalene	78	73	57 - 120	11	30		
2-Nitroaniline	96	97	63 - 120	4	30		
3-Nitroaniline	81	81	47 - 120	4	30		
4-Nitroaniline	88	89	64 - 120	4	30		
Nitrobenzene	80	75	54 - 120	11	30		
2-Nitrophenol	81	78	56 - 120	8	30		
4-Nitrophenol	93	92	63 - 121	5	30		
N-Nitrosodi-n-propylamine	81	75	51 - 120	11	30		
N-Nitrosodiphenylamine	90	91	61 - 120	4	36		
Pentachlorophenol	70	70	56 - 120	4	30		
Phenanthrene	74	73	64 - 120	5	30		
Phenol	84	79	56 - 120	11	30		
Pyrene	73	69	64 - 120	8	38		
1,2,4-Trichlorobenzene	72	66	52 - 120	12	30		
2,4,5-Trichlorophenol	83	83	64 - 120	4	30		
2,4,6-Trichlorophenol	80	79	61 - 120	5	30		

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-143339

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-34865-1	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0926.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.7 g
Analysis Date:	10/25/2012 2320			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-34865-1	Analysis Batch:	280-144098	Instrument ID:	SMS_Y
Client Matrix:	Solid	Prep Batch:	280-143339	Lab File ID:	Y0927.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.1 g
Analysis Date:	10/25/2012 2340			Final Weight/Volume:	1000 uL
Prep Date:	10/22/2012 1008			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	76	73	50 - 120
2-Fluorophenol	79	73	53 - 120
Nitrobenzene-d5	78	73	50 - 120
Phenol-d5	81	76	52 - 120
Terphenyl-d14	85	84	55 - 120
2,4,6-Tribromophenol	75	75	51 - 120

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143363

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-143363/1-A	Analysis Batch:	280-144232	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-143363	Lab File ID:	004F0401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	10/25/2012 0942	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	10/22/2012 1128			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

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

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	70	59 - 130
Tetrachloro-m-xylene	88	53 - 128

Lab Control Sample - Batch: 280-143363

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-143363/2-A	Analysis Batch:	280-144232	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-143363	Lab File ID:	005F0501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	10/25/2012 1005	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	10/22/2012 1128			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.5	33.2	102	54 - 132	
Aroclor 1260	32.5	30.9	95	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	71	59 - 130
Tetrachloro-m-xylene	92	53 - 128

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-143363

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-34865-1	Analysis Batch:	280-144232	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-143363	Lab File ID:	007F0701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	10/25/2012 1051			Final Weight/Volume:	5000 uL
Prep Date:	10/22/2012 1128			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-34865-1	Analysis Batch:	280-144232	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-143363	Lab File ID:	008F0801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.6 g
Analysis Date:	10/25/2012 1114			Final Weight/Volume:	5000 uL
Prep Date:	10/22/2012 1128			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	102	102	54 - 132	5	26		
Aroclor 1260	89	94	62 - 129	0	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	62	63	59 - 130
Tetrachloro-m-xylene	89	93	53 - 128

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143350

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-143350/1-A	Analysis Batch:	280-144757	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-143350	Lab File ID:	G1030015.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.6 g
Analysis Date:	10/30/2012 1408	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	10/22/2012 1123			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

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

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

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Control Sample - Batch: 280-143350

Method: 8310
Preparation: 3550C

Lab Sample ID:	LCS 280-143350/2-A	Analysis Batch:	280-144757	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-143350	Lab File ID:	G1030016.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	10/30/2012 1439	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	10/22/2012 1123			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1920	1790	93	78 - 116	
Acenaphthylene	1920	1650	86	76 - 115	
Anthracene	1920	1680	87	74 - 115	
Benzo[a]anthracene	1920	2020	105	85 - 120	
Benzo[a]pyrene	1920	1630	85	74 - 121	
Benzo[b]fluoranthene	1920	1770	92	85 - 115	
Benzo[g,h,i]perylene	1920	1970	102	85 - 120	
Benzo[k]fluoranthene	1920	1790	93	85 - 115	
Chrysene	1920	1770	92	83 - 115	
Dibenzo(a,h)anthracene	1920	1810	94	83 - 115	
Fluoranthene	1920	1770	92	83 - 115	
Fluorene	1920	1740	90	80 - 115	
Indeno[1,2,3-cd]pyrene	1920	1960	102	85 - 123	
Naphthalene	1920	1720	90	80 - 121	
Phenanthrene	1920	1780	93	80 - 115	
Pyrene	1920	1810	94	75 - 116	

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

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-143350

Method: 8310
Preparation: 3550C

MS Lab Sample ID:	280-34865-1	Analysis Batch:	280-144757	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-143350	Lab File ID:	G1030018.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	10/30/2012 1540			Final Weight/Volume:	4000 uL
Prep Date:	10/22/2012 1123			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-34865-1	Analysis Batch:	280-144757	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-143350	Lab File ID:	G1030019.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	10/30/2012 1610			Final Weight/Volume:	4000 uL
Prep Date:	10/22/2012 1123			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	100	95	78 - 116	6	20		
Acenaphthylene	93	88	76 - 115	6	21		
Anthracene	95	91	74 - 115	6	20		
Benzo[a]anthracene	114	108	85 - 120	6	20		
Benzo[a]pyrene	99	94	74 - 121	6	20		
Benzo[b]fluoranthene	104	98	85 - 115	6	20		
Benzo[g,h,i]perylene	112	107	85 - 120	6	20		
Benzo[k]fluoranthene	102	98	85 - 115	5	20		
Chrysene	101	95	83 - 115	6	20		
Dibenzo(a,h)anthracene	104	99	83 - 115	5	20		
Fluoranthene	100	94	83 - 115	7	20		
Fluorene	98	93	80 - 115	6	20		
Indeno[1,2,3-cd]pyrene	111	106	85 - 123	6	20		
Naphthalene	97	91	80 - 121	7	20		
Phenanthrene	100	95	80 - 115	6	20		
Pyrene	103	97	75 - 116	7	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	102	95	72 - 115

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-143215/1-A	Analysis Batch:	280-143982	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A3102412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	10/24/2012 1829	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Arsenic	0.66	U	0.66	1.0
Barium	0.076	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	0.139	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
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

Method Blank - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-143215/1-A	Analysis Batch:	280-144950	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A1103012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	10/30/2012 1217	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony	0.38	U	0.38	0.60
Lead	0.27	U	0.27	0.50

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Control Sample - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-143215/2-A	Analysis Batch:	280-143982	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A3102412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	10/24/2012 1831	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	194.2	97	82 - 116	
Arsenic	100	100.6	101	85 - 110	
Barium	200	194.0	97	87 - 112	
Beryllium	5.00	4.94	99	84 - 114	
Boron	100	97.01	97	81 - 110	
Cadmium	10.0	10.22	102	87 - 110	
Calcium	5000	4891	98	82 - 114	
Chromium	20.0	19.45	97	84 - 114	
Cobalt	50.0	48.24	96	87 - 110	
Copper	25.0	24.49	98	88 - 110	
Iron	100	101.7	102	87 - 120	
Magnesium	5000	5032	101	90 - 110	
Manganese	50.0	48.54	97	88 - 110	
Molybdenum	100	98.68	99	86 - 110	
Nickel	50.0	48.62	97	87 - 110	
Potassium	5000	5034	101	89 - 110	
Selenium	200	196.8	98	83 - 110	
Silicon	1000	149.3	15	10 - 70	
Silver	5.00	5.52	110	87 - 114	
Sodium	5000	5145	103	90 - 112	
Vanadium	50.0	49.70	99	88 - 110	
Zinc	50.0	49.89	100	76 - 114	

Lab Control Sample - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-143215/2-A	Analysis Batch:	280-144950	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A1103012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	10/30/2012 1220	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	50.0	51.55	103	82 - 110	
Lead	50.0	49.02	98	86 - 110	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-34865-1	Analysis Batch:	280-143982	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A3102412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.10 g
Analysis Date:	10/24/2012 1841	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	6580		189	8484	1008	50 - 200	4
Arsenic	2.5		94.4	83.53	86	76 - 111	
Barium	55.1		189	227.8	92	52 - 159	
Beryllium	0.27		4.72	4.39	87	72 - 105	
Boron	0.91	U	94.4	76.83	81	75 - 107	
Cadmium	0.11	B	9.44	8.53	89	40 - 130	
Calcium	5210		4720	11230	128	43 - 165	
Chromium	6.9		18.9	24.61	94	70 - 200	
Cobalt	7.7		47.2	47.34	84	72 - 106	
Copper	15.4		23.6	35.46	85	37 - 187	
Iron	23300		94.4	27450	4421	70 - 200	4
Magnesium	4120		4720	9187	107	64 - 145	
Manganese	272		47.2	369.9	208	40 - 200	4
Molybdenum	0.60	B	94.4	79.99	84	75 - 103	
Nickel	10.4		47.2	50.19	84	61 - 126	
Potassium	1040		4720	5520	95	56 - 172	
Selenium	0.92	B	189	155.3	82	76 - 104	
Silicon	267		944	446.9	19	20 - 200	N
Silver	0.15	U	4.72	4.78	101	75 - 141	
Sodium	575		4720	5166	97	78 - 111	
Vanadium	52.0		47.2	103.6	109	50 - 169	
Zinc	41.2		47.2	88.17	99	70 - 200	

Matrix Spike - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144950	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A1103012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.10 g
Analysis Date:	10/30/2012 1229	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.35	U	47.2	29.97	64	20 - 200	
Lead	3.1		47.2	41.13	81	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Duplicate - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-34865-1	Analysis Batch:	280-143982	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A3102412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.10 g
Analysis Date:	10/24/2012 1838	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	6580		7081	7	40	
Arsenic	2.5		2.90	16	30	
Barium	55.1		61.75	11	30	
Beryllium	0.27		0.274	2	30	
Boron	0.91	U	0.92	NC	30	U
Cadmium	0.11	B	0.130	15	30	B
Calcium	5210		6422	21	30	
Chromium	6.9		8.16	17	40	
Cobalt	7.7		8.51	10	30	
Copper	15.4		15.05	2	30	
Iron	23300		27360	16	40	
Magnesium	4120		4800	15	30	
Manganese	272		319.7	16	40	
Molybdenum	0.60	B	0.255	81	30	B M
Nickel	10.4		11.50	10	30	
Potassium	1040		1216	15	40	
Selenium	0.92	B	0.81	NC	30	U
Silicon	267		245.6	8	40	
Silver	0.15	U	0.15	NC	30	U
Sodium	575		542.5	6	30	
Vanadium	52.0		63.98	21	30	
Zinc	41.2		47.96	15	40	

Duplicate - Batch: 280-143215

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144950	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-143215	Lab File ID:	25A1103012.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.10 g
Analysis Date:	10/30/2012 1227	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	10/24/2012 0715				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	0.35	U	0.36	NC	40	U
Lead	3.1		3.85	22	40	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-143482

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-143482/1-A	Analysis Batch:	280-143843	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-143482	Lab File ID:	121023ab.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	.6 g
Analysis Date:	10/23/2012 2018	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	10/23/2012 1310				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-143482

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-143482/2-A	Analysis Batch:	280-143843	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-143482	Lab File ID:	121023ab.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	.6 g
Analysis Date:	10/23/2012 2020	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	10/23/2012 1310				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.427	103	87 - 111	

Matrix Spike - Batch: 280-143482

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-143843	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-143482	Lab File ID:	121023ab.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	.61 g
Analysis Date:	10/23/2012 2027	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	10/23/2012 1310				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0055	B	0.425	0.426	99	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Duplicate - Batch: 280-143482

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-143843	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-143482	Lab File ID:	121023ab.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	.67 g
Analysis Date:	10/23/2012 2025	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	10/23/2012 1310				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0055	B	0.00666	19	20	B

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-144826/1-A	Analysis Batch:	280-144993	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144826	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/30/2012 1532	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1050				

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

Method Reporting Limit Check - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	MRL 280-144993/18	Analysis Batch:	280-144993	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	10/30/2012 1453	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	0.116	116	50 - 150	

Lab Control Sample - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-144826/2-A	Analysis Batch:	280-144993	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144826	Initial Weight/Volume:	100 mL
Analysis Date:	10/30/2012 1533	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1050				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	51.5	51.01	99	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144993	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144826	Initial Weight/Volume:	5 mL
Analysis Date:	10/30/2012 1547	Units:	mg/Kg	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1050				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	1.8	41.5	40.33	93	90 - 110	

Duplicate - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144993	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144826	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/30/2012 1546	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1050				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate Nitrite as N-Soluble	1.8	2.07	12	10	M

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-143253

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-143253/4	Analysis Batch:	280-143253	Instrument ID:	No Equipment
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:	10/20/2012 1454	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-143253/5	Analysis Batch:	280-143253	Instrument ID:	No Equipment
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:	10/20/2012 1455	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	100	100	97 - 103	0	5		

Duplicate - Batch: 280-143253

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-143253	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-143246	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/20/2012 1457	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/20/2012 0900				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	9.52	9.550	0.3	5	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-143904/2-A	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	114.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0952	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

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

Method Reporting Limit Check - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-144285/3	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0919	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	0.237	119	50 - 150	B
Nitrite as N-Soluble	0.200	0.209	105	50 - 150	B
Orthophosphate as P-Soluble	0.200	0.19	81	50 - 150	U

Lab Control Sample - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-143904/1-A	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	113.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0936	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	50.0	47.72	95	90 - 110	
Nitrite as N-Soluble	50.0	46.51	93	90 - 110	
Orthophosphate as P-Soluble	50.0	48.19	96	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	117.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1042	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	1.6	B	49.4	52.02	102	80 - 120	
Nitrite as N-Soluble	0.34	U	49.4	49.59	100	80 - 120	
Orthophosphate as P-Soluble	12.5		49.4	58.78	94	80 - 120	

Duplicate - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	116.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1026	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Nitrate as N-Soluble	1.6	B	1.72	5	15	B
Nitrite as N-Soluble	0.34	U	0.34	NC	15	U
Orthophosphate as P-Soluble	12.5		12.46	0.3	15	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Method Blank - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-143904/2-A	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	114.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0952	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

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

Method Reporting Limit Check - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-144286/3	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0919	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	1.19	119	50 - 150	B
Bromide-Soluble	0.200	0.186	93	50 - 150	B
Sulfate-Soluble	1.00	1.09	109	50 - 150	B
Fluoride-Soluble	0.200	0.204	102	50 - 150	B

Lab Control Sample - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-143904/1-A	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	113.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0936	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	250	236.2	94	90 - 110	
Bromide-Soluble	50.0	49.01	98	90 - 110	
Sulfate-Soluble	250	246.4	99	90 - 110	
Fluoride-Soluble	50.0	46.50	93	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Matrix Spike - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	117.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1042	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	19.0		247	266.4	100	80 - 120	
Bromide-Soluble	0.39	U	49.4	51.70	105	80 - 120	
Sulfate-Soluble	20.7		247	276.9	104	80 - 120	
Fluoride-Soluble	0.83	U	49.4	42.52	86	80 - 120	

Duplicate - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	116.TXT
Dilution:	1.0	Leach Batch:	280-143904	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1026	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1501				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Chloride-Soluble	19.0		19.03	0.1	15	
Bromide-Soluble	0.39	U	0.39	NC	15	U
Sulfate-Soluble	20.7		22.07	6	15	
Fluoride-Soluble	0.83	U	0.83	NC	15	U

Client: Washington Closure Hanford

Job Number: 280-34865-1
Sdg Number: J01605

Duplicate - Batch: 280-144067

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-34865-1	Analysis Batch:	280-144067	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:	10/25/2012 1108	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	3.7	4.0	10	20	