0096331

SAF-RC-073
100-D/DR Burial Grounds & Remaining Sites – Other In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required

COMMENTS:

SDG JP0130 SAF RC-073

Rad only Chem only ☑ Rad & Chem

☑ Complete Partial

Waste Site: 100-D-50:6 Concrete Pads

RECEIVED
APR 18 2011
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
APR 2011

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains 63 *Pages*

Report No.: 46157

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.
JP0130	RC-073	J1FL25	J1C220565-1	MF13F1AA	9MF13F10	1081370
		J1FL25	J1C220565-1	MF13F1AH	9MF13F10	1082137
		J1FL25	J1C220565-1	MF13F1AD	9MF13F10	1082138
		J1FL25	J1C220565-1	MF13F1AG	9MF13F10	1082139
		J1FL25	J1C220565-1	MF13F1AF	9MF13F10	1082140
		J1FL25	J1C220565-1	MF13F1AE	9MF13F10	1082141
		J1FL25	J1C220565-1	MF13F1AM	9MF13F10	1082142
		J1FL25	J1C220565-1	MF13F2AM	9MF13F20	1090383

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

April 8, 2011

Attention: Joan Kessner

SAF Number	:	RC-073
Date SDG Closed	:	March 22, 2011
Number of Samples	:	One (1)
Sample Type	:	Other
SDG Number	:	JP0130
Data Deliverable	:	7– Day / Summary

CASE NARRATIVE

I. Introduction

On March 22, 2011 one other sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1FL25	MF13F	OTHER	3/22/11

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method RL-GPC-001
Gross Beta by method RL-GPC-001
Strontium-90 by method RL-GPC-003
Gamma Spectroscopy
Gamma Spec by method RL-GAM-001

Liquid Scintillation Counting
Nickel-63 by method RL-LCS-017
Laser Induced Phosphorimetry
Total Uranium by method RL-KPA-003
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

Gas Proportional Counting
Gross Alpha by method RL-GPC-001:
The LCS, batch blank, sample and sample duplicate (J1FL25) results are within contractual requirements.

Gross Beta by method RL-GPC-001 :
The LCS, batch blank, sample and sample duplicate (J1FL25) results are within contractual requirements.

Strontium-90 by method RL-GPC-003 :
The LCS, batch blank, sample and sample duplicate (J1FL25) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RL-GAM-001 :
There was insufficient volume for a duplicate. Sample J1FL25 was recounted on a different detector for the duplicate (J1FL25 DUP). Except as noted, the LCS, batch blank, sample and sample duplicate (J1FL25) results are within contractual requirements.

Liquid Scintillation Counting
Nickel-63 by method RL-LCS-017 :
The LCS, batch blank, sample and sample duplicate (J1FL25) results are within contractual requirements.

Total Uranium
Total Uranium by method RL-KPA-003 :
The batch is a rerun of batch 1082142. The original batch did not meet CRDL, they it was reran with and increased sample volume. In the second batch the matrix spike was out of limits and a recount did not bring the results within limits, there was a suspected matrix interference. Except as noted the LCS, batch blank, sample, sample duplicate (J1FL25) and sample matrix spike (J1FL25) results are within contractual requirements.

Washington Closure Hanford
April 8, 2011

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, sample, sample duplicate (J1FL25), and sample matrix spike (J1FL25) results are within contractual requirements.

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

Reviewed and approved:

Whitney Ritari

for 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: 08-Apr-11

Report No. : 46157

SDG No: JP0130

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1082142 UTOT_KPA									
J1FL25									
	MF13F1AM	TOTAL-URANIUM	8.27E-01 +- 8.5E-02	U	ug/g		3.40E+00	1.00E+00	
J1FL25 DUP									
	MF13F1AV	TOTAL-URANIUM	7.88E-01 +- 8.1E-02	U	ug/g		3.47E+00	1.00E+00	130.0
1090383 UTOT_KPA									
J1FL25									
	MF13F2AM	TOTAL-URANIUM	1.67E-01 +- 2.0E-02	U	ug/g		3.41E-01	1.00E+00	
J1FL25 DUP									
	MF13F2AV	TOTAL-URANIUM	2.42E-01 +- 2.9E-02	U	ug/g		3.44E-01	1.00E+00	36.5
1082137 GAMMA_GS									
J1FL25									
	MF13F1AH	AMERICIUM 241	-2.93E-02 +- 8.7E-02	U	pCi/g		1.43E-01		
		CO-60	-3.51E-03 +- 1.4E-02	U	pCi/g		2.42E-02	5.00E-02	
		CS-137	-4.00E-03 +- 1.4E-02	U	pCi/g		2.30E-02	1.00E-01	
		EU-152	-2.35E-02 +- 3.3E-02	U	pCi/g		5.37E-02	1.00E-01	
		EU-154	-3.19E-02 +- 4.7E-02	U	pCi/g		7.79E-02	1.00E-01	
		EU-155	4.06E-02 +- 3.6E-02	U	pCi/g		6.50E-02	1.00E-01	
J1FL25 DUP									
	MF13F1AN	AMERICIUM 241	-5.66E-02 +- 7.6E-02	U	pCi/g		1.26E-01		-63.6
		CO-60	5.71E-03 +- 1.4E-02	U	pCi/g		2.62E-02	5.00E-02	837.1
		CS-137	1.05E-02 +- 1.8E-02	U	pCi/g		3.17E-02	1.00E-01	444.2
		EU-152	-2.05E-01 +- 7.1E-02	U	pCi/g		8.19E-02	1.00E-01	-158.9
		EU-154	2.14E-02 +- 5.0E-02	U	pCi/g		9.07E-02	1.00E-01	-1009.6
		EU-155	-5.98E-02 +- 5.8E-02	U	pCi/g		9.37E-02	1.00E-01	-1045.9
1082138 SRTOT_SEP_PRECIP_GPC									
J1FL25									
	MF13F1AD	STRONTIUM	4.17E-02 +- 6.4E-02	U	pCi/g	71%	1.40E-01		
J1FL25 DUP									
	MF13F1AP	STRONTIUM	1.81E-01 +- 9.4E-02		pCi/g	71%	1.48E-01		125.1
1082139 9310_ALPHABETA_GPC									
J1FL25									
	MF13F1AG	BETA	1.58E+01 +- 3.9E+00		pCi/g	100%	4.53E+00	1.50E+01	
J1FL25 DUP									
	MF13F1AQ	BETA	1.37E+01 +- 3.8E+00		pCi/g	100%	4.77E+00	1.50E+01	14.0
1082140 9310_ALPHABETA_GPC									
J1FL25									
	MF13F1AF	ALPHA	4.53E+00 +- 3.2E+00		pCi/g	100%	4.40E+00	1.00E+01	
J1FL25 DUP									

TestAmerica

rptSTLRchSaSummary2 V5.2.12
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: 08-Apr-11

Report No. : 46157

SDG No: JP0130

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1082140	9310_ALPHABETA_GPC								
	J1FL25 DUP								
	MF13F1AR	ALPHA	4.62E+00 +- 3.3E+00		pCi/g	100%	4.49E+00	1.00E+01	2.1
1081370	7196_CR6								
	J1FL25								
	MF13F1AA	HEXCHROME	7.84E-01 +- 0.0E+00		mg/kg	N/A	1.53E-01	1.55E-01	
		HEXCHROME	8.79E-01 +- 0.0E+00		mg/kg	N/A	1.54E-01	1.55E-01	
1082141	NI63_LSC								
	J1FL25								
	MF13F1AE	NI-63	1.58E+01 +- 8.9E+00		pCi/g	83%	1.58E+01	3.00E+01	
	J1FL25 DUP								
	MF13F1AT	NI-63	2.13E+00 +- 7.4E+00	U	pCi/g	88%	1.48E+01	3.00E+01	152.5

No. of Results: 26

TestAmerica

rptSTLRchSaSummary2 V5.2.12 A2002

RPD - Relative Percent Difference.

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

QC Results Summary

Date: 08-Apr-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 46157

SDG No.: JP0130

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
UTOT_KPA								
1082142 BLANK QC,								
MF2DF1AA	TOTAL-URANIUM	0.00E+00 +- 0.0E+00	U	ug/g				3.43E+00
1082142 LCS,								
MF2DF1AD	TOTAL-URANIUM	9.71E+00 +- 1.1E+00		ug/g		98%	0.0	3.37E+00
MF2DF1AC	TOTAL-URANIUM	9.84E+00 +- 1.2E+00		ug/g		98%	0.0	3.43E+00
1082142 MATRIX SPIKE, J1FL25								
MF13F1AU	TOTAL-URANIUM	7.97E+00 +- 1.0E+00		ug/g		78%	-0.2	3.47E+00
UTOT_KPA								
1090383 BLANK QC,								
MF2DF2AA	TOTAL-URANIUM	4.07E-04 +- 6.0E-05	U	ug/g				3.41E-01
1090383 LCS,								
MF2DF2AC	TOTAL-URANIUM	9.88E-01 +- 1.2E-01		ug/g		98%	0.0	3.44E-01
MF2DF2AD	TOTAL-URANIUM	9.60E-01 +- 1.1E-01		ug/g		96%	0.0	3.41E-01
1090383 MATRIX SPIKE, J1FL25								
MF13F2AU	TOTAL-URANIUM	3.38E-01 +- 6.3E-02	U	ug/g		34%	-0.7	3.42E-01
GAMMA_GS								
1082137 BLANK QC,								
MF2C41AA	AMERICIUM 241	1.69E-02 +- 1.8E-02	U	pCi/g				3.29E-02
	CO-60	1.04E-03 +- 1.2E-02	U	pCi/g				2.24E-02
	CS-137	9.13E-03 +- 1.2E-02	U	pCi/g				2.36E-02
	EU-152	-1.84E-02 +- 3.4E-02	U	pCi/g				5.82E-02
	EU-154	2.40E-03 +- 3.8E-02	U	pCi/g				7.06E-02
	EU-155	-6.70E-03 +- 2.4E-02	U	pCi/g				4.06E-02
1082137 LCS,								
MF2C41AC	CS-137	1.14E+00 +- 1.6E-01		pCi/g		105%	0.1	3.85E-02
	RA-226	1.09E+00 +- 1.7E-01		pCi/g		96%	0.0	6.66E-02
	RA-228	1.11E+00 +- 2.3E-01		pCi/g		118%	0.2	1.24E-01
	U-238	1.04E+00 +- 1.6E-01		pCi/g		87%	-0.1	8.42E-02
SRTOT_SEP_PRECIP_GPC								
1082138 BLANK QC,								
MF2C61AA	STRONTIUM	-5.51E-02 +- 4.7E-02	U	pCi/g	93%			1.24E-01
1082138 LCS,								
MF2C61AC	STRONTIUM	1.04E+00 +- 2.9E-01		pCi/g	95%	92%	-0.1	1.12E-01
9310_ALPHABETA_GPC								
1082139 BLANK QC,								
MF2C81AA	BETA	1.16E+00 +- 1.7E+00	U	pCi/g	100%			3.71E+00
1082139 LCS,								
MF2C81AC	BETA	6.68E+01 +- 9.8E+00		pCi/g	100%	105%	0.1	3.78E+00
9310_ALPHABETA_GPC								
1082140 BLANK QC,								
MF2DA1AA	ALPHA	-1.86E-01 +- 1.0E+00	U	pCi/g	100%			2.79E+00
1082140 LCS,								

TestAmerica rptSTLRchQcSummary V5.2.12 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

Date: 08-Apr-11

Ordered by Method, Batch No, QC Type,.

Report No. : 46157

SDG No.: JP0130

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
MF2DA1AC	ALPHA	7.74E+01 +- 1.8E+01		pCi/g	100%	98%	0.0	2.05E+00
7196_CR6								
1081370 MATRIX SPIKE, J1FL25								
MF13F1AA	HEXCHROME	9.91E+00 +- 0.0E+00		mg/kg	N/A	93%	-0.1	1.52E-01
1081370 LCS,								
MF15M1AC	HEXCHROME	1.91E+01 +- 0.0E+00		mg/kg	N/A	95%	0.0	1.55E-01
1081370 BLANK QC,								
MF15M1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
NI63_LSC								
1082141 BLANK QC,								
MF2DD1AA	NI-63	8.25E+00 +- 8.0E+00	U	pCi/g	90%			1.51E+01
1082141 LCS,								
MF2DD1AC	NI-63	5.54E+02 +- 5.6E+01		pCi/g	90%	87%	-0.1	1.50E+01

No. of Results: 29

TestAmerica rptSTLRchQcSummary V5.2.12 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.

TestAmerica Laboratories, Inc.

FORM I

SAMPLE RESULTS

Date: 08-Apr-11

Lab Name:	TestAmerica	SDG:	JP0130	Collection Date:	3/22/2011 8:45:00 AM
Lot-Sample No.:	J1C220565-1	Report No. :	46157	Received Date:	3/22/2011 2:10:00 PM
Client Sample ID:	J1FL25	COC No. :	RC-073-121	Matrix:	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1081370	7196_CR6			**Work Order:** MF13F1AA			**Report DB ID:** 9MF13F10					
HEXCHROME	***7.84E-01***			0.0E+00	1.53E-01	mg/kg	N/A	*(5.1)*	3/22/11 07:00 p		2.5	
							1.55E-01	*N/A*			g	
Batch: 1082137	GAMMA_GS			**Work Order:** MF13F1AH			**Report DB ID:** 9MF13F10					
AMERICIUM 241	***-2.93E-02***	U	8.7E-02	8.7E-02	1.43E-01	pCi/g		*-0.21*	3/23/11 10:17 a		339.9	GER11$1
								-0.67			g	
CO-60	***-3.51E-03***	U	1.4E-02	1.4E-02	2.42E-02	pCi/g		*-0.14*	3/23/11 10:17 a		339.9	GER11$1
							5.00E-02	*-0.5*			g	
CS-137	***-4.00E-03***	U	1.4E-02	1.4E-02	2.30E-02	pCi/g		*-0.17*	3/23/11 10:17 a		339.9	GER11$1
							1.00E-01	*-0.59*			g	
EU-152	***-2.35E-02***	U	3.3E-02	3.3E-02	5.37E-02	pCi/g		*-0.44*	3/23/11 10:17 a		339.9	GER11$1
							1.00E-01	*-(1.4)*			g	
EU-154	***-3.19E-02***	U	4.7E-02	4.7E-02	7.79E-02	pCi/g		*-0.41*	3/23/11 10:17 a		339.9	GER11$1
							1.00E-01	*-(1.4)*			g	
EU-155	***4.06E-02***	U	3.6E-02	3.6E-02	6.50E-02	pCi/g		*0.62*	3/23/11 10:17 a		339.9	GER11$1
							1.00E-01	*(2.2)*			g	
Batch: 1082138	SRTOT_SEP_PRECIP_GPC			**Work Order:** MF13F1AD			**Report DB ID:** 9MF13F10					
STRONTIUM	***4.17E-02***	U	6.4E-02	6.4E-02	1.40E-01	pCi/g	71%	*0.3*	3/31/11 11:26 a		6.0	GPC27A
						6.47E-02		*(1.3)*			g	
Batch: 1082139	9310_ALPHABETA_GPC			**Work Order:** MF13F1AG			**Report DB ID:** 9MF13F10					
BETA	***1.58E+01***		3.4E+00	3.9E+00	4.53E+00	pCi/g	100%	*(3.5)*	3/26/11 04:03 p		0.2003	GPC26D
						2.10E+00	1.50E+01	*(8.)*			g	

TestAmerica rptSTLRchSample V5.2.12 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.

TestAmerica Laboratories, Inc.

FORM I

SAMPLE RESULTS

Date: 08-Apr-11

Lab Name:	TestAmerica	SDG:	JP0130	Collection Date:	3/22/2011 8:45:00 AM
Lot-Sample No.:	J1C220565-1	Report No. :	46157	Received Date:	3/22/2011 2:10:00 PM
Client Sample ID:	J1FL25	COC No. :	RC-073-121	Matrix:	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1082140	9310_ALPHABETA_GPC			Work Order:	MF13F1AF		Report DB ID: 9MF13F10					
ALPHA	***4.53E+00***		3.1E+00	3.2E+00	4.40E+00	pCi/g	100%	*(1.)*	3/28/11 02:18 p		0.0503	GPC10A
						1.67E+00	1.00E+01	*(2.8)*			g	
Batch: 1082141	NI63_LSC			Work Order:	MF13F1AE		Report DB ID: 9MF13F10					
NI-63	***1.58E+01***		7.2E+00	8.9E+00	1.58E+01	pCi/g	83%	*(1.)*	4/2/11 11:33 a		0.25	LSC3
						7.41E+00	3.00E+01	*(3.6)*			g	
Batch: 1082142	UTOT_KPA			Work Order:	MF13F1AM		Report DB ID: 9MF13F10					
TOTAL-URANIUM	***8.27E-01***	U	0.0E+00	8.5E-02	3.40E+00	ug/g		*0.24*	3/30/11 11:01 a		0.00101	KPAW3
						1.20E+00	1.00E+00	*(19.5)*			ML	
Batch: 1090383	UTOT_KPA			Work Order:	MF13F2AM		Report DB ID: 9MF13F20					
TOTAL-URANIUM	***1.67E-01***	U	0.0E+00	2.0E-02	3.41E-01	ug/g		*0.49*	4/6/11 12:27 p		0.01006	KPAW3
						1.21E-01	1.00E+00	*(17.)*			ML	

No. of Results: 13 Comments:

TestAmerica
rptSTLRchSample
V5.2.12 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: 08-Apr-11

Lab Name:	TestAmerica	SDG:	JP0130	Collection Date:	3/22/2011 8:45:00 AM
Lot-Sample No.:	J1C220565-1	Report No. :	46157	Received Date:	3/22/2011 2:10:00 PM
Client Sample ID:	J1FL25	COC No. :	JP0130	Matrix:	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

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

TestAmerica
rptSTLRchSample
V5.2.12 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: 08-Apr-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	JP0130	Collection Date:	3/22/2011 8:45:00 AM
Lot-Sample No.:	J1C220565-1	Report No. :	46157	Received Date:	3/22/2011 2:10:00 PM
Client Sample ID:	J1FL25	COC No. :	RC-073-121	Matrix:	OTHER OTHERSOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1081370	7196_CR6			Work Order: MF13F1AA		Report DB ID: MF13F1ER			Orig Sa DB ID:			
HEXCHROME	8.79E-01			0.0E+00	1.54E-01	mg/kg	N/A	(5.7)	3/22/11 07:00 p		2.5	
			RPD			1.55E-01		N/A			g	

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.

rptSTLRchDupV5.2 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

.12 A2002

FORM II

Date: 08-Apr-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	JP0130	Collection Date:	3/22/2011 8:45:00 AM
Lot-Sample No.:	J1C220565-1	Report No. :	46157	Received Date:	3/22/2011 2:10:00 PM
Client Sample ID:	J1FL25 DUP	COC No. :	JP0130	Matrix:	OTHER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1082137	GAMMA_GS			Work Order: MF13F1AN		Report DB ID: MF13F1NR			Orig Sa DB ID: 9MF13F10			
AMERICIUM 241	-5.66E-02	U	7.6E-02	7.6E-02	1.26E-01	pCi/g		-0.45	3/23/11 01:53 p		339.9	GER10$1
	-2.93E-02	U	RPD	-63.6				-(1.5)			g	
CO-60	5.71E-03	U	1.4E-02	1.4E-02	2.62E-02	pCi/g		0.22	3/23/11 01:53 p		339.9	GER10$1
	-3.51E-03	U	RPD	837.1		5.00E-02		0.81			g	
CS-137	1.05E-02	U	1.8E-02	1.8E-02	3.17E-02	pCi/g		0.33	3/23/11 01:53 p		339.9	GER10$1
	-4.00E-03	U	RPD	444.2		1.00E-01		(1.2)			g	
EU-152	-2.05E-01	U	7.1E-02	7.1E-02	8.19E-02	pCi/g		-(2.5)	3/23/11 01:53 p		339.9	GER10$1
	-2.35E-02	U	RPD	-158.9		1.00E-01		-(5.8)			g	
EU-154	2.14E-02	U	5.0E-02	5.0E-02	9.07E-02	pCi/g		0.24	3/23/11 01:53 p		339.9	GER10$1
	-3.19E-02	U	RPD	-1009.6		1.00E-01		0.85			g	
EU-155	-5.98E-02	U	5.8E-02	5.8E-02	9.37E-02	pCi/g		-0.64	3/23/11 01:53 p		339.9	GER10$1
	4.06E-02	U	RPD	-1045.9		1.00E-01		-(2.1)			g	
Batch: 1082138	SRTOT_SEP_PRECIP_GPC			Work Order: MF13F1AP		Report DB ID: MF13F1PR			Orig Sa DB ID: 9MF13F10			
STRONTIUM	1.81E-01		8.1E-02	9.4E-02	1.48E-01	pCi/g	71%	(1.2)	3/31/11 11:26 a		6.01	GPC27B
	4.17E-02	U	RPD	125.1				(3.9)			g	
Batch: 1082139	9310_ALPHABETA_GPC			Work Order: MF13F1AQ		Report DB ID: MF13F1QR			Orig Sa DB ID: 9MF13F10			
BETA	1.37E+01		3.3E+00	3.8E+00	4.77E+00	pCi/g	100%	(2.9)	3/26/11 04:03 p		0.2007	GPC26C
	1.58E+01		RPD	14.0		1.50E+01		(7.3)			g	
Batch: 1082140	9310_ALPHABETA_GPC			Work Order: MF13F1AR		Report DB ID: MF13F1RR			Orig Sa DB ID: 9MF13F10			

TestAmerica RPD - Relative Percent Difference.

rptSTLRchDupV5.2 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

.12 A2002 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.

TestAmerica Laboratories, Inc.

FORM II

Date: 08-Apr-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	JP0130	**Collection Date:**	3/22/2011 8:45:00 AM
Lot-Sample No.:	J1C220565-1	**Report No.:**	46157	**Received Date:**	3/22/2011 2:10:00 PM
Client Sample ID:	J1FL25 DUP	**COC No.:**	JP0130	**Matrix:**	OTHER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
ALPHA	4.62E+00		3.2E+00	3.3E+00	4.49E+00	pCi/g	100%	(1.)	3/28/11 02:18 p		0.0504	GPC10B
	4.53E+00		RPD	2.1		1.00E+01		(2.8)			g	
Batch: 1082141	NI63_LSC			**Work Order:** MF13F1AT		**Report DB ID:** MF13F1TR			**Orig Sa DB ID:** 9MF13F10			
NI-63	2.13E+00	U	6.1E+00	7.4E+00	1.48E+01	pCi/g	88%	0.14	4/2/11 11:56 a		0.25	LSC3
	1.58E+01		RPD	152.5		3.00E+01		0.57			g	
Batch: 1082142	UTOT_KPA			**Work Order:** MF13F1AV		**Report DB ID:** MF13F1VR			**Orig Sa DB ID:** 9MF13F10			
TOTAL-URANIUM	7.88E-01	U	0.0E+00	8.1E-02	3.47E+00	ug/g		0.23	3/30/11 11:06 a		0.00099	KPAW3
	8.27E-01	U	RPD	4.8		1.00E+00		(19.5)			ML	
TOTAL-URANIUM	7.88E-01	U	0.0E+00	8.1E-02	3.47E+00	ug/g		0.23	3/30/11 11:06 a		0.00099	KPAW3
	1.67E-01	U	RPD	130.0		1.00E+00		(19.5)			ML	
Batch: 1090383	UTOT_KPA			**Work Order:** MF13F2AV		**Report DB ID:** MF13F2VR			**Orig Sa DB ID:** 9MF13F10			
TOTAL-URANIUM	2.42E-01	U	0.0E+00	2.9E-02	3.44E-01	ug/g		0.7	4/6/11 12:31 p		0.00997	KPAW3
	8.27E-01	U	RPD	109.5		1.00E+00		(16.8)			ML	
TOTAL-URANIUM	2.42E-01	U	0.0E+00	2.9E-02	3.44E-01	ug/g		0.7	4/6/11 12:31 p		0.00997	KPAW3
	1.67E-01	U	RPD	36.5		1.00E+00		(16.8)			ML	

No. of Results: 14 **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: 08-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0130

Report No. : 46157

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1082141	NI63_LSC			**Work Order:**	MF2DD1AA		**Report DB ID:**	MF2DD1AB				
NI-63	8.25E+00	U	6.5E+00	8.0E+00	1.51E+01	pCi/g	90%	0.55	4/2/11 12:18 p		0.24	LSC3
					7.09E+00	3.00E+01		(2.1)			g	
Batch: 1082137	GAMMA_GS			**Work Order:**	MF2C41AA		**Report DB ID:**	MF2C41AB				
AMERICIUM 241	1.69E-02	U	1.8E-02	1.8E-02	3.29E-02	pCi/g		0.51	3/23/11 10:17 a		348.0	GER15$1
								(1.8)			g	
CO-60	1.04E-03	U	1.2E-02	1.2E-02	2.24E-02	pCi/g		0.05	3/23/11 10:17 a		348.0	GER15$1
						5.00E-02		0.18			g	
CS-137	9.13E-03	U	1.2E-02	1.2E-02	2.36E-02	pCi/g		0.39	3/23/11 10:17 a		348.0	GER15$1
						1.00E-01		(1.5)			g	
EU-152	-1.84E-02	U	3.4E-02	3.4E-02	5.82E-02	pCi/g		-0.32	3/23/11 10:17 a		348.0	GER15$1
						1.00E-01		-(1.1)			g	
EU-154	2.40E-03	U	3.8E-02	3.8E-02	7.06E-02	pCi/g		0.03	3/23/11 10:17 a		348.0	GER15$1
						1.00E-01		0.13			g	
EU-155	-6.70E-03	U	2.4E-02	2.4E-02	4.06E-02	pCi/g		-0.17	3/23/11 10:17 a		348.0	GER15$1
						1.00E-01		-0.57			g	
Batch: 1082140	9310_ALPHABETA_GPC			**Work Order:**	MF2DA1AA		**Report DB ID:**	MF2DA1AB				
ALPHA	-1.86E-01	U	1.0E+00	1.0E+00	2.79E+00	pCi/g	100%	-0.07	3/28/11 02:18 p		0.0535	GPC10C
					1.14E+00	1.00E+01		-0.37			g	
Batch: 1082139	9310_ALPHABETA_GPC			**Work Order:**	MF2C81AA		**Report DB ID:**	MF2C81AB				
BETA	1.16E+00	U	1.7E+00	1.7E+00	3.71E+00	pCi/g	100%	0.31	3/26/11 04:03 p		0.2115	GPC26B
					1.73E+00	1.50E+01		(1.4)			g	
Batch: 1082138	SRTOT_SEP_PRECIP_GPC			**Work Order:**	MF2C61AA		**Report DB ID:**	MF2C61AB				

TestAmerica
rptSTLRchBlank
V5.2.12 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: 08-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0130

Report No. : 46157

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
STRONTIUM	-5.51E-02	U	4.5E-02	4.7E-02	1.24E-01 5.77E-02	pCi/g	93%	-0.45 -(2.3)	3/31/11 11:26 a		6.02 g	GPC27C

No. of Results: 10 Comments:

TestAmerica Laboratories, Inc.

18

TestAmerica
rptSTLRchBlank
V5.2.12 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.

TestAmerica Laboratories, Inc.

FORM II
BLANK RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica
Matrix: OTHER

SDG: JP0130
Report No. : 46157

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1081370	7196_CR6			Work Order:	MF15M1AA		Report DB ID:	MF15M1AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	3/22/11 07:00 p		2.5	
						1.55E-01		N/A			g	
Batch: 1082142	UTOT_KPA			Work Order:	MF2DF1AA		Report DB ID:	MF2DF1AB				
TOTAL-URANIUM	0.00E+00	U	0.0E+00	0.0E+00	3.43E+00	ug/g		0.	3/30/11 10:51 a		0.001	KPAW3
					1.21E+00	1.00E+00		N/A			ML	
Batch: 1090383	UTOT_KPA			Work Order:	MF2DF2AA		Report DB ID:	MF2DF2AB				
TOTAL-URANIUM	4.07E-04	U	0.0E+00	6.0E-05	3.41E-01	ug/g		0.	4/6/11 12:14 p		0.01006	KPAW3
					1.21E-01	1.00E+00		(13.6)			ML	

No. of Results: 3 Comments:

TestAmerica
rptSTLRchBlank
V5.2.12 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.

TestAmerica Laboratories, Inc.

FORM II

LCS RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0130

Report No. : 46157

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 1082141	NI63_LSC			**Work Order:**	MF2DD1AC		**Report DB ID:**	MF2DD1CS					
NI-63	5.54E+02		2.1E+01	5.6E+01	1.50E+01	pCi/g	90%	6.36E+02	1.1E+01	87%	4/2/11 12:41 p	0.24	LSC3
							Rec Limits:	70	130	-0.1		g	
Batch: 1082137	GAMMA_GS			**Work Order:**	MF2C41AC		**Report DB ID:**	MF2C41CS					
CS-137	1.14E+00		1.6E-01	1.6E-01	3.85E-02	pCi/g		1.09E+00	1.1E-02	105%	3/23/11 10:18 a	350.1	GER7$1
							Rec Limits:	70	130	0.1		g	
RA-226	1.09E+00		1.7E-01	1.7E-01	6.66E-02	pCi/g		1.14E+00	1.2E-02	96%	3/23/11 10:18 a	350.1	GER7$1
							Rec Limits:	70	130	0.0		g	
RA-228	1.11E+00		2.3E-01	2.3E-01	1.24E-01	pCi/g		9.43E-01	9.7E-03	118%	3/23/11 10:18 a	350.1	GER7$1
							Rec Limits:	70	130	0.2		g	
U-238	1.04E+00		1.6E-01	1.6E-01	8.42E-02	pCi/g		1.20E+00	1.2E-02	87%	3/23/11 10:18 a	350.1	GER7$1
							Rec Limits:	70	130	-0.1		g	
Batch: 1082140	9310_ALPHABETA_GPC			**Work Order:**	MF2DA1AC		**Report DB ID:**	MF2DA1CS					
ALPHA	7.74E+01		7.5E+00	1.8E+01	2.05E+00	pCi/g	100%	7.93E+01	2.6E+00	98%	3/28/11 02:18 p	0.0567	GPC10D
							Rec Limits:	70	130	0.0		g	
Batch: 1082139	9310_ALPHABETA_GPC			**Work Order:**	MF2C81AC		**Report DB ID:**	MF2C81CS					
BETA	6.68E+01		5.2E+00	9.8E+00	3.78E+00	pCi/g	100%	6.36E+01	2.4E+00	105%	3/26/11 04:03 p	0.2125	GPC26A
							Rec Limits:	70	130	0.1		g	
Batch: 1082138	SRTOT_SEP_PRECIP_GPC			**Work Order:**	MF2C61AC		**Report DB ID:**	MF2C61CS					
STRONTIUM	1.04E+00		1.2E-01	2.9E-01	1.12E-01	pCi/g	95%	1.13E+00	3.1E-02	92%	3/31/11 11:26 a	5.99	GPC27D
							Rec Limits:	70	130	-0.1		g	

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

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

rptSTLRchLcs
V5.2.12 A2002

TestAmerica Laboratories, Inc.

FORM II

LCS RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0130

Report No. : 46157

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 1081370	7196_CR6			**Work Order:**	MF15M1AC		**Report DB ID:**	MF15M1AS					
HEXCHROME	1.91E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		95%	3/22/11 07:00 p	2.5	
							Rec Limits:	80	120	0.0		g	
Batch: 1082142	UTOT_KPA			**Work Order:**	MF2DF1AC		**Report DB ID:**	MF2DF1CS					
TOTAL-URANIUM	9.84E+00		0.0E+00	1.2E+00	3.43E+00	ug/g		1.00E+01	6.8E-02	98%	3/30/11 10:56 a	0.001	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 1082142	UTOT_KPA			**Work Order:**	MF2DF1AD		**Report DB ID:**	MF2DF1DS					
TOTAL-URANIUM	9.71E+00		0.0E+00	1.1E+00	3.37E+00	ug/g		9.86E+00	6.6E-02	98%	3/30/11 10:59 a	0.00102	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 1090383	UTOT_KPA			**Work Order:**	MF2DF2AC		**Report DB ID:**	MF2DF2CS					
TOTAL-URANIUM	9.88E-01		0.0E+00	1.2E-01	3.44E-01	ug/g		1.01E+00	6.8E-03	98%	4/6/11 12:21 p	0.00999	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 1090383	UTOT_KPA			**Work Order:**	MF2DF2AD		**Report DB ID:**	MF2DF2DS					
TOTAL-URANIUM	9.60E-01		0.0E+00	1.1E-01	3.41E-01	ug/g		1.00E+00	6.7E-03	96%	4/6/11 12:25 p	0.01006	KPAW3
							Rec Limits:	70	130	0.0		ML	

No. of Results: 5 **Comments:**

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

rptSTLRchLcs
V5.2.12 A2002

TestAmerica Laboratories, Inc.

FORM II
MATRIX SPIKE RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica SDG: JP0130

Lot-Sample No.: J1C220565-1, J1FL25 Report No. : 46157 Matrix: OTHER OTHERSOLID

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: 1081370	Work Order:	MF13F1AA		Report DB ID:	MF13F1CW		Orig Sa DB ID:	9MF13F10				
HEXCHROME	9.91E+00			0.0E+00	1.52E-01	mg/kg	N/A	92.71%	1.07E+01	3/22/11 07:00 p	2.5	7196_CR6
	7.84E-01										g	
Batch: 1082142	Work Order:	MF13F1AU		Report DB ID:	MF13F1UW		Orig Sa DB ID:	9MF13F10				
TOTAL-URANIUM	7.97E+00		0.0E+00	1.0E+00	3.47E+00	ug/g		78.44%	1.02E+01	3/30/11 11:03 a	0.00099	UTOT_KPA
	8.27E-01								6.8E-02		ML	KPAW3
Batch: 1090383	Work Order:	MF13F2AU		Report DB ID:	MF13F2UW		Orig Sa DB ID:	9MF13F20				
TOTAL-URANIUM	3.38E-01	U	0.0E+00	6.3E-02	3.42E-01	ug/g		33.89%	9.98E-01	4/6/11 12:29 p	0.01005	UTOT_KPA
	1.67E-01								6.7E-03		ML	KPAW3

Number of Results: 3

Comments:

TestAmerica
rptSTLRchMs
V5.2.12 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.
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

MATRIX SPIKE DUPLICATE RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica SDG: JP0130

Lot-Sample No.: J1C220565-1, J1FL25 Report No. : 46157 Matrix: OTHER OTHERSOLID

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	Primary Detector
Batch: 1082142	UTOT_KPA			Work Order: MF13F1AU			Report DB ID: MF13F1UW		Orig Sa DB ID: MF13F2UW			
TOTAL-URANIUM	7.97E+00		0.0E+00	1.0E+00	3.47E+00	ug/g		78.44%	1.02E+01	3/30/11 11:03 a	0.00099	KPAW3
	3.38E-01	RPD	14.7						6.8E-02		ML	
Batch: 1090383	UTOT_KPA			Work Order: MF13F2AU			Report DB ID: MF13F2UW		Orig Sa DB ID: MF13F1UW			
TOTAL-URANIUM	3.38E-01	U	0.0E+00	6.3E-02	3.42E-01	ug/g		33.89%	9.98E-01	4/6/11 12:29 p	0.01005	KPAW3
	7.97E+00	RPD	14.7						6.7E-03		ML	

No. of Results: 2 Comments:

TestAmerica Laboratories, Inc.

23

TestAmerica rptSTLRchMsDup2 V5.2.12 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.

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.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

3/29/2011 12:21:46 PM

Lot No., Due Date: J1C220565; 03/29/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1082140; RALPHA-A Alpha by GPC-Am
SDG, Matrix: JP0130; OTHER

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 Thomas D Mc Ge Date 3/29/11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1082140

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: Rhonda Fei Date: 5/29/11

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

3/28/2011 2:50:20 PM

Lot No., Due Date: J1C220565; 03/29/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1082139; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: JP0130; OTHER

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:

Thomas D McE

First Level _____ **Date** 3/28/11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1082139

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 = 15.0pCi/g

Second Level Review: Rhonda [illegible] Date: 3/28/11

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

3/31/2011 3:32:58 PM

Lot No., Due Date: J1C220565; 03/29/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1082138; RSRTOT SrTot by GPC
SDG, Matrix: JP0130; OTHER

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 Lisa Anderson Date 3/31/11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1082188

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 = 1.0pCi/g

Second Level Review: [signature] Date: 3/31/11

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

3/25/2011 1:21:53 PM

Lot No., Due Date: J1C220565; 03/29/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1082137; RGAMMA Gamma by GER
SDG, Matrix: JP0130; OTHER

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
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

	Yes	No	N/A
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

	Yes	No	N/A
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

	Yes	No	N/A
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
NCM 10-17835

First Level Lisa Autonson **Date** 3/25/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 1082137

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
See NCM #: 10-17835

Second Level Review: [signature] Date: 3/25/11

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

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-17835
NCM Initiated By: Lisa Antonson
Date Opened: 03/25/2011
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Counting
Tests: Gamma by GER
Lot #'s (Sample #'s): J1C220565 (1), J1C230000 (137),
QC Batches: 1082137,

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	03/25/2011	The MDA for Eu-152, Eu-154 and Eu-155 are just above CRDL for the LCS due to shortened count time based on Priority processing.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	03/25/2011	None

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/5/2011 10:40:37 AM

Lot No., Due Date: J1C220565; 03/29/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1082141; RNI63 Ni-63 by LSC
SDG, Matrix: JP0130; OTHER

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 [signature] **Date** 4/5/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1082141

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: _____

Second Level Review: Jodie Date: 4/5/11

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/7/2011 11:33:15 AM

Lot No., Due Date: J1C220565; 03/29/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1090383; RUNAT UNat by KPA
SDG, Matrix: JP0130; OTHER

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

6.0 Comments on any No response:
NCM 10-17981

First Level Lisa Antonson Date 4/7/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1090383

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: _____

Second Level Review: [signature] Date: 4/7/11

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

Clouseau Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-17981
NCM Initiated By: Lisa Antonson
Date Opened: 04/07/2011
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Environmental - Prep
Tests: UNat by KPA
Lot #'s (Sample #'s): J1C220565 (1), J1C230000 (142),
QC Batches: 1090383,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/07/2011	This batch is a rerun of batch 1082142. The original batch did not meet CRDL. They were rerun with increased sample volume. In the rerun batch, the MS recovery is out of limits. A recount did not bring it within limits. Matrix interference is suspected. Data will be uploaded for client review.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/07/2011	The samples were rerun with increased volume to meet CRDL.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

Date Printed: 4/7/2011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **1081370**

Lab Sample Numbers or SDG: **JP0130**

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

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis			✓	
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?				N/A
2. Were all sample holding times met?	✓			✓
D. QC Samples	✓			
1. All results for the preparation blank below limits?				✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?	✓			✓
5. ICP only: One serial dilution performed per SDG?			✓	N/A
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	N/A
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	N/A

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
E. Other 1. Are all nonconformances included and noted?	✓			✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response:

Analyst: for TV [illegible] Date: 3-23-11

Second-Level Review: [illegible] Date: 3/23/11

TestAmerica Laboratories, Inc.

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-073-121	Page 1 of 1

Collector: Blankinship	Company Contact: Don Woolery	Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH
Price Code: 9L 98 D 3/21/11	Data Turnaround: ~~21~~ 7 Days D 3/21/11		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Other Quick	Sampling Location: 100-D-50:6 Concrete Pads		SAF No.: RC-073
Ice Chest No.: N/A	Field Logbook No.: EL-1607-10	COA: R00D502000	Method of Shipment: HAND DELIVER
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	Cool 4C	None	Cool 4C	None	None	None	None	None		
Type of Container	G/P	G	G/P	G/P	G/P	G/P	G/P	G/P		
No. of Container(s)	1	1	1	1	0	0	0	1		
Volume	60mL	125mL	60mL	500mL	500mL	500mL	500mL	60g		
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Chromium Hex - 7196	See item (3) in Special Instructions.	Gross Alpha & Gross Beta	Nickel-63: Strontium-89,90 -- Total Sr	Total Uranium	RCF GEA Shipping Screen		
Sample No. / Matrix * / Sample Date / Sample Time										
J1FL25 / OTHER / 3/22/11 / 0845			✓	✓	✓	✓	✓		MH-13F	

J1C220565

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MATT BLANKINSHIP	3-22-11 0900	Received By/Stored In: TR DeBruijne	0900 3/22/11
Relinquished By/Removed From: TR DeBruijne	1010 3/22/11	Received By/Stored In: JR Edmondson	3-22-11 1010
Relinquished By/Removed From: JR Edmondson	3-22-11 1210	Received By/Stored In: J.E. Behl	1210 3-22-11
Relinquished By/Removed From: J.E. Behl	1410 3-22-11	Received By/Stored In: ANGEL	1410 3-22-11
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 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}
(2) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470 {Mercury}
(3) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

WCH J1C220565

ODG #JP0130

DUO-329-11

REVIEWED BY A1 DATE 3-22-11

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 3-22	Date/Time

WCH-EE-011

40

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

J1C220565

WCH

Sample Check-in List

TAR

Date/Time Received: 3.22.11@1410 GM Screen Result (out) .4 (in) .7 Initials [✓]

Client: WCH SDG #: JP0130 NA [ ] SAF #: RC-073 NA [ ]

Work Order Number: J1C220565 Chain of Custody # RC-073-121

Shipping Container ID: Hand Delivery NA [✓] Air Bill # _____ NA [✓]

Item 1 through 5 for shipping container only. Initial appropriate response.

1. Custody Seals on shipping container intact? Yes [✓] No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ] No Custody Seal [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: on ice NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 1@2 JWS
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   ✓ tape ✓ custody seals ✓ hazard labels ✓ appropriate sample labels
9. Samples:
   ✓ are in good condition (ok?) ____ are leaking
   ____ are broken ____ have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [ ] No [ ] N/A [✓] (Note discrepancies in #13)
    (If acidification necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition)

    RPL ID # of preservative used : _____
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): NA [✓] _____

See other side for additional comments

Sample Custodian: [signature] Date: 3.22.11@1410 TAR

Client Informed on _____ by _____ Person contacted _____

[✓] No action necessary; process as is

Project Manager [signature] Date 3/22/11

LS-023, Rev. 12, 10/10

3/26/2011 9:43:15 AM

Sample Preparation/Analysis

Balance Id:1117411003

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

AY Gross Alpha Prp PRP003/GPC007
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1082140 OTHER pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 7SSR, 1081370 DWEA, 1082137 AXTA, 1082138 CHTH, 1082139 BBS8, 1082140 AYS7, 1082141 AFS4, 1082142 7ZSS,

Prep Tech: BockJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-1-AF J1C220565-1-SAMP 03/22/2011 08:45		0.0503g,in AmtRec: 1XJAR60,1X500MLP	#Containers: 2	1.5	50.3	100	1UA	1509	3/28/11	Scr: Alpha: Beta:
2 MF13F-1-AR-X J1C220565-1-DUP 03/22/2011 08:45		0.0504g,in AmtRec: 1XJAR60,1X500MLP	#Containers: 2		50.4		1UA			Scr: Alpha: Beta:
3 MF2DA-1-AA-B J1C230000-140-BLK 03/23/2011 08:30 pd		0.0535g,in AmtRec:	#Containers: 1		1.3746g 1.3745g 0.1mg		1UC			Scr: Alpha: Beta:
4 MF2DA-1-AC-C J1C230000-140-LCS 03/23/2011 08:30 pd		0.0567g,in AmtRec:	ASD5080 12/14/10,pd 04/04/05 r #Containers: 1		1.4028g 1.4022g 0.6mg		1UD			Scr: Alpha: Beta:

Comments: MF13F-SAMP ""

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

MF13F1AF-SAMP Constituent List:

ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:
MF2DA1AA-BLK:					
ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:
MF2DA1AC-LCS:					
Am-241	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

TestAmerica Laboratories, Inc.

42

3/26/2011 9:43:15 AM

Sample Preparation/Analysis

AY Gross Alpha Prp PRP003/GPC007
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Balance Id:1120421763,1117411003

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1082140 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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

```
MF13F1AF-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MF2DA1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MF2DA1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```


TestAmerica Laboratories, Inc.

3/29/2011 12:21:24 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/29/2010, 4/3/2011, Batch: '1082140', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1082140						
AC		Rev1C	BockJ	3/26/2011 9:18:24		
SC			MaucieriS	IsBatched	3/23/2011 8:31:18 AM	ICOC_RADCALC v4.8.49
SC			BockJ	InPrep	3/26/2011 9:18:24 AM	RL-PRP-004 REVISION 1
SC			BockJ	Prep2C	3/26/2011 9:43:32 AM	RL-GPC-007 REVISION 1
SC			ClarkR	InCnt1	3/26/2011 11:32:09 AM	RL-CI-006 REVISION 1
SC			BlackCL	CalcC	3/29/2011 6:20:10 AM	RL-CI-006 REVISION 1
SC			mcginnist	Rev1C	3/29/2011 12:19:00 PM	RL-DR-001 Rev 2
AC			BockJ	3/26/2011 9:43:32		
AC			ClarkR	3/26/2011 11:32:09		
AC			BlackCL	3/29/2011 6:20:10		
AC			mcginnist	3/29/2011 12:19:00		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.44

3/26/2011 9:44:42 AM

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

AnalyDueDate: 03/29/2011

Sample Preparation/Analysis

BB Gross Beta Prp PRP003/GPC007
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Balance Id:1117411003

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: BockJ

Batch: 1082139 OTHER pCi/g
SEQ Batch, Test: None

PM, Quote: RW2, 27038

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-1-AG J1C220565-1-SAMP 03/22/2011 08:45		0.2003g,in AmtRec: 1XJAR60,1X500MLP	#Containers: 2	1.5	200.3	50	26D Scr:	1629 Alpha:	3/26/11 m Beta:	
2 MF13F-1-AQ-X J1C220565-1-DUP 03/22/2011 08:45		0.2007g,in AmtRec: 1XJAR60,1X500MLP	#Containers: 2		200.7		26C Scr:		Alpha: Beta:	
3 MF2C8-1-AA-B J1C230000-139-BLK 03/23/2011 08:30 pd		0.2115g,in AmtRec:	#Containers: 1		1.4131 g 1.4131 g 0 mg		26B Scr:		Alpha: Beta:	
4 MF2C8-1-AC-C J1C230000-139-LCS 03/23/2011 08:30 pd		0.2125g,in AmtRec:	BESD1682 03/02/11,pd 10/01/01,r #Containers: 1		1.3807 g 1.3803 g 0.4 mg		26A Scr:		Alpha: Beta:	

Comments: MF13F-SAMP ""

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

MF13F1AG-SAMP Constituent List:

BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
MF2C81AA-BLK:					
BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
MF2C81AC-LCS:					
Sr-90	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

TestAmerica Laboratories, Inc.

3/26/2011 9:44:43 AM

Sample Preparation/Analysis

BB Gross Beta Prp PRP003/GPC007
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Balance Id:1117411003

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1082139 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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

```
MF13F1AG-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MF2C81AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MF2C81AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```


TestAmerica Laboratories, Inc.

46

3/28/2011 2:49:38 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/28/2010, 4/2/2011, Batch: '1082139', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting			Comments
1082139							
AC		Rev1C	BockJ	3/26/2011 9:43:49			
SC			MaucieriS	IsBatched	3/23/2011 8:31:14 AM		ICOC_RADCALC v4.8.49
SC			BockJ	InPrep	3/26/2011 9:43:49 AM		RL-GPC-007 REVISION 1
SC			BockJ	Prep2C	3/26/2011 9:44:48 AM		RL-GPC-007 REVISION 1
SC			ClarkR	InCnt1	3/26/2011 11:32:31 AM		RL-CI-006 REVISION 1
SC			BlackCL	CalcC	3/28/2011 9:00:49 AM		RL-CI-006 REVISION 1
SC			mcginnist	Rev1C	3/28/2011 2:49:30 PM		RL-DR-001 Rev 2
AC			BockJ	3/26/2011 9:44:48			
AC			ClarkR	3/26/2011 11:32:31			
AC			BlackCL	3/28/2011 9:00:49			
AC			mcginnist	3/28/2011 2:49:30 PM			

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.44

3/23/2011 10:40:34 AM

Sample Preparation/Analysis

PRIORITY

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

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech: 23155 3/30/11 APA

Batch: 1082138 OTHER pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 7SSR, 1081370 DWEA, 1082137 AXTA, 1082138 CHTH, 1082139 BBS8, 1082140 AYS7, 1082141 AFS4, 1082142 7ZSS,

Prep Tech: BouslaughP

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-1-AD J1C220565-1-SAMP 03/22/2011 08:45		6.00g,in AmtRec: 1XJAR60,1X500MLP	SRTA20789 03/16/11 #Containers: 2	1.5	1.4900g -1.4190g 71.0 mg	50 min	27A Scr:	1151 Alpha:	3/31/11 [illegible] Beta:	
2 MF13F-1-AP-X J1C220565-1-DUP 03/22/2011 08:45		6.01g,in AmtRec: 1XJAR60,1X500MLP	SRTA20790 03/16/11 #Containers: 2		1.4930g -1.4222g 70.8 mg		27B Scr:	Alpha:	Beta:	
3 MF2C6-1-AA-B J1C230000-138-BLK 03/23/2011 08:30 pd		6.02g,in AmtRec:	SRTA20791 03/16/11 #Containers: 1		1.5124g -1.4195g 92.9 mg		27C Scr:	Alpha:	Beta:	
4 MF2C6-1-AC-C J1C230000-138-LCS 03/23/2011 08:30 pd		5.99g,in AmtRec:	STSB1578 03/10/11 #Containers: 1		1.5164g -1.4213g 95.1 mg		27D Scr:	Alpha:	Beta:	

Comments: MF13F-SAMP "ISV. Recount DUP on a different detector."

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

MF13F1AD-SAMP Constituent List:
Sr-90 RDL:1 pCi/g LCL:70 UCL:130 RPD:35
MF2C61AA-BLK:

MF2C61AC-LCS:

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 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4 Prep_SamplePrep v4.8.49

3/23/2011 10:40:35 AM

Sample Preparation/Analysis

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

PRIORITY

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1082138 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BouslaughP

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

```
MF13F1AD-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MF2C61AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MF2C61AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```


TestAmerica Laboratories, Inc.

3/31/2011 3:32:21 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/31/2010, 4/5/2011, Batch: '1082138', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting			Comments
1082138							
AC		Rev1C		BouslaughP	3/23/2011 10:32:51		
SC				MauclerlS	IsBatched	3/23/2011 8:31:10 AM	ICOC_RADCALC v4.8.49
SC				BouslaughP	InPrep	3/23/2011 10:32:51 AM	RL-PRP-003 REVISION 1
SC				WoodT	Prep1C	3/23/2011 10:26:26 PM	RL-PRP-003 REVISION 1
SC				BouslaughP	Prep1C	3/24/2011 7:17:03 AM	RL-PRP-003 REVISION 1
SC				AshworthA	Sep2C	3/31/2011 1:49:31 AM	RL-GPC-011 REVISION 1
SC				BlackCL	InCnt1	3/31/2011 2:07:17 AM	RL-CI-006 REVISION 1
SC				ClarkR	CalcC	3/31/2011 2:12:40 PM	RL-CI-006 REVISION 1
SC				antonsonl	Rev1C	3/31/2011 3:32:15 PM	RL-DR-001 Rev 2
AC				WoodT	3/23/2011 10:26:26		
AC				BouslaughP	3/24/2011 7:17:03		
AC				AshworthA	3/31/2011 1:49:31		
AC				BlackCL	3/31/2011 2:07:17		
AC				ClarkR	3/31/2011 2:12:40 PM		
AC				antonsonl	3/31/2011 3:32:15 PM		

AC: Accepting Entry; SC: Status Change

TestAmerica Laboratories, Inc.

3/23/2011 10:05:18 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: 03/29/2011

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: BouslaughP

Batch: 1082137 OTHER pCi/g PM, Quote: RW2, 27038

SEQ Batch, Test: None All Tests: 7SSR, 1081370 DWEA, 1082137 AXTA, 1082138 CHTH, 1082139 BBS8, 1082140 AYS7, 1082141 AFS4, 1082142 7ZSS,

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-1-AH J1C220565-1-SAMP 03/22/2011 08:45	AmtRec: 1XJAR60,1X500MLP	#Containers: 2	339.90g,in	339.90g		5200 gee	200min	61T	1337	3/23/11	
								Scr:	Alpha:		Beta:
2 MF13F-1-AN-X J1C220565-1-DUP 03/22/2011 08:45	AmtRec: 1XJAR60,1X500MLP	#Containers: 2						61U	1713		
								Scr:	Alpha:		Beta:
3 MF2C4-1-AA-B J1C230000-137-BLK 03/23/2011 08:30 pd	AmtRec:	#Containers: 1	348.00g,in	348.00g				61T	1337	3/23/11	
								Scr:	Alpha:		Beta:
4 MF2C4-1-AC-C J1C230000-137-LCS 03/23/2011 08:30 pd	AmtRec:	#Containers: 1	350.10g,in	350.10g	QC20009 08/04/09,pd 09/01/09,r			61	1338		
								Scr:	Alpha:		Beta:

Comments: MF13F-SAMP "ISV. Recount DUP on a different detector."

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

MF13F1AH-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:

MF2C41AA-BLK:

Sample Preparation/Analysis

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

PRIORITY

Balance Id:1120373922
Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1082137 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BouslaughP

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

MF2C41AC-LCS:

MF13F1AH-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2C41AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2C41AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

3/25/2011 1:21:02 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/25/2010, 3/30/2011, Batch: '1082137', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting			Comments
1082137							
AC			Rev1C	BouslaughP	3/23/2011 9:46:33		
SC				MauclerlS	IsBatched	3/23/2011 8:31:05 AM	ICOC_RADCALC v4.8.49
SC				BouslaughP	InPrep	3/23/2011 9:46:33 AM	RL-GAM-001 REVISION 1
SC				BouslaughP	Prep1C	3/23/2011 10:08:36 AM	RL-PRP-003 REVISION 1
SC				BlackCL	InCnt1	3/23/2011 10:15:34 AM	RL-CI-007 REVISION 1
SC				DawkinsO	CalcC	3/24/2011 12:06:50 AM	RL-CI-007 REVISION 1
SC				antonsonl	Rev1C	3/25/2011 1:19:20 PM	RL-DR-001 Rev 2
AC				BouslaughP	3/23/2011 10:08:36		
AC				BlackCL	3/23/2011 10:15:34		
AC				DawkinsO	3/24/2011 12:06:50		
AC				antonsonl	3/25/2011 1:19:20 PM		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.44

3/23/2011 10:49:53 AM

Sample Preparation/Analysis

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

PRIORITY

Balance Id:1120373922
Pipet #:

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1082141 OTHER pCi/g PM, Quote: RW2, 27038

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: BouslaughP

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-1-AE J1C220565-1-SAMP 03/22/2011 08:45		AmtRec: 1XJAR60,1X500MLP	0.25g,in #Containers: 2	0.25g	NITA3974 03/16/11	2Cmin	Scr:	Alpha:	Beta:	
2 MF13F-1-AT-X J1C220565-1-DUP 03/22/2011 08:45		AmtRec: 1XJAR60,1X500MLP	0.25g,in #Containers: 2	0.25g	NITA3975 03/16/11		Scr:	Alpha:	Beta:	
3 MF2DD-1-AA-B J1C230000-141-BLK 03/23/2011 08:33 pd		AmtRec:	0.24g,in #Containers: 1	0.24g	NITA3976 03/16/11		Scr:	Alpha:	Beta:	
4 MF2DD-1-AC-C J1C230000-141-LCS 03/23/2011 08:33 pd		AmtRec:	0.24g,in #Containers: 1	0.24g	NISA1397 03/10/11		Scr:	Alpha:	Beta:	
5 MF2DD-1-AD-BN J1C230000-141-IBLK 03/23/2011 08:33 pd		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	

Comments: MF13F-SAMP "ISV. Recount DUP on a different detector."

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

MF13F1AE-SAMP Constituent List:

Sample Preparation/Analysis

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

PRIORITY

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

AnalyDueDate: 03/29/2011

Batch: 1082141 pCi/g
SEQ Batch, Test: None

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

```
 Ni-63        RDL:30        pCi/g     LCL:70      UCL:130      RPD:35
MF2DD1AA-BLK:

MF2DD1AC-LCS:

MF2DD1AD-IBLK:

MF13F1AE-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MF2DD1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MF2DD1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MF2DD1AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

4/5/2011 10:39:59 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/5/2010, 4/10/2011, Batch: '1082141', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting			Comments
1082141							
AC			Rev1C	BouslaughP	3/23/2011 10:42:15		
SC				MaucieriS	IsBatched	3/23/2011 8:31:23 AM	ICOC_RADCALC v4.8.49
SC				BouslaughP	InPrep	3/23/2011 10:42:15 AM	RL-PRP-003 REVISION 1
SC				WoodT	Prep1C	3/23/2011 10:26:33 PM	RL-PRP-003 REVISION 1
SC				BouslaughP	Prep1C	3/24/2011 7:16:09 AM	RL-PRP-003 REVISION 1
SC				JorgensonD	Sep2C	3/29/2011 4:12:37 PM	RL-LSC-017 REVISION 1
SC				DawkinsO	InCnt1	3/29/2011 4:33:02 PM	RL-CI-005 REVISION 1
SC				DawkinsO	CalcC	4/3/2011 10:24:32 PM	RL-CI-005 REVISION 1
SC				WhelandS	Rev1C	4/5/2011 10:39:44 AM	RL-DR-001 Rev 2
AC				WoodT	3/23/2011 10:26:33		
AC				BouslaughP	3/24/2011 7:16:09		
AC				JorgensonD	3/29/2011 4:12:37 PM		
AC				DawkinsO	3/29/2011 4:33:02 PM		
AC				DawkinsO	4/3/2011 10:24:32 PM		
AC				WhelandS	4/5/2011 10:39:44		

AC: Accepting Entry; SC: Status Change

3/31/2011 8:16:06 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

7Z Unat_Laser Prp PRP003/PRP005, Sep KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1090383 OTHER ug/g PM, Quote: RW2, 27038

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: BockJ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-2-AM J1C220565-1-SAMP 03/22/2011 08:45		10.06g,in AmtRec: 1XJAR60,1X500MLP	#Containers: 2				Scr: Alpha: Beta:	
2 MF13F-2-AU-S J1C220565-1-MS 03/22/2011 08:45		10.05g,in AmtRec: 1XJAR60,1X500MLP	UNSI2120 09/01/10,pd 02/01/86,r #Containers: 2				Scr: Alpha: Beta:	
3 MF13F-2-AV-X J1C220565-1-DUP 03/22/2011 08:45		9.97g,in AmtRec: 1XJAR60,1X500MLP	#Containers: 2				Scr: Alpha: Beta:	
4 MF2DF-2-AA-B J1C230000-142-BLK 03/31/2011 16:26 pd		10.06g,in AmtRec:	#Containers: 1				Scr: Alpha: Beta:	
5 MF2DF-2-AC-C J1C230000-142-LCS 03/31/2011 16:26 pd		9.99g,in AmtRec:	UNSI2121 09/01/10,pd 02/01/86,r #Containers: 1				Scr: Alpha: Beta:	
6 MF2DF-2-AD-C J1C230000-142-LCS 03/31/2011 16:26 pd		10.06g,in AmtRec:	UNSI2122 09/01/10,pd 02/01/86,r #Containers: 1				Scr: Alpha: Beta:	

TestAmerica Laboratories, Inc.

3/31/2011 8:16:06 PM

Sample Preparation/Analysis

7Z Unat_Laser Prp PRP003/PRP005, Sep KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Batch: 1090383 ug/g
SEQ Batch, Test: None

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

Comments: MF13F-SAMP ""

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

MF13F2AM-SAMP Constituent List:

MF13F2AU-MS Constituent List:

MF2DF2AA-BLK:

MF2DF2AC-LCS:

MF2DF2AD-LCS:

MF13F2AM-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF13F2AU-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2DF2AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2DF2AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2DF2AD-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

4/6/2011 2:38:29 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

7Z Unat_Laser Prp PRP003/PRP005, Sep KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1090383 OTHER ug/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 7SSR, 1081370 DWEA, 1082137 AXTA, 1082138 CHTH, 1082139 BBS8, 1082140 AYS7, 1082141 AFS4, 1082142 7ZSS, 1090383 7ZSS,

Prep Tech: BockJ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-2-AM J1C220565-1-SAMP 03/22/2011 08:45		10.06g,in AmtRec: 1XJAR60,1X500MLP #Containers: 2				Scr:	Alpha:	Beta:
2 MF13F-2-AU-S J1C220565-1-MS 03/22/2011 08:45		10.05g,in AmtRec: 1XJAR60,1X500MLP #Containers: 2	UNSI2120 09/01/10,pd 02/01/86,r			Scr:	Alpha:	Beta:
3 MF13F-2-AV-X J1C220565-1-DUP 03/22/2011 08:45		9.97g,in AmtRec: 1XJAR60,1X500MLP #Containers: 2				Scr:	Alpha:	Beta:
4 MF13F-3-AU-S J1C220565-1-MS 03/22/2011 08:45		10.05g AmtRec: 1XJAR60,1X500MLP #Containers: 2	UNSI 2120			Scr:	Alpha:	Beta:
5 MF2DF-2-AA-B J1C230000-142-BLK 03/31/2011 16:26 pd		10.06g,in AmtRec: #Containers: 1				Scr:	Alpha:	Beta:
6 MF2DF-2-AC-C J1C230000-142-LCS 03/31/2011 16:26 pd		9.99g,in AmtRec: #Containers: 1	UNSI2121 09/01/10,pd 02/01/86,r			Scr:	Alpha:	Beta:
7 MF2DF-2-AD-C J1C230000-142-LCS 03/31/2011 16:26 pd		10.08g,in AmtRec: #Containers: 1	UNSI2122 09/01/10,pd 02/01/86,r			Scr:	Alpha:	Beta:

TestAmerica Laboratories, Inc.

59

4/6/2011 2:38:30 PM

Sample Preparation/Analysis

7Z Unat_Laser Prp PRP003/PRP005, Sep KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1090383 ug/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

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

Comments: MF13F-SAMP ""

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

MF13F2AM-SAMP Constituent List:
Uranium RDL:1.00E+00 ug/g LCL:70 UCL:130 RPD:35
MF13F2AU-MS Constituent List:

MF13F3AU-MS:

MF2DF2AA-BLK:
Uranium RDL:1 ug/g LCL: UCL: RPD:
MF2DF2AC-LCS:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35
MF2DF2AD-LCS:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35

MF13F2AM-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF13F2AU-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF13F3AU-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2DF2AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2DF2AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF2DF2AD-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

4/7/2011 11:24:38 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/7/2010, 4/12/2011, Batch: '1090383', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord.	CurStatus	Accepting			Comments
1090383							
AC		Rev1C	WoodT	3/31/2011 7:51:59 PM			
SC			woodt	IsBatched	3/31/2011 7:51:29 PM		ICOC_RADCALC v4.8.49
SC			WoodT	InPrep	3/31/2011 7:51:59 PM		RL-PRP-003 REVISION 1
SC			BouslaughP	Prep1C	4/1/2011 2:24:53 PM		RL-PRP-003 REVISION 1
SC			BockJ	Prep2C	4/6/2011 10:49:36 AM		RL-KPA-002 REVISION 1
SC			WagnerF	Cnt1C	4/6/2011 1:25:56 PM		RL-KPA-003 REVISION 0
SC			antonsonl	Rev1C	4/7/2011 11:24:32 AM		RL-DR-001 Rev 2
AC			BouslaughP	4/1/2011 2:24:53 PM			
AC			BockJ	4/6/2011 10:49:36			
AC			WagnerF	4/6/2011 1:25:56 PM			
AC			antonsonl	4/7/2011 11:24:32			

AC: Accepting Entry; SC: Status Change

03/22/2011 7:12:05 PM

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: 03/29/2011

Batch: 1081370 OTHER mg/kg
SEQ Batch, Test: None

PM, Quote: RW2, 27038

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

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MF13F-1-AA J1C220565-1-SAMP 03/22/2011 08:45		AmtRec: 1XJAR60,1X500MLP	#Containers: 2					Scr:	Alpha:	Beta:
2 MF13F-1-AJ-S J1C220565-1-MS 03/22/2011 08:45		AmtRec: 1XJAR60,1X500MLP	#Containers: 2					Scr:	Alpha:	Beta:
3 MF13F-1-AK-Z J1C220565-1-Z 03/22/2011 08:45		AmtRec: 1XJAR60,1X500MLP	#Containers: 2					Scr:	Alpha:	Beta:
4 MF13F-1-AL-X J1C220565-1-DUP 03/22/2011 08:45		AmtRec: 1XJAR60,1X500MLP	#Containers: 2					Scr:	Alpha:	Beta:
5 MF15M-1-AA-B J1C220000-370-BLK 03/22/2011 19:12 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
6 MF15M-1-AC-C J1C220000-370-LCS 03/22/2011 19:12 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

TestAmerica Laboratories, Inc.

62

03/22/2011 7:12:05 PM

Sample Preparation/Analysis

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

Balance Id:

Pipet #:

AnalyDueDate: 03/29/2011

Sep1 DT/Tm Tech:

Batch: 1081370 mg/kg

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

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

Comments:

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

MF13F1AA-SAMP Constituent List:

MF13F1AJ-MS Constituent List:

MF13F1AK-MS:

MF15M1AA-BLK:

MF15M1AC-LCS:

MF13F1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF13F1AJ-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF13F1AK-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF15M1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MF15M1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-13803-1

SDG Number: JP0130

Job Description: SAF# RC-073

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

Attention: Joan H Kessner

RECEIVED
APR 2011

Approved for release.
Kae E Yoder
Project Manager II
4/4/2011 11:08 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
04/04/2011

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

The Lab Certification ID# is E87667.

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

Table of Contents

Cover Title Page 1
Report Narrative 3
Data Qualifiers 5
Method Summary 6
Method / Analyst Summary 7
Sample Summary 8
Sample Results 9
Sample Datasheets 10
QC Results 13
Qc Association Summary 14
Qc Reports 16
Client Chain of Custody 27
Sample Receipt Checklist 28

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-13803-1

SDG #: JP0130
SAF#: RC-073

Date SDG Closed: March 23, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1FL25	280-13803-1	6010/7471/1311-6010-7470	6010B/7471A/1311-6010B-7470A

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 3/23/2011; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 3.6 C.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-58977 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Iron, a common laboratory contaminant, is present at a level greater than the reporting limit in the method blank associated with batch 280-58977. As the associated sample amount is ten times greater than the method blank concentration, corrective action is deemed unnecessary.

Low levels of Barium are present in the method blank associated with batch 280-58977. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Calcium, Iron and Manganese in the Matrix Spike performed on sample J1FL25; therefore, control limits are not applicable.

The Matrix Spike performed on sample J1FL25 exhibited percent recoveries outside the control limits for Zinc and Mercury, and the associated sample results have been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The duplicate analysis of sample J1FL25 exhibited RPD data outside the control limits for Arsenic, Boron, Molybdenum, Sodium and Mercury, and the associated sample results have been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TCLP METALS - SW846 1311/6010B/7470A

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Lab Section	Qualifier	Description
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.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
TCLP Metals (ICP)	TAL DEN	SW846 6010B	
TCLP Extraction	TAL DEN		SW846 1311
Preparation, Total Metals	TAL DEN		SW846 3010A
TCLP Mercury	TAL DEN	SW846 7470A	
TCLP Extraction	TAL DEN		SW846 1311
Preparation, Mercury	TAL DEN		SW846 7470A
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

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: 280-13803-1
Sdg Number: JP0130

Method	Analyst	Analyst ID
SW846 6010B	Bowen, Heidi E	HEB
SW846 7470A	Stoltz, Katie	KS
SW846 7471A	Stoltz, Katie	KS
ASTM D-2216	Berry III, Paul B	PBB

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-13803-1	J1FL25	Solid	03/22/2011 0845	03/23/2011 0930

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Client Sample ID: **J1FL25**

Lab Sample ID: 280-13803-1
Client Matrix: Solid
% Moisture: 7.5

Date Sampled: 03/22/2011 0845
Date Received: 03/23/2011 0930

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-59302		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-58977		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	03/24/2011 1658			Final Weight/Volume:	100 mL
Date Prepared:	03/24/2011 0830				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		8270		1.4	4.7
Antimony		0.53	B	0.35	0.56
Arsenic		5.3	M	0.62	0.93
Barium		108		0.071	0.47
Beryllium		0.031	U	0.031	0.19
Boron		4.8	M	0.91	1.9
Cadmium		0.038	U	0.038	0.19
Calcium		75100	X	13.1	46.6
Chromium		10.8		0.054	0.19
Cobalt		4.6		0.093	0.93
Copper		15.4		0.20	0.93
Iron		15200	X	3.5	4.7
Lead		7.2		0.25	0.47
Magnesium		4250	X	3.4	18.6
Manganese		215		0.093	0.93
Molybdenum		0.79	B M	0.24	1.9
Nickel		7.4	X	0.11	3.7
Potassium		1010		38.2	280
Selenium		0.96		0.80	0.93
Silicon		163		5.3	9.3
Silver		0.15	U	0.15	0.19
Sodium		580	M	55.0	112
Vanadium		40.1		0.088	1.9
Zinc		71.0	X N	0.37	0.93

6010B TCLP Metals (ICP)-TCLP

Method:	6010B	Analysis Batch: 280-59748		Instrument ID:	MT_026
Preparation:	3010A	Prep Batch: 280-59513		Lab File ID:	26b032811.asc
Dilution:	1.0	Leachate Batch: 280-59211		Initial Weight/Volume:	10 mL
Date Analyzed:	03/28/2011 2258			Final Weight/Volume:	50 mL
Date Prepared:	03/28/2011 1530				
Date Leached:	03/24/2011 1845				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Arsenic		0.022	U	0.022	0.50
Barium		0.99	B	0.0020	1.0
Cadmium		0.0020	U	0.0020	0.10
Chromium		0.0030	U	0.0030	0.50
Lead		0.013	U	0.013	0.50
Selenium		0.028	B	0.024	0.10
Silver		0.0040	U	0.0040	0.50

7470A TCLP Mercury-TCLP

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Client Sample ID: **J1FL25**

Lab Sample ID: 280-13803-1
Client Matrix: Solid

Date Sampled: 03/22/2011 0845
Date Received: 03/23/2011 0930

7470A TCLP Mercury-TCLP

Method:	7470A	Analysis Batch: 280-59796		Instrument ID:	MT_033
Preparation:	7470A	Prep Batch: 280-59575		Lab File ID:	110329AB.txt
Dilution:	1.0	Leachate Batch: 280-59211		Initial Weight/Volume:	30 mL
Date Analyzed:	03/29/2011 1108			Final Weight/Volume:	30 mL
Date Prepared:	03/28/2011 1730				
Date Leached:	03/24/2011 1845				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.000030	U	0.000030	0.0020

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-59347		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-59122		Lab File ID:	110324AB.txt
Dilution:	1.0			Initial Weight/Volume:	0.62 g
Date Analyzed:	03/24/2011 1533			Final Weight/Volume:	50 mL
Date Prepared:	03/24/2011 1345				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.058	M N	0.0058	0.018

General Chemistry

Client Sample ID: **J1FL25**

Lab Sample ID: 280-13803-1
Client Matrix: Solid

Date Sampled: 03/22/2011 0845
Date Received: 03/23/2011 0930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	7.5		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-58955 Date Analyzed: 03/23/2011 1237 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-58977					
LCS 280-58977/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-58977/1-A	Method Blank	T	Solid	3050B	
280-13803-1	J1FL25	T	Solid	3050B	
280-13803-1DU	Duplicate	T	Solid	3050B	
280-13803-1MS	Matrix Spike	T	Solid	3050B	
Prep Batch: 280-59122					
LCS 280-59122/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-59122/1-A	Method Blank	T	Solid	7471A	
280-13803-1	J1FL25	T	Solid	7471A	
280-13803-1DU	Duplicate	T	Solid	7471A	
280-13803-1MS	Matrix Spike	T	Solid	7471A	
Prep Batch: 280-59211					
LCS 280-59211/2-B	Lab Control Sample	P	Solid	1311	
LCS 280-59211/2-C	Lab Control Sample	P	Solid	1311	
LB2 280-59211/1-B	TCLP SPLPW Leachate Blank	P	Solid	1311	
LB2 280-59211/1-C	TCLP SPLPW Leachate Blank	P	Solid	1311	
280-13803-1	J1FL25	P	Solid	1311	
280-13803-1DU	Duplicate	P	Solid	1311	
280-13803-1MS	Matrix Spike	P	Solid	1311	
Analysis Batch:280-59302					
LCS 280-58977/2-A	Lab Control Sample	T	Solid	6010B	280-58977
MB 280-58977/1-A	Method Blank	T	Solid	6010B	280-58977
280-13803-1	J1FL25	T	Solid	6010B	280-58977
280-13803-1DU	Duplicate	T	Solid	6010B	280-58977
280-13803-1MS	Matrix Spike	T	Solid	6010B	280-58977
Analysis Batch:280-59347					
LCS 280-59122/2-A	Lab Control Sample	T	Solid	7471A	280-59122
MB 280-59122/1-A	Method Blank	T	Solid	7471A	280-59122
280-13803-1	J1FL25	T	Solid	7471A	280-59122
280-13803-1DU	Duplicate	T	Solid	7471A	280-59122
280-13803-1MS	Matrix Spike	T	Solid	7471A	280-59122
Prep Batch: 280-59513					
LCS 280-59211/2-B	Lab Control Sample	P	Solid	3010A	280-59211
LB2 280-59211/1-B	TCLP SPLPW Leachate Blank	P	Solid	3010A	280-59211
280-13803-1	J1FL25	P	Solid	3010A	280-59211
280-13803-1DU	Duplicate	P	Solid	3010A	280-59211
280-13803-1MS	Matrix Spike	P	Solid	3010A	280-59211

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-59575					
LCS 280-59211/2-C	Lab Control Sample	P	Solid	7470A	280-59211
LB2 280-59211/1-C	TCLP SPLPW Leachate Blank	P	Solid	7470A	280-59211
280-13803-1	J1FL25	P	Solid	7470A	280-59211
280-13803-1DU	Duplicate	P	Solid	7470A	280-59211
280-13803-1MS	Matrix Spike	P	Solid	7470A	280-59211
Analysis Batch:280-59748					
LCS 280-59211/2-B	Lab Control Sample	P	Solid	6010B	280-59513
LB2 280-59211/1-B	TCLP SPLPW Leachate Blank	P	Solid	6010B	280-59513
280-13803-1	J1FL25	P	Solid	6010B	280-59513
280-13803-1DU	Duplicate	P	Solid	6010B	280-59513
280-13803-1MS	Matrix Spike	P	Solid	6010B	280-59513
Analysis Batch:280-59796					
LCS 280-59211/2-C	Lab Control Sample	P	Solid	7470A	280-59575
LB2 280-59211/1-C	TCLP SPLPW Leachate Blank	P	Solid	7470A	280-59575
280-13803-1	J1FL25	P	Solid	7470A	280-59575
280-13803-1DU	Duplicate	P	Solid	7470A	280-59575
280-13803-1MS	Matrix Spike	P	Solid	7470A	280-59575

Report Basis
P = TCLP
T = Total

General Chemistry

Analysis Batch:280-58955					
280-13803-1	J1FL25	T	Solid	D-2216	
280-13803-1DU	Duplicate	T	Solid	D-2216	

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Method Blank - Batch: 280-58977

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 280-58977/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1654
Date Prepared: 03/24/2011 0830

Analysis Batch: 280-59302
Prep Batch: 280-58977
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.305	B	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	5.44		3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Lab Control Sample - Batch: 280-58977

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-58977/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1656
Date Prepared: 03/24/2011 0830

Analysis Batch: 280-59302
Prep Batch: 280-58977
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	189.3	95	82 - 116	
Antimony	50.0	47.72	95	82 - 110	
Arsenic	100	93.46	93	85 - 110	
Barium	200	196.0	98	87 - 112	
Beryllium	5.00	4.83	97	84 - 114	
Boron	100	94.77	95	81 - 110	
Cadmium	10.0	9.53	95	87 - 110	
Calcium	5000	4847	97	82 - 114	
Chromium	20.0	19.55	98	84 - 114	
Cobalt	50.0	48.12	96	87 - 110	
Copper	25.0	24.71	99	88 - 110	
Iron	100	98.04	98	87 - 120	
Lead	50.0	47.11	94	86 - 110	
Magnesium	5000	4821	96	90 - 110	
Manganese	50.0	48.16	96	88 - 110	
Molybdenum	100	96.24	96	86 - 110	
Nickel	50.0	48.03	96	87 - 110	
Potassium	5000	4983	100	89 - 110	
Selenium	200	185.4	93	83 - 110	
Silicon	1000	223.4	22	10 - 70	
Silver	5.00	4.95	99	87 - 114	
Sodium	5000	4810	96	90 - 112	
Vanadium	50.0	49.04	98	88 - 110	
Zinc	50.0	48.01	96	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Matrix Spike - Batch: 280-58977

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-13803-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1707
Date Prepared: 03/24/2011 0830

Analysis Batch: 280-59302
Prep Batch: 280-58977
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: N/A
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	8270		210	8422	73	50 - 200	4
Antimony	0.53	B	52.5	27.82	52	20 - 200	
Arsenic	5.3		105	97.95	88	76 - 111	
Barium	108		210	330.3	106	52 - 159	
Beryllium	0.031	U	5.25	4.54	86	72 - 105	
Boron	4.8		105	92.61	84	75 - 107	
Cadmium	0.038	U	10.5	9.24	88	40 - 130	
Calcium	75100		5250	78160	58	43 - 165	4
Chromium	10.8		21.0	28.35	84	70 - 200	
Cobalt	4.6		52.5	49.39	85	72 - 106	
Copper	15.4		26.2	43.97	109	37 - 187	
Iron	15200		105	15870	658	70 - 200	4
Lead	7.2		52.5	48.60	79	70 - 200	
Magnesium	4250		5250	8878	88	64 - 145	
Manganese	215		52.5	441.4	431	40 - 200	4
Molybdenum	0.79	B	105	90.72	86	75 - 103	
Nickel	7.4		52.5	52.05	85	61 - 126	
Potassium	1010		5250	6106	97	56 - 172	
Selenium	0.96		210	178.9	85	76 - 104	
Silicon	163		1050	395.3	22	20 - 200	
Silver	0.15	U	5.25	4.99	95	75 - 141	
Sodium	580		5250	5531	94	78 - 111	
Vanadium	40.1		52.5	93.54	102	50 - 169	
Zinc	71.0		52.5	107.3	69	70 - 200	N

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Duplicate - Batch: 280-58977

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-13803-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1704
Date Prepared: 03/24/2011 0830

Analysis Batch: 280-59302
Prep Batch: 280-58977
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: N/A
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	8270		6748	20	40	
Antimony	0.53	B	0.41	NC	40	U
Arsenic	5.3		3.81	33	30	M
Barium	108		94.57	13	30	
Beryllium	0.031	U	0.035	NC	30	U
Boron	4.8		3.49	32	30	M
Cadmium	0.038	U	0.044	NC	30	U
Calcium	75100		56030	29	30	
Chromium	10.8		8.55	23	40	
Cobalt	4.6		5.06	9	30	
Copper	15.4		15.77	2	30	
Iron	15200		16860	10	40	
Lead	7.2		6.62	9	40	
Magnesium	4250		3801	11	30	
Manganese	215		223.4	4	40	
Molybdenum	0.79	B	0.375	71	30	B M
Nickel	7.4		5.94	22	30	
Potassium	1010		888.7	12	40	
Selenium	0.96		0.92	NC	30	U
Silicon	163		167.7	3	40	
Silver	0.15	U	0.17	NC	30	U
Sodium	580		418.7	32	30	M
Vanadium	40.1		45.65	13	30	
Zinc	71.0		63.08	12	40	

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

TCLP SPLPW Leachate Blank - Batch: 280-59513

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LB2 280-59211/1-B	Analysis Batch:	280-59748	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-59513	Lab File ID:	26b032811.asc
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	10 mL
Date Analyzed:	03/28/2011 2253			Final Weight/Volume:	50 mL
Date Prepared:	03/28/2011 1530				
Date Leached:	03/24/2011 1845	Leachate Batch:	280-59211		

Analyte	Result	Qual	MDL	RL
Arsenic	0.022	U	0.022	0.50
Barium	0.0020	U	0.0020	1.0
Cadmium	0.0020	U	0.0020	0.10
Chromium	0.0030	U	0.0030	0.50
Lead	0.013	U	0.013	0.50
Selenium	0.024	U	0.024	0.10
Silver	0.0040	U	0.0040	0.50

Lab Control Sample - Batch: 280-59513

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LCS 280-59211/2-B	Analysis Batch:	280-59748	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-59513	Lab File ID:	26b032811.asc
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	10 mL
Date Analyzed:	03/28/2011 2256			Final Weight/Volume:	50 mL
Date Prepared:	03/28/2011 1530				
Date Leached:	03/24/2011 1845	Leachate Batch:	280-59211		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	4.00	3.60	90	80 - 120	
Barium	12.0	11.37	95	80 - 120	
Cadmium	1.10	1.06	96	80 - 120	
Chromium	5.20	4.98	96	80 - 120	
Lead	5.50	5.19	94	80 - 120	
Selenium	3.00	2.68	89	80 - 120	
Silver	1.05	0.999	95	80 - 120	

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Matrix Spike - Batch: 280-59513

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID: 280-13803-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/28/2011 2303
Date Prepared: 03/28/2011 1530
Date Leached: 03/24/2011 1845

Analysis Batch: 280-59748
Prep Batch: 280-59513
Units: mg/L

Leachate Batch: 280-59211

Instrument ID: MT_026
Lab File ID: 26b032811.asc
Initial Weight/Volume: 10 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	0.022	U	4.00	4.04	101	80 - 120	
Barium	0.99	B	12.0	13.36	103	80 - 120	
Cadmium	0.0020	U	1.10	1.16	105	80 - 120	
Chromium	0.0030	U	5.20	5.34	103	80 - 120	
Lead	0.013	U	5.50	5.43	99	80 - 120	
Selenium	0.028	B	3.00	3.00	99	80 - 120	
Silver	0.0040	U	1.05	1.11	105	80 - 120	

Duplicate - Batch: 280-59513

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID: 280-13803-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/28/2011 2305
Date Prepared: 03/28/2011 1530
Date Leached: 03/24/2011 1845

Analysis Batch: 280-59748
Prep Batch: 280-59513
Units: mg/L

Leachate Batch: 280-59211

Instrument ID: MT_026
Lab File ID: 26b032811.asc
Initial Weight/Volume: 10 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Arsenic	0.022	U	0.022	NC	20	U
Barium	0.99	B	0.883	11	20	B
Cadmium	0.0020	U	0.0020	NC	20	U
Chromium	0.0030	U	0.0030	NC	20	U
Lead	0.013	U	0.013	NC	20	U
Selenium	0.028	B	0.0248	10	20	B
Silver	0.0040	U	0.0040	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

TCLP SPLPW Leachate Blank - Batch: 280-59575

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LB2 280-59211/1-C	Analysis Batch:	280-59796	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59575	Lab File ID:	110329AB.txt
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	30 mL
Date Analyzed:	03/29/2011 1103			Final Weight/Volume:	30 mL
Date Prepared:	03/28/2011 1730				
Date Leached:	03/24/2011 1845	Leachate Batch:	280-59211		

Analyte	Result	Qual	MDL	RL
Mercury	0.000030	U	0.000030	0.0020

Lab Control Sample - Batch: 280-59575

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LCS 280-59211/2-C	Analysis Batch:	280-59796	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59575	Lab File ID:	110329AB.txt
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	30 mL
Date Analyzed:	03/29/2011 1223			Final Weight/Volume:	30 mL
Date Prepared:	03/28/2011 1730				
Date Leached:	03/24/2011 1845	Leachate Batch:	280-59211		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00500	0.00542	108	90 - 116	

Matrix Spike - Batch: 280-59575

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	280-13803-1	Analysis Batch:	280-59796	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59575	Lab File ID:	110329AB.txt
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	30 mL
Date Analyzed:	03/29/2011 1113			Final Weight/Volume:	30 mL
Date Prepared:	03/28/2011 1730				
Date Leached:	03/24/2011 1845	Leachate Batch:	280-59211		

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.000030	U	0.00500	0.00533	107	90 - 116	

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Duplicate - Batch: 280-59575

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	280-13803-1	Analysis Batch:	280-59796	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59575	Lab File ID:	110329AB.txt
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	30 mL
Date Analyzed:	03/29/2011 1110			Final Weight/Volume:	30 mL
Date Prepared:	03/28/2011 1730				
Date Leached:	03/24/2011 1845	Leachate Batch:	280-59211		

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.000030	U	0.000030	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Method Blank - Batch: 280-59122

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 280-59122/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1528
Date Prepared: 03/24/2011 1345

Analysis Batch: 280-59347
Prep Batch: 280-59122
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 110324AB.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-59122

Method: 7471A
Preparation: 7471A

Lab Sample ID: LCS 280-59122/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1531
Date Prepared: 03/24/2011 1345

Analysis Batch: 280-59347
Prep Batch: 280-59122
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 110324AB.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.403	97	87 - 111	

Matrix Spike - Batch: 280-59122

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-13803-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 03/24/2011 1538
Date Prepared: 03/24/2011 1345

Analysis Batch: 280-59347
Prep Batch: 280-59122
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 110324AB.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.058	0.451	0.590	118	87 - 111	N

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Duplicate - Batch: 280-59122

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-13803-1	Analysis Batch:	280-59347	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-59122	Lab File ID:	110324AB.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.68 g
Date Analyzed:	03/24/2011 1535			Final Weight/Volume:	50 mL
Date Prepared:	03/24/2011 1345				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.058	0.0843	37	20	M

Client: Washington Closure Hanford

Job Number: 280-13803-1
Sdg Number: JP0130

Duplicate - Batch: 280-58955

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-13803-1	Analysis Batch:	280-58955	Instrument ID:	No Equipment Assigned
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Units:	%	Initial Weight/Volume:	
Date Analyzed:	03/23/2011 1237			Final Weight/Volume:	
Date Prepared:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	7.5	7.5	0.4	20	

36 oc 3034 12

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-073-121	Page 1 of 1

Collector: Blankenship	Company Contact: Don Woolery	Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH
Price Code: ~~9L~~ 9B	Data Turnaround: ~~21~~ 7 Days		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Other Quick	Sampling Location: 100-D-50:6 Concrete Pads		SAF No.: RC-073
Ice Chest No.: TA-001	Field Logbook No.: EL-1607-10	COA: R00D502000	Method of Shipment: FED EX
Shipped To: TestAmerica Incorporated, ~~Richland~~ DENVER	Offsite Property No.: NA		Bill of Lading/Air Bill No.: 7945 6111 6456

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	Cool 4C	None	Cool 4C	None	None	None	None	None		
Type of Container	G/P	G	G/P	G/P	G/P	G/P	G/P	G/P		
No. of Container(s)	1	1	1	1	0	0	0	1		
Volume	60mL	125mL	60mL	500mL	500mL	500mL	500mL	60g		
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Chromium Hex - 7196	See item (3) in Special Instructions.	Gross Alpha & Gross Beta	Nickel-63; Strontium-89/90 - Total Sr	Total Uranium	RCF GEA Shipping Screen		
Sample No.	Matrix *	Sample Date	Sample Time								
J1FL25	OTHER	3/22/11	0845	✓	✓						

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MATT BLANKENSHIP	3-22-11 0900	Received By/Stored In: J.R. Bridgeman	0900 3/22/11
Relinquished By/Removed From: J.R. Bridgeman	1010 3/22/11	Received By/Stored In: J.R. Edmundson	3-22-11 1010
Relinquished By/Removed From: J.R. Edmundson	3-22-11 1210	Received By/Stored In: J.E. Bertel	1210 3-22-11
Relinquished By/Removed From: J.E. Bertel	1230 3-22-11	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In: [illegible]	3/23/11 0930
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}
(2) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470 {Mercury}
(3) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

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

REVIEWED BY AJ
DATE 3-22-11

JP0130

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

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Project 28002142 -60 10 TR -3.1

Analytical Due:

Report Due: 3/30/11 (Rush 5 day TAT)

Sample Check-in List

Date/Time Received: 3/23/11 930 GM Screen Result 13 microR/hr

Client: Washington Closure Hanford SDG #: JP0130 NA[ ] SAF #: RC-073 NA [ ]

Job Number: 13803 Chain of Custody # RC-073-121

Shipping Container ID: TA-001 Air Bill # 7945 6111 6456

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

Sample Custodian: [signature] Date: 3/23/11

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ___ by ___ Person Contacted ___

[ ] No action necessary; process as is.

Project Manager [signature] Date 3/24/11

LS-023, Rev. 7, 1/08

From: (509) 375-4640 Origin ID: PSCA
WCH MAILROOM
WASHINGTON CLOSURE HANFORD
2620 FERMI AVE

RICHLAND, WA 99354

FedEx. Express

J11151102250225

Ship Date: 22MAR11
ActWgt: 11.0 LB
CAD: 8897843/INET3130

Delivery Address Bar Code

Ref #
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0100 BILL SENDER

Sample Recieving
Test America Denver
4955 YARROW ST

ARVADA, CO 80002

WED - 23 MAR A1
PRIORITY OVERNIGHT

TRK# 0201 7945 6111 6456

XH WHHA

80002
CO-US
DEN

50DG2/8DD9/7EFB

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.