0095570

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

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 4/20/11
INITIAL/DATE

COMMENTS:

SDG JP0151 SAF RC-074

☑ Rad only Chem only Rad & Chem

☑ Complete Partial

Waste Site: 118-D-3 (100D-AN-07-048)

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EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains 32 ***Pages***

Report No.: 46175

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.
JP0151	RC-074	J1H054	J1D050563-1	MGKM71AD	9MGKM710	1095330
		J1H054	J1D050563-1	MGKM71AA	9MGKM710	1095335
		J1H054	J1D050563-1	MGKM71AC	9MGKM710	1095336

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

April 12, 2011

Attention: Joan Kessner

SAF Number	:	RC-074
Date SDG Closed	:	April 5, 2011
Number of Samples	:	One (1)
Sample Type	:	Other
SDG Number	:	JP0151
Data Deliverable	:	7– Day / Summary

CASE NARRATIVE

I. Introduction

On April 5, 2011, one soil sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1H054	MGKM7	OTHER	4/5/11

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
Gamma Spectroscopy
Gamma Spec by method RL-GAM-001

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 (J1H054) results are within contractual requirements.

Gross Beta by method RL-GPC-001 :
The LCS, batch blank, sample and sample duplicate (J1H054) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec by method RL-GAM-001 :
The CRDL was not met on some analytes due to reduced count time. The count time was reduced to meet the priority turn around time. Except as noted, the LCS, batch blank, sample and sample duplicate (J1H054) 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 Retari
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

Date: 12-Apr-11

TestAmerica TARL

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

Report No. : 46175

SDG No: JP0151

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1095330 GAMMA_GS									
J1H054									
	MGKM71AD	AG-108M	-2.65E-02 +- 3.6E-02	U	pCi/g		5.87E-02		
		AMERICIUM 241	1.58E-02 +- 1.1E-01	U	pCi/g		1.84E-01		
		CO-60	6.07E-02 +- 5.6E-02	U	pCi/g		1.10E-01	5.00E-02	
		CS-137	5.48E-01 +- 1.2E-01		pCi/g		8.01E-02	1.00E-01	
		EU-152	4.61E-02 +- 1.1E-01	U	pCi/g		1.90E-01	1.00E-01	
		EU-154	1.33E-01 +- 1.6E-01	U	pCi/g		3.02E-01	1.00E-01	
		EU-155	-1.63E-02 +- 8.7E-02	U	pCi/g		1.50E-01	1.00E-01	
J1H054 DUP									
	MGKM71AE	AG-108M	2.24E-02 +- 4.4E-02	U	pCi/g		7.85E-02		-2358.2
		AMERICIUM 241	-1.64E-02 +- 5.7E-02	U	pCi/g		9.72E-02		-11779.8
		CO-60	1.56E-01 +- 7.4E-02	U	pCi/g		1.38E-01	5.00E-02	88.1
		CS-137	7.02E-01 +- 1.4E-01		pCi/g		8.97E-02	1.00E-01	24.6
		EU-152	-1.16E-02 +- 1.4E-01	U	pCi/g		2.29E-01	1.00E-01	334.2
		EU-154	5.44E-01 +- 2.1E-01	U	pCi/g		4.34E-01	1.00E-01	121.5
		EU-155	7.68E-02 +- 9.4E-02	U	pCi/g		1.64E-01	1.00E-01	307.7
1095335 9310_ALPHABETA_GPC									
J1H054									
	MGKM71AA	ALPHA	3.04E+00 +- 2.7E+00	U	pCi/g	100%	4.30E+00	1.00E+01	
J1H054 DUP									
	MGKM71AF	ALPHA	3.50E+00 +- 3.2E+00	U	pCi/g	100%	5.30E+00	1.00E+01	14.2
1095336 9310_ALPHABETA_GPC									
J1H054									
	MGKM71AC	BETA	2.64E+01 +- 4.6E+01	U	pCi/g	100%	5.10E+00	1.50E+01	
J1H054 DUP									
	MGKM71AG	BETA	2.26E+01 +- 3.9E+01	U	pCi/g	100%	4.77E+00	1.50E+01	15.5

No. of Results: 18

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: 12-Apr-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 46175

SDG No.: JP0151

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
GAMMA_GS								
1095330 BLANK QC,								
MGKTE1AA	AG-108M	8.35E-03 +- 3.5E-02	U	pCi/g				6.34E-02
	AMERICIUM 241	3.18E-02 +- 1.0E-01	U	pCi/g				1.78E-01
	CO-60	-1.56E-02 +- 3.5E-02	U	pCi/g				6.03E-02
	CS-137	-1.47E-02 +- 4.6E-02	U	pCi/g				7.99E-02
	EU-152	-4.88E-02 +- 1.2E-01	U	pCi/g				1.94E-01
	EU-154	-1.11E-01 +- 1.4E-01	U	pCi/g				2.18E-01
	EU-155	1.96E-02 +- 8.1E-02	U	pCi/g				1.43E-01
1095330 LCS,								
MGKTE1AC	AMERICIUM 241	4.31E+01 +- 5.2E+00		pCi/g		107%	0.1	5.42E-01
	CO-60	1.77E+01 +- 3.6E+00		pCi/g		91%	-0.1	1.40E-01
	CS-137	4.53E+01 +- 6.3E+00		pCi/g		103%	0.0	1.97E-01
9310_ALPHABETA_GPC								
1095335 BLANK QC,								
MGKTP1AA	ALPHA	-8.69E-01 +- 7.4E-01	U	pCi/g	100%			2.86E+00
1095335 LCS,								
MGKTP1AC	ALPHA	8.38E+01 +- 1.9E+01		pCi/g	100%	92%	-0.1	2.76E+00
9310_ALPHABETA_GPC								
1095336 BLANK QC,								
MGKTQ1AA	BETA	1.01E-02 +- 1.5E+00	U	pCi/g	100%			3.67E+00
1095336 LCS,								
MGKTQ1AC	BETA	6.22E+01 +- 1.1E+02	U	pCi/g	100%	91%	-0.1	3.49E+00

No. of Results: 14

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.

FORM I

SAMPLE RESULTS

Date: 12-Apr-11

Lab Name:	TestAmerica	**SDG:**	JP0151	**Collection Date:**	3/31/2011 10:10:00 AM
Lot-Sample No.:	J1D050563-1	**Report No. :**	46175	**Received Date:**	4/5/2011 11:30:00 AM
Client Sample ID:	J1H054	**COC No. :**	RC-074-215	**Matrix:**	0THER

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: 1095330	GAMMA_GS			**Work Order:** MGKM71AD			**Report DB ID:** 9MGKM710					
AG-108M	***-2.65E-02***	U	3.6E-02	3.6E-02	5.87E-02	pCi/g		*-0.45*	4/8/11 12:20 p		58.9	GER7$1
								-(1.5)			g	
AMERICIUM 241	***1.58E-02***	U	1.1E-01	1.1E-01	1.84E-01	pCi/g		*0.09*	4/8/11 12:20 p		58.9	GER7$1
								0.29			g	
CO-60	***6.07E-02***	U	5.6E-02	5.6E-02	1.10E-01	pCi/g		*0.55*	4/8/11 12:20 p		58.9	GER7$1
							5.00E-02	*(2.2)*			g	
CS-137	***5.48E-01***		1.2E-01	1.2E-01	8.01E-02	pCi/g		*(6.9)*	4/8/11 12:20 p		58.9	GER7$1
							1.00E-01	*(9.3)*			g	
EU-152	***4.61E-02***	U	1.1E-01	1.1E-01	1.90E-01	pCi/g		*0.24*	4/8/11 12:20 p		58.9	GER7$1
							1.00E-01	*0.8*			g	
EU-154	***1.33E-01***	U	1.6E-01	1.6E-01	3.02E-01	pCi/g		*0.44*	4/8/11 12:20 p		58.9	GER7$1
							1.00E-01	*(1.7)*			g	
EU-155	***-1.63E-02***	U	8.7E-02	8.7E-02	1.50E-01	pCi/g		*-0.11*	4/8/11 12:20 p		58.9	GER7$1
							1.00E-01	*-0.37*			g	
Batch: 1095335	9310_ALPHABETA_GPC			**Work Order:** MGKM71AA			**Report DB ID:** 9MGKM710					
ALPHA	***3.04E+00***	U	2.7E+00	2.7E+00	4.30E+00	pCi/g	100%	*0.71*	4/11/11 01:30 a		0.0507	GPC10A
						1.62E+00	1.00E+01	*(2.2)*			g	
Batch: 1095336	9310_ALPHABETA_GPC			**Work Order:** MGKM71AC			**Report DB ID:** 9MGKM710					
BETA	***2.64E+01***	U	4.2E+00	4.6E+01	5.10E+00	pCi/g	100%	*(5.2)*	4/8/11 04:48 p		0.2003	GPC26A
						2.38E+00	1.50E+01	*(1.1)*			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.

FORM I

SAMPLE RESULTS

Date: 12-Apr-11

Lab Name:	TestAmerica	SDG:	JP0151	Collection Date:	3/31/2011 10:10:00 AM
Lot-Sample No.:	J1D050563-1	Report No. :	46175	Received Date:	4/5/2011 11:30:00 AM
Client Sample ID:	J1H054	COC No. :	RC-074-215	Matrix:	OTHER

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

No. of Results: 9 Comments:

TestAmerica
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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: 12-Apr-11

Lab Name:	TestAmerica	SDG:	JP0151	Collection Date:	3/31/2011 10:10:00 AM
Lot-Sample No.:	J1D050563-1	Report No. :	46175	Received Date:	4/5/2011 11:30:00 AM
Client Sample ID:	J1H054	COC No. :	RC-074-215	Matrix:	0THER

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: 12-Apr-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	JP0151	**Collection Date:**	3/31/2011 10:10:00 AM
Lot-Sample No.:	J1D050563-1	**Report No. :**	46175	**Received Date:**	4/5/2011 11:30:00 AM
Client Sample ID:	J1H054 DUP	**COC No. :**	RC-074-215	**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: 1095330	GAMMA_GS			**Work Order:** MGKM71AE		**Report DB ID:** MGKM71ER			**Orig Sa DB ID:** 9MGKM710			
AG-108M	2.24E-02	U	4.4E-02	4.4E-02	7.85E-02	pCi/g		0.29	4/9/11 06:08 a		63.2	GER14$1
	-2.65E-02	U	**RPD**	**-2358.2**				(1.)			g	
AMERICIUM 241	-1.64E-02	U	5.7E-02	5.7E-02	9.72E-02	pCi/g		-0.17	4/9/11 06:08 a		63.2	GER14$1
	1.58E-02	U	**RPD**	**-11779.8**				-0.57			g	
CO-60	1.56E-01	U	7.4E-02	7.4E-02	1.38E-01	pCi/g		(1.1)	4/9/11 06:08 a		63.2	GER14$1
	6.07E-02	U	**RPD**	**88.1**		5.00E-02		(4.2)			g	
CS-137	7.02E-01		1.4E-01	1.4E-01	8.97E-02	pCi/g		(7.8)	4/9/11 06:08 a		63.2	GER14$1
	5.48E-01		**RPD**	**24.6**		1.00E-01		(10.)			g	
EU-152	-1.16E-02	U	1.4E-01	1.4E-01	2.29E-01	pCi/g		-0.05	4/9/11 06:08 a		63.2	GER14$1
	4.61E-02	U	**RPD**	**334.2**		1.00E-01		-0.17			g	
EU-154	5.44E-01	U	2.1E-01	2.1E-01	4.34E-01	pCi/g		(1.3)	4/9/11 06:08 a		63.2	GER14$1
	1.33E-01	U	**RPD**	**121.5**		1.00E-01		(5.1)			g	
EU-155	7.68E-02	U	9.4E-02	9.4E-02	1.64E-01	pCi/g		0.47	4/9/11 06:08 a		63.2	GER14$1
	-1.63E-02	U	**RPD**	**307.7**		1.00E-01		(1.6)			g	
Batch: 1095335	9310_ALPHABETA_GPC			**Work Order:** MGKM71AF		**Report DB ID:** MGKM71FR			**Orig Sa DB ID:** 9MGKM710			
ALPHA	3.50E+00	U	3.1E+00	3.2E+00	5.30E+00	pCi/g	100%	0.66	4/11/11 01:30 a		0.0506	GPC10B
	3.04E+00	U	**RPD**	**14.2**		1.00E+01		(2.2)			g	
Batch: 1095336	9310_ALPHABETA_GPC			**Work Order:** MGKM71AG		**Report DB ID:** MGKM71GR			**Orig Sa DB ID:** 9MGKM710			
BETA	2.26E+01	U	3.9E+00	3.9E+01	4.77E+00	pCi/g	100%	(4.7)	4/8/11 04:48 p		0.2005	GPC26B
	2.64E+01	U	**RPD**	**15.5**		1.50E+01		(1.1)			g	

TestAmerica
rptSTLRchDupV5.2
.12 A2002

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

FORM II

Date: 12-Apr-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	JP0151	Collection Date:	3/31/2011 10:10:00 AM
Lot-Sample No.:	J1D050563-1	Report No. :	46175	Received Date:	4/5/2011 11:30:00 AM
Client Sample ID:	J1H054 DUP	COC No. :	RC-074-215	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

No. of Results: 9 Comments:

TestAmerica
rptSTLRchDupV5.2
.12 A2002

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

FORM II

BLANK RESULTS

Date: 12-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0151

Report No. : 46175

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: 1095330	GAMMA_GS			**Work Order:**	MGKTE1AA		**Report DB ID:**	MGKTE1AB				
AG-108M	8.35E-03	U	3.5E-02	3.5E-02	6.34E-02	pCi/g		0.13	4/8/11 03:57 p		52.0	GER7$1
								0.47			g	
AMERICIUM 241	3.18E-02	U	1.0E-01	1.0E-01	1.78E-01	pCi/g		0.18	4/8/11 03:57 p		52.0	GER7$1
								0.62			g	
CO-60	-1.56E-02	U	3.5E-02	3.5E-02	6.03E-02	pCi/g		-0.26	4/8/11 03:57 p		52.0	GER7$1
						5.00E-02		-0.9			g	
CS-137	-1.47E-02	U	4.6E-02	4.6E-02	7.99E-02	pCi/g		-0.18	4/8/11 03:57 p		52.0	GER7$1
						1.00E-01		-0.63			g	
EU-152	-4.88E-02	U	1.2E-01	1.2E-01	1.94E-01	pCi/g		-0.25	4/8/11 03:57 p		52.0	GER7$1
						1.00E-01		-0.83			g	
EU-154	-1.11E-01	U	1.4E-01	1.4E-01	2.18E-01	pCi/g		-0.51	4/8/11 03:57 p		52.0	GER7$1
						1.00E-01		-(1.6)			g	
EU-155	1.96E-02	U	8.1E-02	8.1E-02	1.43E-01	pCi/g		0.14	4/8/11 03:57 p		52.0	GER7$1
						1.00E-01		0.49			g	
Batch: 1095335	9310_ALPHABETA_GPC			**Work Order:**	MGKTP1AA		**Report DB ID:**	MGKTP1AB				
ALPHA	-8.69E-01	U	7.2E-01	7.4E-01	2.86E+00	pCi/g	100%	-0.3	4/11/11 01:30 a		0.0506	GPC10C
					1.16E+00	1.00E+01		-(2.4)			g	
Batch: 1095336	9310_ALPHABETA_GPC			**Work Order:**	MGKTQ1AA		**Report DB ID:**	MGKTQ1AB				
BETA	1.01E-02	U	1.5E+00	1.5E+00	3.67E+00	pCi/g	100%	0.	4/8/11 04:48 p		0.2008	GPC26C
					1.70E+00	1.50E+01		0.01			g	

No. of Results: 9 **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: 12-Apr-11

Lab Name: TestAmerica
Matrix: OTHER

SDG: JP0151
Report No. : 46175

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: 1095330	GAMMA_GS			**Work Order:** MGKTE1AC			**Report DB ID:**	MGKTE1CS					
AMERICIUM 241	4.31E+01		5.2E+00	5.2E+00	5.42E-01	pCi/g		4.02E+01	5.7E-03	107%	4/8/11 07:25 p	54.514	GER7$1
							Rec Limits:	70	130	0.1		g	
CO-60	1.77E+01		3.6E+00	3.6E+00	1.40E-01	pCi/g		1.96E+01	2.8E-03	91%	4/8/11 07:25 p	54.514	GER7$1
							Rec Limits:	70	130	-0.1		g	
CS-137	4.53E+01		6.3E+00	6.3E+00	1.97E-01	pCi/g		4.39E+01	6.2E-03	103%	4/8/11 07:25 p	54.514	GER7$1
							Rec Limits:	70	130	0.0		g	
Batch: 1095335	9310_ALPHABETA_GPC			**Work Order:** MGKTP1AC			**Report DB ID:**	MGKTP1CS					
ALPHA	8.38E+01		8.3E+00	1.9E+01	2.76E+00	pCi/g	100%	9.14E+01	9.2E-01	92%	4/11/11 01:30 a	0.0507	GPC10D
							Rec Limits:	70	130	-0.1		g	
Batch: 1095336	9310_ALPHABETA_GPC			**Work Order:** MGKTQ1AC			**Report DB ID:**	MGKTQ1CS					
BETA	6.22E+01	U	5.1E+00	1.1E+02	3.49E+00	pCi/g	100%	6.81E+01	2.6E+00	91%	4/8/11 04:48 p	0.2001	GPC26D
							Rec Limits:	70	130	-0.1		g	

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

TestAmerica
rptSTLRchLcs
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
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/12/2011 8:57:58 AM

Lot No., Due Date: J1D050563; 04/12/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1095335; RALPHA-A Alpha by GPC-Am
SDG, Matrix: JP0151; SOIL

1.0 COC

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

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes	No	N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A

5.0 Other

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

6.0 Comments on any No response:

First Level Lisa Antosh Date 4/12/11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1095335

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: [signature] Date: 4/8/14

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/11/2011 3:26:55 PM

Lot No., Due Date: J1D050563; 04/12/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1095336; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: JP0151; SOIL

1.0 COC

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

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes ✓	No	N/A
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A

5.0 Other

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

6.0 Comments on any No response:

First Level John Mostes Date 4-11-11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 10953336

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: [signature] Date: 4/12/11

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/12/2011 9:44:40 AM

Lot No., Due Date: J1D050563; 04/12/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1095330; RGAMMA Gamma by GER
SDG, Matrix: JP0151; SOIL

1.0 COC

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

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?	Yes	No ✓	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes	No ✓	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes	No ✓	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes	No ✓	N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes	No	N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes ✓	No	N/A
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A

5.0 Other

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

6.0 Comments on any No response:
NCM 10-18026

First Level Lisa Gustafson Date 4/12/11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1095330

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
SCL NCM #: 10-18026

Second Level Review: [signature] Date: 4/12/11

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

Clouseau
Nonconformance Memo

TestAmerica

NCM #:	10-18026		
NCM Initiated By:	Lisa Antonson	Classification:	Anomaly
Date Opened:	04/12/2011	Status:	PMREVIEW
Date Closed:		Production Area:	Counting
		Tests:	Gamma by GER
		Lot #'s (Sample #'s):	J1D050000 (330), J1D050563 (1),
		QC Batches:	1095330,
Nonconformance:	MDA not met		
Subcategory:	Data accepted		

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/12/2011	CRDL not met for all samples due to reduced count time based on Priority processing.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/12/2011	Data accepted.

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: 4/12/2011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-074-215	Page 1 of 1
Collector: M Blankingship / Lucas	Company Contact: J Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ JRD 8B 3/31/11 — Data Turnaround: ~~21~~ 7 Days
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location: 118-D-3 (100D-AN-07-048)		SAF No.: RC-074	
Ice Chest No.: NA	Field Logbook No.: EL-1657	COA: R118D32~~000~~ 600 JRD 3/28/11	Method of Shipment: HAND DELIVER	
Shipped To: TestAmerica Incorporated, Richland RCF JEB 4-5-11	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Radioactive < DOT Limits JEB 4-5-11

Special Handling and/or Storage

~~Cool 4 Deg C~~ JRD 3/31/11 NONE

Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None
Type of Container	G/P	G	G/P	G	aG	aG	aG	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	~~1~~ JRD 3/31/11	1
Volume	60mL	60mL	60mL	60mL	60mL	60mL	125mL	~~500mL~~ 1000mL JRD 3/31/11	60mL	~~60g~~ 1000mL JRD 3/31/11
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	IC Anions - 9056 Modified; NO2/NO3 - 353.1; pH (Soil) - 9045 JRD 3/28/11	Total Cyanide - 9010; Sulfides - 9030	Semi-VOA - 8270A (TCL)	PCBs - 8082	TCLP Semi-VOA - 1311/8270A	See item (3) in Special Instructions.	Gross Alpha & Gross Beta	RCF GEA Shipping Screen JEB 4-5-11

Sample No.	Matrix *	Sample Date	Sample Time	RCF									
J1H054	SOIL	3/31/11	1010	27485	3 cfg		(MGKMT)				✓	✓	✓

J1D050563

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
K. Lucas Kenneth Lucas	3-31-11 1200	JR DeBuigne JR DeBuigne	1200 3/31/11
JR DeBuigne JR DeBuigne	1710 3/31/11	J. E. Bethel	1710 3-31-11
J. E. Bethel WCH	0945 4-4-11	Mike Rook RCF	4-4-11 / 0945
Mike Rook RCF	4-4-11 / 1355	J. E. Bethel	1355 4-4-11
J. E. Bethel WCH	1136 4-5-11	TALR	1130 4/5/11

SPECIAL INSTRUCTIONS

~~Screen for oxidizer by Spilfyter test strip~~ JRD 3/31/11

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) 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, Silver-108 metastable}

J1D050563 WCH.

REVIEWED BY [signature] DATE 4-5-11

JP0151 Dill. 4.12.11 TALR

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

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

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

7 Day TAT

Sample Check-in List

TAC Date/Time Received: 4.5.11 @ 1130 GM Screen Result (out) .3 (in) .5 Initials [✓]

Client: WCH SDG #: JP0151 NA [ ] SAF #: RC-074 NA [ ]

Work Order Number: J1D050563 Chain of Custody # RC-074-215

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 @ 1 Container
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓] LP.
8. Samples have:
   - [✓] tape
   - [✓] custody seals
   - [✓] hazard labels
   - [✓] appropriate sample labels

   J1D050563
9. Samples:
   - [✓] are in good condition (8°C)
   - ____ are broken
   - ____ are leaking
   - ____ 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 [X] WR

See other side for additional comments

Sample Custodian: [signature] Date: 4.5.11 @ 1130 TAC

Client Informed on _____ by _____ Person contacted _____

[X] No action necessary; process as is WR

Project Manager Whitney Ritari Date 4/5/11

LS-023, Rev. 12, 10/10

4/8/2011 12:24:22 PM

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: 04/12/2011

Sep1 DT/Tm Tech:

Batch: 1095335 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BaughB

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 MGKM7-1-AA J1D050563-1-SAMP 03/31/2011 10:10		0.0507g,in AmtRec: 1XLP	#Containers: 1	1.5	50.7	100	1UA	0771	4/11/11 S	Scr: Alpha: Beta:
2 MGKM7-1-AF-X J1D050563-1-DUP 03/31/2011 10:10		0.0506g,in AmtRec: 1XLP	#Containers: 1		50.6		1UB			Scr: Alpha: Beta:
3 MGKTP-1-AA-B J1D050000-335-BLK 04/05/2011 16:14 pd		0.0506g,in AmtRec:	#Containers: 1		1.3918g 1.3910g 0.8mg		1UC			Scr: Alpha: Beta:
4 MGKTP-1-AC-C J1D050000-335-LCS 04/05/2011 16:14 pd		0.0507g,in AmtRec:	ASD5091 01/25/11,pd 04/04/05,r #Containers: 1		1.3882g 1.3870g 1.2mg		1UD			Scr: Alpha: Beta:

Comments:

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

MGKM71AA-SAMP Constituent List:

ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:

MGKTP1AA-BLK:

ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:

MGKTP1AC-LCS:

Am-241	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

MGKM71AA-SAMP Calc Info:

TestAmerica Laboratories, Inc.

4/8/2011 12:24:23 PM

Sample Preparation/Analysis

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

Balance Id:1117411003

Pipet #: _____

AnalyDueDate: 04/12/2011

Sep1 DT/Tm Tech:

Batch: 1095335 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BaughB

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:

```
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MGKTP1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MGKTP1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```


TestAmerica Laboratories, Inc.

4/12/2011 8:57:25 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/12/2010, 4/17/2011, Batch: '1095335', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1095335						
AC		Rev1C	SannohS	4/7/2011 8:38:10 AM		
SC			mcginnlst	IsBatched	4/5/2011 4:32:45 PM	ICOC_RADCALC v4.8.49
SC			SannohS	Prep1C	4/7/2011 8:38:10 AM	RL-PRP-003 REVISION 1
SC			BaughB	InPrep	4/8/2011 12:22:55 PM	RL-PRP-004 REVISION 1
SC			BaughB	Prep2C	4/8/2011 1:10:27 PM	RL-GPC-007 REVISION 1
SC			BlackCL	InCnt1	4/8/2011 1:31:04 PM	RL-CI-006 REVISION 1
SC			BlackCL	CalcC	4/11/2011 8:16:11 AM	RL-CI-006 REVISION 1
SC			antonsonl	Rev1C	4/12/2011 8:57:20 AM	RL-DR-001 Rev 2
AC			BaughB	4/8/2011 12:22:55 PM		
AC			BaughB	4/8/2011 1:10:27 PM		
AC			BlackCL	4/8/2011 1:31:04 PM		
AC			BlackCL	4/11/2011 8:16:11		
AC			antonsonl	4/12/2011 8:57:20		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 6

ICOCFractions v4.8.44

TestAmerica Laboratories, Inc.

4/8/2011 12:26:20 PM

Sample Preparation/Analysis

Balance Id:1117411003

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

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

Pipet #: _____

AnalyDueDate: 04/12/2011

Sep1 DT/Tm Tech:

Batch: 1095336 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BaughB

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 MGKM7-1-AC J1D050563-1-SAMP 03/31/2011 10:10		0.2003g,in AmtRec: 1XLP	#Containers: 1	1.5	200.3	50	26A Scr:	1712 Alpha:	4/8/11 CR Beta:	
2 MGKM7-1-AG-X J1D050563-1-DUP 03/31/2011 10:10		0.2005g,in AmtRec: 1XLP	#Containers: 1		200.5		26B Scr:	Alpha:	Beta:	
3 MGKTQ-1-AA-B J1D050000-336-BLK 04/05/2011 16:14 pd		0.2008g,in AmtRec:	#Containers: 1		1.3889g 1.3888g 0.1mg		26C Scr:	Alpha:	Beta:	
4 MGKTQ-1-AC-C J1D050000-336-LCS 04/05/2011 16:14 pd		0.2001g,in AmtRec:	BESD1718 03/31/11,pd 10/01/01 r #Containers: 1		1.3927g 1.3926g 0.1mg		26D Scr:	Alpha:	Beta:	

Comments:

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

MGKM71AC-SAMP Constituent List:

BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
MGKTQ1AA-BLK:					
BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
MGKTQ1AC-LCS:					
Sr-90	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

MGKM71AC-SAMP Calc Info:

4/8/2011 12:26:20 PM

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: 04/12/2011

Sep1 DT/Tm Tech:

Batch: 1095336 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BaughB

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:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MGKTQ1AA-BLK:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MGKTQ1AC-LCS:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

4/11/2011 3:26:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/11/2010, 4/16/2011, Batch: '1095336', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1095336						
AC		Rev1C	SannohS	4/7/2011 8:39:47 AM		
SC			mcginnlst	IsBatched	4/5/2011 4:32:48 PM	ICOC_RADCALC v4.8.49
SC			SannohS	Prep1C	4/7/2011 8:39:47 AM	RL-PRP-003 REVISION 1
SC			BaughB	InPrep	4/8/2011 12:25:19 PM	RL-PRP-004 REVISION 1
SC			BaughB	Prep2C	4/8/2011 1:11:03 PM	RL-GPC-007 REVISION 1
SC			BlackCL	InCnt1	4/8/2011 1:31:21 PM	RL-CI-006 REVISION 1
SC			DawkinsO	CalcC	4/8/2011 10:37:39 PM	RL-CI-006 REVISION 1
SC			nortonj	Rev1C	4/11/2011 3:25:58 PM	RL-DR-001 Rev 2
AC			BaughB	4/8/2011 12:25:19 PM		
AC			BaughB	4/8/2011 1:11:03 PM		
AC			BlackCL	4/8/2011 1:31:21 PM		
AC			DawkinsO	4/8/2011 10:37:39 PM		
AC			nortonj	4/11/2011 3:25:58 PM		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

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TRLSP. NCB

4/7/2011 8:57:08 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

Pipet #:

AnalyDueDate: 04/12/2011

Sep1 DT/Tm Tech:

Batch: 1095330 SOIL pCi/g PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,SannohS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MGKM7-1-AD J1D050563-1-SAMP 03/31/2011 10:10			58.90g,in AmtRec: 1XLP	58.90g #Containers: 1		S25	200min	07	1540	4/8/11 S	
								Scr:	Alpha:	Beta:	
2 MGKM7-1-AE-X J1D050563-1-DUP 03/31/2011 10:10			63.20g,in AmtRec: 1XLP	63.20g #Containers: 1				04	0920	4/8/11	
								Scr:	Alpha:	Beta:	
3 MGKTE-1-AA-B J1D050000-330-BLK 04/05/2011 16:14 pd			52.00g,in AmtRec:	52.00g #Containers: 1				G7	1917	4/8/11 0920	
								Scr:	Alpha:	Beta:	
4 MGKTE-1-AC-C J1D050000-330-LCS 04/05/2011 16:14 pd			54.514g,in AmtRec:	54.514g #Containers: 1	cal5446 05/19/05,pd 06/08/05,r			G7	2245	4/8/11 0920	
								Scr:	Alpha:	Beta:	

Comments:

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

MGKM71AD-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:

MGKTE1AA-BLK:

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

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4/7/2011 8:57:09 AM

Sample Preparation/Analysis

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

Balance Id:1120421763,1120373922

Pipet #: _____

AnalyDueDate: 04/12/2011

Sep1 DT/Tm Tech:

Batch: 1095330 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,SannohS

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

Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
MGKTE1AC-LCS:											
Cs-137	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35	Cs-137DA	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
K-40	RDL:--	pCi/g	LCL:70	UCL:130	RPD:35	Ra-226	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
RA-228	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35	RA-228DA	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35
U-238	RDL:	pCi/g	LCL:70	UCL:130	RPD:35						

MGKM71AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MGKTE1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MGKTE1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

4/12/2011 9:42:59 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/12/2010, 4/17/2011, Batch: '1095330', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1095330						
AC		Rev1C	SannohS	4/7/2011 8:17:48 AM		
SC			mcginnist	IsBatched	4/5/2011 4:32:41 PM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	4/7/2011 8:17:48 AM	RL-GAM-001 REVISION 1
SC			ClarkR	InCnt1	4/7/2011 9:26:16 AM	RL-CI-007 REVISION 1
SC			BlackCL	CalcC	4/9/2011 2:49:12 PM	RL-CI-007 REVISION 1
SC			antonsonl	Rev1C	4/12/2011 9:42:48 AM	RL-DR-001 Rev 2
AC			ClarkR	4/7/2011 9:26:16 AM		
AC			BlackCL	4/9/2011 2:49:12 PM		
AC			antonsonl	4/12/2011 9:42:48		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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ICOCFractions v4.8.44