

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

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt

H4-21

KW 8/18/11
INITIAL/DATE

COMMENTS:

SDG J01213

SAF RC-073

Rad only

Chem only

Rad & Chem

Complete

Partial

Waste Site: 118-D-3 (drum 100D-07-6533)

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 31 Pages

Report No.: 47968

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.
J01213	RC-073	J1KN10	J1H040465-1	MLEHG1AD	9MLEHG10	1217090
		J1KN10	J1H040465-1	MLEHG1AA	9MLEHG10	1217091
		J1KN10	J1H040465-1	MLEHG1AC	9MLEHG10	1217092

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

August 17, 2011

Attention: Joan Kessner

SAF Number : RC-073
Date SDG Closed : August 3, 2011
Number of Samples : One (1)
Sample Type : Other
SDG Number : J01213
Data Deliverable : 15- Day / Summary

CASE NARRATIVE

I. Introduction

On August 3, 2011 one 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:

<u>WCH ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
J1KN10	MLEHG	OTHER	8/3/11

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

Washington Closure Hanford
August 17, 2011

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 (J1KN10) results are within contractual requirements.

Gross Beta by method RL-GPC-001:

The LCS, batch blank, sample and sample duplicate (J1KN10) results are within contractual requirements.

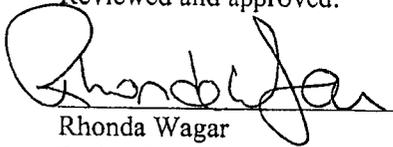
Gamma Spectroscopy

Gamma Spec by method RL-GAM-001:

The CRDL was not met for some of the analytes. Except as noted, the LCS, batch blank, sample and sample duplicate (J1KN10) results are within contractual requirements.

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

Reviewed and approved:



Rhonda Wagar
Project Manager

Drinking Water Method Cross References

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

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

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,\dots)$. 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/\sqrt{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 $(\text{Result}/\text{Expected})-1$ 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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 = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ 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: 17-Aug-11

TestAmerica TARL

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

Report No. : 47968

SDG No: J01213

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1217090 GAMMA_GS									
J1KN10									
	MLEHG1AD	AMERICIUM 241	-7.43E-02 +- 6.1E-01	U	pCi/g		1.03E+00		
		CO-60	-5.35E-02 +- 1.8E-01	U	pCi/g		3.13E-01	5.00E-02	
		CS-137	8.38E-02 +- 2.0E-01	U	pCi/g		3.63E-01	1.00E-01	
		EU-152	1.45E-01 +- 5.1E-01	U	pCi/g		8.99E-01	1.00E-01	
		EU-154	8.73E-02 +- 5.7E-01	U	pCi/g		1.06E+00	1.00E-01	
		EU-155	-2.50E-01 +- 4.9E-01	U	pCi/g		8.12E-01	1.00E-01	
J1KN10 DUP									
	MLEHG1AE	AMERICIUM 241	9.30E-02 +- 6.1E-01	U	pCi/g		1.12E+00		1786.6
		CO-60	6.67E-02 +- 1.8E-01	U	pCi/g		3.40E-01	5.00E-02	1823.4
		CS-137	3.64E-02 +- 1.7E-01	U	pCi/g		3.15E-01	1.00E-01	79.0
		EU-152	8.89E-02 +- 3.3E-01	U	pCi/g		5.96E-01	1.00E-01	48.0
		EU-154	-1.25E-01 +- 5.0E-01	U	pCi/g		8.98E-01	1.00E-01	-1134.5
		EU-155	2.64E-01 +- 2.8E-01	U	pCi/g		5.50E-01	1.00E-01	7129.6
1217091 9310_ALPHABETA_GPC									
J1KN10									
	MLEHG1AA	ALPHA	5.09E-02 +- 4.5E-02	U	pCi/g	100%	6.53E-02	1.00E+01	
J1KN10 DUP									
	MLEHG1AF	ALPHA	2.28E-02 +- 3.8E-02	U	pCi/g	100%	6.34E-02	1.00E+01	76.2
1217092 9310_ALPHABETA_GPC									
J1KN10									
	MLEHG1AC	BETA	5.70E-02 +- 4.7E-02	U	pCi/g	100%	8.87E-02	1.50E+01	
J1KN10 DUP									
	MLEHG1AG	BETA	3.47E-02 +- 4.4E-02	U	pCi/g	100%	8.52E-02	1.50E+01	48.7
No. of Results: 16									

TestAmerica
rptSTLRchSaSum
mary2 V5.2.15
A2002

RPD - Relative Percent Difference.

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

QC Results Summary

Date: 17-Aug-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 47968

SDG No.: J01213

Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
GAMMA_GS									
1217090 BLANK QC,									
	MLFFD1AA	AMERICIUM 241	2.55E-02 +/- 1.8E-02	U	pCi/g				4.04E-02
		CO-60	1.23E-03 +/- 2.2E-02	U	pCi/g				4.16E-02
		CS-137	-1.30E-02 +/- 2.2E-02	U	pCi/g				3.66E-02
		EU-152	1.12E-02 +/- 5.4E-02	U	pCi/g				9.79E-02
		EU-154	1.04E-02 +/- 5.9E-02	U	pCi/g				1.12E-01
		EU-155	1.93E-03 +/- 3.6E-02	U	pCi/g				6.41E-02
1217090 LCS,									
	MLFFD1AC	CS-137	1.08E+00 +/- 1.5E-01		pCi/g		105%	0.1	3.79E-02
9310_ALPHABETA_GPC									
1217091 BLANK QC,									
	MLFFF1AA	ALPHA	7.67E-05 +/- 1.2E-04	U	pCi/g	100%			1.88E-04
1217091 LCS,									
	MLFFF1AC	ALPHA	1.97E-02 +/- 4.3E-03		pCi/g	100%	86%	-0.1	5.07E-04
9310_ALPHABETA_GPC									
1217092 BLANK QC,									
	MLFFH1AA	BETA	6.91E-05 +/- 8.2E-04	U	pCi/g	100%			1.68E-03
1217092 LCS,									
	MLFFH1AC	BETA	2.39E-02 +/- 3.6E-03		pCi/g	100%	104%	0.0	1.88E-03
No. of Results: 11									

TestAmerica

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

rptSTLRchQcSummary V5.2.15

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.

A2002

FORM I

Date: 17-Aug-11

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J1H040465-1
 Client Sample ID: J1KN10

SDG: J01213
 Report No.: 47968
 COC No.: RC-073-195

Collection Date: 8/1/2011 10:08:00 AM
 Received Date: 8/3/2011 1:10:00 PM
 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: 1217090 GAMMA_GS												
AMERICIUM 241	-7.43E-02	U	6.1E-01	6.1E-01	1.03E+00	pCi/g	9MLEHG10	-0.07	8/10/11 08:26 p	18.6642	18.6642	GER10S1
CO-60	-5.35E-02	U	1.8E-01	1.8E-01	3.13E-01	pCi/g		-0.24		9	9	
CS-137	8.38E-02	U	2.0E-01	2.0E-01	3.63E-01	pCi/g	5.00E-02	-0.17	8/10/11 08:26 p	18.6642	18.6642	GER10S1
EU-152	1.45E-01	U	5.1E-01	5.1E-01	8.99E-01	pCi/g	1.00E-01	-0.61	8/10/11 08:26 p	18.6642	18.6642	GER10S1
EU-154	8.73E-02	U	5.7E-01	5.7E-01	1.06E+00	pCi/g	1.00E-01	0.23	8/10/11 08:26 p	9	9	
EU-155	-2.50E-01	U	4.9E-01	4.9E-01	8.12E-01	pCi/g	1.00E-01	0.84	8/10/11 08:26 p	18.6642	18.6642	GER10S1
Batch: 1217091 9310_ALPHA_BETA_GPC												
ALPHA	5.09E-02	U	4.4E-02	4.5E-02	6.53E-02	pCi/g	100%	0.78	8/16/11 07:28 p	109.36	2.38313	GPC10B
Batch: 1217092 9310_ALPHA_BETA_GPC												
BETA	5.70E-02	U	4.7E-02	4.7E-02	8.87E-02	pCi/g	100%	0.64	8/16/11 04:04 p	109.36	4.42159	GPC31B
No. of Results: 8 Comments:												

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample 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.
 V5.2.15 A2002

FORM II

Date: 17-Aug-11

DUPLICATE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J1H040465-1
 Client Sample ID: J1KN10 DUP
 SDG: J01213
 Report No.: 47968
 COC No.: RC-073-195
 Collection Date: 8/1/2011 10:08:00 AM
 Received Date: 8/3/2011 1:10:00 PM
 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: 1217090	Work Order: MLEHG1AE Report DB ID: MLEHG1ER Orig Sa DB ID: 9MLEHG10											
AMERICIUM 241	GAMMA_GS	U	6.1E-01	6.1E-01	1.12E+00	pCi/g		0.08	8/10/11 05:50 p	18.66	18.66	GER11\$1
		U	RPD 1786.6					0.3		g		
CO-60		U	1.8E-01	1.8E-01	3.40E-01	pCi/g		0.2	8/10/11 05:50 p	18.66	18.66	GER11\$1
		U	RPD 1823.4					0.76		g		
CS-137		U	1.7E-01	1.7E-01	3.15E-01	pCi/g		0.12	8/10/11 05:50 p	18.66	18.66	GER11\$1
		U	RPD 79.0					0.42		g		
EU-152		U	3.3E-01	3.3E-01	5.96E-01	pCi/g		0.15	8/10/11 05:50 p	18.66	18.66	GER11\$1
		U	RPD 48.0					0.54		g		
EU-154		U	5.0E-01	5.0E-01	8.98E-01	pCi/g		-0.14	8/10/11 05:50 p	18.66	18.66	GER11\$1
		U	RPD -1134.5					-0.5		g		
EU-155		U	2.8E-01	2.8E-01	5.50E-01	pCi/g		0.48	8/10/11 05:50 p	18.66	18.66	GER11\$1
		U	RPD 7129.6					(1.9)		g		

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: 1217091	Work Order: MLEHG1AF Report DB ID: MLEHG1FR Orig Sa DB ID: 9MLEHG10											
ALPHA	9310_ALPHABETA_GPC	U	3.7E-02	3.8E-02	6.34E-02	pCi/g	100%	0.36	8/16/11 07:28 p	109.36	2.3142	GPC10C
		U	RPD 76.2					(1.2)		g		

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: 1217092	Work Order: MLEHG1AG Report DB ID: MLEHG1GR Orig Sa DB ID: 9MLEHG10											
BETA	9310_ALPHABETA_GPC	U	4.4E-02	4.4E-02	8.52E-02	pCi/g	100%	0.41	8/16/11 04:04 p	109.36	4.95336	GPC31C
		U	RPD 48.7					(1.6)		g		

No. of Results: 8 Comments:

TestAmerica RPD - Relative Percent Difference
 rpt\$TLRchDupV5.2 MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 .15 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.

FORM II

BLANK RESULTS

Date: 17-Aug-11

Lab Name: TestAmerica
Matrix: OTHER

SDG: J01213
Report No.: 47968

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1217090 AMERICIUM 241												
Work Order: MLFFD1AA Report DB ID: MLFFD1AB												
CO-60	2.55E-02	U	1.8E-02	1.8E-02	4.04E-02	pCi/g	0.63	8/10/11 05:51 p	8/10/11 05:51 p	200.01	200.01	GER15\$1
CS-137	1.23E-03	U	2.2E-02	2.2E-02	4.16E-02	pCi/g	(2.8)	0.03	8/10/11 05:51 p	200.01	g	GER15\$1
EU-152	-1.30E-02	U	2.2E-02	2.2E-02	3.66E-02	pCi/g	0.11	-0.35	8/10/11 05:51 p	200.01	g	GER15\$1
EU-154	1.12E-02	U	5.4E-02	5.4E-02	9.79E-02	pCi/g	0.11	-(1.2)	8/10/11 05:51 p	200.01	g	GER15\$1
EU-155	1.04E-02	U	5.9E-02	5.9E-02	1.12E-01	pCi/g	0.41	0.09	8/10/11 05:51 p	200.01	g	GER15\$1
	1.93E-03	U	3.6E-02	3.6E-02	6.41E-02	pCi/g	0.36	0.03	8/10/11 05:51 p	200.01	g	GER15\$1
							0.11					
Batch: 1217091 ALPHA												
Work Order: MLFF1AA Report DB ID: MLFF1AB												
BETA	7.67E-05	U	1.1E-04	1.2E-04	1.88E-04	pCi/g	100%	0.41	8/16/11 07:28 p	199.6	199.6	GPC10A
					5.95E-05	1.00E+01	(1.3)			g	g	
Batch: 1217092 BETA												
Work Order: MLFFH1AA Report DB ID: MLFFH1AB												
	6.91E-05	U	8.2E-04	8.2E-04	1.68E-03	pCi/g	100%	0.04	8/16/11 04:04 p	200.8	200.8	GPC31D
					8.06E-04	1.50E+01	0.17			g	g	
No. of Results: 8 Comments:												

TestAmerica MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchIBlank 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.
 V5.2.15 A2002

FORM II

Date: 17-Aug-11

LCS RESULTS

Lab Name: TestAmerica

SDG: J01213

Matrix: OTHER

Report No.: 47968

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: 1217090													
	GAMMA_GS				MLFFD1AC								
CS-137	1.08E+00		1.5E-01	1.5E-01	3.79E-02	pCi/g		1.02E+00	2.1E-02	105%	8/10/11 07:22 p	200.03	GER13\$1
							Rec Limits:	70	130	0.1		g	
Batch: 1217091													
	9310_ALPHABETA_GPC				MLFFF1AC								
ALPHA	1.97E-02		1.5E-03	4.3E-03	5.07E-04	pCi/g	100%	2.28E-02	2.3E-04	86%	8/16/11 07:28 p	199.5	GPC10D
							Rec Limits:	70	130	-0.1		g	
Batch: 1217092													
	9310_ALPHABETA_GPC				MLFFH1AC								
BETA	2.39E-02		1.8E-03	3.6E-03	1.88E-03	pCi/g	100%	2.30E-02	8.9E-04	104%	8/16/11 04:05 p	200.6	GPC32A
							Rec Limits:	70	130	0.0		g	

No. of Results: 3 Comments:

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

rptSTLRchLcs
V5.2.15 A2002

Lot No., Due Date: J1H040465; 08/18/2011
 Client, Site: 127642; S00X235B00 HANFORD
 QC Batch No., Method Test: 1217091; RALPHA-A Alpha by GPC-Am
 SDG, Matrix: J01213; OTHER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, datos, 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 V. [Signature]* Date 8-17-11

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1217091

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: CEDC = 10.0 pCi/g

Second Level Review: Rondhjar Date: 8/17/11

Lot No., Due Date: J1H040465; 08/18/2011
 Client, Site: 127642; S00X235B00 HANFORD
 QC Batch No., Method Test: 1217092; RBETA-SR Beta by GPC-Sr/Y
 SDG, Matrix: J01213; 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: Yes No N/A

First Level John Vester Date 8-17-11

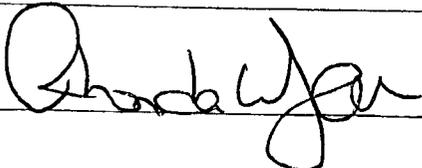


Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 1217912

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: QCDL = 15.0 pCi/g

Second Level Review:  Date: 8/17/11

Lot No., Due Date: J1H040465; 08/18/2011
 Client, Site: 127642; S00X235B00 HANFORD
 QC Batch No., Method Test: 1217090; RGAMMA Gamma by GER
 SDG, Matrix: J01213; 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:
 Please see NCM # 10-18978

First Level *John Voth* Date 8-11-11

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1217090

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: CPD = 0.1 per kg
See Non # 10-189-78

Second Level Review: [Signature] Date: 8/11/11

Clouseau Nonconformance Memo



NCM #: 10-18978 NCM Initiated By: John Norton Date Opened: 08/11/2011 Date Closed:	Classification: Anomaly Status: PMREVIEW Production Area: Environmental - Prep Tests: Gamma by GER Lot #'s (Sample #'s): J1H040465 (1), J1H050000 (90), QC Batches: 1217090,
Nonconformance: MDA not met Subcategory: Data accepted	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
John Norton	08/11/2011	These samples did not meet the CRDL.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
John Norton	08/11/2011	Due to the priority nature of the sampels the data will be presented to the client, the sampels can be re-counted at client request.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
			This section not yet completed by QA.

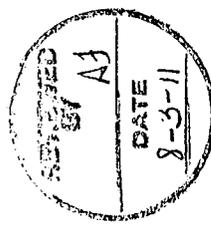
Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
----------------------	--------------------	-----------------

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-073-195		Page 1 of 1	
Collector K Lucas	Company Contact Joan Kessner	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9X 8/14	Data Turnaround 21 Days 8/1/11		
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Other Quick	Sampling Location 118-D-3 (drum 100D-07-6533)	Field Logbook No. EL-1657	SAF No. RC-073	Method of Shipment Hand Deliver			
Ice Chest No. NA	Offsite Property No. NA	COA R118D32600	Bill of Lading/Air Bill No. NA				
Shipped To TestAmerica Incorporated, Richland		POSSIBLE SAMPLE HAZARDS/REMARKS Radioactive < dot limits 8-3-11 CMG					
Special Handling and/or Storage None		SAMPLE ANALYSIS					
Quote # 27038	SRB # JD1213	J1H040465					
LOT # J1H040465	Report # 8/18/11	RCF					
Sample No.	Matrix *	Sample Date	Sample Time	Preservation	None	None	None
J1K110	OTHER	8/1/11	1008	Type of Container 1	G/P	G/P	G/P
				No. of Container(s) 500mL	1	1	1
				Volume	500mL	60mL	60mL
				See item (1) in Special Instructions.	RCF GFA	RCF GFA	RCF GFA
CHAIN OF POSSESSION							
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Signal/Print Names			
K Lucas	8-1-11	JP DeVigne	8/1/11	Date/Time 1520			
JP DeVigne	1520	D Newman	8/1/11	Date/Time 1646			
D Newman	8/1/11	Secure Cooler	8/1/11	Date/Time 1735			
Secure Cooler	1735	A. K. Reddy	8/1/11	Date/Time 0820			
A. K. Reddy	0820	WCH	8-2-11	Date/Time 1310			
WCH	8-2-11	WCH	8-3-11	Date/Time 1310			
WCH	8-3-11	WCH	8-3-11	Date/Time 1310			
LABORATORY SECTION		Received By		Title			
FINAL SAMPLE DISPOSITION		Disposal Method		Date/Time			
WCH-EE-011		Received by		Date/Time			
Relinquished by		Received by		Date/Time			
D. G. T. C. & B. K. WCH		WCH		8-3-11			
Relinquished by		Received by		Date/Time			
A. K. Reddy		WCH		8-3-11			

SPECIAL INSTRUCTIONS
Trauship from RCF to TARL.

(1) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155)



WCH-EE-011
Relinquished by
D. G. T. C. & B. K. WCH 8-3-11
Received by
A. K. Reddy WCH 8-3-11



Analysis Report for RCF29703

J1KN10 SAF:RC-073 100D/118-D-3 (Drum 100D-07-6533) 500ml wide

DOT
NON-REG

GAMMA SPECTRUM ANALYSIS

Sample Identification : RCF29703
 Sample Description : J1KN10 SAF:RC-073 100D/118-D-3 (Drum 100D-07-6533) 500ml wide
 Sample Type : Non Standard Geometry

 Sample Size : 1.050E+02 grams
 Facility : Default

 Sample Taken On : 8/1/2011 10:08:00AM
 Acquisition Started : 8/2/2011 5:05:49PM

 Procedure : Non Standard Geometry
 Operator : RCT
 Detector Name : REGIE2
 Geometry : Non Standard Geometry
 Live Time : 3600.0 seconds
 Real Time : 3600.3 seconds

 Dead Time : 0.01 %

 Peak Locate Threshold : 3.00
 Peak Locate Range (In channels) : 40 - 4096
 Peak Area Range (In channels) : 40 - 4096
 Identification Energy Tolerance : 1.000 keV

 Energy Calibration Used Done On : 3/11/2011
 Efficiency Calibration Used Done On : 3/16/2011
 Efficiency Calibration Description : REGIE2 NSTD 031511EC SN82751A-238

 Sample Number : 17822

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
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Sample Check-in List

Date/Time Received: 8-3-11 / 11:40 GM Screen Result: (Airlock) 02 Initials [] (Sample Receiving) [] Initials []

Client: WCH SDG #: JD1213 NA [] SAF #: RC-073 NA []

Lot Number: J1H040465

Chain of Custody # RC-073-195

Shipping Container ID: hand deliv. NA []

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

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal []
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal []
3. Cooler temperature: ON ICE SKS 8/5/11 _____ °C NA []
4. Vermiculite/packing materials is NA [] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [] No []
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 1 x 500 mL P

8. Sample holding times exceeded? NA [] Yes [] No []

9. Samples have: _____ tape _____ hazard labels [] custody seals [] appropriate sample labels []

10. Matrix: [] A (FLT, Wipe, Solid, Soil) _____ I (Water) [] S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples: [] are in good condition _____ are leaking [] are broken _____ have air bubbles (Only for samples requiring no head space) [] Other _____

12. Sample pH appropriate for analysis requested Yes [] No [] NA [] (If acidification is necessary, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table overleaf)

RPL ID # of preservative used: N/A

13. Were any anomalies identified in sample receipt? Yes [] No []

14. Description of anomalies (include sample numbers): NA []

8/12/2011 3:37:02 PM
 127642, Washington Closure Hanford LLC
 Bechtel Hanford, Inc.
 AnalyteDueDate: 08/18/2011

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 #: _____
 Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____

Batch: 1217091 OTHER pCi/g
 SEQ Batch, Test: None
 PM, Quote: RW2, 27038
 Prep Tech: WoodT, Loebert, Baughn

Work Order Lot, Sample Date Time	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 MLEHG-1-AA J1H040465-1-SAMP 08/01/2011 10:08	109.36g	24.20g, in					10B	2109	8/16/11	
2 MLEHG-1-AF-X J1H040465-1-DUP 08/01/2011 10:08	109.36g	23.50g, in					10C			
3 MLFFF-1-AA-B J1H050000-91-BLK 08/05/2011 16:23 pd	199.60g, in						10A			
4 MLFFF-1-ACC J1H050000-91-LCS 08/05/2011 16:23 pd	199.50g, in						10D			

Comments: PA < 20 Aliquots removed due to weight screens LL 8/12/11

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

MLEHG1AA-SAMP Constituent List:
 ALPHA RDL: 1.00E+01 pCi/g LCL: UCL: RPD:
 MLFFF1AA-BLK: RDL: 1.00E+01 pCi/g LCL: UCL: RPD:
 ALPHA RDL: 1.00E+01 pCi/g LCL: UCL: RPD:
 Am-241 RDL: UCL: 130 RPD: 35
 MLEHG1AA-SAMP Calc Info:

8/12/2011 3:37:02 PM

Sample Preparation/Analysis

Balance Id:1117411003

AY Gross Alpha Prp PRP003/GPC007

S7 Gross Alpha by GPC using Am-241 curve

51 CLIENT: HANFORD

AnalysDueDate: 08/18/2011

Batch: 1217091

SEQ Batch, Test: None

pCi/g

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,LoeberL

Work Order, Lot, Sample Date/Time	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:
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Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MLFF1AA-BLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MLFF1AC-LCS: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

8/17/2011 9:14:52 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/17/2010, 8/22/2011, Batch: '1217091', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
1217091				
AC	Rev1C	WoodT	8/8/2011 6:02:30 PM	
SC		MaucierS	IsBatched	8/5/2011 4:24:20 PM
SC		WoodT	InPrep	8/8/2011 6:02:30 PM
SC		WoodT	Prep1C	8/9/2011 1:10:54 AM
SC		LoeberL	InPrep	8/12/2011 3:32:37 PM
SC		LoeberL	Prep1C	8/12/2011 3:52:10 PM
SC		BaughB	InPrep2	8/15/2011 8:30:33 AM
SC		BaughB	Prep2C	8/16/2011 1:54:06 PM
SC		ClarkR	InCnt1	8/16/2011 1:59:50 PM
SC		DawkinsO	CalcC	8/16/2011 11:48:05 PM
SC		nortonj	Rev1C	8/17/2011 9:08:58 AM
AC		WoodT	8/9/2011 1:10:54 AM	ICOC RADCALC v4.8.49
AC		LoeberL	8/12/2011 3:32:37 PM	RL-PRP-004 REVISION 1
AC		LoeberL	8/12/2011 3:52:10 PM	RL-PRP-004 REVISION 1
AC		BaughB	8/15/2011 8:30:33	RL-PRP-004 REVISION 1
AC		BaughB	8/16/2011 1:54:06 PM	RL-GPC-001 REVISION 1
AC		ClarkR	8/16/2011 1:59:50 PM	RL-GPC-001 REVISION 1
AC		DawkinsO	8/16/2011 11:48:05	RL-CI-006 REVISION 1
AC		nortonj	8/17/2011 9:08:58	RL-CI-006 REVISION 1
				RL-DR-001 Rev 2

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

8/12/2011 3:43:09 PM

Sample Preparation/Analysis

Balance Id: 1117411003

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

Pipet #:

Analysis Due Date: 08/18/2011

Sep1 DT/Tm Tech:

Batch: 1217092

pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,LoeberL

Work Order, Lot, Sample Date/Time	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 MLFFH1AA-BLK:	Decay to SaDt: Y	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	Y	ODRs: B				
Uncert Level (#s): 2 MLFFH1AC-LCS:	Decay to SaDt: Y	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	Y	ODRs: B				
Uncert Level (#s): 2	Decay to SaDt: Y	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	Y	ODRs: B				

TestAmerica

Key: In - Initial Amt, f - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Richland Wa.

pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.56

8/17/2011 9:17:22 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/17/2010, 8/22/2011, Batch: '1217092', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
1217092				
AC	Rev1C	WoodT	8/8/2011 6:02:34 PM	
SC		MaucierIS	IsBatched	8/5/2011 4:24:23 PM
SC		WoodT	InPrep	8/8/2011 6:02:34 PM
SC		WoodT	Prep1C	8/9/2011 1:10:50 AM
SC		LoeberL	InPrep	8/12/2011 3:38:47 PM
SC		LoeberL	Prep1C	8/12/2011 3:52:15 PM
SC		BaughB	InPrep2	8/15/2011 8:30:25 AM
SC		BaughB	Prep2C	8/16/2011 1:54:25 PM
SC		ClarkR	InCnt1	8/16/2011 2:01:40 PM
SC		DawkinsO	CalcC	8/16/2011 11:47:33 PM
SC		nortonj	Rev1C	8/17/2011 9:16:35 AM
AC		WoodT	8/9/2011 1:10:50 AM	
AC		LoeberL	8/12/2011 3:38:47 PM	
AC		LoeberL	8/12/2011 3:52:15 PM	
AC		BaughB	8/15/2011 8:30:25	
AC		BaughB	8/16/2011 1:54:25 PM	
AC		ClarkR	8/16/2011 2:01:40 PM	
AC		DawkinsO	8/16/2011 11:47:33	
AC		nortonj	8/17/2011 9:16:35	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Sample Preparation/Analysis

8/9/2011 1:10:26 AM
 127642, Washington Closure Hanford LLC
 Bechtel Hanford, Inc.

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

AnalyteDueDate: 08/18/2011

Batch: 1217090 OTHER pCi/g
 SEQ Batch, Test: None All Tests: 1217090 AXTA, 1217091 AYS7, 1217092 BBS8,
 PM, Quote: RW2, 27038

Balance Id: 1120373922
 Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: WoodT

Comments:

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Ur-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date
1 MLEHG-1-AD J1H040465-1-SAMP 08/01/2011 10:08	109.36g	1110.52g	189.53g, in	18.6642g		200	200	G10	2346	8/10/11 GRS
2 MLEHG-1-AE-X J1H040465-1-DUP 08/01/2011 10:08	109.36g	1110.52g	189.53g, in	18.6642g		200	200	G11	2110	
3 MLFFD-1-AA-B J1H050000-90-BLK 08/05/2011 16:23 pd	200.01g, in	200.01g						G15	2111	
4 MLFFD-1-AC-C J1H050000-90-LCS 08/05/2011 16:23 pd	200.03g, in	200.03g			GSE1674 07/28/11, pd 11/07/03, r			G13	2242	b

Comments:

All Clients for Batch:		Bechtel Hanford, Inc.		RW2, 27038	
MLEHG1AD-SAMP	Constituent List:				
Co-60	RDL:5.00E-02	pCi/g	LCL:		
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:70	LCL:70	RPD:35
Eu-154	RDL:1.00E-01	pCi/g	LCL:	LCL:	RPD:
MLFFD1AA-BLK:					
Co-60	RDL:5.00E-02	pCi/g	LCL:	LCL:	RPD:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	LCL:	RPD:

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
 pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 4
 Prep_SamplePrep v4.8.56

8/9/2011 1:10:28 AM

Sample Preparation/Analysis

Balance Id:1120373922

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

Pipet #:

AnalyDueDate: 08/18/2011

Sep1 DT/Tm Tech:

pCi/g

Batch: 1217090
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Ur-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:	Eu-155	RDL:1.00E-01	Count	pCi/g	LCL:	UCL:	RPD:
MLFFDIAC-LCS:											
CS-137	RDL:0.1	pCi/g	LCL:70	UCL:130	CS-137DA	RDL:0.1	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
K-40	RDL:--	pCi/g	LCL:70	UCL:130	RA-226	RDL:0.1	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
RA-228	RDL:0.2	pCi/g	LCL:70	UCL:130	RA-228DA	RDL:0.2	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35
U-238	RDL:	pCi/g	LCL:70	UCL:130							
MLEHG1AD-SAMP Calc Info:											
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B					
MLFFD1AA-BLK:											
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B					
MLFFDIAC-LCS:											
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B					

8/11/2011 11:36:14 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/11/2010, 8/16/2011, Batch: '1217090', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
1217090				
AC	Rev1C	WoodT	8/8/2011 6:02:47 PM	
SC		MaucleriS	IsBatched	8/5/2011 4:24:17 PM
SC		WoodT	InPrep	8/8/2011 6:02:47 PM
SC		WoodT	Prep1C	8/9/2011 1:10:58 AM
SC		WoodT	InPrep2	8/9/2011 1:11:05 AM
SC		WoodT	Prep2C	8/9/2011 1:11:12 AM
SC		BlackCL	InCnt1	8/9/2011 6:50:11 AM
SC		DawkinsO	CalcC	8/11/2011 12:16:39 AM
SC		nortonj	Rev1C	8/11/2011 11:33:09 AM
AC		WoodT	8/9/2011 1:10:58 AM	
AC		WoodT	8/9/2011 1:11:05 AM	
AC		WoodT	8/9/2011 1:11:12 AM	
AC		BlackCL	8/9/2011 6:50:11 AM	
AC		DawkinsO	8/11/2011 12:16:39	
AC		nortonj	8/11/2011 11:33:09	

ICOC_RADCALC v4.8.49
 RL-PRP-004 REVISION 1
 RL-PRP-004 REVISION 1
 RL-GAM-001 REVISION 1
 RL-GAM-001 REVISION 1
 RL-GAM-001 REVISION 1
 RL-CI-007 REVISION 1
 RL-CI-007 REVISION 1
 RL-DR-001 Rev 2

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
 Richland Wa.