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Analytical Data Package Prepared For

# Fluor Hanford

Radiochemical Analysis By

**TAL Richland TARL**

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

Data Package Contains 88 Pages

Report Nbr: 37692

1

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH	
W05246	S08-010	B1PVX1	J7J090222-1	J8H421AA	9J8H4210	7289528	
		B1PVX3	J7J090222-2	J8H5D1AA	9J8H5D10	7289528	
	108-002	B1PTW7	J7J090227-1	J8H521AC	9J8H5210	7289526	
		B1PTW7	J7J090227-1	J8H521AD	9J8H5210	7289524	
		B1PTW7	J7J090227-1	J8H523AA	9J8H5230	7333585	
		B1PTP4	J7J090227-2	J8H561AC	9J8H5610	7289526	
		B1PTP4	J7J090227-2	J8H561AD	9J8H5610	7289524	
		B1PTP4	J7J090227-2	J8H561AE	9J8H5610	7289528	
	G08-010	S08-010	B1PTP4	J7J090227-2	J8H564AA	9J8H5640	7333585
			B1PTX1	J7J090227-3	J8H6M1AC	9J8H6M10	7289526
			B1PTX1	J7J090227-3	J8H6M1AD	9J8H6M10	7289524
			B1PTX1	J7J090227-3	J8H6M3AA	9J8H6M30	7333585
			B1PPN8	J7J100266-1	J8L601AA	9J8L6010	7289526
			B1PPP0	J7J100266-2	J8L651AA	9J8L6510	7289526
	S08-010	B1PVK0	J7J100281-1	J8L9W1AC	9J8L9W10	7289526	



Comments:

0077512

## Report Nbr: 37692

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH	
W05246	S08-010	B1PVK0	J7J100281-1	J8L9W3AA	9J8L9W30	7333585	
		B1PVK4	J7J100281-2	J8L961AC	9J8L9610	7289526	
		B1PVK4	J7J100281-2	J8L963AA	9J8L9630	7333585	
		B1PVL2	J7J100281-3	J8L991AC	9J8L9910	7289526	
		B1PVL2	J7J100281-3	J8L993AA	9J8L9930	7333585	
		B1PVC9	J7J100281-4	J8MAA1AC	9J8MAA10	7289526	
		B1PVC9	J7J100281-4	J8MAA3AA	9J8MAA30	7333585	
		B1PVH5	J7J100281-5	J8MAD1AC	9J8MAD10	7289526	
		B1PVH5	J7J100281-5	J8MAD1AD	9J8MAD10	7289528	
		B1PVH5	J7J100281-5	J8MAD3AA	9J8MAD30	7333585	
		B1PVW2	J7J100281-6	J8MAF1AC	9J8MAF10	7289526	
		B1PVW2	J7J100281-6	J8MAF3AA	9J8MAF30	7333585	
		A08-010	B1PPK8	J7J110113-1	J8NL91AA	9J8NL910	7289530
			B1PPK2	J7J110113-2	J8NMF1AA	9J8NMF10	7289530
			B1PPJ6	J7J110113-3	J8NMN1AA	9J8NMN10	7289530
			B1PPJ8	J7J110113-4	J8NM01AA	9J8NM010	7289530
B1PPJ4	J7J120216-1		J8T3G1AA	9J8T3G10	7289530		
W08-010	B1PWK4	J7J120218-1	J8T3T1AC	9J8T3T10	7289526		
	B1PWK4	J7J120218-1	J8T3T3AA	9J8T3T30	7333585		
	B1PWL6	J7J120222-1	J8T321AC	9J8T3210	7289526		
	B1PWL6	J7J120222-1	J8T321AD	9J8T3210	7289530		
	B1PWL6	J7J120222-1	J8T323AA	9J8T3230	7333585		

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Comments:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Certificate of Analysis

Fluor Hanford  
1200 Jadwin Ave.  
Richland, WA 99352

December 10, 2007

Attention: Steve Trent

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SAF Number	:	S08-010, I08-002, G08-010, A08-010, W08-010
Date SDG Closed	:	October 11, 2007
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W05246
Data Deliverable	:	45-Day / Summary

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### CASE NARRATIVE

#### I. Introduction

Between October 8, 2007 and October 11, 2007 twenty water samples were received at TestAmerica Laboratories Richland (TALR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B1PVX1	J8H42	10/8/07	WATER
B1PVX3	J8H5D	10/8/07	WATER
B1PTW7	J8H52	10/8/07	WATER
B1PTP4	J8H56	10/8/07	WATER
B1PTX1	J8H6M	10/8/07	WATER
B1PPN8	J8L60	10/9/07	WATER
B1PPP0	J8L65	10/9/07	WATER
B1NVK0	J8L9W	10/9/07	WATER
B1PVK4	J8L96	10/9/07	WATER
B1PVL2	J8L99	10/9/07	WATER
B1PVC9	J8MAA	10/9/07	WATER
B1PVH5	J8MAD	10/9/07	WATER
B1PVW2	J8MAF	10/9/07	WATER

Fluor Hanford  
December 10, 2007

B1PPK8	J8NL9	10/10/07	WATER
B1PPK2	J8NMF	10/10/07	WATER
B1PPJ6	J8NMN	10/10/07	WATER
B1PPJ8	J8NM0	10/10/07	WATER
B1PPJ4	J8T3G	10/10/07	WATER
B1PWK4	J8T3T	10/11/07	WATER
B1PWL6	J8T32	10/11/07	WATER

## II. Sample Receipt

The samples were 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 RICH-RC-5014

Gross Beta by method RICH-RC-5014

Strontium-90 by method RICH-RC-5006

### Gamma Spectroscopy

Iodine-129 (LL) by method RICH-RC-5025

### Liquid Scintillation Counting

Carbon-14 by method RICH-RC-5022

## 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 RICH-RC-5014:

The LCS in the original had a low recovery. A recount confirmed the low recovery. The samples were reanalyzed with acceptable results. Samples B1PTW7, B1PTP4, B1PVK4, B1PVL2, B1PVK0 and B1PVH5 were analyzed with reduced volumes base on high weight screens. Sample B1PTP4 DUP was analyzed with reduced volume due to insufficient sample remaining. Except as noted, the LCS, batch blank, samples and sample duplicate (B1PTP4) results are within contractual requirements.

Fluor Hanford  
December 10, 2007

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Gross Beta by method RICH-RC-5014:

Samples B1PTW7, B1PTX1, B1PPN8, B1PVK4, B1PVL2, B1PVK0, B1PVC9, B1PVH5, and B1PVK0 DUP were analyzed with reduced volumes base on high weight screens. Samples B1PPN8 and B1PVK4 did not meet the CRDL. The results exceed the MDA achieved. Except as noted, the LCS, batch blank, samples and sample duplicate (B1PVK0) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1PVX1) results are within contractual requirements.

**Gamma Spectroscopy**

Iodine-129 (LL) by method RICH-RC-5025:

The LCS, batch blank, samples and sample duplicate (B1PPJ4) results are within contractual requirements.

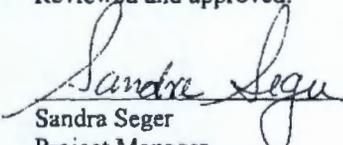
**Liquid Scintillation Counting**

Carbon-14 by method RICH-RC-5022:

The LCS, batch blank, samples and sample duplicate (B1PTW7) 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:

  
Sandra Seger  
Project Manager

### Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

### Uncertainty Estimation

Test America 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,  $R = \text{constants} * f(x,y,z,...)$ . 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

<b>Action Lev</b>	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.
<b>Batch</b>	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
<b>Bias</b>	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or STL Richland.
<b>Count Error (#s)</b>	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.
<b>Total Uncert (#s) <i>u<sub>c</sub> - Combined Uncertainty.</i></b>	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, <i>u<sub>c</sub>, the combined uncertainty.</i> The uncertainty is absolute and in the same units as the result.
<b>(#s), Coverage Factor</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
<b>CRDL (RL)</b>	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
<b>Lc</b>	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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgmdCnt}/\text{BkgmdCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$ . 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.
<b>Lot-Sample No</b>	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.
<b>MDC/MDA</b>	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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgmdCnt}/\text{BkgmdCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$ . For LSC methods the batch blank is used as a measure of the background variability.
<b>Primary Detector</b>	The instrument identifier associated with the analysis of the sample aliquot.
<b>Ratio U-234/U-238</b>	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.
<b>Rst/MDC</b>	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.
<b>Rst/TotUcert</b>	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.
<b>Report DB No</b>	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
<b>RER</b>	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.
<b>SDG</b>	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
<b>Sum Rpt Alpha Spec Rst(s)</b>	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.
<b>Work Order</b>	The LIMS software assign test specific identifier.
<b>Yield</b>	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method

12/10/2007 11:26:41 AM

### TAL Richland Report

Lab Code: TARL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 37692      File Name: h:\Reportdb\edd\Fead\VRad\W05246 Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8H4210	B1PVX1		MW6-SBB-A1	S08-010	W05246					10/08/2007 12:57				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7289528	SR-90	10098-97-2	1.11E-02	pCi/L	2.3E-01	2.3E-01	U	5.17E-01	82.5	SRISO_SEP_PRE	1.0009E+00	L	11/25/2007 06:56	I
9J8H5210	B1PTW7		MW6-SBB-A1	I08-002	W05246					10/08/2007 12:57				
7289526	BETA	12587-47-2	1.06E+01	pCi/L	2.5E+00	2.9E+00		4.00E+00	100.0	9310_ALPHABETA	1.506E-01	L	11/21/2007 13:16	I
7289524	C-14	14762-75-5	8.07E+01	pCi/L	5.6E+00	1.5E+01		8.29E+00	100.0	C14_LSC	2.00E-01	L	11/09/2007 02:58	I
9J8H5230	B1PTW7		MW6-SBB-A1	I08-002	W05246					10/08/2007 12:57				
7333585	ALPHA	12587-46-1	5.20E+00	pCi/L	1.7E+00	2.1E+00		1.56E+00	100.0	9310_ALPHABETA	1.436E-01	L	12/04/2007 19:15	I
9J8H5610	B1PTP4		MW6-SBB-A1	I08-002	W05246					10/08/2007 10:08				
7289526	BETA	12587-47-2	1.26E+01	pCi/L	2.1E+00	2.9E+00		2.80E+00	100.0	9310_ALPHABETA	1.996E-01	L	11/21/2007 13:16	I
7289524	C-14	14762-75-5	5.30E+02	pCi/L	1.2E+01	6.3E+01		8.29E+00	100.0	C14_LSC	2.00E-01	L	11/09/2007 04:23	I
7289528	SR-90	10098-97-2	-8.64E-02	pCi/L	2.0E-01	2.1E-01	U	4.82E-01	76.3	SRISO_SEP_PRE	1.0004E+00	L	11/25/2007 06:56	I
9J8H5640	B1PTP4		MW6-SBB-A1	I08-002	W05246					10/08/2007 10:08				
7333585	ALPHA	12587-46-1	1.44E+00	pCi/L	1.1E+00	1.2E+00		1.30E+00	100.0	9310_ALPHABETA	1.873E-01	L	12/04/2007 20:49	I
9J8H5D10	B1PVX3		MW6-SBB-A1	S08-010	W05246					10/08/2007 11:40				
7289528	SR-90	10098-97-2	-7.42E-02	pCi/L	1.9E-01	2.1E-01	U	4.79E-01	82.4	SRISO_SEP_PRE	1.00E+00	L	11/25/2007 06:56	I

TAL Richland

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

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### TAL Richland Report

Lab Code: IARL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 37692      File Name: h:\Reportdb\ledd\Fead\WRad\W05246.Edd, h:\Reportdb\ledd\Fead\WRad\37692.Edd

Lab Sample Id:	Client Id:	Test User:	Contract Nbr:	SAF Nbr:	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume:	Sample On Date:	Collection Date:				
9J8H6M10	B1PTX1		MW6-SBB-A1	I08-002	W05246					10/08/2007 11:40				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7289526	BETA	12587-47-2	4.14E+00	pCi/L	1.6E+00	1.7E+00		2.89E+00	100.0	9310_ALPHABETA	1.979E-01	L	11/21/2007 13:16	I
7289524	C-14	14762-75-5	3.04E+02	pCi/L	9.3E+00	3.9E+01		8.29E+00	100.0	C14_LSC	2.00E-01	L	11/09/2007 05:05	I
9J8H6M30	B1PTX1		MW6-SBB-A1	I08-002	W05246					10/08/2007 11:40				
7333585	ALPHA	12587-46-1	1.47E+00	pCi/L	1.0E+00	1.1E+00		1.36E+00	100.0	9310_ALPHABETA	1.982E-01	L	12/04/2007 20:49	I
9J8L6010	B1PPN8		MW6-SBB-A1	G08-010	W05246					10/09/2007 11:02				
7289526	BETA	12587-47-2	1.26E+01	pCi/L	2.9E+00	3.3E+00		4.53E+00	100.0	9310_ALPHABETA	1.277E-01	L	11/21/2007 13:16	I
9J8L6510	B1PPPO		MW6-SBB-A1	G08-010	W05246					10/09/2007 11:51				
7289526	BETA	12587-47-2	1.96E+03	pCi/L	2.0E+01	2.5E+02		2.86E+00	100.0	9310_ALPHABETA	2.002E-01	L	11/21/2007 13:16	I
9J8L9610	B1PVK4		MW6-SBB-A1	S08-010	W05246					10/09/2007 11:13				
7289526	BETA	12587-47-2	1.11E+01	pCi/L	2.8E+00	3.1E+00		4.38E+00	100.0	9310_ALPHABETA	1.28E-01	L	11/21/2007 13:16	I
9J8L9630	B1PVK4		MW6-SBB-A1	S08-010	W05246					10/09/2007 11:13				
7333585	ALPHA	12587-46-1	6.22E+00	pCi/L	2.3E+00	2.7E+00		2.26E+00	100.0	9310_ALPHABETA	1.111E-01	L	12/04/2007 19:15	I
9J8L9910	B1PVL2		MW6-SBB-A1	S08-010	W05246					10/09/2007 12:10				
7289526	BETA	12587-47-2	1.26E+01	pCi/L	2.5E+00	3.0E+00		3.74E+00	100.0	9310_ALPHABETA	1.532E-01	L	11/21/2007 13:16	I

12/10/2007 11:26:41 AM

TAL Richland Report

Lab Code: TARL

FormNbr: R    FormatType: FEAD    Version: 05    Rpt Nbr: 37692    File Name: h:\Reportdb\ledd\FeadIV\Rad\W05246.Edd, h:\Reportdb\ledd\FeadIV\Rad\37692.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8L9930	B1PVL2		MW6-SBB-A1	S08-010	W05246					10/09/2007 12:10				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7333585	ALPHA	12587-46-1	1.20E+01	pCi/L	2.8E+00	4.0E+00		1.61E+00	100.0	9310_ALPHABETA	1.419E-01	L	12/04/2007 19:15	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8L9W10	B1PVK0		MW6-SBB-A1	S08-010	W05246					10/09/2007 09:56				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7289526	BETA	12587-47-2	9.49E+00	pCi/L	2.4E+00	2.9E+00		3.83E+00	100.0	9310_ALPHABETA	1.532E-01	L	11/21/2007 13:16	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8L9W30	B1PVK0		MW6-SBB-A1	S08-010	W05246					10/09/2007 09:56				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7333585	ALPHA	12587-46-1	5.97E+00	pCi/L	2.1E+00	2.5E+00		1.50E+00	100.0	9310_ALPHABETA	1.142E-01	L	12/04/2007 19:15	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8MAA10	B1PVC9		MW6-SBB-A1	S08-010	W05246					10/09/2007 08:30				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7289526	BETA	12587-47-2	7.58E+00	pCi/L	1.8E+00	2.0E+00		2.81E+00	100.0	9310_ALPHABETA	1.987E-01	L	11/21/2007 13:16	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8MAA30	B1PVC9		MW6-SBB-A1	S08-010	W05246					10/09/2007 08:30				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7333585	ALPHA	12587-46-1	5.13E-01	pCi/L	4.6E-01	4.7E-01	U	6.30E-01	100.0	9310_ALPHABETA	1.981E-01	L	12/04/2007 19:15	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8MAD10	B1PVH5		MW6-SBB-A1	S08-010	W05246					10/09/2007 10:10				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7289526	BETA	12587-47-2	2.38E+01	pCi/L	3.2E+00	4.5E+00		3.85E+00	100.0	9310_ALPHABETA	1.435E-01	L	11/21/2007 13:16	I
7289528	SR-90	10098-97-2	8.25E+00	pCi/L	6.0E-01	1.3E+00		4.13E-01	83.3	SRISO_SEP_PRE	1.0024E+00	L	11/25/2007 06:57	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8MAD30	B1PVH5		MW6-SBB-A1	S08-010	W05246					10/09/2007 10:10				

TAL Richland

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mde or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/10/2007 11:26:41 AM

### TAL Richland Report

Lab Code: TARL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 37692      File Name: h:\Reportdb\edd\FeadIVRad\W05246.Edd, h:\Reportdb\edd\FeadIVRad\37692.Edd

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7333585	ALPHA	12587-46-1	5.43E+00	pCi/L	1.9E+00	2.3E+00		1.77E+00	100.0	9310_ALPHABETA	1.236E-01	L	12/05/2007 07:34	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				
9J8MAF10	B1PVW2		MW6-SBB-A1	S08-010	W05246								10/09/2007 09:05	
7289526	BETA	12587-47-2	4.12E+00	pCi/L	1.5E+00	1.7E+00		2.79E+00	100.0	9310_ALPHABETA	1.991E-01	L	11/21/2007 13:16	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				
9J8MAF30	B1PVW2		MW6-SBB-A1	S08-010	W05246								10/09/2007 09:05	
7333585	ALPHA	12587-46-1	4.67E-01	pCi/L	7.0E-01	7.1E-01	U	1.38E+00	100.0	9310_ALPHABETA	2.001E-01	L	12/04/2007 20:49	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				
9J8NL910	B1PPK8		MW6-SBB-A1	A08-010	W05246								10/10/2007 12:34	
7289530	I-129L	15046-84-1	1.86E-01	pCi/L	1.5E-01	1.5E-01	U	3.00E-01	98.4	I129LL_SEP_LEPS	3.9125E+00	L	11/21/2007 15:40	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				
9J8NM010	B1PPJ8		MW6-SBB-A1	A08-010	W05246								10/10/2007 09:28	
7289530	I-129L	15046-84-1	2.00E+00	pCi/L	3.9E-01	3.9E-01		2.97E-01	100.8	I129LL_SEP_LEPS	3.9138E+00	L	11/21/2007 17:26	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				
9J8NMF10	B1PPK2		MW6-SBB-A1	A08-010	W05246								10/10/2007 11:10	
7289530	I-129L	15046-84-1	6.89E-01	pCi/L	2.7E-01	2.7E-01	U	4.33E-01	98.9	I129LL_SEP_LEPS	3.8705E+00	L	11/21/2007 15:40	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				
9J8NMN10	B1PPJ6		MW6-SBB-A1	A08-010	W05246								10/10/2007 11:21	
7289530	I-129L	15046-84-1	1.05E+00	pCi/L	2.9E-01	2.9E-01	U	5.24E-01	98.4	I129LL_SEP_LEPS	3.8967E+00	L	11/21/2007 15:42	I
<b>Lab Sample Id:</b>	<b>Client Id:</b>	<b>Test User</b>	<b>Contract Nbr</b>	<b>SAF Nbr</b>	<b>Sdg Nbr:</b>	<b>QC Type:</b>	<b>Moisture/Solids%*:</b>	<b>Distilled Volume</b>	<b>Sample On Date:</b>	<b>Collection Date:</b>				

12/10/2007 11:26.41 AM

### TAL Richland Report

Lab Code: TARL

FormNbr: R      FormalType: FEAD      Version: 05      Rpt Nbr: 37692      File Name: h:\Reportdb\ledd\FeadIV\Rad\W05246.Edd, h:\Reportdb\ledd\FeadIV\Rad\37692.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9J8T3210	B1PWL6		MW6-SBB-A1	W08-010	W05246					10/11/2007 10:27				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7289526	BETA	12587-47-2	7.57E+00	pCi/L	1.8E+00	2.0E+00		2.75E+00	100.0	9310_ALPHABETA	1.997E-01	L	11/21/2007 14:30	I
7289530	I-129L	15046-84-1	2.86E+00	pCi/L	5.8E-01	5.8E-01		2.94E-01	98.6	I129LL_SEP_LEPS	3.9159E+00	L	11/21/2007 19:21	I
8J8T3230	B1PWL6		MW6-SBB-A1	W08-010	W05246					10/11/2007 10:27				
7333585	ALPHA	12587-46-1	2.30E+00	pCi/L	9.9E-01	1.1E+00		1.05E+00	100.0	9310_ALPHABETA	2.019E-01	L	12/05/2007 09:33	I
9J8T3G10	B1PPJ4		MW6-SBB-A1	A08-010	W05246					10/11/2007 11:08				
7289530	I-129L	15046-84-1	7.01E-01	pCi/L	3.2E-01	3.2E-01	U	4.75E-01	95.1	I129LL_SEP_LEPS	3.9315E+00	L	11/21/2007 17:26	I
9J8T3T10	B1PWK4		MW6-SBB-A1	W08-010	W05246					10/11/2007 11:08				
7289526	BETA	12587-47-2	9.77E+00	pCi/L	2.0E+00	2.4E+00		3.06E+00	100.0	9310_ALPHABETA	2.00E-01	L	11/21/2007 14:30	I
9J8T3T30	B1PWK4		MW6-SBB-A1	W08-010	W05246					10/11/2007 11:08				
7333585	ALPHA	12587-46-1	1.55E+00	pCi/L	1.2E+00	1.2E+00		1.24E+00	100.0	9310_ALPHABETA	2.004E-01	L	12/04/2007 20:49	I

Monday, December 10, 2007

**TAL Richland QC Blank Report**

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W05246.Edd, h:\Reportdb\edd\Fead\I\Rad\37692.Edd

Lab Sample Id: J83911AB

Sdg/Rept Nbr: W05246

37692

Collection Date: 10/08/2007 12:57

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
	MW6-SBB-A19981														
7289528	SR-90	-1.55E-01	pCi/L	2.1E-01	U	5.17E-01	64.5		SRISO_SEP_P	1.0006E+00	11/25/2007				D
BLK	10098-97-2			1.9E-01						L	06:57				

Monday, December 10, 2007

### TAL Richland QC Blank Report

Lab Code: TARL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J83921AB      Sdg/Rept Nbr: W05246      37692      Collection Date: 10/11/2007 11:08  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BLK      Received Date: 10/11/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BH	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289530 BLK	I-129L 15046-84-1	1.90E-02	pCi/L	1.4E-01 1.4E-01	U	2.69E-01	100.8		I129LL_SEP_L	3.8741E+00 L	11/21/2007 19:21				D

Monday, December 10, 2007

**TAL Richland QC Blank Report**

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05246.Edd, h:\Reportdb\edd\FeadIV\Rad\37692.Edd

Lab Sample Id: J839R1AB

Sdg/Rept Nbr: W05246 37692

Collection Date: 10/08/2007 12:57

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BJ	H					
Batch #/ Qc Type	Analy/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289524 BLK	C-14 14762-75-5	-9.26E-02	pCi/L	6.8E+00 3.4E+00	U	8.30E+00	100.0		C14_LSC	2.00E-01 L	11/09/2007 01:34				D

Monday, December 10, 2007

**TAL Richland QC Blank Report**

Lab Code: TARK

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J839W3AB

Sdg/Rept Nbr: W05246

37692

Collection Date: 10/08/2007 10:08

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BL	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7333585 BLK	ALPHA 12587-46-1	1.98E-01	pCi/L	2.7E-01 2.7E-01	U	5.02E-01	100.0		9310_ALPHAB	2.025E-01	12/05/2007 07:34				D

TestAmerica Richland

Monday, December 10, 2007

**TAL Richland QC Blank Report**

Lab Code: TARL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J839X1AB      Sdg/Rept Nbr: W05246      37692      Collection Date: 10/09/2007 09:56  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BLK      Received Date: 10/09/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BN	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289526 BLK	BETA 12587-47-2	3.34E-01	pCi/L	1.1E+00 1.1E+00	U	2.48E+00	100.0		9310_ALPHA	1.995E-01	11/21/2007 14:30				D

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U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.  
 J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).  
 B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, December 10, 2007

**TAL Richland QC Control Sample Report**

Lab Code: TARK

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J83911CS

Sdg/Rept Nbr: W05246

37692

Collection Date: 10/08/2007 12:57

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BG	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289528	SR-90	1.44E+01	pCi/L	2.2E+00		4.94E-01	88.5	1.37E+01	SRISO_SEP_P	1.0008E+00	11/25/2007			70	D
BS	10098-97-2			8.7E-01				105.1		L	06:57			130	

Monday, December 10, 2007

### TAL Richland QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\FeadIV\Rad\W05246.Edd, h:\Reportdb\ledd\FeadIV\Rad\37692.Edd

**Lab Sample Id:** J83921CS      **Sdg/Rept Nbr:** W05246      37692      **Collection Date:** 10/11/2007 11:08  
**Client Id:** NA      **Matrix:** WATER      WATER      **Sample On Date:**  
**Moisture/Solids%\*:**      **QC Type:** BS      **Received Date:** 10/11/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp				
	MW6-SBB-A19981								BI	H				
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qual MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289530 BS	I-129L 15046-84-1	8.23E+00	pCi/L	1.1E+00 1.1E+00	5.06E-01	97.4	9.66E+00 85.2	I129LL_SEP_L	3.9145E+00 L	11/21/2007 19:22			70 130	D

TestAmerica Richland

Monday, December 10, 2007

### TAL Richland QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W05246.Edd, h:\Reportdb\ledd\Fead\VRad\37692.Edd

Lab Sample Id: J839R1CS

Sdg/Rept Nbr: W05246 37692

Collection Date: 10/08/2007 12:57

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BK	H					
Batch #/ Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289524 BS	C-14 14762-75-5	4.36E+01	pCi/L	1.1E+01 4.7E+00		8.32E+00	100.0	4.62E+01 94.4	C14_LSC	2.00E-01 L	11/09/2007 02:16			70 130	D

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Monday, December 10, 2007

### TAL Richland QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J839W4CS

Sdg/Rept Nbr: W05246

37692

Collection Date: 10/08/2007 10:08

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BM	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7333585 BS	ALPHA 12587-46-1	2.12E+01	pCi/L	5.3E+00 2.1E+00		5.98E-01	100.0	2.26E+01 93.8	9310_ALPHAB	2.001E-01 L	12/05/2007 07:34			70 130	D

Monday, December 10, 2007

### TAL Richland QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J839X1CS

Sdg/Rept Nbr: W05246 37692

Collection Date: 10/09/2007 09:56

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 10/09/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BO	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289526 BS	BETA 12587-47-2	2.13E+01	pCi/L	3.6E+00 2.4E+00		2.46E+00	100.0	2.25E+01 94.7	9310_ALPHA B	2.001E-01 L	11/21/2007 14:30			70 130	D

Monday, December 19, 2007

### TAL Richland QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J8H421CR

Sdg/Rept Nbr: W05246 37692

Collection Date: 10/08/2007 12:57

Client Id: B1PVX1

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S08-010	MW6-SBB-A19981								BP	H

Batch # / Qc Type	Analyt/CAS#	Result/Orig Rst	Unit	To/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289528	SR-90	-2.65E-02	pCi/L	2.3E-01	U	5.06E-01	84.4		SRISO_SEP_P	1.0001E+00	11/25/2007	0.0	0.2		D
DUP	10098-97-2	1.11E-02		1.5E-01						L	06:56	20.0	3		

Monday, December 10, 2007

**TAL Richland QC Duplicate Report**

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J8H521ER

Sdg/Rept Nbr: W05246 37692

Collection Date: 10/08/2007 12:57

Client Id: B1PTW7

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
108-002	MW6-SBB-A19981								BQ	H					
Batch # / Qc Type	Analy/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289524	C-14	7.94E+01	pCi/L	1.5E+01		8.28E+00	100.0		C14_LSC	2.00E-01	11/09/2007	1.5	0.1		D
DUP	14762-75-5	8.07E+01		5.6E+00						L	03:41	20.0	3		

Monday, December 10, 2007

### TAL Richland QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05246.Edd, h:\Reportdb\edd\Fead\Rad\37692.Edd

Lab Sample Id: J8H563FR

Sdg/Rept Nbr: W05246 37692

Collection Date: 10/08/2007 10:08

Client Id: B1PTP4

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 10/08/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
108-002	MW6-SBB-A19981								BR	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7333585 DUP	ALPHA 12587-46-1	2.10E+00 1.44E+00	pCi/L	1.4E+00 1.3E+00		1.66E+00	100.0		9310_ALPHAB	1.973E-01 L	12/04/2007 20:49	37.2 20.0	0.7 3		D

Monday, December 10, 2007

**TAL Richland QC Duplicate Report**

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05246.Edd, h:\Reportdb\edd\Fead\VRad\37692.Edd

Lab Sample Id: J8L9W1DR

Sdg/Rept Nbr: W05246

37692

Collection Date: 10/09/2007 09:56

Client Id: B1PVK0

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 10/09/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
S08-010	MW6-SBB-A19981								BS	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289526	BETA	8.41E+00	pCi/L	2.5E+00		3.82E+00	100.0		9310_ALPHAB	1.512E-01	11/21/2007	12.0	0.6		D
DUP	12587-47-2	9.49E+00		2.3E+00						L	13:16	20.0	3		

Monday, December 10, 2007

### TAL Richland QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W05246.Edd, h:\Reportdb\edd\Fead\I\Rad\37692.Edd

Lab Sample Id: J8T3G1CR

Sdg/Rept Nbr: W05246

37692

Collection Date: 10/11/2007 11:08

Client Id: B1PPJ4

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 10/11/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
A08-010	MW6-SBB-A19981								BT	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7289530 DUP	I-129L 15046-84-1	1.57E+00 7.01E-01	pCi/L	3.6E-01 3.6E-01	U	6.37E-01	98.6		1129LL_SEP_L	3.9554E+00 L	11/21/2007 17:27	76.3 20.0	3.4 3		D

Lot No., Due Date: J7J090227,J7J100281,J7J120222,J7J120218; 11/26/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7333585; RALPHA-A Alpha by GPC-Am

SDG, Matrix: W05246; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	<input checked="" type="checkbox"/>		
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	<input checked="" type="checkbox"/>		
8.02 Final Results Are in the Appropriate Activity Units OK	<input checked="" type="checkbox"/>		
8.03 Batch Contains the Required QC Appropriate for the Method OK	<input checked="" type="checkbox"/>		
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	<input checked="" type="checkbox"/>		
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	<input checked="" type="checkbox"/>		
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => J8H523AA 143.60<200.00 J8H564AA 187.30<200.00 J8L9W3AA 114.20<200.00 J8L963AA 111.10<200.00 J8L993AA 141.90<200.00 J8MAD3AA 123.60<200.00 Q VB	<input checked="" type="checkbox"/>		
8.07 The Correct Count Geometry was Used. OK	<input checked="" type="checkbox"/>		
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved OK	<input checked="" type="checkbox"/>		
8.09 Method Blank is within Control Limits. OK	<input checked="" type="checkbox"/>		
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBLks) found in Batch!	<input checked="" type="checkbox"/>		
8.12 Method Blank(s) < OAS Limit Value (No B Flag Necessary). OK	<input checked="" type="checkbox"/>		
8.13 QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> J8H563AF ALPHA 37.0 (RPD)	<input checked="" type="checkbox"/>		
8.14 LCS within Control Limits OK	<input checked="" type="checkbox"/>		
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	<input checked="" type="checkbox"/>		
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	<input checked="" type="checkbox"/>		
8.17 Tracer within Control Limits. OK	<input checked="" type="checkbox"/>		
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	<input checked="" type="checkbox"/>		
8.19 Sample Specific MDC <= CRDL. OK	<input checked="" type="checkbox"/>		
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	<input checked="" type="checkbox"/>		
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => J8H523AA ALPHA 5.2E+00 L 1.6E+00 J8H564AA ALPHA 1.4E+00 L 1.3E+00 J8H6M3AA ALPHA 1.5E+00 L 1.4E+00 J8L9W3AA ALPHA 6.0E+00 L 1.5E+00 J8L963AA ALPHA 6.2E+00 L 2.3E+00 J8L993AA ALPHA 1.2E+01 L 1.6E-00 J8MAD3AA ALPHA 5.4E+00 L 1.8E+00	<input checked="" type="checkbox"/>		

J8T3T3AA ALPHA 1.6E+00 L:1.2E+00  
J8T323AA ALPHA 2.3E+00 L:1.0E+00

- |  |   |
|--|---|
| 8.23 Result $\leq$ Action Level, when Defined.<br>OK: No Action Level Found $\Rightarrow$ ALPHA<br><br>OK: No Callin Level Found $\Rightarrow$ ALPHA | Yes No N/A<br><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8.24 Result + 3s $\geq$ 0. Not Too Negative.<br>OK   | Yes No N/A<br><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8.25 Counting Spectrum are within FWHM Limits.<br>No FWHM found in Batch Data!   | Yes No N/A<br><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> |
| 8.26 Instruments have Current Calibrations.  | Yes No N/A<br><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| 8.27 Correct Count Library Used.<br>No Count Library found in Batch Data!  | Yes No N/A<br><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> |
| 8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)                    | Yes No N/A<br><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| 8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)              | Yes No N/A<br><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| 8.3 Comments:<br>NCM 10-11388  |   |
| 8.31 Results Blank Subtracted as Appropriate.<br>OK  | Yes No N/A<br><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

First Level Review

*Oliver Antonson*

Date

12/5/07

## Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 7333585

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			✓
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>B. QC Samples</b>			
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?	✓		
<b>C. Other</b>			
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: See num

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Second Level Review: Eike C. [Signature] Date: 12/6/17

# Clouseau Nonconformance Memo

TestAmerica

NCM #: <b>10-11388</b> NCM Initiated By: Lisa Antonson Date Opened: 12/05/2007 Date Closed:	Classification: <b>Anomaly</b> Status: <b>PMREVIEW</b> Production Area: Environmental - Prep Tests: Alpha by GPC-Am Lot #'s (Sample #'s): J7J090227 (1,2,3), J7J100281 (1,2,3,4,5,6), J7J120218 (1), J7J120222 (1), J7J160000 (525), OC Batches: 7289525,
Nonconformance. LCS result out of limits Subcategory. Analyte was recovered low in the LCS	

**Problem Description / Root Cause**

<u>Name</u>	<u>Date</u>	<u>Description</u>
Lisa Antonson	12/05/2007	The LCS in the original batch was recovered low. A recount confirmed the low recovery.  The samples were rerun with acceptable results in batch 733585.

**Corrective Action**

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Lisa Antonson	12/05/2007	The samples were rerun.

**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>

Lot No., Due Date: J7J090227, J7J100266, J7J100281, J7J120222, J7J120218; 11/26/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7289526; RBETA-SR Beta by GPC-Sr/Y  
 SDG, Matrix: W05246; WATER

8.0 Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02 Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03 Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => J8H521AC 150.60<200.00 J8L601AA 127.70<200.00 J8L9W1AC 153.20<200.00 J8L961AC 128.00<200.00 J8L991AC 153.20<200.00 J8MAD1AC 143.50<200.00 Q-VB	Yes	No	N/A
8.07 The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09 Method Blank is within Control Limits. OK	Yes	No	N/A
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBLks) found in Batch!	Yes	No	N/A
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yes	No	N/A
8.14 LCS within Control Limits. OK	Yes	No	N/A
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16 MS within Control Limits No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17 Tracer within Control Limits. OK	Yes	No	N/A
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19 Sample Specific MDC <= CRDL. MDC/MDA > CRDL => J8L601AA BETA 4.5E+00>4.0E+00 J8L961AC BETA 4.4E+00>4.0E+00 Q.C1	Yes	No	N/A
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => J8H521AC BETA 1.1E+01 L:4.0E+00 J8H561AC BETA 1.3E+01 L:2.8E+00 J8H6M1AC BETA 4.1E+00 L:2.9E+00 J8L601AA BETA 1.3E+01 L:4.5E+00 J8L651AA BETA 2.0E+03 L:2.9E+00 J8L9W1AC BETA 9.5E+00 L:3.8E+00	Yes	No	N/A

J8L961AC BETA 1.1E+01 L:4.4E+00  
 J8L991AC BETA 1.3E+01 L:3.7E+00  
 J8MAA1AC BETA 7.6E+00 L:2.8E+00  
 J8MAD1AC BETA 2.4E+01 L:3.8E+00  
 J8MAF1AC BETA 4.1E+00 L:2.8E+00  
 J8T3T1AC BETA 9.8E+00 L:3.1E+00  
 J8T321AC BETA 7.6E+00 L:2.8E+00

8.23	Result <= Action Level, when Defined. OK: No Action Level Found => BETA  OK: No Cailin Level Found => BETA	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.24	Result + 3s >=0, Not Too Negative. OK	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes No N/A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
8.26	instruments have Current Calibrations.	Yes No N/A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.27	Correct Count Library Used. No Count Library found in Batch Data!	Yes No N/A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
8.28	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes No N/A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.29	Instrument Check Source within Limits at the Time of Counting (Not Applicable to this version. To be developed in later versions)	Yes No N/A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.3	Comments.	
8.31	Results Blank Subtracted as Appropriate. OK	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

First Level Review

*Loe Antonson*

Date

*11/23/07*

**Data Review Checklist**  
**RADIOCHEMISTRY**  
 Second Level Review

Batch Number: 728/9526  
W05246

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
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>B. QC Samples</b>			
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?	/		
<b>C. Other</b>			
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: See NCR

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Second Level Review: Daryl R. Adams Date: 11-26-07

# Clouseau Nonconformance Memo

TestAmerica

NCM #: <b>10-11304</b> NCM Initiated By: Lisa Antonson Date Opened: 11/23/2007 Date Closed:	Classification: <b>Anomaly</b> Status: <b>PMREVIEW</b> Production Area: Environmental - Prep Tests: Beta by GPC-Sr/Y Lot #'s (Sample #'s): J7J090227 (1,2,3), J7J100266 (1,2), J7J100281 (1,2,3,4,5,6), J7J120218 (1), J7J120222 (1), J7J160000 (526), QC Batches: 7289526,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

**Problem Description / Root Cause**

Name	Date	Description
Lisa Antonson	11/23/2007	Samples J8L60 and J8L96 didn't meet CRDL. The results exceed the MDA achieved, data accepted.

**Corrective Action**

Name	Date	Corrective Action
Lisa Antonson	11/23/2007	NA

**Client Notification Summary**

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

**Quality Assurance Verification**

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

**Approval History**

Date Approved	Approved By	Position
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## Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 7289528  
W05246

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
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>B. QC Samples</b>			
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?	✓		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Second Level Review: Sherry A. Allen Date 11-26-07

Lot No., Due Date: J7J110113, J7J120222, J7J120216; 11/26/2007

Client, Site: 384868; PGW 615 HANFORD HANFORD

QC Batch No., Method Test: 7289530; RGAMLEPS Gamma by LEPS

SDG, Matrix: W05246; WATER

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 Review

*Kim E. Michael*

Date

11/26/07

## Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 7289530  
W05246

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
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>B. QC Samples</b>			
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?			/
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Second Level Review Sheryl A. Adams Date: 11-27-07



## Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 7284524  
W05246

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
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>B. QC Samples</b>			
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?	✓		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Second Level Review: *Sheryl A. Allen* Date: 11-23-07







### Sample Check-in List

Date/Time Received: 10-8-07 1453

Client: PGW SDG #: W05240 NA [ ] SAF #: S08-D10 NA [ ]

Work Order Number: J75090222 Chain of Custody # S08-010-126-130

Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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

Sample Custodian: RJR Date: 10-8-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary, process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_









### Sample Check-in List

Date/Time Received: 10-8-07 1453  
Client: P(6LW) SDG #: W05246 NA [ ] SAF #: I08-002 NA [ ]  
Work Order Number: J7J090227 Chain of Custody # I08-002-80,-74,-86  
Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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

Sample Custodian: [Signature] Date: 10-8-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_  
 No action necessary; process as is.  
Project Manager: \_\_\_\_\_ Date \_\_\_\_\_







# Sample Check-in List

Due 11-23-07

Date/Time Received: 10-9-07 1420

Client: IGW SDG #: W05246 NA [ ] SAF #: 608-010 NA [ ]

Work Order Number: J7J100266 Chain of Custody # 608-010-16, -18

Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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

Sample Custodian: [Signature] Date: 10-9-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary; process as is

Project Manager \_\_\_\_\_ Date \_\_\_\_\_













Sample Check-in List

DUE 11-23-07

Date/Time Received: 10-9-07 1420

Client: PGW SDG #: W05246 NA11 SAF #: S08-010 NA11

Work Order Number: J7N100281 Chain of Custody # S08-010-60,-66,-78,-7,-38,-4

Shipping Container ID: Air Bill #

- 1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? NA [ ] Yes [X] No [ ]
4. Cooler Temperature: NA [X] 5. Vermiculite/packing materials is NA [X] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 6
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have: Tape Hazard Labels, Custody Seals Appropriate Sample Labels
9. Samples are: In Good Condition Leaking, Broken Have Air Bubbles
10. Sample pH taken? NA [ ] pH<2 [X] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? \*
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers):

Sample Custodian: [Signature] Date: 10-9-07

Table with 4 columns: Client Sample ID, Analysis Requested, Condition, Comments/Action

Client Informed on by Person Contacted

[ ] No action necessary; process as is

Project Manager Date











## Sample Check-in List

DUE 11-23-07

Date/Time Received: 10-10-07 1455

Client: P6W SDG #: W05246 NA [ ] SAF #: A08-010 NA [ ]

Work Order Number: 175110113 Chain of Custody # A08-010-29,-21,-9,-13

Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

1. Custody Seals on shipping container intact? NA [ / ] Yes [ X ] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [ X ] No [ ]
3. Chain of Custody record present? NA [ ] Yes [ X ] No [ ]
4. Cooler Temperature: \_\_\_\_\_ NA [ / ] 5. Vermiculite/packing materials is NA [ / ] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [ / ] Yes [ ] No [ ]
8. Samples have:
 

_____ Tape	_____ Hazard Labels
_____ Custody Seals	_____ / _____ Appropriate Sample Labels
9. Samples are:
 

_____ / _____ In Good Condition	_____ Leaking
_____ Broken	_____ Have Air Bubbles

(Only for samples requiring no head space.)
10. Sample pH taken? NA [ ] pH < 2 [ ] pH > 2 [ / ] pH > 9 [ ]
11. Sample Location, Sample Collector Listed? \*  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [ / ]
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: S. Sm. U Date: 10-10-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_





## Sample Check-in List

Date/Time Received: 10-11-07 1505  
 Client: PGW SDG #: W05246 NA [ ] SAF #: A08-010 NA [ ]  
 Work Order Number: J75120216 Chain of Custody # A08-010-5  
 Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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

Sample Custodian: [Signature] Date: 10-11-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary, process as is

Project Manager: \_\_\_\_\_ Date \_\_\_\_\_





### Sample Check-in List

Date/Time Received: 10-11-07 1505

Client: PGW SDG #: W05246 NA [ ] SAF #: W08-010 NA [ ]

Work Order Number: J7J120218 Chain of Custody # W08-010-108

Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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

Sample Custodian:  Date: 10-11-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary, process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

TestAmerica  
Richland

FLUOR HANFORD		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>W08-010-116</b>	
		<i>JN120222 W05246 Due 11-26-07</i>		Page <u>1</u> of <u>1</u>	
Collector <b>Roy Shepard</b> Fluor Hanford	Contact/Requester <b>Steve Trent</b>	Telephone No. <b>509-373-5869</b>	MSIN	FAX	
SAF No. <b>W08-010</b>	Sampling Origin <b>Hanford Site</b>	Purchase Order/Charge Code			
Project Title <b>RCRA, OCTOBER 2007</b>	<b>Logbook: HNF-N-506-11</b>	Ice Chest No. <b>SML-538</b>	Temp.		
Shipped To (Lab) <b>TestAmerica Incorporated Richland</b>	Method of Shipment <b>Govt. Vehicle</b>	Bill of Lading/Air Bill No.			
Protocol <b>RCRA</b>	Priority: 45 Days		Offsite Property No.		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			<b>SPECIAL INSTRUCTIONS</b> Hold Time    Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PWL6		W	10/11/07	1027	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B1PWL6		W			1x20-mL P	Activity Scan	None
B1PWL6		W	↓	↓	2x4000-mL G/P	1129LL_SEP_LEPS_GS_LL: I-129 (1)	None
<i>J8T32</i>							
<i>R. Wall 10/11/07</i>							

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Relinquished By <b>Roy Shepard</b> Fluor Hanford	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time /505 <b>OCT 11 2007</b>	Received By <b>W LANE TAL-R</b>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time /505 <b>OCT 11 2007</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil                      DS = Drum Solid SF = Sediment            DF = Drum Liquid SO = Solid                    T = Tissue SL = Sludge                  WI = Waste W = Water                    L = Liquid O = Oil                        V = Vegetation A = Air                         X = Other
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	



### Sample Check-in List

Date/Time Received: 10-11-07 1505

Client: PCW SDG #: W05246 NA [ ] SAF #: W08-010 NA [ ]

Work Order Number: J7J120222 Chain of Custody # W08-010-116

Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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

Sample Custodian: [Signature] Date: 10-11-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

[ ] No action necessary; process as is

Project Manager \_\_\_\_\_ Date \_\_\_\_\_



STL

\*\*\* RE-ANALYSIS REQUEST \*\*\*

DUE DATE 11/22/07

CUSTOMER PGW

ANALYSIS Alum

MATRIX water

LOT NUMBER J7J090227

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7289525

NEW BATCH NUMBER 733585

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) <u>all</u>	<u>failed LCS</u>
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

TestAmerica Richland

11/30/2007 8:27:47 AM Sample Preparation/Analysis Balance Id:1120482733

384868. Pacific Northwest National Laboratory AZ Gross Alpha PrpRC5014 Pipet #: \_\_\_\_\_  
 Pacific Northwest National Lab S7 Gross Alpha by GPC using Am-241 curve

AnalyDueDate: 11/22/2007 5I CLIENT: HANFORD Sep1 DT/Tm Tech: \_\_\_\_\_

Batch: 7333585 WATER pCi/L PM, Quote: SA, 57671 Sep2 DT/Tm Tech: \_\_\_\_\_  
 SEQ Batch, Test: None All Tests: AZS7, 7289524 5SS3, 7289525 AZS7, 7289526 BCS8, 7289528 CLTL, 7333585 AZS7, Prep Tech: HarrisD,BockJ



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 J8H52-3-AA J7J090227-1-SAMP 10/08/2007 12:57 AmlRec: 20ML,3XLP #Containers: 4	143.60g,in			1.5	38.1	100	10A	2005	12/4/07ofp	
2 J8H56-3-AF-X J7J090227-2-DUP 10/08/2007 10:08 AmlRec: 20ML,6XLP #Containers: 7	197.30g,in				34.5	50	10A	2115		
3 J8H56-4-AA J7J090227-2-SAMP 10/08/2007 10:08 AmlRec: 20ML,6XLP #Containers: 7	187.30g,in				37.2		10B			
4 J8H6M-3-AA J7J090227-3-SAMP 10/08/2007 11:40 AmlRec: 20ML,3XLP #Containers: 4	198.20g,in				23.4		10C	0		
5 J8L9W-3-AA J7J100281-1-SAMP 10/09/2007 09:56 AmlRec: VIAL20,LP #Containers: 2	114.20g,in				44.1	100	10D	2005	12/4/0700	
6 J8L96-3-AA J7J100281-2-SAMP 10/09/2007 11:13 AmlRec: VIAL20,LP #Containers: 2	111.10g,in				49.7		10C			
7 J8L99-3-AA J7J100281-3-SAMP 10/09/2007 12:10 AmlRec: VIAL20 LP #Containers: 2	141.90g,in				53.1		10D			

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TestAmerica Richland

11/30/2007 8:27:49 AM	<b>Sample Preparation/Analysis</b>	Balance Id:1120482733
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab	AZ Gross Alpha PrpRC5014 S7 Gross Alpha by GPC using Am-241 curve SI CLIENT: HANFORD	Pipet #: _____
AnalyDueDate: 11/22/2007		Sep1 DT/Tm Tech: _____
Batch: 7333585 WATER pCi/L	PM, Quote: SA, 57671	Sep2 DT/Tm Tech: _____
SEQ Batch, Test. None		Prep Tech: BockJ



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. In/Date	Comments.
8 J8MAA-3-AA J7J100281-4-SAMP 10/09/2007 08:30 AmtRec: VIAL20,LP #Containers: 2	198.10g.in			1.5	33.6	60	10F	2005	12/4/07	α
9 J8MAD-3-AA J7J100281-5-SAMP 10/09/2007 10:10 AmtRec: VIAL20,4XLP #Containers: 5	123.60g.in				40.6	100	10A	0824	12/4/07	α
10 J8MAF-3-AA J7J100281-6-SAMP 10/09/2007 09:05 AmtRec: VIAL20,LP #Containers: 2	200.10g.in				33.6	50	10D	2115	12/4/07	α
11 J8T3T-3-AA J7J120218-1-SAMP 10/11/2007 11:08 AmtRec: 20ML,LP #Containers: 2	200.40g.in				49.1		10F	6		α
12 J8T32-3-AA J7J120222-1-SAMP 10/11/2007 10:27 AmtRec: 20ML,LP,2X4LP #Containers: 4	201.90g.in				38.1		10A	1023	12/5/07	α
13 J839W-3-AA-B J7J160000-525-BLK 10/08/2007 10:08 AmtRec: #Containers: 1	202.50g.in				0.4	100	10B	0824	12/15/07	α
14 J839W-4-AC-C J7J160000-525-LCS 10/08/2007 10:08 AmtRec: #Containers: 1	200.10g.in		ASD4346 10/31/07, pd		0.7		10C	0824	12/15/07	α

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TestAmerica  
Richland

11/30/2007 8:27:50 AM

### Sample Preparation/Analysis

Balance Id:1120482733

AZ Gross Alpha PrpRC5014  
S7 Gross Alpha by GPC using Am-241 curve  
SI CLIENT: HANFORD

Pipet #: \_\_\_\_\_

Sep1 DT/Tm Tech: \_\_\_\_\_

Sep2 DT/Tm Tech: \_\_\_\_\_

Prep Tech: ,BockJ

AnalyDueDate: 11/22/2007

Batch: 7333585

pCi/L

SEQ Batch, Test None



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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Comments: J8H56-DUP \*Comments. DUP not 200 mls due to insuff. sample amount. JB 11/30/07\* All other radionuclide aliquots are due to  
 weight screens. PH < 2.0 for 11-30-07  
 J8T323AA counted 100min to fill detector PC 10/5/07

All Clients for Batch:  
 384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 57671

J8H523AA-SAMP Constituent List:

J8H523AA-SAMP	ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
J839W3AA-BLK:	ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
J839W4AC-LCS:	Am-241	RDL:	pCi/L	LCL:70	UCL:130	RPD:20
J8H523AA-SAMP Calc Info:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
J839W3AA-BLK:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
J839W4AC-LCS:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	

Approved By \_\_\_\_\_ Date: \_\_\_\_\_

12/5/2007 2:13:22 PM

# ICOC Fraction Transfer/Status Report

ByDate: 12/5/2006, 12/10/2007, Batch: '7333585', User: \*ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	7333585				
AC		CalcC	HarrisD	11/30/2007 8:09:18	
SC			antonsonl	IsBatched 11/29/2007 5:01:48 PM	ICOC_RADCALC v4.8.29
SC			HarrisD	InPrep 11/30/2007 8:09:18 AM	RICH-RC-5014 Revision 7
SC			BockJ	InPrep 11/30/2007 8:17:41 AM	RICH-RC-5014 Revision 7
SC			BockJ	Prep1C 11/30/2007 8:28:36 AM	RICH-RC-5014 REVISION 7
SC			BockJ	Prep2C 12/4/2007 5:22:56 PM	RICH-RC-5014 REVISION 7
SC			DAWKINSO	InCnt1 12/4/2007 5:53:41 PM	RICH-RD-0003 REVISION 5
SC			ClarkR	CalcC 12/5/2007 11:36:03 AM	RICH-RD-0003 REVISION 5
AC			BockJ	11/30/2007 8:17:41	
AC			BockJ	11/30/2007 8:28:36	
AC			BockJ	12/4/2007 5:22:56 PM	
AC			DAWKINSO	12/4/2007 5:53:41 PM	
AC			ClarkR	12/5/2007 11:36:03	

AC: Accepting Entry, SC: Status Change

STL Richland  
Richland Wa

TESTAMERICA RICHLAND

11/20/2007 12:16:54 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

BC Gross Beta PrpRC5014  
S8 Gross Beta by GPC using Sr/Y-90 curve  
51 CLIENT: HANFORD

Pipet #: 235

AnalyDueDate: 11/22/2007 *W05246*

Sep1 DT/Tm Tech:

Batch: 7289526 WATER pCi/L PM, Quote: SA, 57671  
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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, Invt/Date	Comments:
1 J8H52-1-AC J7J090227-1-SAMP 10/08/2007 12:57	150.60g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>1.5 111.8 100 28A 1403 11/21/07 RB</i></div> <hr/>										
2 J8H56-1-AC J7J090227-2-SAMP 10/08/2007 10:08	199.60g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>74.1 28B</i></div> <hr/>										
3 J8H6M-1-AC J7J090227-3-SAMP 10/08/2007 11:40	197.90g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>41.5 28C</i></div> <hr/>										
4 J8L60-1-AA J7J100266-1-SAMP 10/09/2007 11:02	127.70g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>110.5 28D</i></div> <hr/>										
5 J8L65-1-AA J7J100266-2-SAMP 10/09/2007 11:51	200.20g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>42.7 31A</i></div> <hr/>										
6 J8L9W-1-AC J7J100281-1-SAMP 10/09/2007 09:56	153.20g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>102.6 31B</i></div> <hr/>										
7 J8L9W-1-AD-X J7J100281-1-DUP 10/09/2007 09:56	151.20g.in									
<div style="text-align: center; font-size: 1.2em; margin-bottom: 5px;"><i>108.9 31C</i></div> <hr/>										

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TestAmerica Richland

11/20/2007 12:16:56 PM		<b>Sample Preparation/Analysis</b>				Balance Id:1120482733	
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab		BC Gross Beta PrpRC5014 SB Gross Beta by GPC using Sr/Y-90 curve 5I CLIENT: HANFORD				Pipet #:	
AnalytDueDate: 11/22/2007						Sep1 DT/Tm Tech:	
Batch: 7289526 WATER pCi/L		PM, Quote: SA , 57671				Sep2 DT/Tm Tech:	
SEQ Batch, Test: None						Prep Tech: ,BockJ	

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:
8 J8L96-1-AC		128.00g,in				100				
J7J100281-2-SAMP				1.5	94.1		31D	1403		11/2/07
10/09/2007 11:13		AmtRec: VIAL20,LP	#Containers: 2				Scr:	Alpha: 9.62E-08 uCi/Sa		Beta: -1.10E-07 uCi/Sa
9 J8L99-1-AC		153.20g,in								
J7J100281-3-SAMP					104.2		32A			
10/09/2007 12:10		AmtRec: VIAL20,LP	#Containers: 2				Scr:	Alpha: -1.03E-07 uCi/Sa		Beta: -2.33E-08 uCi/Sa
10 J8MAA-1-AC		198.70g,in								
J7J100281-4-SAMP					72.2		32B			
10/09/2007 08:30		AmtRec: VIAL20,LP	#Containers: 2				Scr:	Alpha: 4.52E-08 uCi/Sa		Beta: -6.68E-08 uCi/Sa
11 J8MAD-1-AC		143.50g,in								
J7J100281-5-SAMP					101.7		32C			
10/09/2007 10:10		AmtRec: VIAL20,4XLP	#Containers: 5				Scr:	Alpha: 3.47E-09 uCi/Sa		Beta: 1.23E-07 uCi/Sa
12 J8MAF-1-AC		199.10g,in								
J7J100281-6-SAMP					71.9		32D			
10/09/2007 09:05		AmtRec: VIAL20,LP	#Containers: 2				Scr:	Alpha: -3.66E-09 uCi/Sa		Beta: 1.17E-07 uCi/Sa
13 J8T3T-1-AC		200.00g,in								
J7J120218-1-SAMP					85.2		32E	1577		11/2/07
10/11/2007 11:08		AmtRec: 20ML,LP	#Containers: 2				Scr:	Alpha: 2.15E-08 uCi/Sa		Beta: 1.26E-07 uCi/Sa
14 J8T32-1-AC		199.70g,in								
J7J120222-1-SAMP				V	68.2		32F			
10/11/2007 10:27		AmtRec: 20ML,LP,2X4LP	#Containers: 4				Scr:	Alpha: 8.33E-07 uCi/Sa		Beta: -1.09E-06 uCi/Sa

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11/20/2007 12:16:57 PM

### Sample Preparation/Analysis

Balance Id:1120482733

BC Gross Beta PrpRC5014  
S8 Gross Beta by GPC using Sr/Y-90 curve  
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 11/22/2007

Sep1 DT/Tm Tech:

Batch: 7289526 pCi/L  
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: BockJ



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:
15 J839X-1-AA-B		199.50g.in								
J7J160000-526-BLK				1.5	0.2	100	200	1517	11/21/07	
10/09/2007 09:56		AmtRec.	#Containers: 1				Scr.	Alpha		Beta
16 J839X-1-AC-C		200.10g.in	BESB3160							
J7J160000-526-LCS			10/22/07.pd	0.5			200			
10/09/2007 09:56		AmtRec	#Containers: 1				Scr.	Alpha		Beta

Comments: pH < 2.0, lowered aliquots due to weight screens. JB 11-20-07

All Clients for Batch:  
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA, 57671

J8H521AC-SAMP Constituent List:

	RDL:	pCi/L	LCL:	UCL:	RPD:
J839X1AA-BLK:	4				
J839X1AC-LCS:	4				
Sr-90			70	130	20

J8H521AC-SAMP Calc Info:

	Uncert Level (#s):	Decay to SaDt:	Blk Subt.:	Sci.Not.:	ODRs:
J839X1AA-BLK:	2	Y	N	Y	B
J839X1AC-LCS:	2	Y	N	Y	B

Approved By \_\_\_\_\_ Date: \_\_\_\_\_

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11/23/2007 2:20:37 PM

# ICOC Fraction Transfer/Status Report

ByDate: 11/23/2006, 11/28/2007, Batch: '7289526', User: \*ALL, Order By: DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	7289526				
AC		CalcC	BockJ	11/20/2007 12:06:25	
SC			wagarr	IsBatched 10/18/2007 1:31:20 PM	ICOC_RADCALC v4 8 29
SC			BockJ	InPrep 11/20/2007 12:06:25 PM	RICH-RC-5014 Revision 7
SC			BockJ	Prep1C 11/20/2007 12:16:59 PM	RICH-RC-5014 REVISION 7
SC			BlackCL	InCnt1 11/21/2007 12:18:02 PM	RICH-RD-0003 REVISION 5
SC			DAWKINSO	CalcC 11/21/2007 10:05:13 PM	RICH-RD-0003 REVISION 5
AC			BockJ	11/20/2007 12:16:59	
AC			BlackCL	11/21/2007 12:18:02	
AC			DAWKINSO	11/21/2007 10 05 13	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa

TestAmerica Richland

11/8/2007 9:32:36 AM **Sample Preparation/Analysis** Balance Id: 1120373922  
 384868, Pacific Northwest National Laboratory, Pacific Northwest National Lab CL Sr-90 Prp/Sep RC5006(5071) Pipet #: DEM  
 Analy Due Date: 11/22/2007 TL Sr-85 by NaI and Sr-90 by GPC 7 day ingrowth Sep1 DT/Tm Tech: 11/15/07 16:33:05  
 SI CLIENT: HANFORD Sep2 DT/Tm Tech: 11-23-07 8:28 AM

Batch: 7289528 WATER pCi/L PM, Quote: SA, 57671 Prep Tech: WoodT  
 SFQ Batch, Test. None

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J8H42-1-AA J7J090222-1-SAMP 11/07/07 pd 05/22/07	1000.86g.in	SRTB15540	11/07/07 pd 05/22/07	1.747 <u>2.0182</u>			100	3"	2125	11/15/07 ON	
 YTA18158 Ex: 10/23/2006											
10/08/2007 12:57	Amt/Rec 20ML,3XLP	#Containers: 4	Scr.	Alpha: 3.34E-07 uCi/Sa	Beta: -5.89E-07 uCi/Sa						
2 J8H42-1-AC-X J7J090222-1-DUP 11/07/07 pd 05/22/07	1000.05g.in	SRTB15541	11/07/07 pd 05/22/07	1.731 <u>2.0114</u>				3"	2202	11/15/07 ON	
 YTA18159 Ex: 10/23/2006											
10/08/2007 12:57	Amt/Rec 20ML,3XLP	#Containers: 4	Scr.	Alpha: 3.34E-07 uCi/Sa	Beta: -5.89E-07 uCi/Sa						
3 J8H5D-1-AA J7J090222-2-SAMP 11/07/07 pd 05/22/07	1000.02g.in	SRTB15542	11/07/07 pd 05/22/07	1.762 <u>2.0114</u>				3"	2235	11/15/07 ON	
 YTA18180 Ex: 10/23/2006											
10/08/2007 11:40	Amt/Rec 20ML,3XLP	#Containers: 4	Scr.	Alpha: -4.33E-07 uCi/Sa	Beta: 3.51E-07 uCi/Sa						
4 J8H56-1-AE J7J090227-2-SAMP 11/07/07 pd 05/22/07	1000.40g.in	SRTB15543	11/07/07 pd 05/22/07	1.602 <u>2.0094</u>				5"	0520	11/15/07	
 YTA18181 Ex: 10/23/2006											
10/08/2007 10:08	Amt/Rec. 20ML,6XLP	#Containers: 7	Scr.	Alpha 8.12E-07 uCi/Sa	Beta: -5.29E-07 uCi/Sa						

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TestAmerica Richland

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11/8/2007 9:32:38 AM **Sample Preparation/Analysis** Balance Id:1120373922  
 384868, Pacific Northwest National Laboratory , CL Sr-90 Prp/SepRC5006(5071) Pipet #:  
 Pacific Northwest National Lab TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth  
 AnalyDueDate: 11/22/2007 SI CLIENT: HANFORD Sep1 DT/Tm Tech:  
 Batch: 7289528 WATER pCi/L PM, Quote: SA , 57671 Sep2 DT/Tm Tech:  
 SEQ Batch, Test, None Prep Tech: ,WoodT

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 J8MAD-1-AD		1002.36g.in	SRTB15544	1.727			100	3'	0584	11/16/07	
J7J100281-5-SAMP			11/07/07.pd	2.0072							
 Ex:10/23/2006 AmtRec: VIAL20,4XLP #Containers: 5 Scr: Alpha: 3.47E-09 uCi/Sa Beta: 1.23E-07 uCi/Sa											
6 J8391-1-AA-B		1000.60g.in	SRTB15545	1.336				9"	0624	11/16/07	
J7J160000-528-BLK			11/07/07.pd	2.0072							
 Ex:10/23/2006 AmtRec: #Containers: 1 Scr: Alpha: Beta:											
7 J8391-1-AC-C		1000.80g.in	SRS61399	1.443				3'	0624	11/16/07	
J7J160000-528-LCS			10/22/07.pd	1.9910							
 Ex:10/23/2006 AmtRec: #Containers: 1 Scr: Alpha: Beta:											

**Comments:**

All Clients for Batch:  
 384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 57671

J8H421AA-SAMP Constituent List:  
 Sr-85 RDL: pCi/L LCL:20 UCL:105 RPD:20 Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20

TA Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 7  
 Richland Wa pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell ct-Cocktailed Added Prep\_SamplePrep v4 8 29

TestAmerica Richland

11/8/2007 9:32:38 AM

**Sample Preparation/Analysis**

Balance Id:1120373922

CL Sr-90 Prp/SepRC5006(5071)  
 TL Sr-85 by NaI and Sr-90 by GPC 7 day ingrowth  
 SI CLIENT: HANFORD

Pipet #: \_\_\_\_\_

AnalyDueDate: 11/22/2007

Sep1 DT/Tm Tech:

Batch: 7289528  
 SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
J83911AA-BLK: Sr-85 RDL:		pCi/L LCL:20	UCL:105	RPD:20	Sr-90	RDL:2		pCi/L	LCL:	UCL:	RPD:
J83911AC-LCS: Sr-85 RDL:		pCi/L LCL:20	UCL:105	RPD:20	Sr-90	RDL:2		pCi/L	LCL:70	UCL:130	RPD:20
J8H421AA-SAMP Calc Info:											
Uncert Level (#s): 2	Decay to SaDt: Y		Blk Subt.: N	Sci.Not.: Y	ODRs: B						
J83911AA-BLK: Uncert Level (#s): 2	Decay to SaDt: Y		Blk Subt.: N	Sci.Not.: Y	ODRs: B						
J83911AC-LCS: Uncert Level (#s): 2	Decay to SaDt: Y		Blk Subt.: N	Sci.Not.: Y	ODRs: B						

Approved By \_\_\_\_\_ Date: \_\_\_\_\_

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11/26/2007 1 27:58 PM

# ICOC Fraction Transfer/Status Report

ByDate 11/26/2006, 12/1/2007. Batch: '7289528', User \*ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
7289528					
AC		<b>CalcC</b>	<b>Barcotl</b>	11/8/2007 9:52:25	
SC		wagarr	IsBalched	10/18/2007 1:31:20 PM	ICOC_RADCALC v4 8 29
SC		Barcotl	InPrep	11/8/2007 9:52:25 AM	RICH-RC-5006 REVISION 7
SC		Barcotl	Prep1C	11/8/2007 9:52:59 AM	RICH-RC-5006 REVISION 7
SC		ManisD	InSep1	11/9/2007 6:41:17 AM	RICH-RC-5006 REV 7
SC		ManisD	Sep2C	11/15/2007 4 57 28 PM	RICH-RC-5006 REV 7
SC		DAWKINSO	InCnt1	11/15/2007 5:21:15 PM	RICH-RD-0007 REVISION 6
SC		BlackCL	Cnt1C	11/16/2007 8:05:44 AM	RICH-RD-0007 REVISION 6
SC		FABREM	Sep2C	11/23/2007 2:47 11 PM	RICH-RC-5071 REVISION 5
SC		BlackCL	InCnt2	11/23/2007 2:49.49 PM	RICH-RD-0003 REVISION 5
SC		BlackCL	CalcC	11/25/2007 8:17:54 AM	RICH-RD-0003 REVISION 5
AC		<b>Barcotl</b>		11/8/2007 9:52:59	
AC		<b>ManisD</b>		11/9/2007 6:41:17	
AC		<b>ManisD</b>		11/15/2007 4:57:28	
AC		<b>DAWKINSO</b>		11/15/2007 5:21:15	
AC		<b>BlackCL</b>		11/16/2007 8:05:44	
AC		<b>FABREM</b>		11/23/2007 2:47:11	
AC		<b>BlackCL</b>		11/23/2007 2:49.49	
AC		<b>BlackCL</b>		11/25/2007 8:17:54	

AC Accepting Entry, SC Status Change

STL Richland  
Richland Wa

TestAmerica Richland

11/15/2007 2:10:42 PM

**Sample Preparation/Analysis**

Balance Id:2113224201

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

BN I-129 Prp/SepRC5025  
TB Gamma by LEPD  
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 11/23/2007

Sep1 DT/Tm Tech:

Batch: 7289530 WATER pCi/L  
SEQ Batch, Test: None All Tests: 7289530 BNTB,

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,BostedD



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, Ini/Date	Comments:
1 J8NL9-1-AA J7J110113-1-SAMP 10/10/2007 12:34	3912.50g,in		11/08/07							
				36.4	100	12		1720		11/21/0700
AmtRec: VIAL20,2X4LP #Containers: 3						Scr:	Alpha: -8.82E-07 uCi/Sa		Beta: -3.61E-07 uCi/Sa	
2 J8NMF-1-AA J7J110113-2-SAMP 10/10/2007 11:10	3870.50g,in		11/08/07							
				36.6				1720		
AmtRec: VIAL20,2X4LP #Containers: 3						Scr:	Alpha: -6.30E-07 uCi/Sa		Beta: 4.18E-07 uCi/Sa	
3 J8NMN-1-AA J7J110113-3-SAMP 10/10/2007 11:21	3896.70g,in		11/08/07							
				36.4				1722		
AmtRec: VIAL20,2X4LP #Containers: 3						Scr:	Alpha: -6.52E-07 uCi/Sa		Beta: -1.88E-07 uCi/Sa	
4 J8NM0-1-AA J7J110113-4-SAMP 10/10/2007 09:28	3913.80g,in		11/08/07							
				37.3				1906		
AmtRec: VIAL20,2X4LP #Containers: 3						Scr:	Alpha: -2.42E-07 uCi/Sa		Beta: -7.94E-07 uCi/Sa	
5 J8T3G-1-AA J7J120216-1-SAMP 10/11/2007 11:08	3931.50g,in		11/08/07							
				35.2						
AmtRec: 20ML,2X4LP #Containers: 3						Scr:	Alpha: 1.01E-07 uCi/Sa		Beta: -5.33E-07 uCi/Sa	
6 J8T3G-1-AC-X J7J120216-1-DUP 10/11/2007 11:08	3955.40g,in		11/08/07							
				36.5				1907		
AmtRec: 20ML,2X4LP #Containers: 3						Scr:	Alpha: 1.01E-07 uCi/Sa		Beta: -5.33E-07 uCi/Sa	
7 J8T32-1-AD J7J120222-1-SAMP 10/11/2007 10:27	3915.90g,in		11/08/07							
				36.5				2101		
AmtRec: 20ML,LP,2X4LP #Containers: 4						Scr:	Alpha: 8.33E-07 uCi/Sa		Beta: -1.09E-06 uCi/Sa	

TestAmerica Richland

11/15/2007 2:10:46 PM

**Sample Preparation/Analysis**

Balance Id:2113224201

BN I-129 Prp/SepRC5025  
 TB Gamma by LEPD  
 SI CLIENT: HANFORD

Pipet #: \_\_\_\_\_

AnalyDueDate: 11/23/2007

Sep1 DT/Tm Tech: \_\_\_\_\_

Batch: 7289530  
 SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech: \_\_\_\_\_

Prep Tech: ,BostedD



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, Iniv/Date	Comments:
8 J8392-1-AA-B J7J160000-530-BLK 10/11/2007 11:08		3874.10g,in	ITA6743 11/06/07							
					37.3	100	L4	2101	11/21/0700	
										Scr: Alpha: Beta:
9 J8392-1-AC-C J7J160000-530-LCS 10/11/2007 11:08		3914.50g,in	ISD0789 10/31/07							
					36.9		L5	2102		
										Scr: Alpha: Beta:

**Comments:**

All Clients for Batch:  
 384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 57671

J8NL91AA-SAMP Constituent List:

I-129	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
J83921AA-BLK:					
I-129	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
J83921AC-LCS:					
I-129	RDL:5	pCi/L	LCL:70	UCL:130	RPD:20

J8NL91AA-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
J83921AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
J83921AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By \_\_\_\_\_ Date: \_\_\_\_\_

11/26/2007 2:43.08 PM

# ICOC Fraction Transfer/Status Report

ByDate: 11/26/2006, 12/1/2007, Batch: '7289530', User: 'ALL Order By DateTimeAccepting'

Q Batch	Work Ord	CurStatus	Accepting	Comments
7289530				
AC		CalcC	BostedD 11/15/2007 4:15:41	
SC		wagarr	IsBatched 10/18/2007 1 31:20 PM	ICOC_RADCALC v4 8 29
SC		BostedD	InPrep2 11/15/2007 4:15:41 PM	RICHRC5025 REVISION 4
SC		BostedD	Prep2C 11/21/2007 3:31:31 PM	RICHRC5025 REVISION 4
SC		DAWKINSO	InCnt1 11/21/2007 4:22:50 PM	RICH-RD-0007 REVISION 6
SC		DAWKINSO	CalcC 11/21/2007 10:04:25 PM	RICH-RD-0007 REVISION 6
AC		BostedD	11/21/2007 3:31:31	
AC		DAWKINSO	11/21/2007 4:22:50	
AC		DAWKINSO	11/21/2007 10:04:25	

AC: Accepting Entry, SC: Status Change

STL Richland

Richland Wa.

TestAmerica Richland

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10/22/2007 1:44:20 PM	<b>Sample Preparation/Analysis</b>		Balance Id: <i>N/A</i>
	5S C-14 Prp/SepRC5022		Pipet #: _____
	S3 Carbon-14 by Liquid Scint		Sep1 DT/Tm Tech: <i>1/7.070w</i>
AnalyDueDate: 11/22/2007 <i>W05JH</i>	5I CLIENT: HANFORD		Sep2 DT/Tm Tech: _____
Batch: 7289524 WATER pCi/L	PM, Quote: SA, 57671		Prep Tech: _____
SEQ Batch, Test: None			



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
<b>1 J8H52-1-AD</b>								
J7J090227-1-SAMP								
10/08/2007 12:57		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: 2.78E-07 uCi/Sa	Beta: -3.63E-07 uCi/Sa	
<b>2 J8H52-1-AE-X</b>								
J7J090227-1-DUP								
10/08/2007 12:57		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: 2.78E-07 uCi/Sa	Beta: -3.63E-07 uCi/Sa	
<b>3 J8H56-1-AD</b>								
J7J090227-2-SAMP								
10/08/2007 10:08		AmtRec: 20ML,6XLP	#Containers: 7			Scr: Alpha: 8.12E-07 uCi/Sa	Beta: -5.29E-07 uCi/Sa	
<b>4 J8H6M-1-AD</b>								
J7J090227-3-SAMP								
10/08/2007 11:40		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: -1.77E-07 uCi/Sa	Beta: -2.85E-07 uCi/Sa	
<b>5 J839R-1-AA-B</b>								
J7J160000-524-BLK								
10/08/2007 12:57		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
<b>6 J839R-1-AC-C</b>								
J7J160000-524-LCS								
10/08/2007 12:57		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
<b>7 J839R-1-AD-BN</b>								
J7J160000-524-IBLK								
10/08/2007 12:57		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	

TestAmerica Richland

10/22/2007 1:44:21 PM

Sample Preparation/Analysis

Balance Id: N/A

5S C-14 Prp/SepRC5022  
S3 Carbon-14 by Liquid Scint  
5I CLIENT: HANFORD

Pipet #: \_\_\_\_\_

Sep1 DT/Tm Tech: 11-7-07 or

Sep2 DT/Tm Tech: \_\_\_\_\_

AnalyDueDate: 11/22/2007

Prep Tech: \_\_\_\_\_

Batch: 7289524 pCi/L  
SEQ Batch, Test: None



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

All Clients for Batch:  
384868, SA, 57671

J8H521AD-SAMP Constituent List:  
C-14 RDL:2.00E+02 pCi/L LCL:70 UCL:130 RPD:20

J839R1AA-BLK:

J839R1AC-LCS:

J839R1AD-IBLK:

J8H521AD-SAMP Calc Info:	Uncert Level (#):	Decay to SaDt:	Blk Subt.:	Sci.Not.:	ODRs:
J839R1AA-BLK:	2	Y	N	Y	B
J839R1AC-LCS:	2	Y	N	Y	B
J839R1AD-IBLK:	2	Y	N	Y	B

Approved By \_\_\_\_\_

Date: \_\_\_\_\_

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11/23/2007 9:32 49 AM

# ICOC Fraction Transfer/Status Report

ByDate: 11/23/2006, 11/28/2007, Batch: '7289524'. User: 'ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	7289524				
AC		CalcC	McDowellID	10/23/2007 1:45:05	
SC			wagarr	isBatched 10/18/2007 1:31:20 PM	ICOC, RADCALC v4 8.29
SC			McDowellID	inSep1 10/23/2007 1:45:05 PM	RICH-RC-5022 REVISION 3
SC			McDowellID	Sep1C 11/8/2007 3:42:10 PM	RICH-RC-5022 REVISION 3
SC			DAWKINSO	inCnt1 11/8/2007 4:20:46 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC 11/9/2007 11:35:39 AM	RICH-RD-0001 REVISION 4
AC			McDowellID	11/8/2007 3:42:10 PM	
AC			DAWKINSO	11/8/2007 4:20:46 PM	
AC			BlackCL	11/9/2007 11:35:39	

AC: Accepting Entry, SC: Status Change

STL Richland  
Richard Wa