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W05065

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*106 pages*

Analytical Data Package Prepared For  
**Pacific Northwest National Lab**

Radiochemical Analysis By

**STL Richland STLRL**

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

*Data Package Contains \_\_\_\_\_ Pages*

Report Nbr: 34226

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05065	I07-011	B1L351	J6K150257-1	JJQ5A2AA	9JJQ5A20	7002407
		B1L303	J6K150257-2	JJQ5N2AA	9JJQ5N20	7002407
		B1L2P3	J6K150257-3	JJQ5X2AA	9JJQ5X20	7002407
		B1L2P2	J6K150257-4	JJQ512AA	9JJQ5120	7002407
		B1L347	J6K150257-5	JJQ672AA	9JJQ6720	7002407
		B1L2Y7	J6K150257-6	JJQ712AA	9JJQ7120	7002407
		B1L2V8	J6K150257-7	JJQ8R2AA	9JJQ8R20	7002407
		B1L2V0	J6K150257-8	JJQ8X2AA	9JJQ8X20	7002407
		B1L357	J6K150257-9	JJQ812AA	9JJQ8120	7002407
	G07-011	B1KYC3	J6K150289-1	JJRAR2AA	9JJRAR20	6353250
		B1KYC5	J6K150289-2	JJRA72AA	9JJRA720	6353250
		B1KYB2	J6K150289-3	JJRCP2AA	9JJRCP20	6353250
		B1KYB6	J6K150289-4	JJRCP2AA	9JJRCP20	6353250
		B1KYB7	J6K150289-5	JJRDM2AA	9JJRDM20	6353250
		B1KYB8	J6K150289-6	JJRDV2AA	9JJRDV20	6353250

Comments:

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## Report Nbr: 34226

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05065	G07-011	B1KYC1	J6K150289-7	JJRD22AA	9JJRD220	6353250
	W07-011	B1L6Y9	J6K160315-1	JJWJD1AA	9JJWJD10	6331262
		B1L6Y9	J6K160315-1	JJWJD1AC	9JJWJD10	6331271
		B1L6Y9	J6K160315-1	JJWJD1AD	9JJWJD10	6331260
		B1L6Y9	J6K160315-1	JJWJD2AE	9JJWJD20	7002407
		B1L741	J6K160315-2	JJWL61AA	9JJWL610	6331262
		B1L741	J6K160315-2	JJWL61AC	9JJWL610	6331261
		B1L741	J6K160315-2	JJWL62AD	9JJWL620	7002407
		B1L6V1	J6K160315-3	JJWMC1AA	9JJWMC10	6331262
		B1L6V1	J6K160315-3	JJWMC1AD	9JJWMC10	6331271
		B1L6V1	J6K160315-3	JJWMC1AE	9JJWMC10	6331260
		B1L6V1	J6K160315-3	JJWMC2AC	9JJWMC20	6353250
		B1L6V1	J6K160315-3	JJWMC2AF	9JJWMC20	7002407
	I07-010	B1L237	J6K180125-1	JJ2JJ1AA	9JJ2JJ10	6331262
		B1L237	J6K180125-1	JJ2JJ1AC	9JJ2JJ10	6331265
		B1L237	J6K180125-1	JJ2JJ1AD	9JJ2JJ10	6331260

Comments:

**STL Richland**  
2800 George Washington Way  
Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590  
www.stl-inc.com

## Certificate of Analysis

Pacific Northwest National Laboratories  
Sigma V Building  
Richland, WA 99352

January 18, 2007

Attention: Dot Stewart

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SAF Number	:	I07-011, G07-011, W07-011
Date SDG Closed	:	November 16, 2006
Number of Samples	:	Nineteen (19)
Sample Type	:	Water
SDG Number	:	W05065
Data Deliverable	:	45-Day / Summary

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### CASE NARRATIVE

#### I. Introduction

Between November 13, 2006 and November 15, 2006, nineteen water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1L351	JJQ5A	WATER	11/14/06
B1L303	JJQ5N	WATER	11/14/06
B1L2P3	JJQ5X	WATER	11/14/06
B1L2P2	JJQ51	WATER	11/14/06
B1L347	JJQ67	WATER	11/14/06
B1L2Y7	JJQ71	WATER	11/14/06
B1L2V8	JJQ8R	WATER	11/14/06
B1L2V0	JJQ8X	WATER	11/14/06
B1L357	JJQ81	WATER	11/14/06
B1KYC3	JJRAR	WATER	11/13/06
B1KYC5	JJRA7	WATER	11/13/06
B1KYB2	JJRCF	WATER	11/13/06
B1KYB6	JJRCP	WATER	11/13/06

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January 18, 2007

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B1KYB7	JJRDM	WATER	11/13/06
B1KYB8	JJRDV	WATER	11/13/06
B1KYC1	JJRD2	WATER	11/13/06
B1L6Y9	JJWJD	WATER	11/15/06
B1L741	JJWL6	WATER	11/15/06
B1L6V1	JJWMC	WATER	11/15/06

## 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 Beta by method RICH-RC-5014

### **Gamma Spectroscopy**

Gamma Spec (LL) by method RICH-RC-5017

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

### **Liquid Scintillation Counting**

Technetium-99 by TEVA method RICH-RC-5065

Technetium-99 by method RICH-RC-5078

Tritium by method RICH-RC-5007

### **Laser Induced Phosphorimetry**

Total Uranium by method RICH-RC-5058

## 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 Beta by method RICH-RC-5014:

Reduced volumes were analyzed based on an elevated screen results for samples B1KYC5, B1KYC3, B1KYB6, B1KYC1, B1KYB7, B1KYB8, B1L6V1 and B1KYC3 DUP. The initial analysis was potentially cross contaminated due to "popping" sample. The samples were reanalyzed. Except as noted, the LCS, batch blank, samples and sample duplicate (B1KYC3) results are within contractual requirements.

**Gamma Spectroscopy**

Gamma Spec (LL) by method RICH-RC-5017:

B1L6Y9 does not meet the CRDL for Cs-137. There was insufficient volume for a full aliquot. Except as noted, the LCS, batch blank, samples and sample duplicate (B1L6V1) results are within contractual requirements.

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

The LCS, batch blank, samples and sample duplicate (B1L237) results are within contractual requirements.

**Liquid Scintillation Counting**

Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1L237), and sample matrix spike (B1L6V1) results are within contractual requirements.

Technetium-99 by method RICH-RC-5078:

The LCS, batch blank, samples, sample duplicate (B1L741), and sample matrix spike (B1L741) results are within contractual requirements.

Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1L741) results are within contractual requirements.

**Total Uranium**

Total Uranium by method RICH-RC-5058:

On the first analysis the blank was high. It was reanalyzed with good results. Data accepted. Except as noted, the LCS, batch blank, samples, sample duplicate (B1L351), and sample matrix spike (B1L303) 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.

Pacific Northwest National Laboratories  
January 18, 2007

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Reviewed and approved:



Sherryl A. Adam  
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 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

### Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,\dots)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1.2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

<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 $(\text{Result}/\text{Expected}) - 1$ 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) <math>u_c</math> - Combined Uncertainty.</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, $u_c$ , the combined uncertainty. 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
<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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$ . For LSC methods the batch blank is used as a measure of the background variability.
<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 <b>Work Order</b> 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.

1/18/2007 3:50:13 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R    FormatType: FEAD    Version: 05    Rpt Nbr: 34226    File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.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:				
9JJ2JJ10	B1L237		MW6-SBB-A1	I07-010	W05065					11/16/2006 09:22				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6331262	H-3	10028-17-8	9.99E+03	pCi/L	3.4E+02	5.4E+02		3.10E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/2006 16:50	I
6331265	I-129L	15046-84-1	8.74E-02	pCi/L	1.3E-01	1.3E-01	U	2.46E-01	99.5	I129LL_SEP_LEPS	3.9114E+00	L	12/23/2006 11:33	I
6331260	TC-99	14133-76-7	1.49E+02	pCi/L	7.8E+00	1.6E+01		9.86E+00	100.0	TC99_ETVDSK_LS	1.25E-01	L	12/16/2006 23:18	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:				
9JJQ5120	B1L2P2		MW6-SBB-A1	I07-011	W05065					11/14/2006 11:54				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	2.31E+00	ug/L	2.4E-01	2.4E-01		8.06E-02		UTOT_KPA	2.60E-02	ML	01/17/2007 14:24	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:				
9JJQ5A20	B1L351		MW6-SBB-A1	I07-011	W05065					11/14/2006 08:45				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	1.62E+00	ug/L	1.7E-01	1.7E-01		8.35E-02		UTOT_KPA	2.51E-02	ML	01/17/2007 14:05	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:				
9JJQ5N20	B1L303		MW6-SBB-A1	I07-011	W05065					11/14/2006 11:08				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	6.02E-01	ug/L	6.2E-02	6.2E-02		8.38E-02		UTOT_KPA	2.50E-02	ML	01/17/2007 14:13	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:				
9JJQ5X20	B1L2P3		MW6-SBB-A1	I07-011	W05065					11/14/2006 11:54				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	2.41E+00	ug/L	2.5E-01	2.5E-01		8.25E-02		UTOT_KPA	2.54E-02	ML	01/17/2007 14:20	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:				
9JJQ6720	B1L347		MW6-SBB-A1	I07-011	W05065					11/14/2006 08:20				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	2.13E+00	ug/L	2.2E-01	2.2E-01		8.38E-02		UTOT_KPA	2.50E-02	ML	01/17/2007 14:30	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:
9JJQ7120	B1L2Y7		MW6-SBB-A1	I07-011	W05065					11/14/2006 09:02

STL Richland

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

rptFeadRadSummaryEdd v3.48

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.

1/18/2007 3:50:14 PM

## STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34226 File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	1.80E+00	ug/L	1.8E-01	1.8E-01		7.94E-02		UTOT_KPA	2.64E-02	ML	01/17/2007 14:32	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:				
9JJQ8120	B1L357		MW6-SBB-A1	I07-011	W05065					11/14/2006 12:24				
7002407	Uranium	7440-61-1	2.64E+00	ug/L	2.7E-01	2.7E-01		8.38E-02		UTOT_KPA	2.50E-02	ML	01/17/2007 14:46	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:				
9JJQ8R20	B1L2V8		MW6-SBB-A1	I07-011	W05065					11/14/2006 11:34				
7002407	Uranium	7440-61-1	1.91E+00	ug/L	2.0E-01	2.0E-01		7.94E-02		UTOT_KPA	2.64E-02	ML	01/17/2007 14:37	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:				
9JJQ8X20	B1L2V0		MW6-SBB-A1	I07-011	W05065					11/14/2006 09:46				
7002407	Uranium	7440-61-1	1.67E+00	ug/L	1.7E-01	1.7E-01		8.25E-02		UTOT_KPA	2.54E-02	ML	01/17/2007 14:44	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:				
9JJRA720	B1KYC5		MW6-SBB-A1	G07-011	W05065					11/13/2006 08:53				
6353250	BETA	12587-47-2	2.25E+03	pCi/L	2.9E+01	2.8E+02		4.78E+00	100.0	9310_ALPHABETA	1.119E-01	L	12/21/2006 11:11	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:				
9JJRAR20	B1KYC3		MW6-SBB-A1	G07-011	W05065					11/13/2006 13:06				
6353250	BETA	12587-47-2	8.48E+01	pCi/L	6.1E+00	1.7E+01		4.90E+00	100.0	9310_ALPHABETA	1.136E-01	L	12/21/2006 11:11	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:				
9JJRCF20	B1KYB2		MW6-SBB-A1	G07-011	W05065					11/13/2006 09:19				
6353250	BETA	12587-47-2	5.01E+02	pCi/L	1.0E+01	9.5E+01		2.58E+00	100.0	9310_ALPHABETA	2.017E-01	L	12/21/2006 11:11	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:				

STL Richland

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

rptFeadRadSummaryEdd v3.48

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.

2

1/18/2007 3:50:14 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 34226      File Name: h:\Reportdb\ledd\FeadIV\Rad\W05065.Edd, h:\Reportdb\ledd\FeadIV\Rad\34226.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:				
9JJRCP20	B1KYB6		MW6-SBB-A1	G07-011	W05065					11/13/2006 13:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353250	BETA	12587-47-2	3.82E+03	pCi/L	3.4E+01	7.4E+02		4.00E+00	100.0	9310_ALPHABETA	1.309E-01	L	12/21/2006 11:11	I
9JJRD220	B1KYC1		MW6-SBB-A1	G07-011	W05065					11/13/2006 10:31				
6353250	BETA	12587-47-2	1.56E+04	pCi/L	1.3E+02	2.0E+03		2.01E+01	100.0	9310_ALPHABETA	1.85E-02	L	12/21/2006 11:27	I
9JJRDM20	B1KYB7		MW6-SBB-A1	G07-011	W05065					11/13/2006 11:27				
6353250	BETA	12587-47-2	5.08E+03	pCi/L	3.3E+01	6.5E+02		4.16E+00	100.0	9310_ALPHABETA	9.31E-02	L	12/21/2006 11:27	I
9JJRDV20	B1KYB8		MW6-SBB-A1	G07-011	W05065					11/13/2006 11:27				
6353250	BETA	12587-47-2	3.57E+03	pCi/L	9.3E+01	4.9E+02		4.21E+01	100.0	9310_ALPHABETA	8.50E-03	L	12/21/2006 11:27	I
9JJWJD10	B1L6Y9		MW6-SBB-A1	W07-011	W05065					11/15/2006 11:10				
6331262	H-3	10028-17-8	5.34E+04	pCi/L	7.5E+02	2.1E+03		3.10E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/2006 11:23	I
6331271	BE-7	13966-02-4	-1.20E+01	pCi/L	5.6E+01	5.6E+01	U	9.85E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	CO-60	10198-40-0	4.88E+01	pCi/L	1.5E+01	1.5E+01		1.29E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	CS-134	13967-70-9	5.72E+00	pCi/L	6.1E+00	6.1E+00	U	1.25E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	CS-137	10045-97-3	-4.60E+00	pCi/L	5.1E+00	5.1E+00	U	8.29E+00		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	EU-152	14683-23-9	-1.92E+00	pCi/L	1.2E+01	1.2E+01	U	2.14E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	EU-154	15585-10-1	1.69E+01	pCi/L	1.4E+01	1.4E+01	U	3.34E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	EU-155	14391-16-3	2.19E+00	pCi/L	9.5E+00	9.5E+00	U	1.69E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	K-40	13966-00-2	2.18E+00	pCi/L	1.0E+02	1.0E+02	U	2.25E+02		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	RU-106	13967-48-1	-4.26E+00	pCi/L	4.7E+01	4.7E+01	U	8.54E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331271	SB-125	14234-35-6	-6.01E+00	pCi/L	1.2E+01	1.2E+01	U	2.12E+01		GAMMALL_GS	9.772E-01	L	12/21/2006 09:58	I
6331260	TC-99	14133-76-7	2.29E+04	pCi/L	8.2E+01	1.6E+03		9.74E+00	100.0	TC99_ETVDSK_LS	1.278E-01	L	12/16/2006 23:18	I

STL Richland

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

3

rptFeadRadSummaryEdd v3.48

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.

1/18/2007 3:50:14 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 34226      File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.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:				
9JJWJD20	B1L6Y9		MW6-SBB-A1	W07-011	W05065					11/15/2006 11:10				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	4.79E+00	ug/L	4.9E-01	4.9E-01		8.42E-02		UTOT_KPA	2.49E-02	ML	01/17/2007 14:48	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:				
9JJWL610	B1L741		MW6-SBB-A1	W07-011	W05065					11/15/2006 12:43				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6331262	H-3	10028-17-8	1.37E+04	pCi/L	3.9E+02	6.7E+02		3.10E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/2006 12:45	I
6331261	TC-99	14133-76-7	8.24E+01	pCi/L	6.3E+00	1.0E+01		9.70E+00	100.0	TC99_SEP_LSC	1.251E-01	L	12/21/2006 04:07	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:				
9JJWL620	B1L741		MW6-SBB-A1	W07-011	W05065					11/15/2006 12:43				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002407	Uranium	7440-61-1	6.69E+00	ug/L	7.9E-01	7.9E-01		8.35E-02		UTOT_KPA	2.51E-02	ML	01/17/2007 14:51	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:				
9JJWMC10	B1L6V1		MW6-SBB-A1	W07-011	W05065					11/15/2006 12:06				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6331262	H-3	10028-17-8	1.19E+04	pCi/L	3.7E+02	6.1E+02		3.10E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/2006 15:28	I
6331271	BE-7	13966-02-4	-3.09E+01	pCi/L	2.6E+01	2.6E+01	U	4.11E+01		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	CO-60	10198-40-0	3.21E-01	pCi/L	2.3E+00	2.3E+00	U	4.66E+00		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	CS-134	13967-70-9	-6.73E-01	pCi/L	2.2E+00	2.2E+00	U	4.03E+00		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	CS-137	10045-97-3	9.47E-01	pCi/L	2.2E+00	2.2E+00	U	4.39E+00		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	EU-152	14683-23-9	-1.76E+00	pCi/L	5.1E+00	5.1E+00	U	8.85E+00		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	EU-154	15585-10-1	-3.25E+00	pCi/L	7.2E+00	7.2E+00	U	1.25E+01		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	EU-155	14391-16-3	1.93E-01	pCi/L	3.1E+00	3.1E+00	U	5.75E+00		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	K-40	13966-00-2	-2.79E+01	pCi/L	4.7E+01	4.7E+01	U	1.02E+02		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	RU-106	13967-48-1	9.23E+00	pCi/L	2.0E+01	2.0E+01	U	3.94E+01		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331271	SB-125	14234-35-6	6.33E+00	pCi/L	4.9E+00	4.9E+00	U	1.04E+01		GAMMALL_GS	1.9855E+00	L	12/21/2006 09:59	I
6331260	TC-99	14133-76-7	1.68E+03	pCi/L	2.3E+01	1.2E+02		9.92E+00	100.0	TC99_ETVDSK_LS	1.242E-01	L	12/16/2006 23:18	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:				

STL Richland

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

rptFeadRadSummaryEdd v3.48

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.



Thursday, January 18, 2007

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC811AB

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/16/2006 09:22

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 11/16/2006

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	Tgt/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
6331265 BLK	I-129L 15046-84-1	-5.94E-02	pCi/L	1.2E-01 1.2E-01	U	2.00E-01	98.6		I129LL_SEP_L	3.735E+00 L	12/23/2006 11:35				D

Thursday, January 18, 2007

**STL Richland QC Blank Report**

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC852AB

Sdg/Rept Nbr: W05065

34226

Collection Date: 11/13/2006 13:06

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 11/14/2006

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	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
6353250 BLK	BETA 12587-47-2	9.19E-01	pCi/L	8.7E-01 8.6E-01	U	1.66E+00	100.0		9310_ALPHAB	2.047E-01 L	12/21/2006 11:27				D

Thursday, January 18, 2007

**STL Richland QC Blank Report**

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\I\Rad\W05065.Edd, h:\Reportdb\edd\Fead\I\Rad\34226.Edd

Lab Sample Id: JKC871AB      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/15/2006 11:10  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BLK      Received Date: 11/15/2006

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	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
6331271	BE-7	1.11E+00	pCi/L	2.0E+01	U	3.59E+01			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	13966-02-4			2.0E+01						L	10:00				
6331271	CO-60	8.36E-01	pCi/L	1.9E+00	U	3.94E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	10198-40-0			1.9E+00						L	10:00				
6331271	CS-134	-8.61E-02	pCi/L	1.6E+00	U	3.02E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	13967-70-9			1.6E+00						L	10:00				
6331271	CS-137	8.16E-01	pCi/L	1.6E+00	U	3.15E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	10045-97-3			1.6E+00						L	10:00				
6331271	EU-152	-1.12E+00	pCi/L	4.8E+00	U	8.42E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	14683-23-9			4.8E+00						L	10:00				
6331271	EU-154	-2.94E+00	pCi/L	4.5E+00	U	7.57E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	15585-10-1			4.5E+00						L	10:00				
6331271	EU-155	-3.08E+00	pCi/L	3.7E+00	U	5.85E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	14391-16-3			3.7E+00						L	10:00				
6331271	K-40	-3.82E+00	pCi/L	2.7E+01	U	5.48E+01			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	13966-00-2			2.7E+01						L	10:00				
6331271	RU-106	-7.11E+00	pCi/L	1.6E+01	U	2.74E+01			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	13967-48-1			1.6E+01						L	10:00				
6331271	SB-125	-2.33E+00	pCi/L	3.8E+00	U	6.46E+00			GAMMALL_GS	2.0014E+00	12/21/2006				D
BLK	14234-35-6			3.8E+00						L	10:00				

Thursday, January 18, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC8P1AB

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/16/2006 09:22

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 11/16/2006

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/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6331260 BLK	TC-99 14133-76-7	-4.07E+00	pCi/L	5.7E+00 3.8E+00	U	9.69E+00	100.0		TC99_ETVDSK	1.278E-01 L	12/16/2006 23:18				D

STL Richland

rptFeadRadEdd v3.68

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.

Thursday, January 18, 2007

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC8Q1AB      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/15/2006 12:43  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BLK      Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BP	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/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6331261 BLK	TC-99 14133-76-7	4.16E+00	pCi/L	5.7E+00 4.1E+00	U	9.56E+00	100.0		TC99_SEP_LS	1.27E-01	12/21/2006 04:07				D

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.

Thursday, January 18, 2007

# STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JKC8T1AB

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/15/2006 12:43

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BR	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
6331262 BLK	H-3 10028-17-8	1.19E+02	pCi/L	1.5E+02 1.3E+02	U	3.11E+02	100.0		906.0_H3_LSC	5.00E-03 L	12/10/2006 05:56				D

Thursday, January 18, 2007

### STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC8T1DX      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/15/2006 12:43  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BLK      Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	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	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6331262 BLK	H-3 10028-17-8	1.26E+02	pCi/L	1.5E+02 1.3E+02	U	3.14E+02	100.0		906.0_H3_LSC	5.00E-03 L	12/10/2006 08:40				D

Thursday, January 18, 2007

# STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JMA9E1AB

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/14/2006 08:45

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 11/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BV	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/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7002407 BLK	Uranium 7440-61-1	-1.19E-02	ug/L	3.2E-03 3.2E-03	U	8.25E-02			UTOT_KPA	2.54E-02 ML	01/17/2007 13:37				D

Thursday, January 18, 2007

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC811CS      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/16/2006 09:22  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 11/16/2006

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	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
6331265 BS	I-129L 15046-84-1	8.23E+00	pCi/L	1.2E+00 1.2E+00		3.61E-01	96.3	9.68E+00 85.0	I129LL_SEP_L	3.9792E+00 L	12/23/2006 13:21			70 130	D

Thursday, January 18, 2007

**STL Richland QC Control Sample Report**

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC852CS      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/13/2006 13:06  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 11/14/2006

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	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353250 BS	BETA 12587-47-2	2.29E+01	pCi/L	3.4E+00 1.7E+00		1.67E+00	100.0	2.27E+01 101.1	9310_ALPHAB	2.01E-01 L	12/21/2006 11:27			70 130	D

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.

Thursday, January 18, 2007

## STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JKC871CS

Sdg/Rept Nbr: W05065

34226

Collection Date: 11/15/2006 11:10

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 11/15/2006

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	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6331271 BS	CO-60 10198-40-0	3.78E+01	pCi/L	9.0E+00 9.0E+00		4.90E+00		3.78E+01 100.1	GAMMALL_GS	2.0016E+00 L	12/21/2006 10:01			70 130	D
6331271 BS	CS-137 10045-97-3	2.42E+01	pCi/L	7.1E+00 7.1E+00		4.96E+00		2.53E+01 95.7	GAMMALL_GS	2.0016E+00 L	12/21/2006 10:01			70 130	D
6331271 BS	EU-152 14683-23-9	7.84E+01	pCi/L	1.9E+01 1.9E+01		1.14E+01		7.67E+01 102.2	GAMMALL_GS	2.0016E+00 L	12/21/2006 10:01			70 130	D

STL Richland

rptFeadRadEdd v3.68

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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Thursday, January 18, 2007

### STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JKC8P1CS

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/16/2006 09:22

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 11/16/2006

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
6331260 BS	TC-99 14133-76-7	5.15E+02	pCi/L	4.1E+01 1.3E+01		9.82E+00	100.0	5.41E+02 95.2	TC99_ETVDSK	1.257E-01 L	12/16/2006 23:18			70 130	D

Thursday, January 18, 2007

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JKC8Q1CS      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/15/2006 12:43  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 11/15/2006

SAF Nbr      Contract Nbr      Test User      Case Nbr      SAS Nbr      Suffix      Decant      Distilled Volume      File Id      FSuffix      RTyp  
 MW6-SBB-A19981      BQ      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
6331261 BS	TC-99 14133-76-7	4.17E+02	pCi/L	3.0E+01 1.2E+01		9.50E+00	100.0	5.29E+02 78.9	TC99_SEP_LS	1.282E-01 L	12/21/2006 04:07			70 130	D

Thursday, January 18, 2007

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JKC8T1CS

Sdg/Rept Nbr: W05065

34226

Collection Date: 11/15/2006 12:43

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	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
6331262 BS	H-3 10028-17-8	2.74E+03	pCi/L	2.6E+02 2.1E+02		3.10E+02	100.0	2.72E+03 100.8	906.0_H3_LSC	5.00E-03	12/10/2006 07:18			70 130	D

Thursday, January 18, 2007

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JKC8T1EM      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/15/2006 12:43  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BU	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
6331262 BS	H-3 10028-17-8	2.62E+03	pCi/L	2.5E+02 2.1E+02		3.16E+02	100.0	2.72E+03 96.4	906.0_H3_LSC	5.00E-03 L	12/10/2006 10:01			70 130	D

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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# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JMA9E1CS

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/14/2006 08:45

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 11/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BW	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/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7002407 BS	Uranium 7440-61-1	3.74E+01	ug/L	4.4E+00 4.4E+00		8.35E-02		3.62E+01 103.3	UTOT_KPA	2.51E-02 ML	01/17/2007 13:49			70 130	D

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.

Thursday, January 18, 2007

### STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\IV\Rad\W05065.Edd, h:\Reportdb\edd\Fead\IV\Rad\34226.Edd

**Lab Sample Id:** JMA9E1DS      **Sdg/Rept Nbr:** W05065      34226      **Collection Date:** 11/14/2006 08:45  
**Client Id:** NA      **Matrix:** WATER      WATER      **Sample On Date:**  
**Moisture/Solids%\*:**      **QC Type:** BS      **Received Date:** 11/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BX	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/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7002407 BS	Uranium 7440-61-1	3.67E+00	ug/L	3.8E-01 3.8E-01		8.22E-02		3.56E+01 10.3	UTOT_KPA	2.55E-02 ML	01/17/2007 13:51			70 130	D

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.

Thursday, January 18, 2007

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\Fead\Rad\W05065.Edd, h:\Reportdb\eddd\Fead\Rad\34226.Edd

Lab Sample Id: JJ2JJ1ER

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/16/2006 09:22

Client Id: B1L237

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 11/16/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
I07-010	MW6-SBB-A19981								AX	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/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
6331260 DUP	TC-99 14133-76-7	1.48E+02 1.49E+02	pCi/L	1.6E+01 7.7E+00		9.84E+00	100.0		TC99_ETVDSK	1.258E-01 L	12/16/2006 23:18	.3 20.0	0. 3		D

Thursday, January 18, 2007

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JJ2JJ1FR

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/16/2006 09:22

Client Id: B1L237

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 11/16/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
107-010	MW6-SBB-A19981								AY	H					
Batch # / Qc Type	Analy/ CAS#	Result/ Orig Rst	Unit	Tot/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
6331265 DUP	I-129L 15046-84-1	9.54E-02 8.74E-02	pCi/L	1.5E-01 1.5E-01	U	2.95E-01	93.8		I129LL_SEP_L	3.9091E+00 L	12/23/2006 11:34	8.7 20.0	0.1 3		D

Thursday, January 18, 2007

### STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JJQ5A2CR

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/14/2006 08:45

Client Id: B1L351

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 11/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
107-011	MW6-SBB-A19981								AZ	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
7002407 DUP	Uranium 7440-61-1	1.62E+00 1.62E+00	ug/L	1.7E-01 1.7E-01		8.35E-02			UTOT_KPA	2.51E-02 ML	01/17/2007 14:11	.2 20.0	0. 3		D

Thursday, January 18, 2007

### STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JJRAR2CR      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/13/2006 13:06

Client Id: B1KYC3      Matrix: WATER      WATER      Sample On Date:

Moisture/Solids%\*:      QC Type: DUP      Received Date: 11/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
G07-011	MW6-SBB-A19981								BB	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/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
6353250 DUP	BETA 12587-47-2	8.87E+01 8.48E+01	pCi/L	1.4E+01 6.3E+00		4.77E+00	100.0		9310_ALPHAB	1.136E-01 L	12/21/2006 11:11	4.6 20.0	0.4 3		D

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.

Thursday, January 18, 2007

### STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JJWL61FR

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/15/2006 12:43

Client Id: B1L741

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W07-011	MW6-SBB-A19981								BD	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/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
6331261	TC-99	1.01E+02	pCi/L	1.1E+01		9.65E+00	100.0		TC99_SEP_LS	1.259E-01	12/21/2006	20.0	2.3		D
DUP	14133-76-7	8.24E+01		6.7E+00						L	04:07	20.0	3		

Thursday, January 18, 2007

**STL Richland QC Duplicate Report**

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05065.Edd, h:\Reportdb\edd\FeadIV\Rad\34226.Edd

Lab Sample Id: JJWL61GR

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/15/2006 12:43

Client Id: B1L741

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-011	MW6-SBB-A19981								BE	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/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
6331262 DUP	H-3 10028-17-8	1.38E+04 1.37E+04	pCi/L	6.8E+02 4.0E+02		3.12E+02	100.0		906.0_H3_LSC	5.00E-03 L	12/10/2006 14:06	.9 20.0	0.3 3		D

Thursday, January 18, 2007

## STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\1\Rad\W05065.Edd, h:\Reportdb\edd\Fead\1\Rad\34226.Edd

Lab Sample Id: JJWMC1GR

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/15/2006 12:06

Client Id: B1L6V1

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-011	MW6-SBB-A19981								BF	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
6331271 DUP	BE-7 13966-02-4	-3.00E+00 -3.09E+01	pCi/L	2.3E+01 2.3E+01	U	4.20E+01			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	0.0 20.0	1.7 3		D
6331271 DUP	CO-60 10198-40-0	-9.03E-01 3.21E-01	pCi/L	2.2E+00 2.2E+00	U	4.01E+00			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	0.0 20.0	0.8 3		D
6331271 DUP	CS-134 13967-70-9	-1.14E+00 -6.73E-01	pCi/L	2.3E+00 2.3E+00	U	3.88E+00			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	0.0 20.0	0.3 3		D
6331271 DUP	CS-137 10045-97-3	-3.61E-01 9.47E-01	pCi/L	1.8E+00 1.8E+00	U	3.40E+00			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	446.2 20.0	1. 3		D
6331271 DUP	EU-152 14683-23-9	3.02E+00 -1.76E+00	pCi/L	5.2E+00 5.2E+00	U	1.00E+01			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	754.5 20.0	1.3 3		D
6331271 DUP	EU-154 15585-10-1	4.27E+00 -3.25E+00	pCi/L	6.5E+00 6.5E+00	U	1.42E+01			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	1486.7 20.0	1.6 3		D
6331271 DUP	EU-155 14391-16-3	1.21E+00 1.93E-01	pCi/L	3.5E+00 3.5E+00	U	6.47E+00			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	144.9 20.0	0.4 3		D
6331271 DUP	K-40 13966-00-2	-2.17E+00 -2.79E+01	pCi/L	3.0E+01 3.0E+01	U	6.56E+01			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	0.0 20.0	1.2 3		D
6331271 DUP	RU-106 13967-48-1	6.65E+00 9.23E+00	pCi/L	1.7E+01 1.7E+01	U	3.37E+01			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	32.5 20.0	0.2 3		D
6331271 DUP	SB-125 14234-35-6	-2.17E+00 6.33E+00	pCi/L	5.3E+00 5.3E+00	U	9.08E+00			GAMMALL_GS	1.9295E+00 L	12/21/2006 10:00	408.1 20.0	2.3 3		D

STL Richland

rptFeadRadEdd v3.68

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.

Thursday, January 18, 2007

### STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05065.Edd, h:\Reportdb\eddd\FeadIV\Rad\34226.Edd

Lab Sample Id: JJQ5N2CW

Sdg/Rept Nbr: W05065

34226

Collection Date: 11/14/2006 11:08

Client Id: B1L303

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 11/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
I07-011	MW6-SBB-A19981								BA	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/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7002407 MS	Uranium 7440-61-1	3.72E+01	ug/L	4.5E+00 4.5E+00		8.38E-02		3.64E+01 102.5	UTOT_KPA	2.50E-02 ML	01/17/2007 14:15			60 140	D

Thursday, January 18, 2007

### STL Richland Qc Matrix Spike Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\VRad\W05065.Edd, h:\Reportdb\edd\Fead\VRad\34226.Edd

Lab Sample Id: JJWL61EW      Sdg/Rept Nbr: W05065      34226      Collection Date: 11/15/2006 12:43  
 Client Id: B1L741      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: MS      Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-011	MW6-SBB-A19981								BC	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/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
6331261 MS	TC-99 14133-76-7	2.97E+03	pCi/L	1.8E+02 3.0E+01		9.51E+00	100.0	3.56E+03 83.5	TC99_SEP_LS	1.277E-01 L	12/21/2006 04:07			60 140	D

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.

Thursday, January 18, 2007

### STL Richland Qc Matrix Spike Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05065.Edd, h:\Reportdb\edd\Fead\Rad\34226.Edd

Lab Sample Id: JJWMC1HW

Sdg/Rept Nbr: W05065 34226

Collection Date: 11/15/2006 12:06

Client Id: B1L6V1

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 11/15/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-011	MW6-SBB-A19981								BG	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/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
6331260 MS	TC-99 14133-76-7	3.50E+03	pCi/L	3.8E+02 3.9E+01		9.90E+00	100.0	3.65E+03 95.8	TC99_ETVDSK	1.25E-01 L	12/16/2006 23:18			60 140	D

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.

Lot No., Due Date: J6K180125,J6K160315; 01/02/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6331262; RTRITIUM H-3 by LSC  
SDG, Matrix: W05065; 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

*Alvin E. Williams*

Date

12/11/06



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6351262  
W05065

Review Item	Yes (✓)	No (✓)	N/A (✓)
<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 with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
<b>C. Other</b>			
1. Are all Nonconformances 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: 12-12-06



STL

Data Review/Verification Checklist  
RADIOCHEMISTRY, First Level Review

12/26/2006 3:22:58 PM

Lot No., Due Date: J6K180125; 01/02/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6331265; RGAMLEPS Gamma by LEPS  
SDG, Matrix: W05065; 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 Pam Anderson

Date 12-26-06



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 6331265  
W05065

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances 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: 12-27-06

Lot No., Due Date: J6K160315; 01/02/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6331271; RGAMMA Gamma by GER  
SDG, Matrix: W05065; 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:  
10-09176

First Level Review Pam Anderson

Date 12-26-06



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 4331271  
W05065

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	//		
3. Are the correct isotopes reported?			
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	//		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?	/		
C. Other			
1. Are all Nonconformances 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 NCM

Second Level Review: Sheryl A Adams

Date: 12-27-06  
~~12-27-06~~  
12-27-06

# Clouseau Nonconformance Memo



NCM #: <u>10-09176</u> NCM Initiated By: Pam Anderson Date Opened: 12/27/2006 Date Closed:	Classification: <b>Anomaly</b> Status: <b>GLREVIEW</b> Production Area: Environmental - Prep Tests: Gamma by GER Lot #'s (Sample #'s): J6K160315 (1), QC Batches: 6331271
Nonconformance: MDA not met Subcategory: Data accepted	

### Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Pam Anderson	12/27/2006	Gamma sample JJWJD1A do not meet CRDL for CS 137. There was insufficient sample for a full pour up.

### Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Pam Anderson	12/27/2006	Report with the MDA achieved.

### 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: J6K180125,J6K160315; 01/02/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 6331260; RTC99 Tc-99 by LSC  
 SDG, Matrix: W05065; 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 Incorrect Tracer/Vial => JJWMC1AH TCSE<->TCSE Q:V9	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 OK	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 (MBIks) 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. OK	Yes	No	N/A
8.17	Tracer within Control Limits. No Tracers found in Batch!	Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	Yes	No	N/A
8.19	Sample Specific MDC <= CRDL. OK	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. No Positive Results OK - Calc_IDL Not Calculated	Yes	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => TC-99  OK; No Callin Level Found => TC-99	Yes	No	N/A
8.24	Result + 3s >=0, Not Too Negative. OK	Yes	No	N/A
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A

8.26	Instruments have Current Calibrations.	Yes	No	N/A
8.27	Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <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
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
8.3	Comments:			
8.31	Results Blank Subtracted as Appropriate. OK	Yes <input checked="" type="checkbox"/>	No	N/A

First Level Review Pam Anderson Date 12-26-04



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 6331260  
W09065

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances 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 R. Adams Date: 12-27-06

Lot No., Due Date: J6K160315; 01/02/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 6331261; RTC99 Tc-99 by LSC  
 SDG, Matrix: W05065; 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 Incorrect Tracer/Vial => JJWL61AE TCSG<->TCSE Q:V9	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 OK	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 (MBIs) 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. OK	Yes	No	N/A
8.17 Tracer within Control Limits. No Tracers found in Batch!	Yes	No	N/A
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	Yes	No	N/A
8.19 Sample Specific MDC <= CRDL. OK	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. No Positive Results OK Calc_IDL Not Calculated	Yes	No	N/A
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => TC-99  OK; No Callin Level Found => TC-99	Yes	No	N/A
8.24 Result + 3s >=0, Not Too Negative. OK	Yes	No	N/A
8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A

8.26 Instruments have Current Calibrations. Yes No N/A

8.27 Correct Count Library Used. Yes No N/A  
No Count Library found in Batch Data!

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version) ~~Yes~~ No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later version) ~~Yes~~ No N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate. Yes No N/A  
OK

First Level Review

*Pam Anderson*

Date

*12-26-06*



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 6351261  
W05065

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?	/		
C. Other			
1. Are all Nonconformances 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 Sherryll A Adam Date: 12-27-06

Lot No., Due Date: J6K150289,J6K160315; 01/02/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6353250; RBETA-SR Beta by GPC-Sr/Y  
SDG, Matrix: W05065; WATER

1.0 GOC

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:  
Re-analysis due to potential cross-contamination with first run - NCM

First Level Review

*Handwritten signature*

Date

12/22/06



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 6353250  
W05065

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the I.C.S recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances 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?	✓		

*STAT-27-06*

Comments on any "No" response: See NCM

Second Level Review: *Sherryl A. Adams*

Date: 12-27-06

# Clouseau Nonconformance Memo



NCM #: <b>10-09162</b>	Classification: <b>Anomaly</b>
NCM Initiated By: Steven Wheland	Status: <b>GLREVIEW</b>
Date Opened: 12/22/2006	Production Area: Environmental - Prep
Date Closed:	Tests: Beta by GPC-Sr/Y
	Lot #'s (Sample #'s): J6K150289 (1,2,3,4,5,6,7), J6K160315 (3), J6K270000 (269),
	QC Batches: 6353250
Nonconformance: Other (describe in detail)	
Subcategory: Other (explanation required)	

### Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Steven Wheland	12/22/2006	Initial run was potentially cross contaminated due to "popping" sample. Reanalysis data is acceptable and without the possibility of cross-contamination.

### Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Steven Wheland	12/22/2006	report reanalysis data.

### 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>



STL

Data Review/Verification Checklist  
RADIOCHEMISTRY, First Level Review

1/18/2007 1:51:58 PM

Lot No., Due Date: J6K150257,J6K160315; 01/02/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 7002407; RUNAT UNat by KPA  
SDG, Matrix: W05065; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.02 Final Results Are in the Appropriate Activity Units OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.03 Batch Contains the Required QC Appropriate for the Method OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.04 The Correct Tracer and QC Vials Where Used in the Samples Incorrect Tracer/Vial => JMA9E1AD UNSC<>UNSF Q:V9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.06 At Least the Minimum Sample Volume Was Used No Count Analysis Size found in Batch Data!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.07 The Correct Count Geometry was Used. No Count Geometry found in Batch Data!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. No Count Duration Field Found in Batch Data!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.09 Method Blank is within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.14 LCS within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.16 MS within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.17 Tracer within Control Limits. No Tracers found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.19 Sample Specific MDC <= CRDL. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JJQ512AA Uranium 2.3E+00 L:8.1E-02 JJQ5A2AA Uranium 1.6E+00 L:8.3E-02 JJQ5N2AA Uranium 6.0E-01 L:8.4E-02 JJQ5X2AA Uranium 2.4E+00 L:8.3E-02 JJQ672AA Uranium 2.1E+00 L:8.4E-02 JJQ712AA Uranium 1.8E+00 L:7.9E-02 JJQ812AA Uranium 2.6E+00 L:8.4E-02 JJQ8R2AA Uranium 1.9E+00 L:7.9E-02 JJQ8X2AA Uranium 1.7E+00 L:8.3E-02 JJWJD2AE Uranium 4.8E+00 L:8.4E-02 JJWL62AD Uranium 6.7E+00 L:8.3E-02 JJWMC2AF Uranium 7.1E+00 L:8.3E-02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8.23	Result $\leq$ Action Level, when Defined. OK; No Action Level Found $\Rightarrow$ Uranium  OK; No Callin Level Found $\Rightarrow$ Uranium	Yes <input checked="" type="checkbox"/>	No	N/A
8.24	Result + 3s $\geq$ 0, Not Too Negative. Result + 3s $<$ 0 JMA9E1AA Uranium -7.0E-03	Yes	No <input checked="" type="checkbox"/>	N/A
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.26	Instruments have Current Calibrations.	Yes	No	N/A
8.27	Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.28	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version)	Yes	No	N/A
8.29	Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later version)	Yes	No	N/A
8.3	Comments:			
8.31	Results Blank Subtracted as Appropriate. OK	Yes <input checked="" type="checkbox"/>	No	N/A

First Level Review \_\_\_\_\_ Date \_\_\_\_\_



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

7002407  
W05065

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances 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 NCM

Second Level Review

Sheryl A Adams

Date: 1-18-07

# Clouseau Nonconformance Memo



NCM #: <b>10-09302</b> NCM Initiated By: Pam Anderson Date Opened: 01/18/2007 Date Closed:	Classification: <b>Anomaly</b> Status: <b>GLREVIEW</b> Production Area: Environmental - Sep Tests: UNat by KPA Lot #'s (Sample #'s): J6K150257 (1,2,3,4,5,6,7,8,9), J6K160315 (1,2,3), J7A020000 (407), QC Batches: 7002407
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

### Problem Description / Root Cause

Name	Date	Description
Pam Anderson	01/18/2007	On the first analysis the blank in the total uranium was high. The rest of the batch was not even counted. The batch was reanalyzed with good results.

### Corrective Action

Name	Date	Corrective Action
Pam Anderson	01/18/2007	The batch was reanalyzed with good QC.

### 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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# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

PNNL *16 K150257*  
*W05065*  
*Due 12/29/06*

C.O.C. #  
**107-011-200**  
 Page 1 of 1

Collector <b>R. T. SICKLE</b>	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. 107-011	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title ISRM-LOI NOVEMBER 2006	<i>HNF-N-506-2</i>	Ice Chest No. <i>GR2-04-003</i>	Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol CERCLA	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> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1L347		W	<i>11/14/06</i>	<i>0820</i>	1x20-mL P	Activity Scan	None
B1L347		W	<i>11/14/06</i>	<i>1</i>	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
<i>JJQ67</i>							

Relinquished By <b>R. T. SICKLE</b>	Print	Sign	Date/Time <b>NOV 14 2006</b>	1430	Received By <i>S. Smith</i>	Print	Sign	Date/Time <b>NOV 14 2006</b>	1430	<b>Matrix *</b> S = Soil                      DS = Drum Solid SF = Sediment              DI = Drum Liquid SO = Solid                    T = Tissue SL = Sludge                  W = Wine W = Water                    L = Liquid O = Oil                        V = Vegetation A = Air                         X = Other
Relinquished By	Date/Time	Received By	Date/Time			Date/Time				
Relinquished By	Date/Time	Received By	Date/Time			Date/Time				
Relinquished By	Date/Time	Received By	Date/Time			Date/Time				
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By				Date/Time	

CERCLA











# STL

### Sample Check-in List

Date/Time Received: 11-14-06 1430

Client: P6W SDG #: W05065 NA  SAF #: 107-011 NA

Work Order Number: UGR150357 Chain of Custody # 107-011-206, 140, 59, 58, 200,

Shipping Container ID: GRP-06-005 Air Bill # N/A  
GRP-04-003 132, 98, 90, 214

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? Yes  No
4. Cooler temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 9
7. Sample holding times exceeded? NA  Yes  No  < 100'
8. Samples have:  
 \_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
 \_\_\_\_\_ custody seals  appropriate samples labels
9. Samples are:  
 in good condition \_\_\_\_\_ leaking  
 \_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
 (Only for samples requiring head space)
10. Sample pH taken? NA  pH < 2  pH > 2  pH > 9
11. Sample Location, Sample Collector Listed? \* Yes  No   
 \*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 11-14-06 1430

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

No action necessary; process as is.

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

LS-023, 9/03, Rev. 5





STILL RICHLAND

PNNL <i>U6 K150289</i> <i>W05065</i> Fluor Hanford <i>du 12/28/06</i>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C. # <b>G07-011-2</b> Page <u>1</u> of <u>1</u>
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Collector: <b>D. WALL</b>	Contact/Requester Dot Stewart	Telephone No. <b>509-376-5056</b> MSIN                      FAX
SAF No. <b>G07-011</b>	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title <b>1NR2-RB, NOVEMBER 2006</b>	<i>HNF-N-5063</i>	Ice Chest No. <i>62P-06-005</i> Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol <b>SURV</b>	Priority: <b>45 Days</b>	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"/> All Labs except WSCF: Batch all PNNL GW samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted daily 07 SAFs into one SDG, closure on a daily basis.
--	--

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1KYB2		W	11-13-06	0919	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1KYB2		W	↓	↓	1x20-mL P	Activity Scan	None
<i>JTRCF</i>							

Relinquished By Fluor Hanford <b>L. D. WALL</b>	Print <i>L.D. Wall</i> Sign <i>L.D. Wall</i>	Date/Time <i>1505</i> <b>NOV 13 2006</b>	Received By <i>S. Smith</i>	Print <i>S. Smith</i> Sign <i>S. Smith</i>	Date/Time <i>1505</i> <b>NOV 13 2006</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil                      DS = Drum Solid SF = Sediment            DL = Drum Liquid SO = Solid                      T = Tissue SL = Sludge                    WI = Wine 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			
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time			











# STL

### Sample Check-in List

Date/Time Received: 11-13-06 15:05

Client: P&W SDG #: W05065 NA  SAF #: G07-011 NA

Work Order Number: J6K150289 Chain of Custody # G07-011-16,20,2,6,8,9,12

Shipping Container ID: GRP-06-005 Air Bill # N/A  
ROSS

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? Yes  No
4. Cooler temperature: \_\_\_\_\_ NA  Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 7
7. Sample holding times exceeded? NA  Yes  No
8. Samples have: \_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are: \_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA  pH < 2  pH > 2  adjusted pH
11. Sample Location, Sample Collector Listed? \* Yes  No   
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 11-13-06 15:05

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

[ ] No action necessary; process as is.

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

LS-023, 12/05, Rev. 6





STL RICHLAND

PNNL <i>JGK160315</i> <i>W05065</i> <i>due 12-29-06</i>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C.# <b>W07-011-142</b>
Collector <b>Fluor Hanford</b> <b>D. E. PARCHEN</b>		Telephone No. <b>MSIN FAX</b> 509-376-5056

SAF No. <b>W07-011</b>	Contact/Requester <b>Dot Stewart</b>	Purchase Order/Charge Code
Project Title <b>RCRA, NOVEMBER 2006</b>	Sampling Origin <b>Hanford Site</b>	Ice Chest No. <i>ROSS</i> Temp.
Shipped To (Lab) <b>Severn Trent Incorporated, Richland</b>	Method of Shipment <b>Govt. Vehicle</b>	Bill of Lading/Air Bill No.
Protocol <b>RCRA</b>	Priority: <b>45 Days</b>	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> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.
--	--

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1L6V1		W	<i>11-15-06</i>	<i>1206</i>	1x20-mL P	Activity Scan	None
B1L6V1		W			1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
B1L6V1		W			1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1L6V1		W			1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1L6V1		W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	HNO3 to pH <2
B1L6V1		W			1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
<i>JJWmc</i>							
<i>DD</i>							
<i>11-15-06</i>							

Relinquished By <b>Fluor Hanford</b> <b>D. E. PARCHEN</b>	Print 	Sign	Date/Time <b>NOV 15 2006</b>	Received By <b>DAVID HARBISE</b>	Print 	Sign	Date/Time <b>NOV 15 2006</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil      DS = Drum Solid SF = Sediment      DI = Drum Liquid SO = Solid      T = Tissue SI = Sludge      WI = Wine W = Water      L = Liquid O = Oil      V = Vegetation A = Air      X = Other				
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				



# STL

### Sample Check-in List

Date/Time Received: 11/15/06 1500  
 Client: P. VNL SDG #: W05045 NA  SAF #: W07-011 NA   
 Work Order Number: J6K160315 Chain of Custody # W060967  
 Shipping Container ID: RUSS Air Bill # N/A W07011212  
W07011360  
W0701142

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: 20
7. Sample holding times exceeded? NA  Yes  No
8. Samples have:  
 tape  
 custody seals  
 hazard labels  
 appropriate samples labels
9. Samples are:  
 in good condition  
 broken  
 leaking  
 have air bubbles  
 (Only for samples requiring head space)  
 adjusted pH
10. Sample pH taken? NA  pH < 2  pH > 2
11. Sample Location, Sample Collector Listed? \*  
 \*For documentation only. No corrective action needed. Yes  No
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): N/A Yes  No

Sample Custodian: [Signature] Date: 11/15/06 15:00

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_  
 No action necessary; process as is.

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

STL RICHLAND

11/27/2006 1:26:05 PM

Sample Preparation/Analysis

Balance Id: *12-145*

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

AR H-3 Prp/SepRC5007  
S6 Tritium by Liquid Scint  
5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006 *WO50005*

Sep1 DT/Tm Tech: *J-7-FC DM*

Batch: 6331262 WATER pCi/L

PM, Quote: SA, 57671

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

SEQ Batch, Test: None

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



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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1 JJWJD-1-AA J6K160315-1-SAMP  11/15/2006 11:10								
AmtRec: 20ML,75ML,125ML,250ML,LP #Containers: 5						Scr:	Alpha:	Beta:

2 JJWL6-1-AA J6K160315-2-SAMP  11/15/2006 12:43								
AmtRec: 20ML,500ML,4XLP #Containers: 6						Scr:	Alpha:	Beta:

3 JJWL6-1-AG-X J6K160315-2-DUP  11/15/2006 12:43								
AmtRec: 20ML,500ML,4XLP #Containers: 6						Scr:	Alpha:	Beta:

4 JJWMC-1-AA J6K160315-3-SAMP  11/15/2006 12:06								
AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6						Scr:	Alpha:	Beta:

5 JJ2JJ-1-AA J6K180125-1-SAMP  11/16/2006 09:22								
AmtRec: 20ML,500ML,LP,,2X4LP #Containers: 5						Scr:	Alpha:	Beta:

6 JKC8T-1-AA-B J6K270000-262-BLK  11/15/2006 12:43								
AmtRec: #Containers: 1						Scr:	Alpha:	Beta:

7 JKC8T-1-AC-C J6K270000-262-LCS  11/15/2006 12:43								
AmtRec: #Containers: 1						Scr:	Alpha:	Beta:

STL RICHLAND

11/27/2006 1:26:06 PM

**Sample Preparation/Analysis**

Balance Id: 12445

AR H-3 Prp/SepRC5007  
 S6 Tritium by Liquid Scint  
 5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006

Sep1 DT/Tm Tech: 12-7-06 DM

Batch: 6331262

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:



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:
8 JKC8T-1-AD-BX J6K270000-262-MBLK 11/15/2006 12:43								
9 JKC8T-1-AE-CM J6K270000-262-MLCS 11/15/2006 12:43								
10 JKC8T-1-AF-BN J6K270000-262-IBLK 11/15/2006 12:43								
11 JKC8T-1-AG-BN J6K270000-262-IBLK 11/15/2006 12:43								

**Comments:**

**All Clients for Batch:**

384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA, 57671

**JJWJD1AA-SAMP Constituent List:**

H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20
JKC8T1AA-BLK:					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:
JKC8T1AC-LCS:					
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20
JKC8T1AD-MBLK:					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2  
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 11

ICOC v4.8.24

STL RICHLAND

11/27/2006 1:26:07 PM

Sample Preparation/Analysis

Balance Id: 12445

AR H-3 Prp/SepRC5007  
 S6 Tritium by Liquid Scint  
 5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006

Sep1 DT/Tm Tech: 12-7-06

Batch: 6331262 pCi/L

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

SEQ Batch, Test: None

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



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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JKC8T1AE-MLCS:									
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20				
JKC8T1AF-IBLK:									
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:				
JKC8T1AG-IBLK:									
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:				
JJWJD1AA-SAMP Calc Info:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
JKC8T1AA-BLK:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
JKC8T1AC-LCS:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
JKC8T1AD-MBLK:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
JKC8T1AE-MLCS:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
JKC8T1AF-IBLK:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
JKC8T1AG-IBLK:									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B

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

GW 1127

12/20/2006 11:27:31 AM

### Sample Preparation/Analysis

Balance Id:2113224201

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

BN I-129 Prp/SepRC5025  
TB Gamma by LEPD  
5I CLIENT: HANFORD

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

AnalyDueDate: 01/01/2007

Sep1 DT/Tm Tech:

Batch: 6331265 WATER pCi/L PM, Quote: SA, 57671  
SEQ Batch, Test: None All Tests: 6331260 FPS5, 6331262 ARS6, 6331265 BNTB,

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, Init/Date	Comments:
1 JJ2JJ-1-AC J6K180125-1-SAMP 11/16/2006 09:22	3911.40g,in		ITA5798 11/10/06		36.8	100	L2	1313		12/23/06 r
AmtRec: 20ML,500ML,LP,,2X4LP #Containers: 5 Scr: Alpha: -2.07E-04 uCi/Sa Beta: -9.38E-04 uCi/Sa										
2 JJ2JJ-1-AF-X J6K180125-1-DUP 11/16/2006 09:22	3909.10g,in		ITA5802 11/10/06		34.7		L4	1314		12/23/06 r
AmtRec: 20ML,500ML,LP,,2X4LP #Containers: 5 Scr: Alpha: -2.07E-04 uCi/Sa Beta: -9.38E-04 uCi/Sa										
3 JKC81-1-AA-B J6K270000-265-BLK 11/16/2006 09:22	3735.00g,in		ITA5803 11/10/06		36.5		L5	1315		12/23/06 r
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
4 JKC81-1-AC-C J6K270000-265-LCS 11/16/2006 09:22	3979.20g,in		ISD0703 12/14/06,pd 11/17/04,r		38.9	✓	L4	1501		12/23/06 r
AmtRec: #Containers: 1 Scr: Alpha: Beta:										

Comments:

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

JJ2JJ1AC-SAMP Constituent List:

I-129	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
JKC811AA-BLK:					
I-129	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
JKC811AC-LCS:					
I-129	RDL:5	pCi/L	LCL:70	UCL:130	RPD:20

JJ2JJ1AC-SAMP Calc Info:

STL RICHLAND

12/20/2006 11:27:33 AM

### Sample Preparation/Analysis

Balance Id:2113224201

BN I-129 Prp/SepRC5025  
TB Gamma by LEPD  
5I CLIENT: HANFORD

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

AnalyDueDate: 01/01/2007

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

Batch: 6331265  
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, Init/Date	Comments:
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JKC811AA-BLK:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
JKC811AC-LCS:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					

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

STL RICHLAND

YLGW WATER

12/14/2006 10:07:48 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

AW Gamma PrpRC5017  
TA Gamma by HPGE  
5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 12/29/2006 W05065

Sep1 DT/Tm Tech:

Batch: 6331271 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: BockJ/ARA

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 JJWJD-1-AC J6K160315-1-SAMP 11/15/2006 11:10	977.20g,in				100mL	100	G5	1138	12/21/06 r	
AmtRec: 20ML,75ML,125ML,250ML,LP #Containers: 5			Scr: Alpha: 6.01E-04 uCi/Sa Beta: 1.03E-04 uCi/Sa							
2 JJWMC-1-AD J6K160315-3-SAMP 11/15/2006 12:06	1985.50g,in						G6	1139	12/21/06 e	
AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6			Scr: Alpha: 1.03E-03 uCi/Sa Beta: -1.01E-04 uCi/Sa							
3 JJWMC-1-AG-X J6K160315-3-DUP 11/15/2006 12:06	1929.50g,in						G8	1140	12/21/06 r	
AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6			Scr: Alpha: 1.03E-03 uCi/Sa Beta: -1.01E-04 uCi/Sa							
4 JKC87-1-AA-B J6K270000-271-BLK 11/15/2006 11:10	2001.40g,in						G10	1140	12/21/06 r	
AmtRec: #Containers: 1			Scr: Alpha: Beta:							
5 JKC87-1-AC-C J6K270000-271-LCS 11/15/2006 11:10	2001.60g,in		QCAG1307 11/07/06,pd 06/14/05,r				G7	1141	12/21/06 r	
AmtRec: #Containers: 1			Scr: Alpha: Beta:							

Comments: JJWJD-SAMP "Comments,Not 2,000 ml. aliquot. Only sample that was received. JB 12/14/06"  
JJWMC-SAMP "Comments: Dup. not full 2,000 ml. aliquot due to insufficient sample JB 12/14/06"

HA < 2.0 GB 12-14-06

All Clients for Batch:

384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 57671

STL RICHLAND

12/14/2006 10:07:52 AM

Sample Preparation/Analysis

Balance Id:1120482733

AW Gamma PrpRC5017  
TA Gamma by HPGE  
5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 12/29/2006

Sep1 DT/Tm Tech:

Batch: 6331271

pCi/L

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:
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JJWJD1AC-SAMP Constituent List:

Co-60	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Cs-134	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:
Cs-137	RDL:6.00E+00	pCi/L	LCL:70	UCL:130	RPD:20	Cs-137DA	RDL:6.00E+00	pCi/L	LCL:70	UCL:130	RPD:20
Eu-154	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Eu-155	RDL:.00E+00	pCi/L	LCL:	UCL:	RPD:
K-40	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Sb-125	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:

JKC871AA-BLK:

Co-60	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Cs-134	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:
Cs-137	RDL:6.00E+00	pCi/L	LCL:	UCL:	RPD:	Cs-137DA	RDL:6.00E+00	pCi/L	LCL:	UCL:	RPD:
Eu-154	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Eu-155	RDL:.00E+00	pCi/L	LCL:	UCL:	RPD:
K-40	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Sb-125	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:

JKC871AC-LCS:

Cs-137	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20	Cs-137DA	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20
K-40	RDL:6	pCi/L	LCL:70	UCL:130	RPD:20	Ra-226	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20
RA-228	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20
U-238	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20						

JJWJD1AC-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
JKC871AA-BLK:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JKC871AC-LCS:	Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

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

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

STL RICHLAND

12/14/2006 12:41:25 PM

Sample Preparation/Analysis

Balance Id:11

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

FP Tc-99 Prp/SepRC5065  
S5 Technetium-99 by Liquid Scint  
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 12/29/2006 *WO SOLS*

Sep1 DT/Tm Tech:

Batch: 6331260 WATER pCi/L PM, Quote: SA , 57671  
SEQ Batch, Test: None All Tests: 6331260 FPS5, 6331261 AMS5, 6331262 ARS6, 6331266 DHSS, 6331269 BCS8, 6331271 AWTA,

Sep2 DT/Tm Tech:

Prep Tech: BockJ

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JJWJD-1-AD J6K160315-1-SAMP  11/15/2006 11:10			127.80g,in	127.80g		<i>60</i>				
			AmtRec: 20ML,75ML,125ML,250ML,LP #Containers: 5					Alpha: 6.01E-04 uCi/Sa	Beta: 1.03E-04 uCi/Sa	
2 JJWMC-1-AE J6K160315-3-SAMP  11/15/2006 12:06			124.20g,in	124.20g						
			AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6					Alpha: 1.03E-03 uCi/Sa	Beta: -1.01E-04 uCi/Sa	
3 JJWMC-1-AH-S J6K160315-3-MS  11/15/2006 12:06			125.00g,in	125.00g	lcsG1724 12/06/06,pd 01/10/06,r					
			AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6					Alpha: 1.03E-03 uCi/Sa	Beta: -1.01E-04 uCi/Sa	
4 JJ2JJ-1-AD J6K180125-1-SAMP  11/16/2006 09:22			125.00g,in	125.00g						
			AmtRec: 20ML,500ML,LP,,2X4LP #Containers: 5					Alpha: -2.07E-04 uCi/Sa	Beta: -9.38E-04 uCi/Sa	
5 JJ2JJ-1-AE-X J6K180125-1-DUP  11/16/2006 09:22			125.80g,in	125.80g						
			AmtRec: 20ML,500ML,LP,,2X4LP #Containers: 5					Alpha: -2.07E-04 uCi/Sa	Beta: -9.38E-04 uCi/Sa	
6 JKC8P-1-AA-B J6K270000-260-BLK  11/16/2006 09:22			127.80g,in	127.80g						
			AmtRec: #Containers: 1					Alpha:	Beta:	
7 JKC8P-1-AC-C J6K270000-260-LCS  11/16/2006 09:22			125.70g,in	125.70g	tcse2036 12/06/06,pd 01/10/06,r					
			AmtRec: #Containers: 1					Alpha:	Beta:	

STL RICHLAND

12/14/2006 12:41:27 PM

**Sample Preparation/Analysis**

Balance Id: \_\_\_\_\_

FP Tc-99 Prp/SepRC5065  
 S5 Technetium-99 by Liquid Scint  
 5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006

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

Batch: 6331260

pCi/L

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

SEQ Batch, Test: None

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



Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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8 JKC8P-1-AD-BN

J6K270000-260-IBLK



11/16/2006 09:22

AmtRec: \_\_\_\_\_

#Containers: 1

Scr: \_\_\_\_\_

Alpha: \_\_\_\_\_

Beta: \_\_\_\_\_

Comments: JJWJD-SAMP "Comments "  
 JJWMC-SAMP "Comments "

*PH L2.0 9B 12-14-06*

All Clients for Batch:

384868, Pacific Northwest National Laboratory

Pacific Northwest National Lab, SA , 57671

JJWJD1AD-SAMP Constituent List:

Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20

JJWMC1AH-MS:

JKC8P1AA-BLK:  
 Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

JKC8P1AC-LCS:  
 Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20

JKC8P1AD-IBLK:  
 Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

JJWJD1AD-SAMP Calc Info:

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

JJWMC1AH-MS:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JKC8P1AA-BLK:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JKC8P1AC-LCS:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JKC8P1AD-IBLK:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

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

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

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STL RICHLAND

12/14/2006 1:12:35 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

AM Tc-99 Prp/SepRC5078  
S5 Technetium-99 by Liquid Scint  
5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006 *WOSobes*

Sep1 DT/Tm Tech:

Batch: 6331261 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ



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:
1 JJWL6-1-AC J6K160315-2-SAMP 11/15/2006 12:43	125.10g,in			60				
	AmtRec: 20ML,500ML,4XLP	#Containers: 6				Scr: Alpha: 5.82E-04 uCi/Sa	Beta: -6.48E-04 uCi/Sa	
2 JJWL6-1-AE-S J6K160315-2-MS 11/15/2006 12:43	127.70g,in		tcsg1725 12/06/06,pd 01/10/06,r					
	AmtRec: 20ML,500ML,4XLP	#Containers: 6				Scr: Alpha: 5.82E-04 uCi/Sa	Beta: -6.48E-04 uCi/Sa	
3 JJWL6-1-AF-X J6K160315-2-DUP 11/15/2006 12:43	125.90g,in							
	AmtRec: 20ML,500ML,4XLP	#Containers: 6				Scr: Alpha: 5.82E-04 uCi/Sa	Beta: -6.48E-04 uCi/Sa	
4 JKC8Q-1-AA-B J6K270000-261-BLK 11/15/2006 12:43	127.00g,in							
	AmtRec:	#Containers: 1				Scr: Alpha:	Beta:	
5 JKC8Q-1-AC-C J6K270000-261-LCS 11/15/2006 12:43	128.20g,in		tcse2037 12/06/06,pd 01/10/06,r					
	AmtRec:	#Containers: 1				Scr: Alpha:	Beta:	
6 JKC8Q-1-AD-BN J6K270000-261-IBLK 11/15/2006 12:43								
	AmtRec:	#Containers: 1				Scr: Alpha:	Beta:	

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STL RICHLAND

12/14/2006 1:12:37 PM

**Sample Preparation/Analysis**

Balance Id: \_\_\_\_\_

AM Tc-99 Prp/SepRC5078  
 S5 Technetium-99 by Liquid Scint  
 5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006

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

Batch: 6331261

pCi/L

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

SEQ Batch, Test: None

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



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:**

PH 2.0 JB 12-14-06

All Clients for Batch:  
 384858, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 57671

JJWL61AC-SAMP Constituent List:  
 Tc-99 RDL:1.50E+01 pCi/L LCL:70 UCL:130 RPD:20  
 JJWL61AE-MS Constituent List:  
 JKCSQ1AA-BLK:  
 Tc-99 RDL:1.50E+01 pCi/L LCL: UCL: RPD:  
 JKCSQ1AC-LCS:  
 Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20  
 JKCSQ1AD-IBLK:  
 Tc-99 RDL:1.50E+01 pCi/L LCL: UCL: RPD:  
 JJWL61AC-SAMP Calc Info:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B  
 JJWL61AE-MS Calc Info:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B  
 JKCSQ1AA-BLK:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B  
 JKCSQ1AC-LCS:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B  
 JKCSQ1AD-IBLK:  
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

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

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STL RICHLAND

12/19/2006 11:10:30 AM

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  
5I CLIENT: HANFORD

Pipet #: 235

AnalyDueDate: 12/28/2006

Sep1 DT/Tm Tech:

Batch: 6353250 WATER pCi/L PM, Quote: SA , 57671  
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: BockJ / APA

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 JJRAR-2-AA J6K150289-1-SAMP 11/13/2006 13:06	113.60g,in									
<p>1.5 97.0 100 31A 1201 12/21/06 R</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -1.77E-04 uCi/Sa Beta: 1.5E-04 uCi/Sa</p>										
2 JJRAR-2-AC-X J6K150289-1-DUP 11/13/2006 13:06	113.60g,in									
<p>95.5 31B</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -1.77E-04 uCi/Sa Beta: 1.5E-04 uCi/Sa</p>										
3 JJRA7-2-AA J6K150289-2-SAMP 11/13/2006 08:53	111.90g,in									
<p>22.6 31C</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 2.59E-04 uCi/Sa Beta: 8.51E-04 uCi/Sa 1.1E-01L</p>										
4 JJRCF-2-AA J6K150289-3-SAMP 11/13/2006 09:19	201.70g,in									
<p>31.8 31d</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 1.23E-04 uCi/Sa Beta: .28E-04 uCi/Sa</p>										
5 JJRCP-2-AA J6K150289-4-SAMP 11/13/2006 13:00	130.90g,in									
<p>12/21/06 APA 64 65.4 ↓ 32A</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 6.88E-04 uCi/Sa 2.6E-01L Beta: 8.81E-04 uCi/Sa 1.3E-01L</p>										
6 JJRDM-2-AA J6K150289-5-SAMP 11/13/2006 11:27	93.10g,in									
<p>14.0 200 26A 1305 12/21/06 K</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 6.29E-04 uCi/Sa 2.9E-01L Beta: 9.69E-04 uCi/Sa 9.3E-02L</p>										
7 JJRDV-2-AA J6K150289-6-SAMP 11/13/2006 11:27	8.50g,in									
<p>6.6 ↓ 26B</p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 4.68E-04 uCi/Sa Beta: 1.02E-03 uCi/Sa 8.8E-02L</p>										

STL RICHLAND

12/19/2006 11:10:31 AM **Sample Preparation/Analysis** Balance Id:1120482733

384868, Pacific Northwest National Laboratory , BC Gross Beta PrpRC5014 Pipet #: \_\_\_\_\_  
 Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve

**AnalyDueDate: 12/28/2006** 5I CLIENT: HANFORD Sep1 DT/Tm Tech: \_\_\_\_\_

**Batch: 6353250 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:
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8 JJRD2-2-AA J6K150289-7-SAMP	18.50g,in			15	10.9	200	26C	1305		12/21/06 K
----------------------------------	-----------	--	--	----	------	-----	-----	------	--	------------

11/13/2006 10:31 AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 3.54E-04 uCi/Sa Beta: 5.14E-03 uCi/Sa 1.8E-02L

9 JJWMC-2-AC J6K160315-3-SAMP	170.10g,in			93.3	100		32B	1201		12/21/06 K
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11/15/2006 12:06 AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6 Scr: Alpha: 1.03E-03 uCi/Sa Beta: -1.01E-04 uCi/Sa

10 JKC85-2-AA-B J6K270000-269-BLK	204.70g,in			0.1	200		26d	1305		12/21/06 K
--------------------------------------	------------	--	--	-----	-----	--	-----	------	--	------------

11/13/2006 13:06 AmtRec: #Containers: 1 Scr: Alpha: | Beta: |

11 JKC85-2-AC-C J6K270000-269-LCS	201.00g,in		BESB2968 11/21/06,pd 08/08/06,r	0.3	200		27A			
--------------------------------------	------------	--	---------------------------------------	-----	-----	--	-----	--	--	--

11/13/2006 13:06 AmtRec: #Containers: 1 Scr: Alpha: Beta:

**Comments:** JJWMC-SAMP "Comments "  
*PHC 2-0 9612-19-06*

*10% collodion added to ea. samp. 12/21/06 AFA*

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

**JJRAR2AA-SAMP Constituent List:**

BETA	RDL:4.00E+00	pCi/L	LCL:	UCL:	RPD:
JKC852AA-BLK:					
BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
JKC852AC-LCS:					
Sr-90	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

**JJRAR2AA-SAMP Calc Info:**

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 11  
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep\_SamplePrep v4.8.26

STL RICHLAND

1/3/2007 8:20:11 AM  
 384868, Pacific Northwest National Laboratory  
 Pacific Northwest National Lab  
**AnalyDueDate: 12/29/2006** *W05065*  
 Batch: 7002407 WATER *W05065* ug/L  
 SEQ Batch, Test: None

**Sample Preparation/Analysis**

Balance Id: 1120482733  
 Pipet #: \_\_\_\_\_  
 Sep1 DT/Tm Tech: \_\_\_\_\_  
 Sep2 DT/Tm Tech: \_\_\_\_\_  
 Prep Tech: ,BockJ

DH UNat\_Laser PrpRC5015  
 SS Total Uranium by KPA  
 5I CLIENT: HANFORD

PM, Quote: SA , 57671



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:
1 JJQ5A-2-AA J6K150257-1-SAMP 11/14/2006 08:45	24.90g,in							
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 3.35E-05 uCi/Sa	Beta: -6.10E-05 uCi/Sa	
2 JJQ5A-2-AC-X J6K150257-1-DUP 11/14/2006 08:45	25.10g,in							
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 3.35E-05 uCi/Sa	Beta: -6.10E-05 uCi/Sa	
3 JJQ5N-2-AA J6K150257-2-SAMP 11/14/2006 11:08	25.00g,in							
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: -5.81E-06 uCi/Sa	Beta: 5.78E-05 uCi/Sa	
4 JJQ5N-2-AC-S J6K150257-2-MS 11/14/2006 11:08	25.00g,in		UNSF3512 12/18/06,pd 03/22/05,r					
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: -5.81E-06 uCi/Sa	Beta: 5.78E-05 uCi/Sa	
5 JJQ5X-2-AA J6K150257-3-SAMP 11/14/2006 11:54	25.40g,in							
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 4.82E-06 uCi/Sa	Beta: -1.31E-06 uCi/Sa	
6 JJQ51-2-AA J6K150257-4-SAMP 11/14/2006 11:54	26.00g,in							
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 5.20E-05 uCi/Sa	Beta: -1.38E-06 uCi/Sa	
7 JJQ67-2-AA J6K150257-5-SAMP 11/14/2006 08:20	25.00g,in							
-----								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 2.08E-05 uCi/Sa	Beta: -7.24E-06 uCi/Sa	

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STL RICHLAND

1/3/2007 8:20:12 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

DH UNat\_Laser PrpRC5015  
SS Total Uranium by KPA  
5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 12/29/2006

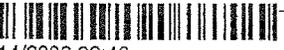
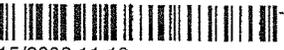
Sep1 DT/Tm Tech:

Batch: 7002407 WATER ug/L  
SEQ Batch, Test: None

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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:
8 JJQ71-2-AA J6K150257-6-SAMP 11/14/2006 09:02	26.40g,in							
								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: -3.94E-05 uCi/Sa	Beta: 6.37E-05 uCi/Sa	
9 JJQ8R-2-AA J6K150257-7-SAMP 11/14/2006 11:34	26.20g,in							
								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: -4.56E-05 uCi/Sa	Beta: 8.15E-05 uCi/Sa	
10 JJQ8X-2-AA J6K150257-8-SAMP 11/14/2006 09:46	25.40g,in							
								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 2.42E-05 uCi/Sa	Beta: 2.23E-05 uCi/Sa	
11 JJQ81-2-AA J6K150257-9-SAMP 11/14/2006 12:24	25.00g,in							
								
		AmtRec: 20ML,500MLP	#Containers: 2			Scr: Alpha: 4.59E-06 uCi/Sa	Beta: 1.63E-05 uCi/Sa	
12 JJWJD-2-AE J6K160315-1-SAMP 11/15/2006 11:10	24.90g,in							
								
		AmtRec: 20ML,75ML,125ML,250ML,LP	#Containers: 5			Scr: Alpha: 6.01E-04 uCi/Sa	Beta: 1.03E-04 uCi/Sa	
13 JJWL6-2-AD J6K160315-2-SAMP 11/15/2006 12:43	25.10g,in							
								
		AmtRec: 20ML,500ML,4XLP	#Containers: 6			Scr: Alpha: 5.82E-04 uCi/Sa	Beta: -6.48E-04 uCi/Sa	
14 JJWMC-2-AF J6K160315-3-SAMP 11/15/2006 12:06	25.10g,in							
								
		AmtRec: 20ML,2X500ML,2XLP,4LP	#Containers: 6			Scr: Alpha: 1.03E-03 uCi/Sa	Beta: -1.01E-04 uCi/Sa	

STL RICHLAND

1/3/2007 8:20:13 AM

Sample Preparation/Analysis

Balance Id:1120482733

DH UNat\_Laser PrpRC5015  
 SS Total Uranium by KPA  
 5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2006

Sep1 DT/Tm Tech:

Batch: 7002407  
 SEQ Batch, Test: None

ug/L

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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:
15 JMA9E-1-AA-B J7A020000-407-BLK 	25.40g,in							
11/14/2006 08:45	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
16 JMA9E-1-AC-C J7A020000-407-LCS 	25.10g,in		UNSF3513 12/18/06,pd 03/22/05,r					
11/14/2006 08:45	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
17 JMA9E-1-AD-C J7A020000-407-LCS 	25.50g,in		UNSC1448 12/18/06,pd 04/28/06,r					
11/14/2006 08:45	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments: JJWJD-SAMP "Comments"  
 JJWMC-SAMP "Comments"  
 PH < 2.0 981-3-07

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

JJQ5A2AA-SAMP Constituent List:

Uranium	RDL:1.44E-01	ug/L	LCL:	UCL:	RPD:
JJQ5N2AC-MS:					
JMA9E1AA-BLK:					
JMA9E1AC-LCS:					
JMA9E1AD-LCS:					
JJQ5A2AA-SAMP Calc Info:					
Uncert Level (#s):	2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y ODRs: B

12/11/2006 10:50:58 AM

# ICOC Fraction Transfer/Status Report

ByDate: 12/11/2005, 12/16/2006, Batch: '6331262', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6331262				
AC		CalcC	McDowellID 12/7/2006 9:37:19	
SC		wagarr	IsBatched 11/27/2006 1:29:23 PM	ICOC_RADCALC v4.8.24
SC		McDowellID	InSep1 12/7/2006 9:37:19 AM	RICH-RC-5007 REVISION 6
SC		McDowellID	Sep1C 12/8/2006 3:25:49 PM	RICH-RC-5007 REVISION 6
SC		DAWKINSO	InCnt1 12/8/2006 4:28:37 PM	RICH-RD-0001 REVISION 3
SC		BlackCL	CalcC 12/11/2006 7:50:11 AM	RICH-RD-0001 REVISION 3
AC		McDowellID	12/8/2006 3:25:49 PM	
AC		DAWKINSO	12/8/2006 4:28:37 PM	
AC		BlackCL	12/11/2006 7:50:11	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

12/26/2006 3:02:43 PM

# ICOC Fraction Transfer/Status Report

ByDate: 12/26/2005, 12/31/2006, Batch: '6331265', User: '\*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
<b>6331265</b>				
AC		CalcC	BostedD 12/20/2006 11:04:57	
SC		wagarr	IsBatched 11/27/2006 1:29:23 PM	ICOC_RADCALC v4.8.24
SC		BostedD	InPrep 12/20/2006 11:04:57 AM	RICHRC5025 REV3
SC		BostedD	Prep1C 12/22/2006 5:59:54 PM	RICHRC5025 REV3
SC		DAWKINSO	InCnt1 12/22/2006 6:24:26 PM	RICH-RD-0007 REVISION 5
SC		StringerR	CalcC 12/24/2006 9:13:49 AM	RICH-RD-0007 REVISION 5
AC		BostedD	12/22/2006 5:59:54	
AC		DAWKINSO	12/22/2006 6:24:26	
AC		StringerR	12/24/2006 9:13:49	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

12/26/2006 3:45:50 PM

# ICOC Fraction Transfer/Status Report

ByDate: 12/26/2005, 12/31/2006, Batch: '6331271', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6331271				
AC		CalcC	BockJ	12/14/2006 9:46:03
SC			wagarr	IsBatched 11/27/2006 1:29:23 PM
SC			BockJ	InPrep 12/14/2006 9:46:03 AM
SC			BockJ	Prep1C 12/14/2006 10:07:54 AM
SC			AshworthA	InPrep2 12/19/2006 10:08:48 AM
SC			AshworthA	Prep2C 12/20/2006 6:22:17 PM
SC			DAWKINSO	InCnt1 12/20/2006 6:41:40 PM
SC			StringerR	CalcC 12/21/2006 1:02:03 PM
AC			BockJ	12/14/2006 10:07:54
AC			AshworthA	12/19/2006 10:08:48
AC			AshworthA	12/20/2006 6:22:17
AC			DAWKINSO	12/20/2006 6:41:40
AC			StringerR	12/21/2006 1:02:03

AC: Accepting Entry, SC: Status Change

STL Richland  
Richland Wa.

12/26/2006 2:43:48 PM

# ICOC Fraction Transfer/Status Report

ByDate: 12/26/2005, 12/31/2006, Batch: '6331260', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6331260				
AC		CalcC	BockJ 12/14/2006 11:26:47	
SC		wagarr	IsBatched 11/27/2006 1:29:23 PM	ICOC_RADCALC v4.8.24
SC		BockJ	InPrep 12/14/2006 11:26:47 AM	rich-rc-5014 rEVISION 6
SC		BockJ	Prep1C 12/14/2006 12:41:48 PM	RICH-RC-5016 REVISION 6
SC		FABREM	Sep1C 12/15/2006 6:42:31 PM	RICH-RC-5065 REVISION 5
SC		DAWKINSO	InCnt1 12/15/2006 7:53:52 PM	RICH-RD-0001 REVISION 3
SC		StringerR	CalcC 12/17/2006 12:09:24 PM	RICH-RD-0001 REVISION 3
AC		BockJ	12/14/2006 12:41:48	
AC		FABREM	12/15/2006 6:42:31	
AC		DAWKINSO	12/15/2006 7:53:52	
AC		StringerR	12/17/2006 12:09:24	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

12/26/2006 2:57:12 PM

# ICOC Fraction Transfer/Status Report

ByDate: 12/26/2005, 12/31/2006, Batch: '6331261', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
<b>6331261</b>				
AC	CalcC	BockJ	12/14/2006 1:07:37	
SC		wagarr	IsBatched 11/27/2006 1:29:23 PM	ICOC_RADCALC v4.8.24
SC		BockJ	InPrep 12/14/2006 1:07:37 PM	rich-rc-5016 rEVISION 6
SC		BockJ	Prep1C 12/14/2006 1:12:44 PM	RICH-RC-5016 REVISION 6
SC		FABREM	Sep1C 12/20/2006 4:31:50 PM	RICH-RC-5078 REVISION 3
SC		DAWKINSO	InCnt1 12/20/2006 4:36:07 PM	RICH-RD-0001 REVISION 3
SC		StringerR	CalcC 12/21/2006 1:49:20 PM	RICH-RD-0001 REVISION 3
AC		BockJ	12/14/2006 1:12:44	
AC		FABREM	12/20/2006 4:31:50	
AC		DAWKINSO	12/20/2006 4:36:07	
AC		StringerR	12/21/2006 1:49:20	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

12/22/2006 9:46:01 AM

# ICOC Fraction Transfer/Status Report

ByDate: 12/22/2005, 12/27/2006, Batch: '6353250', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
<b>6353250</b>				
AC	CalcC	BockJ	12/19/2006 11:10:39	
SC		antonsonI	IsBatched 12/19/2006 9:39:37 AM	ICOC_RADCALC v4.8.26
SC		BockJ	Prep1C 12/19/2006 11:10:39 AM	RICH-RC-5014 REVISION 6
SC		AshworthA	InPrep2 12/19/2006 2:12:51 PM	RICH-RC-5014 REVISION 6
SC		AshworthA	Prep2C 12/21/2006 9:23:29 AM	RICH-RC-5014 REVISION 6
SC		StringerR	InCnt1 12/21/2006 9:41:21 AM	RICH-RD-0003 REVISION 4
SC		DAWKINSO	CalcC 12/21/2006 3:38:06 PM	RICH-RD-0003 REVISION 4
AC		BockJ	12/19/2006 11:12:55	
AC		AshworthA	12/19/2006 2:12:51	
AC		AshworthA	12/21/2006 9:23:29	
AC		StringerR	12/21/2006 9:41:21	
AC		DAWKINSO	12/21/2006 3:38:06	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

1/18/2007 2:15:57 PM

# ICOC Fraction Transfer/Status Report

ByDate: 1/18/2006, 1/23/2007, Batch: '7002407', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7002407				
AC		<b>Cnt1C</b>	<b>BockJ</b> 1/3/2007 8:06:08 AM	
SC		andersonp	IsBatched 1/2/2007 4:15:16 PM	ICOC_RADCALC v4.8.26
SC		BockJ	InPrep 1/3/2007 8:06:08 AM	rich-rc-5017 rEVISION 5
SC		BockJ	Prep1C 1/3/2007 8:22:24 AM	RICH-RC-5015 REVISION 4
SC		AntonsonL	InSep1 1/3/2007 5:03:20 PM	RICH-RC-5015 REVISION 4
SC		AntonsonL	Sep1C 1/9/2007 1:30:01 PM	RICH-RC-5015 REVISION 4
SC		NelsonT	Cnt1C 1/17/2007 5:43:35 PM	RICH-RC-5058 REV 7
AC		<b>BockJ</b>	1/3/2007 8:22:24 AM	
AC		<b>AntonsonL</b>	1/3/2007 5:03:20 PM	
AC		<b>AntonsonL</b>	1/9/2007 1:30:01 PM	
AC		<b>NelsonT</b>	1/17/2007 5:43:35 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.