

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: 33274

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH	
W04976	W06-008	B1K2D2	J6H070211-1	JATD61AA	9JATD610	6227388	
		B1K2D2	J6H070211-1	JATD61AC	9JATD610	6227391	
		B1K2D2	J6H070211-1	JATD61AE	9JATD610	6227386	
		B1K2D2	J6H070211-1	JATD62AD	9JATD620	6227393	
		B1K2D2	J6H070211-1	JATD63AF	9JATD630	6242217	
		B1K222	J6H070211-2	JATD91AA	9JATD910	6227388	
		B1K222	J6H070211-2	JATD91AC	9JATD910	6227390	
		B1K222	J6H070211-2	JATD91AD	9JATD910	6227391	
		B1K222	J6H070211-2	JATD91AE	9JATD910	6227393	
		B1K222	J6H070211-2	JATD91AF	9JATD910	6227385	
	B1K222	J6H070211-2	JATD92AG	9JATD920	6242217		
		I06-051	B1K4T5	J6H080316-1	JAWM91AA	9JAWM910	6220525
			B1K4K3	J6H080318-1	JAWNK1AA	9JAWNK10	6220525
	G06-008	B1K4C6	J6H080327-1	JAWRK1AA	9JAWRK10	6227391	
		B1K4C4	J6H080327-2	JAWRR1AA	9JAWRR10	6227391	

Comments:

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SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W04976	G06-008	B1K4C8	J6H080327-3	JAWRW1AA	9JAWRW10	6227391
	I06-053	B1K530	J6H080331-1	JAWTL1AA	9JAWTL10	6227388
		B1K530	J6H080331-1	JAWTL1AC	9JAWTL10	6227394
		B1K527	J6H080331-2	JAWTN1AA	9JAWTN10	6227388
		B1K527	J6H080331-2	JAWTN1AC	9JAWTN10	6227394
	G06-008	B1K4F2	J6H090325-1	JA1C01AA	9JA1C010	6227391
		B1K4F4	J6H090325-2	JA1C91AA	9JA1C910	6227391
		B1K4F0	J6H090325-3	JA1DH1AA	9JA1DH10	6227391
		B1K4D0	J6H090325-4	JA1DM1AA	9JA1DM10	6227391
		B1K4D2	J6H090341-1	JA1J71AA	9JA1J710	6227391
		B1K4D4	J6H090341-2	JA1J91AA	9JA1J910	6227391
		B1K4D6	J6H090341-3	JA1KA1AA	9JA1KA10	6227391
		B1K4F8	J6H090341-4	JA1KD1AA	9JA1KD10	6227391
	I06-046	B1JKR1	J6H100377-1	JA4T81AA	9JA4T810	6227394
	I06-051	B1K4P2	J6H100382-1	JA4VJ1AA	9JA4VJ10	6223524
	S06-007	B1JL85	J6H110163-1	JA56R1AA	9JA56R10	6227390
		B1JL85	J6H110163-1	JA56R1AC	9JA56R10	6227391
		B1JL85	J6H110163-1	JA56R1AD	9JA56R10	6227385

Comments:

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Certificate of Analysis

Pacific Northwest National Laboratories
Sigma V Building
Richland, WA 99352

September 19, 2006

Attention: Dot Stewart

SAF Number : W06-008, I06-051, G06-008, I06-053, I06-046,
S06-007
Date SDG Closed : August 10, 2006
Number of Samples : Twenty (20)
Sample Type : Water
SDG Number : W04976
Data Deliverable : 45-Day / Summary

CASE NARRATIVE

I. Introduction

Between August 7, 2006 and August 10, 2006, twenty 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>
B1K2D2	JATD6	WATER	8/7/06
B1K222	JATD9	WATER	8/7/06
B1K4T5	JAWM9	WATER	8/8/06
B1K4K3	JAWNK	WATER	8/8/06
B1K4C4	JAWRR	WATER	8/8/06
B1K4C6	JAWRK	WATER	8/8/06
B1K4C8	JAWRW	WATER	8/8/06
B1K530	JAWTL	WATER	8/8/06
B1K527	JAWTN	WATER	8/8/06
B1K4F2	JA1C0	WATER	8/9/06
B1K4F4	JA1C9	WATER	8/9/06
B1K4F0	JA1DH	WATER	8/9/06
B1K4D0	JA1DM	WATER	8/9/06

B1K4D2	JA1J7	WATER	8/9/06
B1K4D4	JA1J9	WATER	8/9/06
B1K4D6	JA1KA	WATER	8/9/06
B1K4F8	JA1KD	WATER	8/9/06
B1JKR1	JA4T8	WATER	8/10/06
B1K4P2	JA4VJ	WATER	8/10/06
B1JL85	JA56R	WATER	8/10/06

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 Alpha by method RICH-RC-5014

Gross Beta by method RICH-RC-5014

Strontium-90 by method RICH-RC-5006

Gamma Spectroscopy

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

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

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014:

Reduced aliquots were taken for samples B1JL85, B1K222 and B1K222 DUP due to high screening results. B1K222 and B1K222 DUP do not meet CRDL. The results of these samples are greater than the MDA which is greater than the CRDL. Except as note, the LCS, batch blank, samples and sample duplicate (B1JL85) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

Reduced aliquots were taken for samples B1K4F2, B1K4F4, B1K4F0, B1K4D0, B1K4D4, B1K4D6, B1K4F8, B1K2D2, B1K222, B1K4C6, B1K4C8 due to high screening results. All the samples mentioned above except for B1K4D0 do not meet CRDL. The results of these samples are greater than the MDA which is greater than the CRDL. Except as note, the LCS, batch blank, samples and sample duplicate (B1JL85) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1JKR1) results are within contractual requirements.

Gamma Spectroscopy

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

The LCS, batch blank, samples and sample duplicate (B1K2D2) results are within contractual requirements.

Liquid Scintillation Counting

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

The LCS, batch blank, samples, sample duplicate (B1JL85), and sample matrix spike (B1K222) results are within contractual requirements.

Technetium-99 by method RICH-RC-5078:

The LCS, batch blank, samples, sample duplicate (B1K2D2), and sample matrix spike (B1K2D2) results are within contractual requirements.

Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1K530) results are within contractual requirements.

Total Uranium

Total Uranium by method RICH-RC-5058:

The matrix spike was out on the first analysis. The samples were reanalyzed with acceptable results. Reduced aliquots were taken for samples B1K2D2, B1K222, B1K2D2 DUP and B1K222 MS. The LCS, batch blank, samples, sample duplicate (B185X0), and sample matrix spike (B18612) results are within contractual requirements.

Pacific Northwest National Laboratories
September 19, 2006

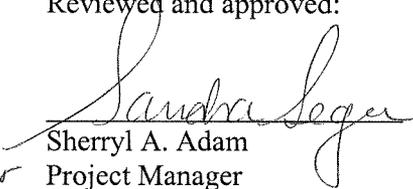
Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B1K4P2), sample matrix spike (B1K4P2), and matrix spike duplicate results (B1K4P2) are within contractual requirements.

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

Reviewed and approved:


for 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

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgrndCnt} / \text{BkgrndCntMin}) / \text{SCntMin})) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgrndCnt} / \text{BkgrndCntMin}) / \text{SCntMin}) + 2.71 / \text{SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D) / [\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

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STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 33274 File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.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:				
9JA1C010	B1K4F2		MW6-SBB-A1	G06-008	W04976					08/09/2006 09:25				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227391	BETA	12587-47-2	9.18E+03	pCi/L	4.9E+01	1.2E+03		4.88E+00	100.0	9310_ALPHABETA	8.21E-02	L	08/29/2006 15:14	I
9JA1C910	B1K4F4		MW6-SBB-A1	G06-008	W04976					08/09/2006 09:41				
6227391	BETA	12587-47-2	2.86E+04	pCi/L	2.1E+02	3.7E+03		2.64E+01	100.0	9310_ALPHABETA	1.37E-02	L	08/29/2006 15:14	I
9JA1DH10	B1K4F0		MW6-SBB-A1	G06-008	W04976					08/09/2006 10:16				
6227391	BETA	12587-47-2	1.48E+03	pCi/L	1.9E+01	2.9E+02		3.32E+00	100.0	9310_ALPHABETA	1.48E-01	L	08/29/2006 16:17	I
9JA1DM10	B1K4D0		MW6-SBB-A1	G06-008	W04976					08/09/2006 11:28				
6227391	BETA	12587-47-2	9.46E+03	pCi/L	6.1E+01	1.6E+03		7.09E+00	100.0	9310_ALPHABETA	5.35E-02	L	08/29/2006 15:14	I
9JA1J710	B1K4D2		MW6-SBB-A1	G06-008	W04976					08/09/2006 11:35				
6227391	BETA	12587-47-2	1.47E+03	pCi/L	1.8E+01	1.8E+02		2.82E+00	100.0	9310_ALPHABETA	2.008E-01	L	08/29/2006 16:17	I
9JA1J910	B1K4D4		MW6-SBB-A1	G06-008	W04976					08/09/2006 09:53				
6227391	BETA	12587-47-2	6.85E+03	pCi/L	4.7E+01	9.1E+02		6.36E+00	100.0	9310_ALPHABETA	7.01E-02	L	08/29/2006 15:14	I
9JA1KA10	B1K4D6		MW6-SBB-A1	G06-008	W04976					08/09/2006 11:07				
6227391	BETA	12587-47-2	1.97E+03	pCi/L	2.8E+01	2.5E+02		5.38E+00	100.0	9310_ALPHABETA	1.096E-01	L	08/29/2006 16:17	I

STL Richland

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.

9/19/2006 12:54:50 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 33274 File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.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:				
9JA1KD10	B1K4F8		MW6-SBB-A1	G06-008	W04976					08/09/2006 08:58				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227391	BETA	12587-47-2	2.04E+03	pCi/L	2.7E+01	2.6E+02		4.77E+00	100.0	9310_ALPHABETA	1.205E-01	L	08/29/2006 18:37	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:				
9JA4T810	B1JKR1		MW6-SBB-A1	I06-046	W04976					08/10/2006 09:57				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227394	SR-90	10098-97-2	3.82E-01	pCi/L	2.6E-01	2.6E-01	U	4.75E-01	60.0	SRISO_SEP_PRE	1.0018E+00	L	09/18/2006 06:08	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:				
9JA56R10	B1JL85		MW6-SBB-A1	S06-007	W04976					08/10/2006 09:57				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227390	ALPHA	12587-46-1	2.55E+00	pCi/L	8.9E-01	1.0E+00		1.03E+00	100.0	9310_ALPHABETA	1.315E-01	L	08/29/2006 17:35	I
6227391	BETA	12587-47-2	1.07E+01	pCi/L	2.0E+00	2.9E+00		2.83E+00	100.0	9310_ALPHABETA	1.991E-01	L	08/29/2006 18:37	I
6227385	TC-99	14133-76-7	3.85E+00	pCi/L	4.4E+00	6.5E+00	U	1.03E+01	100.0	TC99_ETVDSK_LS	1.248E-01	L	09/12/2006 09:17	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:				
9JATD610	B1K2D2		MW6-SBB-A1	W06-008	W04976					08/07/2006 10:02				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227388	H-3	10028-17-8	3.10E+03	pCi/L	2.2E+02	2.8E+02		3.16E+02	100.0	906.0_H3_LSC	5.00E-03	L	08/19/2006 14:36	I
6227391	BETA	12587-47-2	8.82E+02	pCi/L	1.6E+01	1.2E+02		5.34E+00	100.0	9310_ALPHABETA	7.42E-02	L	08/29/2006 15:14	I
6227386	TC-99	14133-76-7	2.72E+03	pCi/L	2.9E+01	1.7E+02		9.95E+00	100.0	TC99_SEP_LSC	1.252E-01	L	08/24/2006 08:27	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:				
9JATD620	B1K2D2		MW6-SBB-A1	W06-008	W04976					08/07/2006 10:02				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227393	BE-7	13966-02-4	-1.01E+01	pCi/L	2.1E+01	2.1E+01	U	3.69E+01		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	CO-60	10198-40-0	7.50E+00	pCi/L	4.0E+00	4.0E+00	U	8.54E+00		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	CS-134	13967-70-9	-1.84E+00	pCi/L	2.8E+00	2.8E+00	U	4.64E+00		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	CS-137	10045-97-3	-7.20E-01	pCi/L	2.5E+00	2.5E+00	U	4.43E+00		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	EU-152	14683-23-9	-2.52E+00	pCi/L	6.0E+00	6.0E+00	U	1.02E+01		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	EU-154	15585-10-1	7.44E-01	pCi/L	7.4E+00	7.4E+00	U	1.45E+01		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I

STL Richland U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. 2

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.

9/19/2006 12:54:50 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 33274 File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.Edd

6227393	EU-155	14391-16-3	1.81E+00	pCi/L	3.9E+00	3.9E+00	U	7.23E+00		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	K-40	13966-00-2	-2.34E+01	pCi/L	5.5E+01	5.5E+01	U	1.19E+02		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	RU-106	13967-48-1	-1.98E+00	pCi/L	2.0E+01	2.0E+01	U	3.74E+01		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	I
6227393	SB-125	14234-35-6	-1.13E+00	pCi/L	5.7E+00	5.7E+00	U	1.00E+01		GAMMALL_GS	1.9714E+00	L	08/30/2006 19:30	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:				
9JATD630	B1K2D2		MW6-SBB-A1	W06-008	W04976					08/07/2006 10:02				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6242217	Uranium	7440-61-1	7.89E+01	ug/L	9.3E+00	9.3E+00		2.10E-01		UTOT_KPA	1.00E-02	ML	09/06/2006 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:				
9JATD910	B1K222		MW6-SBB-A1	W06-008	W04976					08/07/2006 11:40				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227388	H-3	10028-17-8	3.85E+03	pCi/L	2.4E+02	3.1E+02		3.17E+02	100.0	906.0_H3_LSC	5.00E-03	L	08/19/2006 15:58	I
6227390	ALPHA	12587-46-1	3.37E+01	pCi/L	5.4E+00	8.7E+00		3.43E+00	100.0	9310_ALPHABETA	5.65E-02	L	08/29/2006 17:35	I
6227391	BETA	12587-47-2	2.24E+03	pCi/L	2.4E+01	3.6E+02		4.67E+00	100.0	9310_ALPHABETA	8.08E-02	L	08/29/2006 15:14	I
6227393	BE-7	13966-02-4	3.45E+00	pCi/L	1.7E+01	1.7E+01	U	3.13E+01		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	CO-60	10198-40-0	2.70E+01	pCi/L	6.1E+00	6.1E+00		4.05E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	CS-134	13967-70-9	1.04E+00	pCi/L	1.9E+00	1.9E+00	U	3.80E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	CS-137	10045-97-3	-1.43E-01	pCi/L	1.7E+00	1.7E+00	U	3.05E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	EU-152	14683-23-9	1.78E+00	pCi/L	4.0E+00	4.0E+00	U	7.56E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	EU-154	15585-10-1	5.74E-01	pCi/L	4.9E+00	4.9E+00	U	9.69E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	EU-155	14391-16-3	-1.41E-01	pCi/L	3.2E+00	3.2E+00	U	5.89E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	K-40	13966-00-2	-1.64E+01	pCi/L	3.4E+01	3.4E+01	U	7.14E+01		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	RU-106	13967-48-1	7.85E+00	pCi/L	1.4E+01	1.4E+01	U	2.72E+01		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227393	SB-125	14234-35-6	8.31E-01	pCi/L	3.9E+00	3.9E+00	U	7.24E+00		GAMMALL_GS	2.0001E+00	L	08/28/2006 07:45	I
6227385	TC-99	14133-76-7	1.03E+04	pCi/L	5.5E+01	6.6E+02		1.05E+01	100.0	TC99_ETVDSK_LS	1.252E-01	L	09/12/2006 07:12	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:				
9JATD920	B1K222		MW6-SBB-A1	W06-008	W04976					08/07/2006 11:40				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6242217	Uranium	7440-61-1	7.45E+01	ug/L	8.8E+00	8.8E+00		2.05E-01		UTOT_KPA	1.02E-02	ML	09/06/2006 14:16	I

9/19/2006 12:54:50 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 33274 File Name: h:\Reportdb\edd\Fead\I\Rad\W04976.Edd, h:\Reportdb\edd\Fead\I\Rad\33274.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:				
9JAWRK10	B1K4C6		MW6-SBB-A1	G06-008	W04976					08/08/2006 09:52				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6227391	BETA	12587-47-2	4.75E+03	pCi/L	3.6E+01	5.9E+02		4.91E+00	100.0	9310_ALPHABETA	7.44E-02	L	08/29/2006 15:14	I
9JAWRR10	B1K4C4		MW6-SBB-A1	G06-008	W04976					08/08/2006 08:31				
6227391	BETA	12587-47-2	5.44E+02	pCi/L	1.1E+01	6.9E+01		2.77E+00	100.0	9310_ALPHABETA	2.057E-01	L	08/29/2006 16:17	I
9JAWRW10	B1K4C8		MW6-SBB-A1	G06-008	W04976					08/08/2006 11:16				
6227391	BETA	12587-47-2	5.08E+03	pCi/L	3.7E+01	6.6E+02		4.75E+00	100.0	9310_ALPHABETA	8.50E-02	L	08/29/2006 15:14	I
9JAWTL10	B1K530		MW6-SBB-A1	I06-053	W04976					08/08/2006 11:16				
6227388	H-3	10028-17-8	3.33E+02	pCi/L	1.4E+02	1.6E+02		3.19E+02	100.0	906.0_H3_LSC	5.00E-03	L	08/19/2006 17:20	I
6227394	SR-90	10098-97-2	2.72E+03	pCi/L	1.6E+01	4.0E+02		8.03E-01	61.2	SRISO_SEP_PRE	9.963E-01	L	09/18/2006 05:48	I
9JAWTN10	B1K527		MW6-SBB-A1	I06-053	W04976					08/08/2006 09:52				
6227388	H-3	10028-17-8	6.12E+02	pCi/L	1.5E+02	1.7E+02		3.11E+02	100.0	906.0_H3_LSC	5.00E-03	L	08/19/2006 20:03	I
6227394	SR-90	10098-97-2	2.32E+03	pCi/L	1.4E+01	3.4E+02		7.35E-01	88.1	SRISO_SEP_PRE	7.196E-01	L	09/18/2006 05:48	I

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.Edd

Lab Sample Id: JCC601AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/08/2006 11:16

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/08/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	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	Aliq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227388 BLK	H-3 10028-17-8	-6.62E+01	pCi/L	1.4E+02 1.3E+02	U	3.16E+02	100.0		906.0_H3_LSC	5.00E-03 L	08/19/2006 09:09				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JCC601DX

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/08/2006 11:16

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/08/2006

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	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
6227388 BLK	H-3 10028-17-8	3.76E+01	pCi/L	1.5E+02 1.3E+02	U	3.15E+02	100.0		906.0_H3_LSC	5.00E-03 L	08/19/2006 11:53				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W04976.Edd, h:\Reportdb\edd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC621AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 11:40

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/07/2006

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	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227390 BLK	ALPHA 12587-46-1	1.86E-01	pCi/L	2.2E-01 2.2E-01	U	3.99E-01	100.0		9310_ALPHAB	2.003E-01 L	08/29/2006 17:35				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W04976.Edd, h:\Reportdb\edd\Fead\VRad\33274.Edd

Lab Sample Id: JCC641AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/10/2006 09:57

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/10/2006

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	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227391 BLK	BETA 12587-47-2	1.05E+00	pCi/L	1.0E+00 9.9E-01	U	1.91E+00	100.0		9310_ALPHAB	2.001E-01 L	08/29/2006 17:08				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04976.Edd, h:\Reportdb\ledd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC661AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/07/2006

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
6227393 BLK	BE-7 13966-02-4	-1.11E+00	pCi/L	1.6E+01 1.6E+01	U	2.91E+01			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	CO-60 10198-40-0	1.34E+00	pCi/L	1.8E+00 1.8E+00	U	3.96E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	CS-134 13967-70-9	-2.83E-01	pCi/L	1.8E+00 1.8E+00	U	3.19E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	CS-137 10045-97-3	-1.36E+00	pCi/L	1.8E+00 1.8E+00	U	2.91E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	EU-152 14683-23-9	-8.66E-01	pCi/L	4.4E+00 4.4E+00	U	7.83E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	EU-154 15585-10-1	-9.71E-01	pCi/L	3.8E+00 3.8E+00	U	7.29E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	EU-155 14391-16-3	8.10E-01	pCi/L	3.4E+00 3.4E+00	U	6.22E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	K-40 13966-00-2	5.14E+00	pCi/L	2.5E+01 2.5E+01	U	5.48E+01			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	RU-106 13967-48-1	-2.87E+00	pCi/L	1.6E+01 1.6E+01	U	2.81E+01			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D
6227393 BLK	SB-125 14234-35-6	4.79E-01	pCi/L	4.1E+00 4.1E+00	U	7.51E+00			GAMMALL_GS	2.0001E+00 L	08/28/2006 07:45				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W04976.Edd, h:\Reportdb\edd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC691AB

Sdg/Rept Nbr: W04976 33274

Collection Date: 08/10/2006 09:57

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/10/2006

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	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
6227394 BLK	SR-90 10098-97-2	1.79E-01	pCi/L	1.9E-01 1.9E-01	U	3.86E-01	70.3		SRISO_SEP_P	1.0008E+00 L	09/18/2006 06:08				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W04976.Edd, h:\Reportdb\edd\Fead\W04976.Edd, h:\Reportdb\edd\Fead\W04976.Edd, h:\Reportdb\edd\Fead\W04976.Edd

Lab Sample Id: JCC6L2AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/07/2006

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
6242217 BLK	Uranium 7440-61-1	5.73E-03	ug/L	7.0E-04 7.0E-04	U	8.19E-02			UTOT_KPA	2.56E-02 ML	09/06/2006 14:04				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W04976.Edd, h:\Reportdb\ledd\Fead\VRad\33274.Edd

Lab Sample Id: JCC6Q1AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/10/2006 09:57

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/10/2006

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
6227385 BLK	TC-99 14133-76-7	4.69E-02	pCi/L	6.3E+00 4.4E+00	U	1.06E+01	100.0		TC99_ETVDSK	1.258E-01 L	09/12/2006 11:22				D

Tuesday, September 19, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JCC6T1AB

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/07/2006

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/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227386 BLK	TC-99 14133-76-7	-3.27E-01	pCi/L	5.8E+00 4.1E+00	U	1.00E+01	100.0		TC99_SEP_LS	1.251E-01 L	08/24/2006 08:27				D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W04976.Edd, h:\Reportdb\ledd\Fead\VRad\33274.Edd

Lab Sample Id: JCC601CS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/08/2006 11:16

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/08/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BG	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227388 BS	H-3 10028-17-8	2.74E+03	pCi/L	2.7E+02 2.1E+02		3.17E+02	100.0	2.72E+03 101.0	906.0_H3_LSC	5.00E-03 L	08/19/2006 10:31			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04976.Edd, h:\Reportdb\ledd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC601EM

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/08/2006 11:16

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/08/2006

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
6227388 BS	H-3 10028-17-8	2.37E+03	pCi/L	2.5E+02 2.0E+02		3.15E+02	100.0	2.72E+03 87.4	906.0_H3_LSC	5.00E-03 L	08/19/2006 13:15			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W04976.Edd, h:\Reportdb\ledd\Fead\VRad\33274.Edd

Lab Sample Id: JCC621CS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 11:40

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/07/2006

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
6227390 BS	ALPHA 12587-46-1	1.91E+01	pCi/L	4.1E+00 1.5E+00		4.59E-01	100.0	2.30E+01 83.1	9310_ALPHAB	2.007E-01 L	08/29/2006 17:35			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W04976.Edd, h:\Reportdb\ledd\Fead\VRad\33274.Edd

Lab Sample Id: JCC641CS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/10/2006 09:57

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/10/2006

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
6227391 BS	BETA 12587-47-2	2.11E+01	pCi/L	3.1E+00 1.7E+00		1.85E+00	100.0	2.29E+01 92.2	9310_ALPHAB	2.007E-01 L	08/29/2006 17:08			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04976.Edd, h:\Reportdb\ledd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC661CS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/07/2006

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
6227393 BS	CO-60 10198-40-0	4.18E+01	pCi/L	8.9E+00 8.9E+00		5.51E+00		3.76E+01 111.0	GAMMALL_GS	2.0019E+00 L	08/28/2006 07:45			70 130	D
6227393 BS	CS-137 10045-97-3	3.00E+01	pCi/L	6.0E+00 6.0E+00		4.51E+00		2.51E+01 119.8	GAMMALL_GS	2.0019E+00 L	08/28/2006 07:45			70 130	D
6227393 BS	EU-152 14683-23-9	7.14E+01	pCi/L	1.9E+01 1.9E+01		1.16E+01		7.60E+01 94.0	GAMMALL_GS	2.0019E+00 L	08/28/2006 07:45			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04976.Edd, h:\Reportdb\ledd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC691CS

Sdg/Rept Nbr: W04976 33274

Collection Date: 08/10/2006 09:57

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/10/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	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
6227394 BS	SR-90 10098-97-2	1.37E+01	pCi/L	2.2E+00 7.3E-01		3.53E-01	82.3	1.36E+01 100.8	SRISO_SEP_P	1.0004E+00 L	09/18/2006 06:08			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\WRad\W04976.Edd, h:\Reportdb\edd\Fead\WRad\33274.Edd

Lab Sample Id: JCC6L2CS

Sdg/Rept Nbr: W04976 33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/07/2006

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/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6242217 BS	Uranium 7440-61-1	3.52E+01	ug/L	4.1E+00 4.1E+00		8.25E-02		3.55E+01 99.0	UTOT_KPA	2.54E-02 ML	09/06/2006 14:07			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04976.Edd, h:\Reportdb\ledd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC6L2DS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/07/2006

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
6242217 BS	Uranium 7440-61-1	3.47E+00	ug/L	3.5E-01 3.5E-01		8.35E-02		3.61E+00 96.1	UTOT_KPA	2.51E-02 ML	09/06/2006 14:09			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W04976.Edd, h:\Reportdb\ledd\Fead\VRad\33274.Edd

Lab Sample Id: JCC6Q1CS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/10/2006 09:57

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/10/2006

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/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227385 BS	TC-99 14133-76-7	4.42E+02	pCi/L	3.4E+01 1.2E+01		1.00E+01	100.0	5.40E+02 81.8	TC99_ETVDSK	1.248E-01 L	09/12/2006 12:25			70 130	D

Tuesday, September 19, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W04976.Edd, h:\Reportdb\edd\Fead\I\Rad\33274.Edd

Lab Sample Id: JCC6T1CS

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/07/2006

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/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227386 BS	TC-99 14133-76-7	3.82E+02	pCi/L	2.9E+01 1.1E+01		9.87E+00	100.0	5.37E+02 71.3	TC99_SEP_LS	1.258E-01 L	08/24/2006 08:27			70 130	D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.Edd

Lab Sample Id: JA4T81CR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/10/2006 09:57

Client Id: B1JKR1

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/10/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
106-046	MW6-SBB-A19981								AU	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
6227394 DUP	SR-90 10098-97-2	6.39E-01 3.82E-01	pCi/L	2.7E-01 2.5E-01		4.25E-01	68.3		SRISO_SEP_P	1.00E+00 L	09/18/2006 06:08	50.3 20.0	1.3 3		D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W04976.Edd, h:\Reportdb\edd\Fead\W04976.Edd, h:\Reportdb\edd\Fead\W04976.Edd, h:\Reportdb\edd\Fead\W04976.Edd

Lab Sample Id: JA56R1ER **Sdg/Rept Nbr:** W04976 33274 **Collection Date:** 08/10/2006 09:57
Client Id: B1JL85 **Matrix:** WATER WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 08/10/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
S06-007	MW6-SBB-A19981								AV	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
6227385 DUP	TC-99 14133-76-7	-3.11E+00 3.85E+00	pCi/L	6.1E+00 4.2E+00	U	1.04E+01	100.0		TC99_ETVDSK	1.256E-01 L	09/12/2006 10:19	1891.4 20.0	1.6 3		D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JA56R1FR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/10/2006 09:57

Client Id: B1JL85

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/10/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
S06-007	MW6-SBB-A19981								AW	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
6227391 DUP	BETA 12587-47-2	7.56E+00 1.07E+01	pCi/L	2.1E+00 1.8E+00		2.86E+00	100.0		9310_ALPHAB	1.992E-01 L	08/29/2006 18:37	34.5 20.0	2.2 3		D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W04976.Edd, h:\Reportdb\edd\Fead\VRad\33274.Edd

Lab Sample Id: JATD61JR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: B1K2D2

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-008	MW6-SBB-A19981								AY	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
6227386 DUP	TC-99 14133-76-7	2.95E+03 2.72E+03	pCi/L	1.9E+02 3.0E+01		9.96E+00	100.0		TC99_SEP_LS	1.253E-01 L	08/24/2006 08:27	8.1 20.0	1.7 3		D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JATD62GR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: B1K2D2

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-008	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
6242217	Uranium	8.39E+01	ug/L	9.9E+00		1.98E-01			UTOT_KPA	1.06E-02	09/06/2006	6.1	0.7		D
DUP	7440-61-1	7.89E+01		9.9E+00						ML	14:11	20.0	3		

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.Edd

Lab Sample Id: JATD62KR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: B1K2D2

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-008	MW6-SBB-A19981								BA	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227393 DUP	BE-7 13966-02-4	1.26E+00 -1.01E+01	pCi/L	2.2E+01 2.2E+01	U	4.06E+01			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	0.0 20.0	0.7 3		D
6227393 DUP	CO-60 10198-40-0	5.91E+00 7.50E+00	pCi/L	3.3E+00 3.3E+00	U	7.57E+00			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	23.7 20.0	0.7 3		D
6227393 DUP	CS-134 13967-70-9	-8.15E-01 -1.84E+00	pCi/L	2.2E+00 2.2E+00	U	3.86E+00			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	0.0 20.0	0.7 3		D
6227393 DUP	CS-137 10045-97-3	6.84E-01 -7.20E-01	pCi/L	2.1E+00 2.1E+00	U	4.06E+00			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	0.0 20.0	1. 3		D
6227393 DUP	EU-152 14683-23-9	-3.76E+00 -2.52E+00	pCi/L	4.7E+00 4.7E+00	U	7.56E+00			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	0.0 20.0	0.4 3		D
6227393 DUP	EU-154 15585-10-1	2.84E+00 7.44E-01	pCi/L	5.7E+00 5.7E+00	U	1.25E+01			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	117.0 20.0	0.5 3		D
6227393 DUP	EU-155 14391-16-3	-4.93E-01 1.81E+00	pCi/L	3.8E+00 3.8E+00	U	6.67E+00			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	350.1 20.0	0.9 3		D
6227393 DUP	K-40 13966-00-2	6.71E+00 -2.34E+01	pCi/L	3.0E+01 3.0E+01	U	6.67E+01			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	0.0 20.0	1.4 3		D
6227393 DUP	RU-106 13967-48-1	-2.05E+01 -1.98E+00	pCi/L	1.8E+01 1.8E+01	U	2.78E+01			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	0.0 20.0	1.4 3		D
6227393 DUP	SB-125 14234-35-6	2.59E+00 -1.13E+00	pCi/L	4.9E+00 4.9E+00	U	9.40E+00			GAMMALL_GS	1.9716E+00 L	08/30/2006 19:31	507.7 20.0	1.1 3		D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04976.Edd, h:\Reportdb\edd\FeadIV\Rad\33274.Edd

Lab Sample Id: JATD91KR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 11:40

Client Id: B1K222

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-008	MW6-SBB-A19981								BC	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6227390 DUP	ALPHA 12587-46-1	3.63E+01 3.37E+01	pCi/L	9.3E+00 5.7E+00		3.29E+00	100.0		9310_ALPHAB	5.51E-02 L	08/29/2006 17:35	7.6 20.0	0.4 3		D

Tuesday, September 19, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JAWTL1DR

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/08/2006 11:16

Client Id: B1K530

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/08/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
I06-053	MW6-SBB-A19981								BE	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
6227388	H-3	2.99E+02	pCi/L	1.6E+02	U	3.16E+02	100.0		906.0_H3_LSC	5.00E-03	08/19/2006	10.7	0.3		D
DUP	10028-17-8	3.33E+02		1.4E+02						L	18:41	20.0	3		

Tuesday, September 19, 2006

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JATD61HW

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 10:02

Client Id: B1K2D2

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-008	MW6-SBB-A19981								AX	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
6227386 MS	TC-99 14133-76-7	2.71E+03	pCi/L	3.8E+02 4.0E+01		9.97E+00	100.0	3.60E+03 75.4	TC99_SEP_LS	1.252E-01 L	08/24/2006 08:27			60 140	D

Tuesday, September 19, 2006

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04976.Edd, h:\Reportdb\ledd\Fead\I\Rad\33274.Edd

Lab Sample Id: JATD91JW

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 11:40

Client Id: B1K222

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
W06-008	MW6-SBB-A19981								BB	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
6227385 MS	TC-99 14133-76-7	1.41E+04	pCi/L	9.0E+02 6.5E+01		1.06E+01	100.0	3.61E+03 391.7	TC99_ETVDSK	1.25E-01 L	09/12/2006 08:14			60 140	D

Tuesday, September 19, 2006

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04976.Edd, h:\Reportdb\edd\Fead\Rad\33274.Edd

Lab Sample Id: JATD92HW

Sdg/Rept Nbr: W04976

33274

Collection Date: 08/07/2006 11:40

Client Id: B1K222

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp				
W06-008	MW6-SBB-A19981								BD	H				
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6242217 MS	Uranium 7440-61-1	9.03E+01	ug/L	2.1E+01 2.1E+01	2.12E-01		9.12E+01 99.0	UTOT_KPA	9.90E-03 ML	09/06/2006 14:18			60 140	D

Analyst:	S. Wheland	Calibration Curve Information				SOP Information		BATCH #	6223524
Start Date:	8/10/2006		Amount	Conc.(mg/L)	ABS.	RICH-WC-5003		SDG #	W04976
Start Time:	15:00	Blank	0.000	0.000	0.000	Revision 7		Matrix	Water
End Date:	8/10/2006	Std. 1	0.100	0.050	0.096				
End Time	16:30	Std. 2	0.400	0.200	0.380				
		Std. 3	1.000	0.500	0.931	MDL (mg/L)		0.002	
Analyst Signature:		Std. 4	2.000	1.000	1.819	Instrument Information			
		Std 5	3.000	1.500	2.572	Instrument: Hach DR2010			
Date:		Standard Volume (mL):			100.000	Wavelength: 540			
08/11/06		Date of Curve:			8/10/2006	R Squared 0.99833			
						Slope: 1.72984			
						Intercept: 0.02934			

	Calibration Information:	ICV Information:	LCS Information:	Matrix Spike Information:
Dilution ID #	Cr-06-00312	Cr-06-00313	Cr-06-00312	Cr-06-00312
Prep Date:	08/10/06	08/10/06	38939	38939
Concentration (mg/L)	50	50	50	50
Expiration Date:	08/11/06	08/11/06	08/11/06	08/11/06
Pipettor(s)	70,190	190	190	190
Volume Used (Expected Value	1.000	0.50000	1.00
				0.50000
				0.50
				0.26316

Expected values are only amounts added in mg and not final concentrations

Sample ID	Client ID	Type	Sample Volume (mL)	Sample ABS.	Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Final Conc. (mg/L)	% Rec.
n/a	n/a	ICV	100.000	0.946	0.000	0.946	1	0.5299	0.530	105.98%
n/a	n/a	ICB	100.000	-0.001	0.000	-0.001	1	<MDL	<MDL	
JA7VP-1AAB	n/a	Prep Blank	100.000	0.000		0.000	1	<MDL	<MDL	
JA7VP-1ACC	n/a	LCS	100.000	0.938		0.938	1	0.5253	0.525	105.06%
JA4VJ-1AA	B1K4P	Sample	100.000	0.040		0.040	1	0.0062	0.006	
JA4VJ-1AC-S	B1K4P	MS	100.000	0.532		0.532	1	0.2906	0.2910	108.08%
JA4VJ-1AD-D	B1K4P	MSD	100.000	0.534		0.534	1	0.2917	0.2920	108.52%
JA4VJ-1AE-X	B1K4P	Duplicate	100.000	0.041		0.041	1	0.0067	0.007	
	scs8110106		100.000				1			
			100.000				1			
			100.000				1			
n/a	n/a	CCV	100.000	0.945		0.945	1	0.5293	0.529	105.87%
n/a	n/a	CCB	100.000	0.001		0.001	1	-0.0164	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			

Analyst:	S. Wheland	Calibration Curve Information				SOP Information	BATCH # 6220525
Start Date:	8/8/2006		Amount	Conc.(mg/L)	ABS.	RICH-WC-5003	SDG # W04976
Start Time:	15:00	Blank	0.000	0.000	0.000	Revision 7	Matrix Water
End Date:	8/8/2006	Std. 1	0.100	0.050	0.092		
End Time:	16:30	Std. 2	0.400	0.200	0.378		
		Std. 3	1.000	0.500	0.938	MDL (mg/L) 0.002	Instrument Information
Analyst Signature:	<i>S. Wheland</i>	Std. 4	2.000	1.000	1.833		Instrument: Hach DR2010
		Std 5	3.000	1.500	2.597		Wavelength: 540
Date:	8-Aug	Standard Volume (mL):			100.000		R Squared 0.99841
		Date of Curve:			8/8/2006		Slope: 1.74821
							Intercept: 0.02605

5/5
8/8/06

	Calibration Information:	ICV Information:	LCS Information:	Matrix Spike Information:
Dilution ID #	Cr-06-00308	Cr-06-00309	Cr-06-00308	Cr-06-00308
Prep Date:	08/08/06	08/08/06	08/08/06	08/08/06
Concentration (mg/L)	50	50	50	50
Expiration Date:	08/09/06	08/09/06	08/09/06	08/09/06
Pipettor(s)	70,190	190	190	190
Volume Used (Expected Value		1.000	0.50000	1.00
				0.50000
				0.50
				0.26316

Expected values are only amounts added in mg and not final concentrations

Sample ID	Client ID	Type	Sample Volume (mL)	Sample ABS.	Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Final Conc. (mg/L)	% Rec.
n/a	n/a	ICV	100.000	0.952	0.000	0.952	1	0.5297	0.530	105.93%
n/a	n/a	ICB	100.000	0.001	0.000	0.001	1	-0.0143	<MDL	
JAWVE-1AAB	n/a	Prep Blank	100.000	-0.002		-0.002	1	<MDL	<MDL	
JAWVE-1ACC	n/a	LCS	100.000	0.943		0.943	1	0.5245	0.525	104.90%
JAWM9-1AA	B1K4T5	Sample	100.000	0.861		0.861	1	0.4776	0.478	
JAWM9-1AC-S	B1K4T5-MS	MS	100.000	1.338		1.338	1	0.7505	0.750 ²¹⁰	103.68%
JAWM9-1AD-D	B1K4T5-MSD	MSD	100.000	1.343		1.343	1	0.7533	0.753 ²¹³	104.77%
JAWM9-1AE-X	B1K4T5-DUP	Duplicate	100.000	0.863		0.863	1	0.4787	0.479	5/5 8/8/06
JAWNK-1AA	B1K4K3	Sample	100.000	0.285		0.285	1	0.1481	0.148	
			100.000				1			
			100.000				1			
n/a	n/a	CCV	100.000	0.953		0.953	1	0.5302	0.530	106.05%
n/a	n/a	CCB	100.000	0.001		0.001	1	-0.0143	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			

Lot No., Due Date: J6H070211; 09/25/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6227393; RGAMMA Gamma by GER
 SDG, Matrix: W04976; 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:
See NCM. 10-08614

First Level Review Pam Anderson

Date 9-5-06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6227393
W04976

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 R Adams Date: 9-5-06

Clouseau Nonconformance Memo



NCM #: 10-08614 NCM Initiated By: Pam Anderson Date Opened: 09/05/2006 Date Closed:	Classification: Anomaly Status: PMREVIEW Production Area: Environmental - Sep Tests: Gamma by GER Lot #'s (Sample #'s): J6H030360 (1), J6H070211 (1), QC Batches: 6227329, 6227393
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	09/05/2006	These are two gamma batches for the same client. The sample on one batch showed a small amount of Cs 137, below CRDL. and it's duplicate did not. The other batch the duplicate showed Cs 137 and the sample did not. Fearing a mixup the samples were recounted on different detectors. No Cs shows.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	09/05/2006	The detector that showed the small amount of Cs 137 will be cleaned.

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

Lot No., Due Date: **J6H110163, J6H070211; 09/25/2006**
 Client, Site: **384868; PGW 615HANFORD HANFORD**
 QC Batch No., Method Test: **6227390; RALPHA-A Alpha by GPC-Am**
 SDG, Matrix: **W04976; WATER**

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 OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 Analysis Volume => JATD91AC 56.50<200.00 JA56R1AA 131.50<200.00 Q:VB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.07 The Correct Count Geometry was Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 (MBIks) 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. No Matrix Spike Samples (MS) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.17 Tracer within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.19 Sample Specific MDC <= CRDL. MDC/MDA > CRDL => JATD91AC ALPHA 3.4E+00>3.0E+00 JATD91AK ALPHA 3.3E+00>3.0E+00 Q:C1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 => JATD91AC ALPHA 3.4E+01 L:3.4E+00 JA56R1AA ALPHA 2.5E+00 L:1.0E+00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => ALPHA OK; No Callin Level Found => ALPHA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.24 Result + 3s >=0, Not Too Negative. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A <input 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 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 _____

Date _____



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6227390
W04974

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 Adam Date: 9-5-06

Clouseau Nonconformance Memo



NCM #: 10-08612 NCM Initiated By: Pam Anderson Date Opened: 09/05/2006 Date Closed:	Classification: Anomaly Status: PMREVIEW Production Area: Environmental - Sep Tests: Alpha by GPC-Am Lot #'s (Sample #'s): J6H070211 (2), QC Batches: 6227390
Nonconformance: MDA not met Subcategory: Data accepted	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Pam Anderson	09/05/2006	Alpha sample and it's duplicate do not meet CRDL. The rad screen indicated a warm sample and a smaller aliquot was taken to prevent contamination in the lab. The result is >MDA>CRDL

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Pam Anderson	09/05/2006	na

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>
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Lot No., Due Date: J6H090325,J6H090341,J6H110163,J6H070211,J6H080327; 09/25/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6227391; RBETA-SR Beta by GPC-Sr/Y
 SDG, Matrix: W04976; WATER

8.0	Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => JATD61AC 74.20<200.00 JATD91AD 80.80<200.00 JAWRK1AA 74.40<200.00 JAWRW1AA 85.00<200.00 JA1C01AA 82.10<200.00 JA1C91AA 13.70<200.00 JA1DH1AA 148.00<200.00 JA1DM1AA 53.50<200.00 JA1J91AA 70.10<200.00 JA1KA1AA 109.60<200.00 JA1KD1AA 120.50<200.00 Q:VB	Yes	No	N/A
8.07	The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09	Method Blank is within Control Limits. OK	Yes	No	N/A
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. No Matrix Blanks (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. RPD > UCL : 20.0=> JA56R1AF BETA 34.0 (RPD)	Yes	No	N/A
8.14	LCS within Control Limits. OK	Yes	No	N/A
8.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17	Tracer within Control Limits. OK	Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19	Sample Specific MDC <= CRDL. MDC/MDA > CRDL => JATD61AC BETA 5.3E+00>4.0E+00 JATD91AD BETA 4.7E+00>4.0E+00 JAWRK1AA BETA 4.9E+00>4.0E+00 JAWRW1AA BETA 4.8E+00>4.0E+00 JA1C01AA BETA 4.9E+00>4.0E+00 JA1C91AA BETA 2.6E+01>4.0E+00 JA1DM1AA BETA 7.1E+00>4.0E+00 JA1J91AA BETA 6.4E+00>4.0E+00 JA1KA1AA BETA 5.4E+00>4.0E+00 JA1KD1AA BETA 4.8E+00>4.0E+00 Q:C1	Yes	No	N/A

NCM# 10-086A Pt 8-5-06

8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No <input checked="" type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JATD61AC BETA 8.8E+02 L:5.3E+00 JATD91AD BETA 2.2E+03 L:4.7E+00 JAWRK1AA BETA 4.8E+03 L:4.9E+00 JAWRR1AA BETA 5.4E+02 L:2.8E+00 JAWRW1AA BETA 5.1E+03 L:4.8E+00 JA1C01AA BETA 9.2E+03 L:4.9E+00 JA1C91AA BETA 2.9E+04 L:2.6E+01 JA1DH1AA BETA 1.5E+03 L:3.3E+00 JA1DM1AA BETA 9.5E+03 L:7.1E+00 JA1J71AA BETA 1.5E+03 L:2.8E+00 JA1J91AA BETA 6.9E+03 L:6.4E+00 JA1KA1AA BETA 2.0E+03 L:5.4E+00 JA1KD1AA BETA 2.0E+03 L:4.8E+00 JA56R1AC BETA 1.1E+01 L:2.8E+00	Yes	No <input checked="" type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => BETA OK; No Callin Level Found => BETA	<input checked="" type="checkbox"/>	No	N/A
8.24 Result + 3s >=0, Not Too Negative. OK	<input checked="" type="checkbox"/>	No	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 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	<input checked="" type="checkbox"/>	No	N/A

First Level Review Paw Anderson

Date 8.5.00



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6207391
W04976

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: 9-5-06

Clouseau Nonconformance Memo



NCM #: 10-08611 NCM Initiated By: Pam Anderson Date Opened: 09/05/2006 Date Closed:	Classification: Anomaly Status: PMREVIEW Production Area: Environmental - Sep Tests: Beta by GPC-Sr/Y Lot #'s (Sample #'s): J6H070211 (1,2), J6H080327 (1,3), J6H090325 (1,2,4), J6H090341 (2,3,4), QC Batches: 6227391
Nonconformance: MDA not met Subcategory: Matrix effect	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Pam Anderson	09/05/2006	A number of samples in this beta batch do not meet CRDL. The samples had high rad screens and small aliquots were taken to prevent contamination in the lab. The results of these samples >MDA>CRDL. JATD61AC JATD91AD JAWRK1AA JAWRW1AA JA1C01AA JA1C91AA JA1DH1AA JA1J91AA JA1KA1AA JA1KD1AA.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Pam Anderson	09/05/2006	None at this time.

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: J6H100377,J6H080331; 09/25/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6227394; RSR85907 Sr-85/90 by GPC-7
 SDG, Matrix: W04976; WATER

8.0	Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => JAWTN1AC 719.60<1000.00 Q:VB	Yes	No	N/A
8.07	The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09	Method Blank is within Control Limits. OK	Yes	No	N/A
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. No Matrix Blanks (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. RPD > UCL : 20.0=> JA4T81AC SR-90 85.0 JA4T81AC SR-90 130.0 JA4T81AC SR-90 110.0 (RPD)	Yes	No	N/A
8.14	LCS within Control Limits. OK	Yes	No	N/A
8.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17	Tracer within Control Limits. OK	Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19	Sample Specific MDC <= CRDL. 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. Batch Positive Result => JAWTL1AC SR-90 2.7E+03 L:8.0E-01 JAWTL1AC SR-90 2.7E+03 L:1.5E+00 JAWTL1AC SR-90 2.7E+03 L:8.0E-01 JAWTN1AC SR-90 2.3E+03 L:7.6E-01 JAWTN1AC SR-90 2.3E+03 L:1.3E+00 JAWTN1AC SR-90 2.3E+03 L:7.4E-01	Yes	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => SR-90	Yes	No	N/A

OK; No Callin Level Found => SR-90

8.24 Result + 3s >=0, Not Too Negative.

Yes No N/A

OK

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

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 No N/A

First Level Review Pam Anderson

Date 9-19-06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6227394
W04976

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 Adam Date: 9-19-06

Lot No., Due Date: J6H110163,J6H070211; 09/25/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6227385; RTC99 Tc-99 by LSC
 SDG, Matrix: W04976; 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 Thomas E. McLeod

Date 9/13/06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6227385
W04976

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: 9-13-06

Lot No., Due Date: J6H070211; 09/25/2006
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 6227386; RTC99 Tc-99 by LSC
SDG, Matrix: W04976; 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 => JATD61AH 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. 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 8-25-08



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

OC Batch Number: 6227386
WO 4976

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: 8-25-06

Lot No., Due Date: J6H070211,J6H080331; 09/25/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6227388; RTRITIUM H-3 by LSC
 SDG, Matrix: W04976; WATER

8.0	Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => JATD61AA 5.00<10.00 JATD91AA 5.00<10.00 JAWTL1AA 5.00<10.00 JAWTN1AA 5.00<10.00 Q:VB	Yes	No	N/A
8.07	The Correct Count Geometry was Used. Count Geometry => JCC601AF SVP15/5<->SVP10/10 JCC601AG SVP15/5<->SVP10/10 JCC601AA SVP15/5<->SVP10/10 JCC601AC SVP15/5<->SVP10/10 JCC601AD SVP15/5<->SVP10/10 JCC601AE SVP15/5<->SVP10/10 JATD61AA SVP15/5<->SVP10/10 JATD91AA SVP15/5<->SVP10/10 JAWTL1AA SVP15/5<->SVP10/10 JAWTL1AD SVP15/5<->SVP10/10 JAWTN1AA SVP15/5<->SVP10/10 Q:VC <i>OK PA 8-23-06</i>	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. OK	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. RPD > UCL : 20.0=> JAWTL1AD H-3 45.0 (RPD) <i>Botk < CRDL decp OK PA 8-23-06</i>	Yes	No	N/A
8.14	LCS within Control Limits. OK	Yes	No	N/A
8.15	MLCS within Control Limits. OK	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17	Tracer within Control Limits. 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 <input checked="" type="checkbox"/>	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => H-3 OK; No Callin Level Found => H-3	Yes <input checked="" type="checkbox"/>	No	N/A
8.24	Result + 3s >=0, Not Too Negative. OK	Yes <input checked="" type="checkbox"/>	No	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 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 8-23-08



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6227388
W04976

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: 8-24-06

Lot No., Due Date: J6H070211; 09/25/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6242217; RUNAT UNat by KPA
 SDG, Matrix: W04976; 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 => JCC6L2AD UNSC<->UNSF 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 No Count Analysis Size found in Batch Data!	Yes	No	N/A
8.07	The Correct Count Geometry was Used. No Count Geometry found in Batch Data!	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. No Count Duration Field Found in Batch Data!	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. MDC/MDA > CRDL => JATD62AG Uranium 2.0E-01>1.4E-01 JATD63AF Uranium 2.1E-01>1.4E-01 JATD92AG Uranium 2.1E-01>1.4E-01 JATD92AH Uranium 2.1E-01>1.4E-01 Q:C1	Yes	No	N/A
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22	Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JATD63AF Uranium 7.9E+01 L:2.1E-01 JATD92AG Uranium 7.5E+01 L:2.1E-01	Yes	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => Uranium OK; No Callin Level Found => Uranium	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 <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 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 9-7-04



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6242217
WS 4976

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: 9-8-06

Clouseau Nonconformance Memo



NCM #: 10-08644	Classification: Anomaly
NCM Initiated By: Pam Anderson	Status: GLREVIEW
Date Opened: 09/08/2006	Production Area: Environmental - Sep
Date Closed:	Tests: UNat by KPA
Nonconformance: Other (describe in detail)	Lot #'s (Sample #'s): J6H070211 (1,2),
Subcategory: Other (explanation required)	QC Batches: 6242217

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Pam Anderson	09/08/2006	The matrix spike was out on the first analysis of the total uranium. The batch was reanalyzed with good results.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Pam Anderson	09/08/2006	The batch was reanalyzed.

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>
----------------------	--------------------	-----------------



**Richland Laboratory
Data Review Check List
Hexavalent Chromium**

Work Order Number(s): JA7VP, JA4VJ JAHVJ SXS8/18/06 W04976				
Lab Sample Numbers or SDG: W04976 Batch 6223524 J6H 100382				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003, Rev 7				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?			✓	✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

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

Comments on any "No" response:

Analyst: *Thomas S. Muland*

Date: 8/11/06

Second-Level Review: *Sheryl A. Olson*

Date: 8-18-06

8/11/2006 4:02:24 PM

Sample Preparation/Analysis

Balance Id: _____

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)

Pipet #: _____

AnalyDueDate: 09/25/2006

5I CLIENT: HANFORD

Sep1 DT/Tm Tech: _____

Batch: 6223524 WATER mg/L
SEQ Batch, Test: None All Tests: 88EA, 6223524 88EA,

PM, Quote: HC , 57671

Sep2 DT/Tm Tech: _____

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:
--------------------------------------	-------------------	-----------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

1 JA4VJ-1-AA								
J6H100382-1-SAMP								
08/10/2006 11:09		AmtRec: 20ML,500MLP	#Containers: 2			Scr:	Alpha:	Beta:

2 JA4VJ-1-AC-S								
J6H100382-1-MS								
08/10/2006 11:09		AmtRec: 20ML,500MLP	#Containers: 2			Scr:	Alpha:	Beta:

3 JA4VJ-1-AD-D								
J6H100382-1-MSD								
08/10/2006 11:09		AmtRec: 20ML,500MLP	#Containers: 2			Scr:	Alpha:	Beta:

4 JA4VJ-1-AE-X								
J6H100382-1-DUP								
08/10/2006 11:09		AmtRec: 20ML,500MLP	#Containers: 2			Scr:	Alpha:	Beta:

5 JA7VP-1-AA-B								
J6H110000-524-BLK								
08/10/2006 11:09		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

6 JA7VP-1-AC-C								
J6H110000-524-LCS								
08/10/2006 11:09		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

8/11/2006 4:02:29 PM

Sample Preparation/Analysis

Balance Id: _____

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)

Pipet #: _____

AnalyDueDate: 09/25/2006

5I CLIENT: HANFORD

Sep1 DT/Tm Tech: _____

Batch: 6223524 mg/L
SEQ Batch, Test: None

Sep2 DT/Tm Tech: _____

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:
--------------------------------------	-------------------	-----------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

Comments:

All Clients for Batch:

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

JA4VJ1AA-SAMP Constituent List:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JA4VJ1AC-MS Constituent List:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JA4VJ1AD-MSD:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JA7VP1AA-BLK:

HEXCHROME RDL:0.002 mg/L LCL: UCL: RPD:

JA7VP1AC-LCS:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JA4VJ1AA-SAMP Calc Info:

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

JA4VJ1AC-MS Calc Info:

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

JA4VJ1AD-MSD:

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

JA7VP1AA-BLK:

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

JA7VP1AC-LCS:

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

Approved By _____ Date: _____

ENTERED
SKS 8/18/06



STL

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Work Order Number(s): JAWVE, JAWM9, JAWNK				
Lab Sample Numbers or SDG: J6H080316, J6H080318				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003, Rev 7 W04976 Batch 6220525				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			/
2. Correlation coefficient within QC limits?	✓			/
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			/
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			/
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			/
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			/
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?			✓	/
2. Were all sample holding times met?	✓			/
D. QC Samples				
1. All results for the preparation blank below limits?	✓			/
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			/
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			/
4. Analytical spikes within QC limits where applicable?			✓	/
5. ICP only: One serial dilution performed per SDG?			✓	/
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W06-008-19
		Page <u>1</u> of <u>1</u>

Collector K.J. YOUNG	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. W06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title RCRA, AUGUST 2006	DTS - SA WS - 4109	Ice Chest No. SAWS-370 Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol RCRA	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS ** ** <div style="font-size: 2em; font-family: cursive; margin-left: 20px;"> JW070211 W04976 Due: 9/21/06 </div>	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K2D2		W	8-7-06	1002	1x20-mL P	Activity Scan	None
B1K2D2		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1K2D2		W	↓	↓	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1K2D2		W	↓	↓	3x1000-mL G/P	TC99_SEP_LSC: Tc-99 (1)	HCl to pH <2
B1K2D2		W	↓	↓	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1) JATDL	HNO3 to pH <2
B1K2D2		W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	HNO3 to pH <2

Relinquished By K.J. YOUNG Print Sign	Date/Time AUG 07 2006 4:15	Received By David HARBING Print Sign	Date/Time AUG 07 2006 14:15	Matrix * S = Soil DS = Drum Solid SE = Sediment DI = 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	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W06-008-46
		Page 1 of 1

Collector K.J. YOUNG	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. W06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title RCRA, AUGUST 2006	DT3-SAWS-6109	Ice Chest No. SAWS-370 Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol RCRA	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS ** ** <div style="font-size: 2em; font-family: cursive; margin-top: 10px;"> J6H070211 W04976 </div>	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
---	--

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K222		W	8-7-06	140	1x20-mL P	Activity Scan	None
B1K222		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1K222		W	↓	↓	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1K222		W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9) JATD9	HNO3 to pH <2
B1K222		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
B1K222		W	↓	↓	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2

Relinquished By K.J. YOUNG	Date/Time AUG 07 2006	Received By DAVID HANBINSO	Date/Time AUG 07 2006	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = 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	
FINAL SAMPLE DISPOSITION	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: 8/7/06 14:15

Client: PxNL SDG #: W004976 NA SAF #: W006-008 NA

Work Order Number: J6H D 70211 Chain of Custody # W06-008-19

Shipping Container ID: SAWS-370 Air Bill # N/A W06-008-46

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: 14
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)
10. Sample pH taken? ES 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

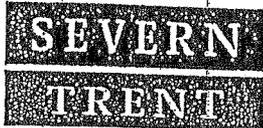
Sample Custodian: [Signature] Date: 8/7/06 14:15

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____



STL

Sample Check-in List

Date/Time Received: 8.8.06 14:35

Client: P6W SDG #: W04976 NA SAF #: I06-051 NA

Work Order Number: J64080316 Chain of Custody # I06-051-64

Shipping Container ID: N/A Air Bill # N/A

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: 1
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)
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: L. Smith Date: 8.8.06 14:35

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

PNNL *J6H080318*
W04976
Due 9-22-06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **106-051-88**
 Page 1 of 1

Collector D.P. CONNOLLY	Contact/Requester Dot Stewart	Telephone No. 509-376-5056
SAF No. 106-051	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title 100HR31AM(1/2)-LOI AUGUST 2006	<i>DTS - Saws H109</i>	Ice Chest No. <i>Saws 385</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.

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
---	---

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4K3 (F)		W	<i>8-8-06</i>	<i>1025</i>	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool 4C
B1K4K4		W	<i>8</i>	<i>1</i>	1x20-mL P	Activity Scan <i>JAWNK</i>	None

Relinquished By D.P. CONNOLLY	Print <i>DC</i>	Sign <i>DC</i>	Date/Time AUG 08 2006	Received By <i>L. Smith</i>	Print <i>L. Smith</i>	Sign <i>L. Smith</i>	Date/Time AUG 08 2006	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = 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	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	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: 8.8.06 14:55

Client: PGW SDG #: W04976 NA SAF #: I06-051 NA

Work Order Number: J6H080318 Chain of Custody # I06-051-88

Shipping Container ID: SAWS325 Air Bill # N/A

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: 1
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)
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: 8-8-06 14:55

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____
[] No action necessary; process as is.

Project Manager _____ Date _____

PNNL J64080327
 W04976
 Due 9-22-06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **G06-008-2**
 Page 1 of 1

Collector DURATEX L.D. WALL	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title 1NR2-RB, AUGUST 2006	GAW9 H106	Ice Chest No. Temp. SIM 585
Shipped To (Lab) Severn Trent Incorporated, Richland		Bill of Lading/Air Bill No.
Protocol SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4C4		W	8-8-06	0831	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4C4		W	↓	↓	1x20-mL P	Activity Scan JAWRR	None

Relinquished By L.D. WALL	Print L.D. Wall	Sign <i>[Signature]</i>	Date/Time AUG 08 2006 1435	Received By Paul Anderson	Print Paul Anderson	Sign <i>[Signature]</i>	Date/Time AUG 08 2006 1435	Matrix * 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	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By	Date/Time

PNNL J6H080327
W04976
Dne 9-22-06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
G06-008-4

Page 1 of 1

Collector DURATEK L.D. WALL	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title 1NR2-RB, AUGUST 2006	SAWSH106	Ice Chest No. SM 595	Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment	Bill of Lading/Air Bill No.		
Protocol SURV	Priority: 45 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4C6		W	8-8-06	0952	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4C6		W	X	X	1x20-mL P	Activity Scan JAWRK	None

Relinquished By DURATEK L.D. WALL	Print <i>L.D. Wall</i>	Sign <i>L.D. Wall</i>	Date/Time AUG 08 2006 1435	Received By <i>Pam Anderson</i>	Print <i>Pam Anderson</i>	Sign <i>Pam Anderson</i>	Date/Time AUG 08 2006 1435	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = 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					
Relinquished By	Date/Time	Received By	Date/Time					
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

PNNL J6H080327
 W04976
 DURATEK Due 9-22-06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
G06-008-6
 Page 1 of 1

Collector L.D. WALL	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title 1NR2-RB, AUGUST 2006	SAWS-1106	Ice Chest No. 51ML 545	Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment	Bill of Lading/Air Bill No.		
Protocol SURV	Priority: 45 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4C8		W	8-8-06	1116	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4C8		W	8-8-06	1116	1x20-mL P	Activity Scan JAWRW	None

Relinquished By L.D. WALL <i>L.D. Wall</i> Date/Time: 8/8/06 1435	Received By Pam Anderson <i>Pam Anderson</i> Date/Time: 8/8/06 1435	Matrix * S = Soil DS = Drum Solid SE = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By DURATEK L.D. WALL Date/Time: AUG 08 2006	Received By L.D. WALL Date/Time: 8/8/06		
Relinquished By Date/Time	Received By Date/Time		
Relinquished By Date/Time	Received By Date/Time		
FINAL SAMPLE DISPOSITION	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: 8-8-06 14:35

Client: PGW

SDG #: W04976 NA

SAF #: 606008 NA

Work Order Number: J6H080327

Chain of Custody # 606-0082,46

Shipping Container ID: SML 595

Air Bill # N/A

1. Custody Seals on shipping container intact? NA Yes No
2. Custody Seals dated and signed? 8-8-06 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: 3
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)
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: 8-8-06 1435

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is.

Project Manager _____ Date _____

Collecto L.D. WALL	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. 106-053	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title 100NR2IAM-LOL AUGUST 2006	<i>SAWS 4100</i>	Ice Chest No. <i>7ML 585</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.		

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K530		W	<i>8-8-06</i>	<i>1116</i>	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1K530		W	↓	↓	1x20-mL P	Activity Scan	None
B1K530		W	↓	↓	3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1) <i>JAWTL</i>	HNO3 to pH <2

Relinquished By	DURATEK L.D. WALL <i>A.D. Wall</i>	Date/Time AUG 08 2006 <i>1435</i>	Received By	<i>Pam Anderson</i> Pam Anderson	Date/Time AUG 08 2006 <i>1435</i>	Matrix *
Relinquished By		Date/Time	Received By		Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = 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	
Relinquished By		Date/Time	Received By		Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	Date/Time

PNNL J6H080331
W04976
Due 9-22-06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **106-053-2**
Page 1 of 1

Collector DURATEK L.D. WALL	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN FAX
SAF No. 106-053	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title 100NR2IAM-LOI AUGUST 2006	SAWS-4106	Ice Chest No. 5 ME 595	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.	

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL	Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K527		W	8-8-06	0952	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1K527		W	↓	↓	1x20-mL P	Activity Scan	None
B1K527		W	↓	↓	3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1) JAWTN	HNO3 to pH <2

Relinquished By L.D. WALL <i>[Signature]</i>	Date/Time AUG 08 2006 1435	Received By Pam Anderson <i>[Signature]</i>	Date/Time AUG 08 2006 1435	Matrix * S = Soil DS = Drum Solid SE = Sediment DI = 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	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	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: 8-8-06 14:35

Client: PG6 SDG #: W04976 NA SAF #: 106-053 NA

Work Order Number: J64080331 Chain of Custody # 106-053-5,2

Shipping Container ID: SMC-595 Air Bill # N/A
SL58A106

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: 162
7. Sample holding times exceeded? PA 8-8-06 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)
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: 8-8-06 14:35

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____
[] No action necessary; process as is.

Project Manager _____ Date _____

PNNL <i>JLH090325</i> <i>W04976</i> DURATEK <i>due 9-22-06</i>	<h2 style="margin:0;">CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</h2>	C.O.C. # <h3 style="margin:0;">G06-008-20</h3>
		Page 1 of 1

Collector: L.D. WALL	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title INR2-RB, AUGUST 2006	<i>SAWS H106</i>	Ice Chest No. <i>SM 545</i> Temp.
Shipped To (Lab) <i>Severn Trent Incorporated, Richland</i>	Method of Shipment	Bill of Lading/Air Bill No.
Protocol SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4F2		W	<i>8-9-06</i>	<i>0925</i>	1x1000-mL P	9310_ALPHA BETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4F2		W	<i>↓</i>	<i>↓</i>	1x20-mL P	Activity Scan <i>JAI CO</i>	None

Relinquished By <i>L.D. WALL</i>	Print <i>L.D. WALL</i>	Sign <i>[Signature]</i>	Date/Time <i>AUG 09 2006 1353</i>	Received By <i>J. Smith</i>	Print <i>J. Smith</i>	Sign <i>[Signature]</i>	Date/Time <i>AUG 09 2006 1355</i>	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liumi 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	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By	Date/Time

PNNL *JG4090325*
W04976
Due 9-22-06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
G06-008-22
 Page 1 of 1

Collector <i>L.D. WALL</i>	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN FAX
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title 1NR2-RB, AUGUST 2006	<i>SALWS-H106</i>	Ice Chest No. <i>311K 585</i>	Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment	Bill of Lading/Air Bill No.	
Protocol SURV	Priority: 45 Days	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** **

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes No
 Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
 Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4F4		W	<i>8-9-06</i>	<i>0941</i>	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4F4		W	<i>↓</i>	<i>↓</i>	1x20-mL P	Activity Scan <i>JAIC9</i>	None

Relinquished By <i>L.D. Wall</i>	Date/Time <i>AUG 09 2006 17:55</i>	Received By <i>J. Smith</i>	Date/Time <i>AUG 09 2006 17:55</i>	Matrix * 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	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	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: 8.9.06 1355

Client: PGW SDG #: W04976 NA SAF #: G08-008 NA

Work Order Number: J64090325 Chain of Custody # G08-008-20,22,18,8

Shipping Container ID: SML 595 Air Bill # N/A

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: 4
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)
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: 9.8.06 1355

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

PNNL J64090341
W04976
Due 9.22.06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
G06-008-10
Page 1 of 1

Collector: J. YOUNG	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN FAX
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title 1NR2-RB, AUGUST 2006	DTS-SAWYH109	Ice Chest No. SAWF-370	Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment	Bill of Lading/Air Bill No.	
Protocol SURV	Priority: 45 Days	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4D2		W	8-9-06	1135	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4D2		W	↓	↓	1x20-mL P	Activity Scan	None
						JA157	

Relinquished By J. YOUNG <i>J. Young</i>	Print	Sign	Date/Time AUG 09 2006 ¹⁴³⁵	Received By P. Smith <i>P. Smith</i>	Print	Sign	Date/Time AUG 09 2006 ¹⁴³⁵	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time			

PNNL <i>JG H090341</i> <i>W04976</i>	<h2 style="margin: 0;">CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</h2>	C.O.C. # <h3 style="margin: 0;">G06-008-26</h3>
		Page <u>1</u> of <u>1</u>

Collector <i>K.J. YOUNG</i>	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. G06-008	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title 1NR2-RB, AUGUST 2006	<i>DTS-002</i>	Ice Chest No. <i>SAWS-370</i> Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment	Bill of Lading/Air Bill No.
Protocol SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K4F8		W	<i>8-9-06</i>	<i>0858</i>	1x1000-mL P	9310_ALPHABETA_GPC: Gross Beta (1)	HNO3 to pH <2
B1K4F8		W	<i>↓</i>	<i>↓</i>	1x20-mL P	Activity Scan <i>JAIKD</i>	None

Relinquished By <i>K.J. YOUNG</i> <small>Print</small> <i>[Signature]</i> <small>Sign</small> Date/Time <i>1435</i> AUG 09 2006	Received By <i>[Signature]</i> <small>Print</small> <i>[Signature]</i> <small>Sign</small> Date/Time <i>1435</i> AUG 09 2006	Matrix * S = Soil DS = Drum Solid SE = Sediment DI = Drum Lioni 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 _____	
Relinquished By _____ Date/Time _____	Received By _____ Date/Time _____	
Relinquished By _____ Date/Time _____	Received By _____ Date/Time _____	
FINAL SAMPLE DISPOSITION	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: 8.9.06

Client: P&W SDG #: W04976 NA SAF #: G06-008 NA

Work Order Number: J6H090341 Chain of Custody # G06-008-10,12,14,26

Shipping Container ID: SAWS-370 Air Bill # N/A

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 S. Vermiculite/packing materials is NA Wet Dry
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA Yes No
8. Samples have:
 - tape
 - custody seals
 - hazard labels
 - appropriate samples labels
9. Samples are:
 - in good condition
 - broken
 - leaking
 - 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: 8.9.06 14:35

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is.

Project Manager _____ Date _____



STL

Sample Check-in List

Date/Time Received: 8-10-06 14:45

Client: P6W SDG #: W04976 NA SAF #: 106-046 NA

Work Order Number: JLH00377 Chain of Custody # 106-046-49

Shipping Container ID: JML-595 Air Bill # N/A

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: 1
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)
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: 8-10-06 14:45

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is.

Project Manager _____ Date _____



STL

Sample Check-in List

Date/Time Received: 8-10-06 14:45

Client: P6W SDG #: W04976 NA SAF #: 206-057 NA

Work Order Number: JL6H100382 Chain of Custody # 206-051-9

Shipping Container ID: SML 595 Air Bill # N/A

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: 2
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)
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: 8-10-06 14:45

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____
[] No action necessary; process as is.

Project Manager _____ Date _____

PNNL ⁶³ J6H1101506 ^{SS}
 W049757
 due 9.25.06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S06-007-24**
 Page 1 of 1

Collector DURATEK L.D. WALL	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. S06-007	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title SURV. JULY 2006	SAW 5-4106	Ice Chest No. FMK 595	Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol SURV	Priority: 45 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** **

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes No
 Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
 Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1JL85		W	8-10-06	0957	1x20-mL P	Activity Scan	None
B1JL85		W	↓	↓	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B1JL85		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
						JASGR SS	JASGR

Relinquished By L.D. WALL	Print <i>L.D. Wall</i>	Sign <i>L.D. Wall</i>	Date/Time AUG 10 2006 14:45	Received By <i>S. Smith</i>	Print <i>S. Smith</i>	Sign <i>S. Smith</i>	Date/Time AUG 10 2006 14:45	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = 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	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION	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: 8-10-06 14:45

Client: PGW

SDG #: W04976 NA SAF #: 506-007 NA

Work Order Number: J6H110163

Chain of Custody #: 506-007-24

Shipping Container ID: SML-595

Air Bill # N/A

1. Custody Seals on shipping container intact? NA Yes No
2. Custody Seals dated and signed? NA Yes No
3. Chain of Custody record present? NA Yes No
4. Cooler temperature: _____ NA 5: Vermiculite/packing materials is NA Wet Dry
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA Yes No
8. Samples have:
 - _____ tape
 - _____ custody seals
 - _____ hazard labels
 - _____ appropriate samples labels
9. Samples are:
 - _____ in good condition
 - _____ broken
 - _____ leaking
 - _____ 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: 8-10-06 14:45

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____