

W05219

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MAY 22 2008  
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Analytical Data Package Prepared For

**Fluor Hanford**

Radiochemical Analysis By

**TAL Richland STLRL***2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.**Data Package Contains \_\_\_\_\_ Pages*

Report Nbr: 36923

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05219	W07-008	B1P9B3	J7H080124-1	J4D8W1AA	9J4D8W10	7236494
		B1P9B3	J7H080124-1	J4D8W1AC	9J4D8W10	7236496
		B1P9B3	J7H080124-1	J4D8W1AE	9J4D8W10	7236478
		B1P9B3	J7H080124-1	J4D8W2AD	9J4D8W20	7267576
		B1P995	J7H080124-2	J4D851AA	9J4D8510	7236494
		B1P995	J7H080124-2	J4D851AC	9J4D8510	7236479
		B1P995	J7H080124-2	J4D851AD	9J4D8510	7236478
		B1P996	J7H080124-3	J4D9T1AA	9J4D9T10	7236494
		B1P996	J7H080124-3	J4D9T1AC	9J4D9T10	7236479
		B1P996	J7H080124-3	J4D9T1AD	9J4D9T10	7236478
		B1P980	J7H080124-4	J4D901AA	9J4D9010	7236495
		B1P984	J7H080124-5	J4D921AA	9J4D9210	7236494
		B1P984	J7H080124-5	J4D921AC	9J4D9210	7236495
		B1P984	J7H080124-5	J4D921AD	9J4D9210	7236478
		B1P992	J7H080124-6	J4EE01AA	9J4EE010	7236494



Comments:

## Report Nbr: 36923

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05219	W07-008	B1P992	J7H080124-6	J4EE01AC	9J4EE010	7236479
		B1P992	J7H080124-6	J4EE01AD	9J4EE010	7236478
	G07-008	B1P484	J7H080253-1	J4E9C1AA	9J4E9C10	7236499
	S07-007	B1NXT0	J7H100401-1	J4M891AA	9J4M8910	7236479
		B1NXR9	J7H100401-2	J4M9C1AA	9J4M9C10	7236479
		B1NXJ4	J7H160236-1	J41N31AA	9J41N310	7236501
		B1NXJ5	J7H160236-2	J41PE1AA	9J41PE10	7236501
		W07-008	B1P845	J7H160242-1	J41P71AA	9J41P710
	B1P848		J7H160242-2	J41QC1AA	9J41QC10	7236478
	B1P847		J7H160242-3	J41QQ1AA	9J41QQ10	7236478
	B1P853		J7H160242-4	J41Q21AA	9J41Q210	7236478
	B1P856		J7H160242-5	J41RC1AA	9J41RC10	7236478
	B1PB19		J7H210278-1	J5AV71AA	9J5AV710	7236500
	B1PB19		J7H210278-1	J5AV71AC	9J5AV710	7236479
	B1P9K5		J7H210278-2	J5AWX1AA	9J5AWX10	7236479
	B1P9K6	J7H210278-3	J5AW91AA	9J5AW910	7236479	

Comments:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Certificate of Analysis

Fluor Hanford  
1200 Jadwin Ave.  
Richland, WA 99352

October 1, 2007

Attention: Steve Trent

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SAF Number	:	I07-061, G07-008, S07-007, S07-006, W07-008
Date SDG Closed	:	August 20, 2007
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W05219
Data Deliverable	:	45-Day / Summary

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### CASE NARRATIVE

#### I. Introduction

Between August 3, 2007 and August 20, 2007 twenty water samples were received at TestAmerica Laboratories Richland (TALR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B1P9B3	J408W	8/03/07	WATER
B1P995	J4D85	8/03/07	WATER
B1P996	J4D9T	8/03/07	WATER
B1P980	J4D90	8/03/07	WATER
B1P984	J4D92	8/03/07	WATER
B1P992	J4EED	8/03/07	WATER
B1P5T8	J4E5G	8/06/07	WATER
B1P484	J4E9C	8/06/07	WATER
B1NXTO	J4M89	8/07/07	WATER
B1NXR9	J4M9C	8/07/07	WATER
B1NXJ4	J41N3	8/14/07	WATER
B1NXJ5	J41PE	8/14/07	WATER
B1P845	J41P7	8/14/07	WATER

Fluor Hanford  
October 1, 2007

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B1P848	J41QC	8/14/07	WATER
B1P847	J41QQ	8/14/07	WATER
B1P853	J41Q2	8/14/07	WATER
B1P856	J41RC	8/14/07	WATER
B1PB19	J5AV7	8/20/07	WATER
B1P9K5	J5AWX	8/20/07	WATER
B1P9K6	J5AW9	8/20/07	WATER

## II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

## III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

### Gas Proportional Counting

Gross Beta by method RICH-RC-5014

Strontium-90 by method RICH-RC-5006

### Gamma Spectroscopy

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

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

### Liquid Scintillation Counting

Enriched Tritium by method RICH-RC-5024

Technetium-99 by TEVA method RICH-RC-5065

Technetium-99 by method RICH-RC-5078

Tritium by method RICH-RC-5007

### Laser Induced Phosphorimetry

Total Uranium by method RICH-RC-5058

## IV. Quality Control

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

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October 1, 2007

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**V. Comments**

**Gas Proportional Counting**

Gross Beta by method RICH-RC-5014:

The samples did not meet CRDL due to reduced aliquots based on weight screens. The results exceed the MDA achieved. Data is accepted. Except as noted, the LCS, batch blank, samples and sample duplicate (B1P484) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1P9B3) results are within contractual requirements.

**Gamma Spectroscopy**

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

In the original analysis the LCS had a high recover of Eu-152 at 126.5. It was recounted with good results. Except as noted, the LCS, batch blank, samples and sample duplicate (B1P992) results are within contractual requirements.

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

The samples were not run because the tech acidified all of them before analysis.

**Liquid Scintillation Counting**

Enriched Tritium by method RICH-RC-5024

The LCS, batch blank, samples and sample duplicate (B1NXJ4) results are within contractual requirements.

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

In the original analysis the TSIE was outside acceptable limits therefore the results could not be calculated. The samples were recounted with good results. Data is accepted. Except as noted, the LCS, batch blank, samples, sample duplicate (B1NXT0), and sample matrix spike (B1NXR9) results are within contractual requirements.

Technetium-99 by method RICH-RC-5078:

The LCS, batch blank, samples, sample duplicate (B1P980), and sample matrix spike (B1P984) results are within contractual requirements.

Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1PB19) results are within contractual requirements.

**Total Uranium**

Total Uranium by method RICH-RC-5058:

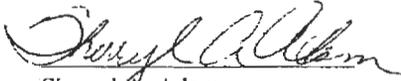
The LCS, batch blank, samples, sample duplicate (B1P845), and sample matrix spike (B1P848) results are within contractual requirements.

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October 1, 2007

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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:



Sherryl A. Adam  
Project Manager

**STL RICHLAND ISSUE RESOLUTION FORM  
FOR CONTRACT 615 WITH BHI/FH/PNNL**

Tracking Number: 07-085	
SAF No.: I07-061	
Date: September 11, 2007	
SDG: W05219	
Sample No.(s) B1P5T8	
Submitted By: <u>Sherryl Adam</u>	Submitted To: <u>Steve Trent (FH)</u>
Phone No. <u>509-375-3131 x164</u>	Phone No. <u>509-373-5869</u>
Fax No. <u>509-375-5590</u>	Fax No. <u>866-252-5816</u>

<u>ISSUE</u>	<u>PROPOSED RESOLUTION</u>
The above mentioned samples have I-129 (LL) requested and were all acidified due tech error.	Do not run the tests.

<p><b><u>BHI/FH/PNNL COMMENTS -</u></b> Accept proposed resolution – cancel the I-129 analysis.</p> <p style="text-align: center;"><u>Heidi Hampt 9/11/07</u> Signature and date</p>
--

**Seger, Sandra**

---

**From:** Hampt, Heidi [Heidi\_Hampt@RL.gov]  
**Sent:** Tuesday, September 11, 2007 2:15 PM  
**To:** Adam, Sherryl  
**Cc:** Seger, Sandra; Trent, Stephen J; Anastos, Heather L  
**Subject:** RE: IRFs  
**Attachments:** 07-087.DOC; 07-084.DOC; 07-085.DOC; 07-086.DOC

Sherryl,

Responses to the IRFs from Friday and today are attached.

Thanks,  
Heidi

---

**From:** Adam, Sherryl [mailto:Sherryl.Adam@testamericainc.com]  
**Sent:** Tuesday, September 11, 2007 9:46 AM  
**To:** Trent, Stephen J; Hampt, Heidi; Anastos, Heather L  
**Cc:** Seger, Sandra  
**Subject:** IRFs

Steve,

Please see the attached IRFs and advise us as to what you'd like us to do. Thanks.

<<IRFW05216.DOC>> <<IRFW05219.DOC>>

**Sherryl A. Adam**  
Project Manager

TestAmerica

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### Drinking Water Method Cross References

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

### Uncertainty Estimation

Test America Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,\dots)$ . 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 examples are available on request.

## Report Definitions

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

10/1/2007 11:04:30 AM

### TAL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 36923      File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.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:				
9J41N310	B1NXJ4		MW6-SBB-A1	S07-007	W05219					08/14/2007 09:17				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236501	H-3	10028-17-8	5.32E+01	pCi/L	7.1E+00	1.3E+01		6.44E+00	100.0	TRITIUM_ELECT_L	1.50E-01	L	09/27/2007 13:58	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:				
9J41P710	B1P845		MW6-SBB-A1	W07-008	W05219					08/14/2007 13:41				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236478	Uranium	7440-61-1	1.08E+02	ug/L	1.3E+01	1.3E+01		8.06E-02		UTOT_KPA	2.60E-02	ML	09/17/2007 14:44	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:				
9J41PE10	B1NXJ5		MW6-SBB-A1	S07-007	W05219					08/14/2007 09:17				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236501	H-3	10028-17-8	6.55E+01	pCi/L	9.1E+00	1.6E+01		6.47E+00	100.0	TRITIUM_ELECT_L	1.50E-01	L	09/27/2007 13:58	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:				
9J41Q210	B1P853		MW6-SBB-A1	W07-008	W05219					08/14/2007 11:46				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236478	Uranium	7440-61-1	5.87E+00	ug/L	7.0E-01	7.0E-01		7.88E-02		UTOT_KPA	2.66E-02	ML	09/17/2007 15:03	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:				
9J41QC10	B1P848		MW6-SBB-A1	W07-008	W05219					08/14/2007 13:09				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236478	Uranium	7440-61-1	6.54E-03	ug/L	7.7E-04	7.7E-04	U	7.68E-02		UTOT_KPA	2.73E-02	ML	09/17/2007 14:48	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:				
9J41QQ10	B1P847		MW6-SBB-A1	W07-008	W05219					08/14/2007 13:09				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236478	Uranium	7440-61-1	0.00E+00	ug/L	0.0E+00	0.0E+00	U	8.38E-02		UTOT_KPA	2.50E-02	ML	09/17/2007 14:56	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:				
9J41RC10	B1P856		MW6-SBB-A1	W07-008	W05219					08/14/2007 11:01				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236478	Uranium	7440-61-1	0.00E+00	ug/L	0.0E+00	0.0E+00	U	8.06E-02		UTOT_KPA	2.60E-02	ML	09/17/2007 15:04	I

TAL Richland

rptFeadRadSummary!Edd v3.48

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

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

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

10/1/2007 11:04:30 AM

TAL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 36923      File Name: h:\Reportdb\edd\FeadIV\Rad\W05219.Edd, h:\Reportdb\edd\FeadIV\Rad\36923 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:				
9J4DB510	B1P995		MW6-SBB-A1	W07-008	W05219					08/03/2007 12:11				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236494	BE-7	13966-02-4	2.70E+01	pCi/L	3.1E+01	3.1E+01	U	5.73E+01		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	CO-60	10198-40-0	4.05E+01	pCi/L	7.5E+00	7.5E+00		3.59E+00		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	CS-134	13967-70-9	5.35E-02	pCi/L	2.7E+00	2.7E+00	U	4.68E+00		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	CS-137	10045-97-3	2.94E-01	pCi/L	2.3E+00	2.3E+00	U	4.13E+00		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	EU-152	14683-23-9	6.19E+00	pCi/L	5.6E+00	5.6E+00	U	1.03E+01		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	EU-154	15585-10-1	-1.97E+00	pCi/L	6.4E+00	6.4E+00	U	1.13E+01		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	EU-155	14391-16-3	-1.41E-01	pCi/L	4.5E+00	4.5E+00	U	7.73E+00		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	K-40	13966-00-2	-1.21E+01	pCi/L	4.8E+01	4.8E+01	U	9.89E+01		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	RU-106	13967-48-1	-1.69E+01	pCi/L	2.0E+01	2.0E+01	U	3.33E+01		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236494	SB-125	14234-35-6	3.74E+00	pCi/L	5.5E+00	5.5E+00	U	1.00E+01		GAMMALL_GS	2.0022E+00	L	09/21/2007 18:17	I
7236479	TC-99	14133-76-7	8.40E+03	pCi/L	4.9E+01	5.0E+02		9.58E+00	100.0	TC99_ETVDSK_LS	1.279E-01	L	09/07/2007 10:06	I
7236478	Uranium	7440-61-1	2.13E+02	ug/L	2.5E+01	2.5E+01		7.88E-02		UTOT_KPA	2.66E-02	ML	09/17/2007 14:31	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:				
9J4DBW10	B1P9B3		MW6-SBB-A1	W07-008	W05219					08/03/2007 12:58				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236494	BE-7	13966-02-4	5.46E+01	pCi/L	7.5E+01	7.5E+01	U	1.42E+02		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	CO-60	10198-40-0	3.74E+00	pCi/L	6.6E+00	6.6E+00	U	1.30E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	CS-134	13967-70-9	5.86E-01	pCi/L	6.9E+00	6.9E+00	U	1.24E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	CS-137	10045-97-3	1.07E+00	pCi/L	6.1E+00	6.1E+00	U	1.09E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	EU-152	14683-23-9	-5.24E+00	pCi/L	1.6E+01	1.6E+01	U	2.79E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	EU-154	15585-10-1	5.84E+00	pCi/L	1.7E+01	1.7E+01	U	3.21E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	EU-155	14391-16-3	1.06E-01	pCi/L	1.3E+01	1.3E+01	U	2.15E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	K-40	13966-00-2	7.80E+01	pCi/L	1.5E+02	1.5E+02	U	8.85E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	RU-106	13967-48-1	2.18E+01	pCi/L	6.1E+01	6.1E+01	U	1.10E+02		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236494	SB-125	14234-35-6	-5.88E+00	pCi/L	1.7E+01	1.7E+01	U	2.79E+01		GAMMALL_GS	6.022E-01	L	09/21/2007 16:38	I
7236496	SR-90	10098-97-2	2.87E-01	pCi/L	2.2E-01	2.3E-01	U	4.59E-01	82.2	SRISO_SEP_PRE	9.774E-01	L	09/16/2007 09:06	I
7236478	Uranium	7440-61-1	7.72E+02	ug/L	9.1E+01	9.1E+01		7.70E-02		UTOT_KPA	2.72E-02	ML	09/17/2007 14:26	I

TAL Richland  
rptFeadRadSummaryEdd v3.48

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

10/1/2007 11:04:30 AM

# TAL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 36923      File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.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:				
9J4D8W20	B1P9B3		MW6-SBB-A1	W07-008	W05219					08/03/2007 12:58				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7267576	TC-99	14133-76-7	1.50E+04	pCi/L	6.5E+01	9.2E+02		1.06E+01	100.0	TC99_ETVDSK_LS	1.276E-01	L	09/25/2007 00:46	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:				
9J4D9010	B1P980		MW6-SBB-A1	W07-008	W05219					08/03/2007 09:12				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236495	TC-99	14133-76-7	4.30E+01	pCi/L	5.5E+00	8.3E+00		1.02E+01	100.0	TC99_SEP_LSC	1.272E-01	L	09/12/2007 02:56	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:				
9J4D9210	B1P984		MW6-SBB-A1	W07-008	W05219					08/03/2007 10:44				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236494	BE-7	13966-02-4	3.30E-01	pCi/L	1.5E+01	1.5E+01	U	2.59E+01		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	CO-60	10198-40-0	2.44E+01	pCi/L	4.5E+00	4.5E+00		2.07E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	CS-134	13967-70-9	4.16E-01	pCi/L	1.4E+00	1.4E+00	U	2.61E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	CS-137	10045-97-3	8.29E-01	pCi/L	1.2E+00	1.2E+00	U	2.30E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	EU-152	14683-23-9	-6.37E-01	pCi/L	2.6E+00	2.6E+00	U	4.36E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	EU-154	15585-10-1	-2.60E-01	pCi/L	3.8E+00	3.8E+00	U	6.99E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	EU-155	14391-16-3	-6.02E-01	pCi/L	2.5E+00	2.5E+00	U	4.31E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	K-40	13966-00-2	-2.33E+01	pCi/L	2.6E+01	2.6E+01	U	4.92E+01		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	RU-106	13967-48-1	4.71E-01	pCi/L	1.2E+01	1.2E+01	U	2.07E+01		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236494	SB-125	14234-35-6	-1.74E+00	pCi/L	2.8E+00	2.8E+00	U	4.69E+00		GAMMALL_GS	2.0017E+00	L	09/21/2007 18:19	I
7236495	TC-99	14133-76-7	1.09E+04	pCi/L	5.7E+01	6.4E+02		1.03E+01	100.0	TC99_SEP_LSC	1.25E-01	L	09/12/2007 02:56	I
7236478	Uranium	7440-61-1	2.11E+02	ug/L	2.5E+01	2.5E+01		8.09E-02		UTOT_KPA	2.59E-02	ML	09/17/2007 14:40	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:				
9J4D9T10	B1P996		MW6-SBB-A1	W07-008	W05219					08/03/2007 12:11				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236494	BE-7	13966-02-4	-5.11E+00	pCi/L	1.7E+01	1.7E+01	U	2.98E+01		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	CO-60	10198-40-0	3.99E+01	pCi/L	6.7E+00	6.7E+00		2.50E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	CS-134	13967-70-9	-2.09E+00	pCi/L	1.8E+00	1.8E+00	U	2.80E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	CS-137	10045-97-3	-7.88E-01	pCi/L	1.4E+00	1.4E+00	U	2.26E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I

TAL Richland  
rptFeadRadSummaryEdd v3.48

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

10/1/2007 11:04:30 AM

TAL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 36923 File Name: h:\Reportdb\add\Fead\Rad\W05219.Edd, h:\Reportdb\add\Fead\Rad\36923.Edd

7236494	EU-152	14683-23-9	2.58E+00	pCi/L	3.8E+00	3.8E+00	U	6.93E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	EU-154	15585-10-1	-3.47E+00	pCi/L	4.4E+00	4.4E+00	U	7.15E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	EU-155	14391-16-3	-2.31E+00	pCi/L	3.5E+00	3.5E+00	U	5.65E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	K-40	13966-00-2	1.58E+01	pCi/L	2.1E+01	2.1E+01	U	4.27E+01		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	RU-106	13967-48-1	-7.82E+00	pCi/L	1.3E+01	1.3E+01	U	2.15E+01		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236494	SB-125	14234-35-6	-1.99E+00	pCi/L	3.6E+00	3.6E+00	U	5.98E+00		GAMMALL_GS	2.0003E+00	L	09/21/2007 18:17	I
7236479	TC-99	14133-76-7	8.41E+03	pCi/L	4.9E+01	5.0E+02		9.71E+00	100.0	TC99_ETVDSK_LS	1.267E-01	L	09/07/2007 10:06	I
7236478	Uranium	7440-61-1	2.23E+02	ug/L	2.6E+01	2.6E+01		8.32E-02		UTOT_KPA	2.52E-02	ML	09/17/2007 14:36	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:				
9J4E9C10	B1P484		MW6-SBB-A1	G07-008	W05219					08/06/2007 10:15				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236499	BETA	12587-47-2	2.98E+03	pCi/L	3.3E+01	5.5E+02		4.77E+00	100.0	9310_ALPHABETA	1.108E-01	L	09/20/2007 10:03	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:				
9J4EE010	B1P992		MW6-SBB-A1	W07-008	W05219					08/03/2007 11:26				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236494	BE-7	13966-02-4	1.09E+01	pCi/L	1.5E+01	1.5E+01	U	2.81E+01		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	CO-60	10198-40-0	5.66E+00	pCi/L	2.2E+00	2.2E+00	U	4.42E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	CS-134	13967-70-9	4.30E-01	pCi/L	1.2E+00	1.2E+00	U	2.31E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	CS-137	10045-97-3	6.47E-01	pCi/L	1.1E+00	1.1E+00	U	2.05E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	EU-152	14683-23-9	6.83E-01	pCi/L	2.9E+00	2.9E+00	U	5.24E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	EU-154	15585-10-1	5.41E+00	pCi/L	3.0E+00	3.0E+00	U	6.93E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	EU-155	14391-16-3	8.24E-02	pCi/L	2.2E+00	2.2E+00	U	3.89E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	K-40	13966-00-2	1.21E+01	pCi/L	2.8E+01	2.8E+01	U	5.53E+01		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	RU-106	13967-48-1	-3.91E+00	pCi/L	1.1E+01	1.1E+01	U	1.92E+01		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236494	SB-125	14234-35-6	2.30E+00	pCi/L	2.9E+00	2.9E+00	U	5.38E+00		GAMMALL_GS	2.0002E+00	L	09/21/2007 18:18	I
7236479	TC-99	14133-76-7	2.73E+03	pCi/L	2.8E+01	1.7E+02		9.69E+00	100.0	TC99_ETVDSK_LS	1.261E-01	L	09/07/2007 10:06	I
7236478	Uranium	7440-61-1	1.76E+01	ug/L	2.1E+00	2.1E+00		7.85E-02		UTOT_KPA	2.67E-02	ML	09/17/2007 14:42	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:				
9J4M8910	B1NXT0		MW6-SBB-A1	S07-007	W05219					08/07/2007 07:30				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236479	TC-99	14133-76-7	-3.73E+00	pCi/L	3.9E+00	5.2E+00	U	9.71E+00	100.0	TC99_ETVDSK_LS	1.257E-01	L	09/07/2007 10:06	I

TAL Richland  
 rptFeadRadSummaryEdd v3.48  
 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.  
 J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).  
 B Qual- Analyte was found in the associated laboratory blank above the MDC.

10/1/2007 11:04:30 AM

### TAL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 36923      File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.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:				
9J4M9C10	B1NXR9		MW6-SBB-A1	S07-007	W05219					08/07/2007 09:47				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236479	TC-99	14133-76-7	3.38E+00	pCi/L	4.1E+00	5.5E+00	U	9.57E+00	100.0	TC99_ETVDSK_LS	1.277E-01	L	09/07/2007 10:06	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:				
9J5AV710	B1PB19		MW6-SBB-A1	W07-008	W05219					08/20/2007 13:40				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236500	H-3	10028-17-8	1.08E+03	pCi/L	1.7E+02	2.0E+02		3.31E+02	100.0	906.0_H3_LSC	5.00E-03	L	09/21/2007 05:02	I
7236479	TC-99	14133-76-7	2.31E+02	pCi/L	9.0E+00	1.9E+01		9.68E+00	100.0	TC99_ETVDSK_LS	1.262E-01	L	09/07/2007 10:06	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:				
9J5AW910	B1P9K6		MW6-SBB-A1	W07-008	W05219					08/20/2007 12:06				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236479	TC-99	14133-76-7	6.47E+01	pCi/L	5.9E+00	9.2E+00		9.67E+00	100.0	TC99_ETVDSK_LS	1.266E-01	L	09/07/2007 10:06	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:				
9J5AWX10	B1P9K5		MW6-SBB-A1	W07-008	W05219					08/20/2007 12:06				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7236479	TC-99	14133-76-7	5.46E+01	pCi/L	5.6E+00	8.6E+00		9.68E+00	100.0	TC99_ETVDSK_LS	1.263E-01	L	09/07/2007 10:06	I

TAL Richland

rptFeadRadSummaryEdd v3.48

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

Monday, October 01, 2007

**TAL Richland QC Blank Report**

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W05219.Edd, h:\Reportdb\edd\Fead\W036923.Edd

Lab Sample Id: J5K0A1AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/20/2007 13:40

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/20/2007

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	ToVCnt 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
7236500 BLK	H-3 10028-17-8	8.14E+01	pCi/L	1.6E+02 1.4E+02	U	3.32E+02	100.0		906.0_H3_LSC	5.00E-03 L	09/20/2007 23:32				D

Monday, October 01, 2007

**TAL Richland QC Blank Report**

Lab Code: STLRL

FormNbr: R      FormalType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05219.Edd, h:\Reportdb\edd\FeadIV\Rad\36923 Edd  
**Lab Sample Id:** J5K0A1DX      **Sdg/Rept Nbr:** W05219      36923      **Collection Date:** 08/20/2007 13:40  
**Client Id:** NA      **Matrix:** WATER      WATER      **Sample On Date:**  
**Moisture/Solids%\*:**      **QC Type:** BLK      **Received Date:** 08/20/2007

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236500 BLK	H-3 10028-17-8	-1.09E+02	pCi/L	1.5E+02 1.3E+02	U	3.36E+02	100.0		906.0_H3_LSC	5.00E-03 L	09/21/2007 02:17				D

Monday, October 01, 2007

### TAL Richland QC Blank Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\Rad\W05219 Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5K0J1AB      Sdg/Rept Nbr: W05219      36923      Collection Date: 08/14/2007 09:17

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

Moisture/Solids%\*:      QC Type: BLK      Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BJ	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ Yield	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236501 BLK	H-3 10028-17-8	2.17E+00	pCi/L	6.4E+00 4.3E+00	U	6.41E+00	100.0		TRITIUM_ELE	1.50E-01 L	09/27/2007 13:58				D

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

Monday, October 01, 2007

**TAL Richland QC Blank Report**

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5KTL1AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/14/2007 13:41

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/14/2007

Batch # / Qc Type	Analy/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236478	Uranium	0.00E+00	ug/L	0.0E+00	U	8.15E-02			UTOT_KPA	2.57E-02	09/17/2007				D
BLK	7440-61-1			0.0E+00						ML	14:15				

Monday, October 01, 2007

### TAL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J5KTV1AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/07/2007 07:30

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/07/2007

SAF Nbr

Contract Nbr

Test User

Case Nbr

SAS Nbr

Suffix

Decant

Distilled Volume

File Id

FSuffix RTyp

BO H

Batch # /

Analyt/

Result/

Tot/Cnt

Qu-

Tracer

Spk Conc/

Analy

Allq

Date/Time

RPD/

RER/

LCS

R

Qc Type

CAS#

Orig Rst

Unit

Uncert 2S

al

MDC

Yield

%Rec

Method

Size/

Analyzed

UCL

UCL

LCL/UCL

Typ

7236479

TC-99

-1.67E+00

pCi/L

5.3E+00

U

9.75E+00

100.0

TC99\_ETVDSK

1.255E-01

09/07/2007

D

BLK

14133-76-7

4.0E+00

L

10:06

TAL Richland

rptFeadRadEdd v3.68

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

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

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

Monday, October 01, 2007

## TAL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5KX21AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/03/2007 11:26

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/03/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BQ	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rat	Unit	Toi/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236494	BE-7	-2.92E+01	pCi/L	2.4E+01	U	3.70E+01			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 13966-02-4			2.4E+01						L	18:20				
7236494	CO-60	1.11E+00	pCi/L	1.5E+00	U	3.19E+00			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 10198-40-0			1.5E+00						L	18:20				
7236494	CS-134	-9.23E-01	pCi/L	1.9E+00	U	3.20E+00			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 13967-70-9			1.9E+00						L	18:20				
7236494	CS-137	1.80E+00	pCi/L	1.7E+00	U	3.30E+00			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 10045-97-3			1.7E+00						L	18:20				
7236494	EU-152	2.68E+00	pCi/L	4.2E+00	U	7.53E+00			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 14683-23-9			4.2E+00						L	18:20				
7236494	EU-154	4.30E+00	pCi/L	4.9E+00	U	1.01E+01			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 15585-10-1			4.9E+00						L	18:20				
7236494	EU-155	1.48E-01	pCi/L	3.3E+00	U	5.69E+00			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 14391-16-3			3.3E+00						L	18:20				
7236494	K-40	-1.80E+01	pCi/L	3.7E+01	U	7.51E+01			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 13966-00-2			3.7E+01						L	18:20				
7236494	RU-106	5.33E-01	pCi/L	1.5E+01	U	2.64E+01			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 13967-48-1			1.5E+01						L	18:20				
7236494	SB-125	-1.28E+00	pCi/L	3.8E+00	U	6.61E+00			GAMMALL_GS	2.00E+00	09/21/2007				D
	BLK 14234-35-6			3.8E+00						L	18:20				

TAL Richland  
rptFeadRadEdd v3.68

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

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Monday, October 01, 2007

### TAL Richland QC Blank Report

Lab Code: STLAL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J5KX41AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/03/2007 09:12

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/03/2007

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
7236495 BLK	TC-99 14133-76-7	4.47E+00	pCi/L	6.2E+00 4.4E+00	U	1.02E+01	100.0		TC99_SEP_LS	1.25E-01 L	09/12/2007 02:56				D

TAL Richland

rptFeadRadEdd v3.68

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

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

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

Monday, October 01, 2007

### TAL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J5KX51AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/03/2007 12:58

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/03/2007

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  
Toi/Cnt  
Uncert 2S

Qual

MDC

Tracer  
Yield

Spk Conc/  
%Rec

Analy  
Method

Aliq  
Size/

Date/Time  
Analyzed

RPD/  
UCL

RER/  
UCL

LCS  
LCL/UCL

R  
Typ

7236496

SR-90

1.18E-01

pCi/L

2.1E-01

U

4.52E-01

78.4

SRISO\_SEP\_P

1.0011E+00

09/16/2007

D

BLK

10098-97-2

2.0E-01

L

09:06

TAL Richland

rptFeadRadEdd v3.68

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

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

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

Monday, October 01, 2007

### TAL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5KX81AB

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/06/2007 10:15

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 08/06/2007

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	To/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236499 BLK	BETA 12587-47-2	1.97E+00	pCi/L	1.3E+00 1.3E+00	U	2.58E+00	100.0		9310_ALPHAB	2.007E-01 L	09/20/2007 10:03				D

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219,Edd, h:\Reportdb\edd\Fead\Rad\36923,Edd

Lab Sample Id: J5K0A1CS

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/20/2007 13:40

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/20/2007

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Toi/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236500 BS	H-3 10028-17-8	2.33E+03	pCi/L	2.5E+02 2.1E+02		3.33E+02	100.0	2.72E+03 85.8	906.0_H3_LSC	5.00E-03 L	09/21/2007 00:55			70 130	D

Mondav, October 01, 2007

TAL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5K0A1EM

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/20/2007 13:40

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/20/2007

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236600	H-3	2.56E+03	pCi/L	2.6E+02		3.35E+02	100.0	2.72E+03	906.0_H3_LSC	5.00E-03	09/21/2007			70	D
BS	10028-17-8			2.2E+02				94.4		L	03:39			130	

Monday, October 01, 2007

TAL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W05219.Edd, h:\Reportdb\edd\Fead\W05219.Edd

Lab Sample Id: J5K0J1CS

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/14/2007 09:17

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BK	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236501 BS	H-3 10028-17-8	4.35E+02	pCi/L	7.7E+01 1.7E+01		6.46E+00	100.0	4.57E+02 95.2	TRITIUM_ELE	1.50E-01 L	09/27/2007 13:58			70 130	D

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5KTL1CS

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/14/2007 13:41

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BM	H					
Batch # / Oc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Toi/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	REF/ UCL	LCS LCL/UCL	R Typ
7236478 BS	Uranium 7440-61-1	3.63E+01	ug/L	4.3E+00 4.3E+00		8.25E-02		3.56E+01 102.0	UTOT_KPA	2.54E-02 ML	09/17/2007 14:20			75 125	D

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VA\Rad\W05219.Edd, h:\Reportdb\edd\Fead\VA\Rad\36923.Edd

Lab Sample Id: J5KTL1DS

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/14/2007 13:41

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BN	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rat	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236478 BS	Uranium 7440-61-1	3.49E+00	ug/L	3.6E-01 3.6E-01		8.19E-02		3.53E+00 98.9	UTOT_KPA	2.56E-02 ML	09/17/2007 14:22			75 125	D

TAL Richland  
rptFendRadEdd v3.68

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

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05219.Edd, h:\Reportdb\edd\FeadIV\Rad\36923.Edd

Lab Sample Id: J5KTV1CS      Sdg/Rept Nbr: W05219      36923      Collection Date: 08/07/2007 07:30  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 08/07/2007

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/ L	Date/Time Analyzed	RPD/ UCL	REF/ UCL	LCS LCL/UCL	R Typ
7236479 BS	TC-99 14133-76-7	4.90E+02	pCi/L	3.4E+01 1.3E+01		9.76E+00	100.0	5.38E+02 91.0	TC99_ETVDSK	1.254E-01 L	09/07/2007 10:06			70 130	D

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J5KX22CS

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/03/2007 11:26

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/03/2007

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	Analy/ CAS#	Result/ Orig Rst	Unit	ToVCnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236494 BS	CO-60 10198-40-0	3.78E+01	pCi/L	7.4E+00 7.4E+00		3.82E+00		3.76E+01 100.5	GAMMALL_GS	2.0001E+00 L	09/29/2007 08:44			70 130	D
7236494 BS	CS-137 10045-97-3	5.48E+01	pCi/L	8.7E+00 8.7E+00		3.78E+00		4.98E+01 110.1	GAMMALL_GS	2.0001E+00 L	09/29/2007 08:44			70 130	D
7236494 BS	EU-152 14683-23-9	8.11E+01	pCi/L	1.6E+01 1.6E+01		8.02E+00		7.82E+01 106.3	GAMMALL_GS	2.0001E+00 L	09/29/2007 08:44			70 130	D

J RICHLAND

Monday, October 01, 2007

TAL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\FeadIV\Rad\W05219.Edd; h:\Reportdb\edd\FeadIV\Rad\38923.Edd

Lab Sample Id: J5KX41CS      Sdg/Rept Nbr: W05219      36923      Collection Date: 08/03/2007 09:12  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 08/03/2007

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	Allq Size/ L	Date/Time Analyzed	RPD/ UCL	REP/ UCL	LCS LCL/UCL	R Typ
7236495 BS	TC-99 14133-76-7	4.72E+02	pCi/L	3.3E+01 1.3E+01		1.03E+01	100.0	5.39E+02 87.6	TC99_SEP_LS	1.254E-01	09/12/2007 02:56			70 130	D

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J5KX51CS      Sdg/Rept Nbr: W05219      36923      Collection Date: 08/03/2007 12:58  
 Client Id: NA      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: BS      Received Date: 08/03/2007

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	Analy/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236496 BS	SR-90 10098-97-2	1.39E+01	pCi/L	2.3E+00 8.8E-01		5.10E-01	71.4	1.36E+01 102.1	SRISO_SEP_P	9.99E-01 L	09/16/2007 09:06			70 130	D

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

Monday, October 01, 2007

### TAL Richland QC Control Sample Report

Lab Code: SYLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J5KX81CS

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/06/2007 10:15

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 08/06/2007

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	ToVCnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Alq Size/	Date/Time Analyzed	RPD/ UCL	BER/ UCL	LCS LCL/UCL	R Typ
7236499 BS	BETA 12587-47-2	1.98E+01	pCi/L	4.3E+00 2.2E+00		2.34E+00	100.0	2.27E+01 86.9	9310_ALPHAB	2.004E-01 L	09/20/2007 10:03			70 130	D

Monday, October 01, 2007

### TAL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J41N31CR

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/14/2007 09:17

Client Id: B1NXJ4

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp				
S07-007	MW6-SBB-A19981								AU	H				
Batch # / Qc Type	Analy/ CAS#	Result/ Orig Rat	Unit	Tot/Cnt Uncert 2S	Qual MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236501 DUP	H-3 10028-17-8	5.28E+01 5.32E+01	pCVL	1.3E+01 7.2E+00	6.42E+00	100.0		TRITIUM_ELE	1.5001E-01 L	09/27/2007 13:58	.8 20.0	0. 3		D

Monday, October 01, 2007

TAL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J41P71CR

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/14/2007 13:41

Client Id: B1P845

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W07-008	MW6-SBB-A19981								AV	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236478 DUP	Uranium 7440-61-1	1.09E+02 1.08E+02	µg/L	1.3E+01 1.3E+01		7.65E-02			UTOT_KPA	2.74E-02 ML	09/17/2007 14:46	.6 20.0	0.1 3		D

Monday, October 01, 2007

TAL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\WRad\W05219.Edd, h:\Reportdb\edd\Fead\WRad\36923.Edd

Lab Sample Id: J4D8W1FR

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/03/2007 12:58

Client Id: B1P9B3

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 08/03/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W07-008	MW6-SBB-A19981								AX	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Ret	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236496 DUP	SR-90 10098-97-2	2.77E-02 2.67E-01	pCi/L	1.8E-01 1.8E-01	U	4.10E-01	83.9		SRISO_SEP_P	1.0025E+00 L	09/16/2007 09:06	162.4 20.0	1.9 3		D

Monday, October 01, 2007

**TAL Richland QC Duplicate Report**

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J4D901CR      Sdg/Rept Nbr: W05219      36923      Collection Date: 08/03/2007 09:12  
 Client Id: B1P980      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: DUP      Received Date: 08/03/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W07-008	MW6-SBB-A19981								AY	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236495	TC-99	3.98E+01	pCi/L	8.2E+00		1.04E+01	100.0		TC99_SEP_LS	1.253E-01	09/12/2007	7.6	0.5		D
DUP	14133-76-7	4.30E+01		5.5E+00						L	02:56	20.0	3		

Monday, October 01, 2007

**TAL Richland QC Duplicate Report**

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      VersionNbr: 05      File Name: h:\Reportdb\edd\Fead\W05219.Edd, h:\Reportdb\edd\Fead\W05219.Edd

Lab Sample Id: J4E9C1CR      Sdg/Rept Nbr: W05219      36923      Collection Date: 08/06/2007 10:15  
 Client Id: B1P484      Matrix: WATER      WATER      Sample On Date:  
 Moisture/Solids%\*:      QC Type: DUP      Received Date: 08/06/2007

SAF Nbr      Contract Nbr      Test User      Case Nbr      SAS Nbr      Suffix      Decant      Distilled Volume      File Id      FSuffix      RTyp  
 G07-008      MW6-SBB-A19981                                                   BA      H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236499 DUP	BETA 12587-47-2	2.69E+03 2.98E+03	pCi/L	3.9E+02 3.2E+01		4.79E+00	100.0		9310_ALPHAB	1.101E-01 L	09/20/2007 10:03	10.0 20.0	1. 3		D

Monday, October 01, 2007

### TAL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J4EE01ER

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/03/2007 11:26

Client Id: B1P992

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%±:

QC Type: DUP

Received Date: 08/03/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-008	MW6-SBB-A19981								BB	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Toi/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	REP/ UCL	LCS LCL/UCL	R Typ
7236494	BE-7	-3.63E+00	pCi/L	2.3E+01	U	3.87E+01			GAMMALL_GS	1.9312E+00	09/21/2007	399.2	0.9		D
	DUP 13968-02-4	1.09E+01		2.3E+01						L	18:18	20.0	3		
7236494	CO-60	6.04E+00	pCi/L	2.6E+00	U	5.15E+00			GAMMALL_GS	1.9312E+00	09/21/2007	6.5	0.2		D
	DUP 10198-40-0	5.66E+00		2.6E+00						L	18:18	20.0	3		
7236494	CS-134	-2.63E-01	pCi/L	1.9E+00	U	3.27E+00			GAMMALL_GS	1.9312E+00	09/21/2007	832.4	0.5		D
	DUP 13967-70-9	4.30E-01		1.9E+00						L	18:18	20.0	3		
7236494	CS-137	1.16E-03	pCi/L	1.8E+00	U	3.07E+00			GAMMALL_GS	1.9312E+00	09/21/2007	199.3	0.5		D
	DUP 10045-97-3	6.47E-01		1.8E+00						L	18:18	20.0	3		
7236494	EU-152	-3.68E-01	pCi/L	4.5E+00	U	7.55E+00			GAMMALL_GS	1.9312E+00	09/21/2007	667.5	0.3		D
	DUP 14683-23-9	6.83E-01		4.5E+00						L	18:18	20.0	3		
7236494	EU-154	-3.59E+00	pCi/L	4.7E+00	U	7.71E+00			GAMMALL_GS	1.9312E+00	09/21/2007	988.6	2.7		D
	DUP 15585-10-1	5.41E+00		4.7E+00						L	18:18	20.0	3		
7236494	EU-155	3.81E+00	pCi/L	4.8E+00	U	8.28E+00			GAMMALL_GS	1.9312E+00	09/21/2007	191.5	1.1		D
	DUP 14391-16-3	8.24E-02		4.8E+00						L	18:18	20.0	3		
7236494	K-40	4.92E+00	pCi/L	5.8E+01	U	3.12E+01			GAMMALL_GS	1.9312E+00	09/21/2007	84.3	0.2		D
	DUP 13966-00-2	1.21E+01		5.8E+01						L	18:18	20.0	3		
7236494	RU-106	-5.12E+00	pCi/L	1.5E+01	U	2.57E+01			GAMMALL_GS	1.9312E+00	09/21/2007	0.0	0.1		D
	DUP 13967-48-1	-3.91E+00		1.5E+01						L	18:18	20.0	3		
7236494	SB-125	4.56E+00	pCi/L	4.3E+00	U	7.96E+00			GAMMALL_GS	1.9312E+00	09/21/2007	65.9	0.7		D
	DUP 14234-35-6	2.30E+00		4.3E+00						L	18:18	20.0	3		

Monday, October 01, 2007

### TAL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05219.Edd, h:\Reportdb\edd\FeadIV\Rad\36923.Edd.

Lab Sample Id: J4M891CR

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/07/2007 07:30

Client Id: B1NXT0

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 08/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S07-007	MW6-SBB-A19981								BC	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
7236479 DUP	TC-99 14133-76-7	2.63E+00 -3.73E+00	pCi/L	5.6E+00 4.1E+00	U	9.74E+00	100.0		TC99_ETVDSK	1.255E-01 L	09/07/2007 10:06	0.0 20.0	1.6 3		D

Monday, October 01, 2007

**TAL Richland QC Duplicate Report**

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05219.Edd, h:\Reportdb\edd\Fead\VRad\36923.Edd

Lab Sample Id: J5AV71DR

Sdg/Rept Nbr: W05219

36923

Collection Date: 08/20/2007 13:40

Client Id: B1PB19

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 08/20/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W07-008	MW6-SBB-A19981								BE	H

Batch # / Qc Type	Analy/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236500 DUP	H-3 10028-17-8	1.10E+03 1.08E+03	pCi/L	2.0E+02 1.8E+02		3.32E+02	100.0		908.0_H3_LSC	5.00E-03 L	09/21/2007 06:24	1.8 20.0	0.1 3		D

Monday, October 01, 2007

### TAL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\RadW05219.Edd, h:\Reportdb\edd\FeadIV\Rad\36923.Edd

Lab Sample Id: J41QC1CW

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/14/2007 13:09

Client Id: B1P848

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 08/14/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-008	MW6-SBB-A19981								AW	H					
Batch #/ Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	To/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ Yield	Date/Time Analyzed	RPD/ UCL	REP/ UCL	LCS LCL/UCL	R Typ
7236478 MS	Uranium 7440-61-1	3.54E+01	ug/L	4.2E+00 4.2E+00		8.00E-02		3.48E+01 101.6	UTOT_KPA	2.62E-02 ML	09/17/2007 14:51			60 140	D

Monday, October 01, 2007

### TAL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J4D921EW

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/03/2007 10:44

Client Id: B1P984

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 08/03/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W07-008	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	Allq Size/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236495 MS	TC-99 14133-76-7	2.27E+03	pCi/L	1.0E+03 6.2E+01		9.96E+00	100.0	3.52E+03 64.5	TC99_SEP_LS	1.279E-01	09/12/2007 02:56			60 140	D

Monday, October 01, 2007

### TAL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05219.Edd, h:\Reportdb\edd\Fead\Rad\36923.Edd

Lab Sample Id: J4M9C1CW

Sdg/Rept Nbr: W05219 36923

Collection Date: 08/07/2007 09:47

Client Id: B1NXR9

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 08/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S07-007	MW6-SBB-A19981								BD	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Ret	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Allq Size/ Yield	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7236479 MS	TC-99 14133-76-7	2.98E+03	pCi/L	1.8E+02 2.9E+01		9.69E+00	100.0	3.56E+03 83.6	TC99_ETVDSK	1.263E-01 L	09/07/2007 10:06			60 140	D



CT

Data Review/Verification Checklist  
RADIOCHEMISTRY, First Level Review

9/22/2007 11:22:58 AM

Lot No., Due Date: J7H080253; 10/04/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 7236499; RBETA-SR Beta by GPC-Sr/Y  
SDG, Matrix: W05219; WATER

Item	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	✓		
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02 Final Results Are in the Appropriate Activity Units OK	✓		
8.03 Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => J4E9C1AA 110.80<200.00 Q:VB	✓		✓
8.07 The Correct Count Geometry was Used. OK	✓		
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09 Method Blank is within Control Limits. OK	✓		
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBLks) found in Batch!	✓		✓
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13 QAS Specific Duplicate Equation Value within Control Limits. OK (RPD)	✓		
8.14 LCS within Control Limits. OK	✓		
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	✓		✓
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	✓		✓
8.17 Tracer within Control Limits. OK	✓		
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	✓		
8.19 Sample Specific MDC <= CRDL. MDC/MDA > CRDL => J4E9C1AA BETA 4.8E+00>4.0E+00 J4E9C1AC BETA 4.8E+00>4.0E+00 Q:C1	✓		✓
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	✓		✓
8.22 Result < Mdc Activity Not Detected, U Flag. Batch Positive Result => J4E9C1AA BETA 3.0E+03 L:4.8E+00	✓		✓
8.23 Result <= Action Level, when Defined. OK, No Action Level Found => BETA  OK; No Callin Level Found => BETA	✓		
8.24 Result + 3s >= 0 Not Too Negative. OK	✓		
8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	✓		✓

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: NCM 10-10879			
8.31	Results Blank Subtracted as Appropriate. OK	Yes	No	N/A ✓

First Level Review

*Lisa Antonson*

Date

*9/27/07*



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

Batch Number: 7236499  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?		/	
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery within contract acceptance criteria?	/		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?			/
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?	/		
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response: See NCR

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Second Level Review: Sherryll A. Adams Date: 9-24-07

# Clouseau Nonconformance Memo

**TestAmerica**

THE FACILITY MEMORANDUM TESTING

NCM #: <b>10-10879</b> NCM Initiated By: Lisa Antonson Date Opened: 09/22/2007 Date Closed:	Classification: <b>Anomaly</b> Status: <b>GLREVIEW</b> Production Area: Environmental - Prep Tests: Beta by GPC-Sr/Y Lot #'s (Sample #'s): J7H080253 (1), J7H240000 (499), QC Batches: 7236499,
Nonconformance: MDA not met Subcategory: Data accepted	

**Problem Description / Root Cause**

Name	Date	Description
Lisa Antonson	09/22/2007	The aliquots in this Beta batch were reduced to 110 mls based on activity screens. As a result, the CRDL was not met for the samples. The results exceed the MDA achieved, data accepted.

**Corrective Action**

Name	Date	Corrective Action
Lisa Antonson	09/22/2007	None.

**Client Notification Summary**

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

**Quality Assurance Verification**

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

**Approval History**

Date Approved	Approved By	Position
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Lot No., Due Date: J7H080124; 10/04/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 7236496; RSR85907 Sr-85/90 by GPC-7  
SDG, Matrix: W05219; 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

*Oliver Antonson*

Date

*9/17/07*



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

Batch Number: 7236496  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?			
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery within contract acceptance criteria?	/		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?			/
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

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

Second Level Review: Therese A. Adams Date: 9-18-07

Lot No., Due Date: J7H080124; 10/04/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7236494; RGAMMA Gamma by GER  
 SDG, Matrix: W05219; WATER

1.0 COC

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

✓ 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

✓ Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

✓ Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

✓ Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

✓ Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.2 Is the LCS results, yield, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

✓ Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

✓ Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

✓ Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

✓ Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

✓ Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

✓ Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

✓ Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

✓ Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

✓ Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

✓ Yes No N/A

5.4 Was transcription checked? Yes No N/A

✓ Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

✓ Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

✓ Yes No N/A

6.0 Comments on any No response:  
 1C-10959

First Level Review

*Kate Cameron*

Date

*29*  
*9/29/07*



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

Batch Number: 7236494  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery within contract acceptance criteria?		/	
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?			/
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?	/		
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response: See NCM

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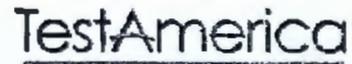
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Second Level Review: Kessyl A. Adams Date: 10-1-07

# Clouseau Nonconformance Memo



NCM #: <b>10-10959</b>	Classification: <b>Anomaly</b>
NCM Initiated By: Lisa Antonson	Status: <b>PMREVIEW</b>
Date Opened: 09/29/2007	Production Area: Environmental - Prep
Date Closed:	Tests: Gamma by GER
	Lot #'s (Sample #'s): J7H080124 (1,2,3,5,6), J7H240000 (494),
	QC Batches: 7236494,
Nonconformance: Other (describe in detail)	
Subcategory: Other (explanation required)	

### Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	09/29/2007	In this Gamma batch, the LCS had a high recovery of 126.5 for the EU-152. A recount brought it within limits.

### Corrective Action

Name	Date	Corrective Action
Lisa Antonson	09/29/2007	The sample was recounted.

### Client Notification Summary

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

### Quality Assurance Verification

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

### Approval History

Date Approved	Approved By	Position
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Lot No., Due Date: J7H160236; 10/04/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 7236501; RH3EE H3EE by LSC  
SDG, Matrix: W05219; 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 *John Verts*

Date *9-28-7*



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

Batch Number: 7231501  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery within contract acceptance criteria?	/		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?			/
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

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

Second Level Review: Sherry A. Allen Date: 9-28-07

Lot No., Due Date: J7H080124, J7H100401, J7H210278; 10/04/2007

Client, Site: 384868; PGW 615 HANFORD HANFORD

QC Batch No., Method Test: 7236479; RTC99 Tc-99 by LSC

SDG, Matrix: W05219; 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:  
Please see NCM#10-10947

First Level Review *John North*

Date

9-28-7



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

Batch Number: 7267576  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?	<i>29-28-07</i>		/
5. Is the LCS recovery within contract acceptance criteria?	/		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?	/		
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?	/		
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response: See NCM

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Second Level Review: Sheryl A. Adams Date: 9-28-07

# Clouseau Nonconformance Memo

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

NCM #: <b>10-10947</b> NCM Initiated By: John Norton Date Opened: 09/28/2007 Date Closed:	Classification: <b>Anomaly</b> Status: <b>GLREVIEW</b> Production Area: Environmental - Prep Tests: None Lot #'s (Sample #'s): J7H080124 (1), QC Batches: None.,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

### Problem Description / Root Cause

Name	Date	Description
John Norton	09/28/2007	On the first counting of the sample (batch #7236479) the TSIE was outside of acceptable limits, because of this, the results for the sample could not be properly calculated.

### Corrective Action

Name	Date	Corrective Action
John Norton	09/28/2007	The sample was re-counted (as batch#7267576), the TSIE for the recount is acceptable.

### Client Notification Summary

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

### Quality Assurance Verification

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

### Approval History

Date Approved	Approved By	Position
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Lot No., Due Date: J7H080124; 10/04/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 7267576; RTC99 Tc-99 by LSC  
SDG, Matrix: W05219; 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:

Please see NCM#10-10947

First Level Review *John* *Winters*

Date

9-28-7

09/24/2007 3:57:41 PM

### Sample Preparation/Analysis

Balance Id:

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7267576 WATER pCi/L

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

SFO Batch Test: None

Prep Tech:



Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On / Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 J4D8W-2-AD

J7H080124-1-SAMP



08/03/2007 12:58

AmtRec 20ML,2X500ML,3XLP,4LP #Containers: 7

Scr: Alpha: 8.34E-03 uCi/Sa 17E-01L

Beta: 4.15E-04 uCi/Sa

2 J5KTV-2-AD-BN

J7H240000-479-IBLK



08/07/2007 07:30

AmtRec:

#Containers: 1

Scr:

Alpha:

Beta:

Comments: J4D8W-SAMP "Comments Allquot reduced due to sample screen RC 09/14/2007"

#### All Clients for Batch:

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

#### J4D8W2AD-SAMP Constituent List:

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

#### J5KTV2AD-IBLK Constituent List:

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

#### J4D8W2AD-SAMP Calc Info:

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

#### J5KTV2AD-IBLK Calc Info:

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

Approved By

Date:

Lot No., Due Date: J7H080124; 10/04/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7236495; RTC99 Tc-99 by LSC  
 SDG, Matrix: W05219; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	✓		
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02 Final Results Are in the Appropriate Activity Units OK	✓		
8.03 Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06 At Least the Minimum Sample Volume Was Used OK	✓		
8.07 The Correct Count Geometry was Used. OK	✓		
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09 Method Blank is within Control Limits. OK	✓		
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBLs) found in Batch!	✓		
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13 CAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	✓		
8.14 LCS within Control Limits. OK	✓		
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	✓		
8.16 MS within Control Limits. OK	✓		
8.17 Tracer within Control Limits. No Tracers found in Batch!	✓		
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	✓		
8.19 Sample Specific MDC <= CRDL. OK	✓		
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	✓		
8.22 Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc_IDL Not Calculated	✓		
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => TC-99  OK; No Callin Level Found => TC-99	✓		
8.24 Result + 3s >= 0. Not Too Negative. OK	✓		
8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	✓		

8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used.	Yes	No	N/A
No Count Library found in Batch Data!			<input checked="" type="checkbox"/>
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version)	Yes	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later version)	Yes	No	N/A
8.3 Comments:			
8.31 Results Blank Subtracted as Appropriate.	Yes	No	N/A
OK	<input checked="" type="checkbox"/>		

First Level Review Open Antonson Date 9/18/07



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

Batch Number: 7236495  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery within contract acceptance criteria?	/		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?			/
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

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

Second Level Review: Sheryl A. Allen Date: 9-19-07

Lot No., Due Date: J7H210278; 10/04/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7236500; RTRITIUM H-3 by LSC  
 SDG, Matrix: W05219; 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 John North

Date 9-25-7



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

Batch Number: 7236500  
W05219

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery within contract acceptance criteria?	/		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
7. Do the MS/MSD results and yields meet acceptance criteria?			/
8. Do the duplicate sample results and yields meet acceptance criteria?	/		
<b>C. Other</b>			
1. Are all Non-conformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

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

Second Level Review: Sheryl A. Adams Date: 9-15-07

Lot No., Due Date: J7H160242, J7H080124; 10/04/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7236478; RUNAT UNat by KPA  
 SDG, Matrix: W05219; WATER

- |   |                                     |        |
|---|-------------------------------------|--------|
| <b>1.0 COC</b>  |                                     |        |
| 1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?           | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| <b>2.0 QC Batch</b>   |                                     |        |
| 2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 2.2 Are the QC appropriate for the analysis included in the batch?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?           | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 2.4 Does the Worksheets include a Tracer Vial label for each sample?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| <b>3.0 QC &amp; Samples</b>   |                                     |        |
| 3.1 Is the blank results, yield, and MDA within contract limits?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 3.2 Is the LCS result, yield, and MDA within contract limits?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 3.3 Are the MS/MSD results, yields, and MDA within contract limits?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 3.4 Are the duplicate result, yields, and MDAs within contract limits?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 3.5 Are the sample yields and MDAs within contract limits?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| <b>4.0 Raw Data</b>   |                                     |        |
| 4.1 Were results calculated in the correct units?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 4.2 Were analysis volumes entered correctly?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 4.3 Were Yields entered correctly?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 4.4 Were spectra reviewed/meet contractual requirements?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 4.5 Were raw counts reviewed for anomalies?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| <b>5.0 Other</b>  |                                     |        |
| 5.1 Are all nonconformances included and noted?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 5.2 Are all required forms filled out?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 5.3 Was the correct methodology used?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 5.4 Was transcription checked?  | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 5.5 Were all calculations checked at a minimum frequency?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 5.6 Are worksheet entries complete and correct?   | Yes                                 | No N/A |
|   | <input checked="" type="checkbox"/> |        |
| 6.0 Comments on any No response:  |                                     |        |

First Level Review John Horton Date 9-18-7



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

Batch Number: 7236478

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			✓
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?	✓		
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
<b>C. Other</b>			✓
1. Are all Non-conformances included and noted?			
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

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

Second Level Review: *[Signature]* Date: 9.18.07

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

Collector: **R.T. SICKLE** Contact/Requester: **Steve Trout** Telephone No.: **509-373-5869** MSIN: **FAX**  
 SAF No.: **W07-008** Sampling Origin: **Hanford Site** Purchase Order/Charge Code:  
 Project Title: **RCRA, AUGUST 2007** *HNF-A-5066* Ice Chest No.: **ERC-99-057** 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**  
 \*\* \*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes  No   
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.  
 WSCF: Batch all GW samples submitted into one SDG, daily closure.  
 All SDG's are to be sent to Steve Trout, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P9B3		W	<i>8-3-07</i>	<i>1258</i>	1x20-mL P	Activity Scan	None
B1P9B3		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1P9B3		W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	HNO3 to pH <2
B1P9B3		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
B1P9B3		W	↓	↓	3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1)	HNO3 to pH <2
<i>J7D8W</i>							

Relinquished By: <i>R.T. SICKLE</i> (Print) Sign: <i>[Signature]</i> Date/Time: <i>AUG 03 2007</i>	Received By: <i>[Signature]</i> (Print) Sign: <i>L. SLANE</i> Date/Time: <i>AUG 03 2007</i>	Matrix *
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	S - Soil DS - Drum Solid
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	SR - Sediment DI - Drum Liquid
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	SO - Solid T - Tissue
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	SL - Sludge WI - Wine
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	W - Water I - Liquid
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	O - Oil V - Vegetation
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	A - Air X - Other
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By _____ Date/Time _____













# STL

### Sample Check-in List

Date/Time Received: 8-3-07 1430

Client: PGW SDG#: W05219 NA  SAF#: W07-008 NA

Work Order Number: J7H080124 Chain of Custody # W07-008-41,-35,-36,-23,-26,-32

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

1. Custody Seals on shipping container intact? NA  Yes  No
2. Custody Seals dated and signed? NA  Yes  No
3. Chain of Custody record present? Yes  No
4. Cooler temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 6
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  pH > 9
11. Sample Location, Sample Collector Listed? \* Yes  No   
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: RJP Date: 8-3-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

[ ] No action necessary; process as is.

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





# STL

### Sample Check-in List

Date/Time Received: 8/16/07 14:55

Client: PGW SDG #: W05219 NA  SAF #: I07-061 NA

Work Order Number: J76-080238 Chain of Custody #: I07-061-159

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

1. Custody Seals on shipping container intact? NA  Yes  No
2. Custody Seals dated and signed? NA  Yes  No
3. Chain of Custody record present? Yes  No
4. Cooler temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA  Yes  No
8. Samples have:
  - \_\_\_\_\_ tape \_\_\_\_\_ hazard labels
  - \_\_\_\_\_ custody seals  appropriate samples labels
9. Samples are:
  - in good condition \_\_\_\_\_ leaking
  - \_\_\_\_\_ broken \_\_\_\_\_ have air bubbles
  - (Only for samples requiring head space)
10. Sample pH taken? NA  pH<2  pH>2  pH>9
11. Sample Location, Sample Collector Listed? \* Yes  No   
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: [Signature] Date: 8/16/07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

[ ] No action necessary; process as is.

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

LS-023, 9/03, Rev. 5





# STL

### Sample Check-in List

Date/Time Received: 08 06 07 1455

Client: PGW SDG #: W05219 NA  SAF #: G07-008 NA

Work Order Number: J7H080253 Chain of Custody # G07-008-14

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

1. Custody Seals on shipping container intact? NA  Yes  No
2. Custody Seals dated and signed? NA  Yes  No
3. Chain of Custody record present? 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  pH > 9
11. Sample Location, Sample Collector Listed? \* Yes  No   
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: [Signature] Date: 8/6/07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

[ ] No action necessary; process as is.

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

FLUOR HANFORD	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C. #
		S07-007-9
J7H100401 W05219 Due 09-21-07		Page 1 of 1

Collector Fluor Hanford D. R. BREWINGTON	Contact/Requester Sieve Tent	Telephone No. 509-373-5869	MSIN	FAX
SAF No. S07-007	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title SURV JULY 2007	Logbook, HNF-N-506-6	Ice Chest No. 600	Temp ERC-49-057	
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.		

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<b>SPECIAL INSTRUCTIONS</b> Hold Time All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure.	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---	---

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NXT0		W	8/7/07	0730	1x20-mL P	Activity Scan	None
B1NXT0		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
J4m89							
of wall 8/7/07							

Relinquished By Fluor Hanford D. R. BREWINGTON	Print D. R. Brewington	Sign <i>[Signature]</i>	Date/Time AUG 07 2007	Received By <i>[Signature]</i>	Print LJLAW	Sign <i>[Signature]</i>	Date/Time AUG 07 2007	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil      DS = Drum Solid SR = Sediment      DI = Drum Liquid SO = Solid      T = Tissue SL = Sludge      W1 = 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	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By	Date/Time

FLUOR HANFORD		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			C.O.C. # <b>S07-007-8</b>	
		J7H100401 W05219 Due 09-21-07			Page 1 of 1	
Collector Fluor Hanford D. R. BREWINGTON	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN	FAX		
SAF No. S07-007	Sampling Origin Hanford Site	Purchase Order/Charge Code				
Project Title SURV. JULY 2007	Logbook: HNF-N-506-6	Ice Chest No.	PRC-99-0517 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 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure.			

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NXR9		W	8/7/07	0947	1x20-mL P	Activity Scan	None
B1NXR9		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
<i>J4M9C</i>							
<i>D. Wall 8/7/07</i>							

Relinquished By Fluor Hanford D. R. BREWINGTON	Print <i>D.R. Brewington</i>	Sign <i>[Signature]</i>	Date/Time AUG 07 2007 1532	Received By <i>[Signature]</i>	Print LVLANE	Sign <i>[Signature]</i>	Date/Time AUG 07 2007	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil SF = Sediment SO = Solid SI = Sludge W = Water O = Oil A = Air  YS = Drum Solid DM = Drum Liquid T = Tissue WI = Wine I = Liquid V = Vegetation 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: 8-7-07 1532

Client: PGW SDG #: W05219 NA  SAF # 507-007 NA

Work Order Number: J7H100401 Chain of Custody # 507-007-8,-9

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

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

Sample Custodian: [Signature] Date: 8-7-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

[ ] No action necessary; process as is.

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

TAL RICHLAND

FLUOR HANFORD	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C. # <b>S07-007-2</b>
	<i>J7H160236 W05219 Due 092807</i>	Page 1 of 1

Collector Fluor Hanford <b>R. T. SICKLE</b>	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. S07-007	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title SURV. JULY 2007	<i>Logbook: HNF-N-500-8</i>	Ice Chest No. <i>GRP-03-019 emp.</i>	
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.	

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure.	<b>Hold Time</b>	<b>Total Activity Exemption:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---	------------------	--

Sample No.	Lab ID	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NXJ4		W 8/14/07	09:17	1x20-mL P	Activity Scan	None
B1NXJ4		W 8/14/07	↓	3x1000-mL P	TRITIUM_ELECT_LSC_LL: H-3 (1)	None
<i>J7H160236</i>						
<i>R. Wall 8/14/07</i>						

Relinquished By Fluor Hanford <b>R. T. SICKLE</b>	Print <i>[Signature]</i>	Sign	Date/Time <b>AUG 14 2007</b>	Received By <i>[Signature]</i>	Print <b>W. LAWE TALE</b>	Sign	Date/Time <b>AUG 14 2007</b>	<b>Matrix *</b> 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	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

TAL RICHLAND

FLUOR HANFORD		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			C.O.C. #	<b>S07-007-3</b>
		<i>J7H160236 W05219 -W058 Due 0928-07</i>			Page 1 of 1	
Collector Fluor Hanford R. T. SICKLE		Contact/Requester Steve Trent		Telephone No. MSIN FAX 509-373-5869		
SAF No. S07-007		Sampling Origin Hanford Site		Purchase Order/Charge Code		
Project Title SURV. JULY 2007		Ice Chest No. <i>GRP-03-09</i>		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.	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)				<b>SPECIAL INSTRUCTIONS</b> Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure.		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NXJ5		W	8/14/07	0917	1x20-mL P	Activity Scan	None
B1NXJ5		W	↓	↓	3x1000-mL P	TRITIUM ELECT_LSC_LL: H-3 (1)	None
<i>J4IPE</i>							
<i>J. Wall 8/14/07</i>							

Relinquished By Fluor Hanford R. T. SICKLE	Print	Sign	Date/Time /y05 <b>AUG 14 2007</b>	Received By <i>[Signature]</i>	Print	Sign	Date/Time /y05 <b>AUG 14 2007</b>	
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

- 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        |



# STL

### Sample Check-in List

Date/Time Received: 8-14-07 1405

Client: PGW SDG #: W05219 NA  SAF #: S07-007 NA

Work Order Number: J7H160236 Chain of Custody #: S07-007-2-3

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

1. Custody Seals on shipping container intact? NA  Yes  No
2. Custody Seals dated and signed? NA  Yes  No
3. Chain of Custody record present? Yes  No
4. Cooler temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA  Yes  No
8. Samples have:
  - \_\_\_\_\_ tape
  - \_\_\_\_\_ custody seals
  - \_\_\_\_\_ hazard labels
  - appropriate 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  pH > 9
11. Sample Location, Sample Collector Listed? \* Yes  No   
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: [Signature] Date: 8-14-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

[ ] No action necessary: process as is.

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

FLUOR HANFORD	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b> J7H160242 W05219 Due 09-28-07	C.O.C. # <b>W07-008-545</b>
		Page 1 of 1

Collector <b>Fluor Hanford R. T. SICKLE</b>	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-008	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA AUGUST 2007	Logbook: HWF-N-5068	Ice Chest No. GRP-03-09 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.	

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure. All SDG's are to be sent to Steve Trent, FH	<b>Hold Time</b>	<b>Total Activity Exemption:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--	------------------	--

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P845		W	8/14/07	1341	1x20-mL P	Activity Scan	None
B1P845		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
<i>JHIP7</i>							
<i>R. Wall 8/14/07</i>							

Relinquished By <b>Fluor Hanford R. T. SICKLE</b>	Print <i>[Signature]</i>	Sign	Date/Time <b>AUG 14 2007</b>	Received By <i>[Signature]</i>	Print <b>ESLAWE</b>	Sign <i>[Signature]</i>	Date/Time <b>AUG 14 2007</b>	<b>Matrix *</b> S = Soil      DS = Dism Solid SF = Sediment    DI = Dism Liquid SO = Solid      T = Tissue SI = Sludge      WI = Wine W = Water      L = Liquid O = Oil          V = Vegetation A = Air          X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By	Date/Time

FLUOR HANFORD  
**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**  
 J7H160242 W05219 Aug 09 28 07  
 C.O.C. # **W07-008-552**  
 Page 1 of 1

Collector <b>Fluor Hanford R. T. SICKLE</b>	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-008	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA, AUGUST 2007	Logbook: HNF-N-506-8	Ice Chest No.	Temp. GRP-03-019
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**  
 \*\* \*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes  No   
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.  
 WSCF: Batch all GW samples submitted into one SDG, daily closure.  
 All SDG's are to be sent to Steve Trent. FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P848		W	8/14/07	1309	1x20-mL P	Activity Scan	None
B1P848		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
<i>J710C</i>							
<i>P. Wall 8/14/07</i>							

Relinquished By <b>Fluor Hanford R. T. SICKLE</b>	Date/Time <b>AUG 14 2007</b>	Received By <i>[Signature]</i>	Date/Time <b>AUG 14 2007</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil      DS = Drum Solid SF = Sediment    DI = Drum Liquid SO = Solid      T = Tissue SI = Sludge      WI = Wine W = Water      I = 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

Collector Fluor Hanford <b>R. T. SICKLE</b>	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN	FAX
SAF No. W07-008	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title RCRA AUGUST 2007	Logbook: HNF-N-506-8	Ice Chest No.	GRP-03-017	
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**  
 \*\* \*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes  No   
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.  
 WSCF: Batch all GW samples submitted into one SDG, daily closure.  
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P847		W	8/14/07	1309	1x20-mL P	Activity Scan	None
B1P847		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
<i>J7100</i>							
<i>R. Wells 8/14/07</i>							

Relinquished By Fluor Hanford <b>R. T. SICKLE</b>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time AUG 14 2007	Received By <b>W LANE</b>	Print <b>TAC</b>	Sign <i>[Signature]</i>	Date/Time AUG 14 2007	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 I = 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	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By	Date/Time

TAL RICHLAND

FLUOR HANFORD	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C. # <b>W07-008-557</b>
<i>J7H160242 W05219 Due 09-28-07</i>		Page 1 of 1

Collector <b>Fluor Hanford</b> <b>R. T. SICKLE</b>	Contact/Requester <b>Steve Trent</b>	Telephone No. <b>MSIN FAX</b> 509-373-5869
SAF No. W07-008	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title RCRA AUGUST 2007	<i>Logbook! HNF-N-506-8</i>	Ice Chest No. <i>GRP-03-019</i> <b>Temp.</b>
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.

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> <b>Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure. All SDG's are to be sent to Steve Trent, FH
--	--

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P853		W	8/14/07	1146	1x20-mL P	Activity Scan	None
B1P853		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
<div style="position: relative; width: 100%; height: 100%;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p style="font-size: 2em; font-family: cursive;">J. Wall</p> <p style="font-size: 1.5em;">8/14/07</p> </div> <div style="position: absolute; top: 10%; left: 40%; font-size: 1.5em; font-family: cursive;"> <p>J7H102</p> </div> </div>							

Relinquished By <b>Fluor Hanford</b> <b>R. T. SICKLE</b>	Print	Date/Time <b>AUG 14 2007</b>	Received By <i>[Signature]</i>	Print <b>WLANE TAYL</b>	Sign	Date/Time <b>AUG 14 2007</b>	Matrix *
Relinquished By		Date/Time	Received By			Date/Time	S = Soil                    DS = Drum Solid SF = Sediment            LI = Drum Liquid SO = Solid                T = Tissue SI = Sludge                WI = Wine W = Water                L = Liquid O = Oil                    V = Vegetation A = Air                    X = Other
Relinquished By		Date/Time	Received By			Date/Time	
Relinquished By		Date/Time	Received By			Date/Time	
Relinquished By		Date/Time	Received By			Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)					Dispensed By	Date/Time





# STL

### Sample Check-in List

Date/Time Received: 8-14-07 1405

Client: PGW SDG #: W05219 NA  SAF #: W07-008 NA

Work Order Number: J7H160242 Chain of Custody # W07-008-545, -552, -551, -557, -563

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

1. Custody Seals on shipping container intact? NA  Yes  No
2. Custody Seals dated and signed? NA  Yes  No
3. Chain of Custody record present? Yes  No
4. Cooler temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 5
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  pH > 9
11. Sample Location, Sample Collector Listed? \* Yes  No   
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes  No
13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian: [Signature] Date: 8-14-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

No action necessary; process as is.

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









# STL

### Sample Check-in List

Date/Time Received: 8-20-07 1530

Client: PGW SDG #: W05219 NA  SAF #: W07-008 NA

Work Order Number: J7H210278 Chain of Custody #: W07-008-423,-241,-242, 414

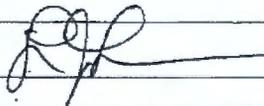
Shipping Container ID: \_\_\_\_\_ Air Bill #: \_\_\_\_\_

1. Custody Seals on shipping container intact? NA  Yes  No
2. Custody Seals dated and signed? NA  Yes  No
3. Chain of Custody record present? 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	_____ hazard labels
<input checked="" type="checkbox"/> custody seals	<input checked="" type="checkbox"/> appropriate samples labels
9. Samples are:
 

<input checked="" type="checkbox"/> in good condition	_____ leaking
_____ broken	_____ have air bubbles

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

Sample Custodian:  Date: 8-20-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

No action necessary, process as is.

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

TAL RICHLAND

9/18/2007 3:42:44 PM **Sample Preparation/Analysis** Balance Id:1120482733  
 384868, Pacific Northwest National Laboratory , BC Gross Beta PrpRC5014 Pipet #: \_\_\_\_\_  
 Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve  
**AnalyDueDate: 09/20/2007** *WDS219* 5I CLIENT: HANFORD  
**Batch: 7236499 WATER pCi/L** PM, Quote: SA , 57671  
 SEQ Batch, Test: None  
 Sep1 DT/Tm Tech: \_\_\_\_\_  
 Sep2 DT/Tm Tech: \_\_\_\_\_  
 Prep Tech: *ClarkR/Reed J.*

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J4E9C-1-AA J7H080253-1-SAMP 	110.80g,ln			1.5	28.1	100	31A	1050	9/20/07	
08/06/2007 10:15		AmtRec: 20ML,LP	#Containers: 2				Scr: Alpha	8.76E-05 uCi/Sa	Beta: 7.94E-04 uCi/Sa	1.1E-01L
2 J4E9C-1-AC-X J7H080253-1-DUP 	110.10g,ln				24.5		31B			
08/06/2007 10:15		AmtRec: 20ML,LP	#Containers: 2				Scr: Alpha	8.76E-05 uCi/Sa	Beta: 7.94E-04 uCi/Sa	1.1E-01L
3 J5KX8-1-AA-B J7H240000-499-BLK 	200.70g,ln				0.2		31C			
08/06/2007 10:15		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	
4 J5KX8-1-AC-C J7H240000-499-LCS 	200.40g,ln		BESB3119 07/23/07,pd 10/11/06,J		0.5		31D			
08/06/2007 10:15		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	

Comments: *pH < 2.0; Aliquot Reduced due to Sample Screen RC 09/18/07*

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

J4E9C1AA-SAMP Constituent List:  
 BETA RDL:4.00E+00 pCi/L LCL: UCL: RPD:  
 J5KX81AA-BLK:  
 BETA RDL:4.00E+00 pCi/L LCL: UCL: RPD:  
 J5KX81AC-LCS:  
 Sr-90 RDL: pCi/L LCL:70 UCL:130 RPD:20  
 J4E9C1AA-SAMP Calc Info:

STL Richland Key In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4  
 Richland Wa. pd - Prep Dt, r - Reference Dt, eo-Enrichment Cell, ci-Cocktalled Added Prep. SamplePrep v4.8.26

TAL RICHLAND

9/18/2007 3:42:45 PM

Sample Preparation/Analysis

Balance Id:1120482733

BC Gross Beta PrpRC5014  
 S8 Gross Beta by GPC using Sr/Y-90 curve  
 5I CLIENT: HANFORD

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

AnalyDueDate: 09/20/2007

Sep1 DT/Tm Tech:

Batch: 7236499

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,ClarkR



Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, InI/Date	Comments:
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
J5KX81AA-BLK:										
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
J5KX81AC-LCS:										
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					

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

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

TAL RICHLAND

9/14/2007 2:59:59 PM

Sample Preparation/Analysis

Balance Id:1120482733,E32905

384868, Pacific Northwest National Laboratory ,  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech: 09/07/2007 15:25,ManisD

Batch: 7236496 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA , 57671

Sep2 DT/Tm Tech: 09/14/2007 07:50,ManisD

Prep Tech: ClarkR,ManisD

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J4D8W-1-AC J7H080124-1-SAMP 	977.40g,in		SRTB15158 08/15/07,pd 05/22/07,r		1.0	23.9	100	4A 4a	1038 0956		9/15/07 r 9/16/07 r
09/07/2007-15:25:s1; 09/14/2007											
08/03/2007 12:58 AmtRec: 20ML2X500ML,3XLP,4LP #Containers: 7 Scr: Alpha: 8.34E-03 uCi/Sa 1.7E-01L Beta: 4.15E-04 uCi/Sa											
2 J4D8W-1-AF-X J7H080124-1-DUP 	1002.50g,in		SRTB15159 08/15/07,pd 05/22/07,r		1.0	24.2	100	4b 4b	1038 0956		9/15/07 r 9/16/07 r
09/07/2007-15:25:s1; 09/14/2007											
08/03/2007 12:58 AmtRec: 20ML2X500ML,3XLP,4LP #Containers: 7 Scr: Alpha: 8.34E-03 uCi/Sa 1.7E-01L Beta: 4.15E-04 uCi/Sa											
3 J5KX5-1-AA-B J7H240000-496-BLK 	1001.10g,in		SRTB15160 08/15/07,pd 05/22/07,r		1.0	24.1	100	4c 4c	1038 0956		9/15/07 r 9/16/07 r
09/07/2007-15:25:s1; 09/14/2007											
08/03/2007 12:58 AmtRec: #Containers: 1 Scr: Alpha: Beta:											
4 J5KX5-1-AC-C J7H240000-496-LCS 	999.00g,in		SRSG1376 08/15/07,pd 05/22/07,r		1.0	20.9	100	4d 4d	1038 0956		9/15/07 r 9/16/07 r
09/07/2007-15:25:s1; 09/14/2007											
08/03/2007 12:58 AmtRec: #Containers: 1 Scr: Alpha: Beta:											

TAL RICHLAND

9/14/2007 3:00:00 PM

Sample Preparation/Analysis

Balance Id:1120482733,1120482733,1120

CL Sr-90 Prp/SepRC5006(5071)  
 TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth  
 5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech: 09/07/2007 15:25,ManisD

Batch: 7236496  
 SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech: 09/14/2007 07:50,ManisD

Prep Tech: ManisD



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments: J4DBW-SAMP "Comments Allquot reduced due to sample screen RC 09/14/2007"

All Clients for Batch:

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

J4DBW1AC-SAMP Constituent List:

Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
J5KX51AA-BLK:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:	UCL:	RPD:
J5KX51AC-LCS:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20

J4DBW1AC-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
J5KX51AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
J5KX51AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By

Date:

TAL RICHLAND

9/5/2007 3:40:07 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory , Pacific Northwest National Lab

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

Pipet #:

Sep1 DT/Tm Tech: 9/14/07 1525 DRM  
Sep2 DT/Tm Tech: 9/14/07 0450 DRM

AnalyDueDate: 09/17/2007 W05219

Batch: 7236496 WATER pCi/L PM, Quote: SA , 57671  
SEQ Batch, Test: None

Prep Tech: BockJ

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J4D8W-1-AC J7H080124-1-SAMP 		977.40g,in	SRTB15158 08/15/07.pd 05/22/07.r	1.1447 - 1.9988 - 0.8540			100	3"	1704	9/7/07 DR	
		AmtRec: 20ML,2X500ML,3XLP,4LP #Containers: 7						Scr: Alpha: 8.34E-03 uCi/Sa 1.7E-01L		Beta: 4.15E-04 uCi/Sa	
2 J4D8W-1-AF-X J7H080124-1-DUP 		1002.50g,in	SRTB15159 08/15/07.pd 05/22/07.r	1.1448 - 2.0203 - 0.8801				3"	1738	9/7/07 DR	
		AmtRec: 20ML,2X500ML,3XLP,4LP #Containers: 7						Scr: Alpha: 8.34E-03 uCi/Sa 1.7E-01L		Beta: 4.15E-04 uCi/Sa	
3 J5KX5-1-AA-B J7H240000-496-BLK 		1001.10g,in	SRTB15160 08/15/07.pd 05/22/07.r	1.0904 - 2.0856 - 0.8064				2"	1811	9/7/07 DR	
		AmtRec: #Containers: 1						Scr: Alpha:		Beta:	
4 J5KX5-1-AC-C J7H240000-496-LCS 		999.00g,in	SRSR1376 08/15/07.pd 05/22/07.r	1.1730 - 1.9908 - 0.8608				3"	1847	9/7/07 DR	
		AmtRec: #Containers: 1						Scr: Alpha:		Beta:	
08/03/2007 12:58											

STL Richland Key in - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1  
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 4  
Prep\_SamplePrep v4.8.26

100

TAL RICHLAND

9/5/2007 3:40:08 PM

**Sample Preparation/Analysis**

Balance Id:1120482733

CL Sr-90 Prp/SepRC5006(5071)  
 TL Sr-85 by Nat and Sr-90 by GPC 7 day ingrowth  
 5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236496  
 SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments: *24 (20) 959-5-07*  
*sample: aliquots should of been poured out 1000 mL due to high screen results. S.W. OK'D. JB 9/5/07*

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

J4D8W1AC-SAMP Constituent List:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
J5KX51AA-BLK:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:	UCL:	RPD:
J5KX51AC-LCS:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20

J4D8W1AC-SAMP Calc Info:					
Uncert Level (#):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J5KX51AA-BLK:					
Uncert Level (#):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J5KX51AC-LCS:					
Uncert Level (#):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		

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

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TAL RICHLAND

9/14/2007 2:17:05 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 09/17/2007 **W05219**

Sep1 DT/Tm Tech:

Batch: 7236494 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA, 57671

Sep2 DT/Tm Tech:

Prep Tech: ClarkR *Rocky*

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On/Off (24hr) Circle	CR Analyst, Inlt/Date	Comments:
<del>1</del> J4D8W-1-AA J7H080124-1-SAMP 08/03/2007 12:58 AmtRec: 20ML,2X500ML,3XLP,4LP #Containers: 7	2002.20g,in	2002.20g,in				200	G15	1958	9/21/07 BAO	Scr. Alpha: 8.34E-03 uCi/Sa 1.7E-01L Beta: 4.15E-04 uCi/Sa
<del>2</del> J4D85-1-AA J7H080124-2-SAMP 08/03/2007 12:11 AmtRec: 20ML,2X500ML,4LP #Containers: 4	2002.20g,in	2002.20g,in					G14	2137		Scr. Alpha: 2.98E-08 uCi/Sa Beta: -1.78E-07 uCi/Sa
<del>3</del> J4D9T-1-AA J7H080124-3-SAMP 08/03/2007 12:11 AmtRec: 20ML,2X500ML,4LP #Containers: 4	2000.30g,in	2000.30g,in					G10	2137		Scr. Alpha: 2.09E-06 uCi/Sa Beta: 6.96E-07 uCi/Sa
<del>4</del> J4D92-1-AA J7H080124-5-SAMP 08/03/2007 10:44 AmtRec: 20ML,500ML,3XLP,4LP #Containers: 8	2001.70g,in	2001.70g,in					G11 9/21/07 BAO	2138		Scr. Alpha: 2.83E-03 uCi/Sa Beta: 4.72E-04 uCi/Sa
<del>5</del> J4EE0-1-AA J7H080124-6-SAMP 08/03/2007 11:26 AmtRec: 20ML,2X500MLP,4LP #Containers: 4	2000.20g,in	2000.20g,in					G12	2138		Scr. Alpha: 1.13E-07 uCi/Sa Beta: 4.10E-08 uCi/Sa
<del>6</del> J4EE0-1-AE-X J7H080124-6-DUP 08/03/2007 11:26 AmtRec: 20ML,2X500MLP,4LP #Containers: 4	1931.20g,in	1931.20g,in					G13	2138		Scr. Alpha: 1.13E-07 uCi/Sa Beta: 4.10E-08 uCi/Sa
<del>7</del> J5KX2-1-AA-B J7H240000-494-BLK 08/03/2007 11:26 AmtRec: #Containers: 1	2000.00g,in	2000.00g,in					G5	2140		Scr. Alpha: Beta:

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TAL RICHLAND

9/14/2007 2:17:08 PM

Sample Preparation/Analysis

Balance Id:1120482733

AW Gamma PrpRC5017  
 TA Gamma by HPGE  
 51 CLIENT: HANFORD

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

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236494  
 SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ClarkR



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 J5KX2-1-AC-C J7H240000-494-LCS		2000.10g/in	QCAG1401 08/15/07.pd 0307057		100ml	200	G7	2153	9/21/07	
08/03/2007 11:26	AmtRec:	#Containers: 1		Scr:	Alpha:	Beta:				

Comments: J4DBW-SAMP "Comments Allquot reduced due to sample screen RC 09/14/2007"

*PH < 2.0 RC 09/14/07*

All Clients for Batch:

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

J4DBW1AA-SAMP Constituent List:

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

J5KX21AA-BLK:

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

J5KX21AC-LCS:

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

J4DBW1AA-SAMP Calc Info:

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

J5KX21AA-BLK:

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

J5KX21AC-LCS:

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

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

ISV - Insufficient Volume for Analysis

WO Cnt: 8  
 Prep\_SamplePrep v4.8.26

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TAL RICHLAND

9/14/2007 2:17:08 PM

Sample Preparation/Analysis

Balance Id:1120482733

AW Gamma PrpRC5017  
TA Gamma by HPGE  
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236494  
SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ,ClarkR



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Approved By \_\_\_\_\_

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

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9/28/2007 2:08:27 PM

### Sample Preparation/Analysis

Balance Id:

AW Gamma PrpRC5017  
TA Gamma by HPGE  
51 CLIENT: HANFORD

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236494  
SFQ Batch Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech:



Work Order, Lot Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst Init/Date	Comments	
K-40	RDL:6	pCi/L	LCL:70	UCL:130	RPD:20	Ra-226	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20
RA-228	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20
U-238	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20						

J4DBW1AA-SAMP Calc Info:

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

J5KX21AA-BLK:  
Uncert Level (#s): 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B

J5KX21AC-LCS:  
Uncert Level (#s): 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B

J5KX22AC-LCS:  
Uncert Level (#s): 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B

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

100



STL RICHLAND

8/24/2007 2:50:33 PM

**Sample Preparation/Analysis**

Balance Id: 12424

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

AS H-3 Prp/SepRC5024  
U3 Enriched Tritium by Liquid Scint  
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 09/28/2007 **W05219**

Sep1 DT/Tm Tech: 9-7-07 am

Batch: 7236501 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA, 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 J41N3-1-AA J7H160236-1-SAMP 08/14/2007 09:17								
		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: 4.57E-04 uCi/Sa	Beta: -8.25E-06 uCi/Sa	
2 J41N3-1-AC-X J7H160236-1-DUP 08/14/2007 09:17								
		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: 4.57E-04 uCi/Sa	Beta: -8.25E-06 uCi/Sa	
3 J41PE-1-AA J7H160236-2-SAMP 08/14/2007 09:17								
		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: -2.58E-04 uCi/Sa	Beta: 3.85E-04 uCi/Sa	
4 J5K0J-1-AA-B J7H240000-501-BLK 08/14/2007 09:17								
		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
5 J5K0J-1-AC-C J7H240000-501-LCS 08/14/2007 09:17								
		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
6 J5K0J-1-AD-BN J7H240000-501-IBLK 08/14/2007 09:17								
		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	

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8/24/2007 2:50:35 PM

### Sample Preparation/Analysis

Balance Id: 12434

AS H-3 Prp/SepRC5024  
U3 Enriched Tritium by Liquid Scint  
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 09/28/2007

Sep1 DT/Tm Tech: 9-7-07am

Batch: 7236501  
SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech:



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

All Clients for Batch:  
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 37671

J41N31AA-SAMP Constituent List:

H-3	RDL:1.00E+01	pCi/L	LCL:70	UCL:130	RPD:20			
J5K0J1AA-BLK:								
H-3	RDL:1.00E+01	pCi/L	LCL:	UCL:	RPD:			
J5K0J1AC-LCS:								
H-3	RDL:10	pCi/L	LCL:70	UCL:130	RPD:20			
J5K0J1AD-IBLK:								
H-3	RDL:1.00E+01	pCi/L	LCL:	UCL:	RPD:			
J41N31AA-SAMP Calc Info:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B				
J5K0J1AA-BLK:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B				
J5K0J1AC-LCS:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B				
J5K0J1AD-IBLK:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B				

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

COUNTY FILE

6

TAL RICHLAND

9/5/2007 2:35:16 PM		<b>Sample Preparation/Analysis</b>				Balance Id: 1120482733				
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab		FP Tc-99 Prp/Sep RC5065 S5 Technetium-99 by Liquid Scint				Pipet #: _____				
AnalyDueDate: 09/17/2007		SI CLIENT: HANFORD				Sep1 DT/Tm Tech: _____				
Batch: 7236479 WATER		PM, Quote: SA, 57671				Sep2 DT/Tm Tech: _____				
SEQ Batch, Test: None						Prep Tech: ,ClarkR				
										
Work Order, Lot, Sample Date	Total Amt /Unit	Total Ack'd/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J4D8W-1-AD J7H080124-1-SAMP  08/03/2007 12:58			127.80g,in	127.80g		60				
		AmtRec: 20ML,2X500ML,3XLP,4LP		#Containers: 7		Scr: Alpha: 8.34E-03 uCi/Sa		1.7E-01L		Beta: 4.15E-04 uCi/Sa
2 J4D85-1-AC J7H080124-2-SAMP  08/03/2007 12:11			127.90g,in	127.90g						
		AmtRec: 20ML,2X500ML,4LP		#Containers: 4		Scr: Alpha: 2.99E-06 uCi/Sa				Beta: -1.78E-07 uCi/Sa
3 J4D9T-1-AC J7H080124-3-SAMP  08/03/2007 12:11			126.70g,in	126.70g						
		AmtRec: 20ML,2X500ML,4LP		#Containers: 4		Scr: Alpha: 2.09E-06 uCi/Sa				Beta: 6.96E-07 uCi/Sa
4 J4EE0-1-AC J7H080124-6-SAMP  08/03/2007 11:26			126.10g,in	126.10g						
		AmtRec: 20ML,2X500ML,4LP		#Containers: 4		Scr: Alpha: 1.13E-07 uCi/Sa				Beta: 4.10E-08 uCi/Sa
5 J4M89-1-AA J7H100401-1-SAMP  08/07/2007 07:30			125.70g,in	125.70g						
		AmtRec: 20ML,500MLP		#Containers: 2		Scr: Alpha: 1.03E-05 uCi/Sa				Beta: -6.81E-06 uCi/Sa
6 J4M89-1-AC-X J7H100401-1-DUP  08/07/2007 07:30			125.50g,in	125.50g						
		AmtRec: 20ML,500MLP		#Containers: 2		Scr: Alpha: 1.03E-05 uCi/Sa				Beta: -6.81E-06 uCi/Sa
7 J4M9C-1-AA J7H100401-2-SAMP  08/07/2007 09:47			127.70g,in	127.70g						
		AmtRec: 20ML,500MLP		#Containers: 2		Scr: Alpha: -9.32E-05 uCi/Sa				Beta: 1.08E-04 uCi/Sa

1.0

TAL RICHLAND

9/5/2007 2:35:17 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236479 WATER pCi/L

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ClarkR

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 J4M9C-1-AC-S J7H100401-2-MS 08/07/2007 08:47			126.30g,in	126.30g	TCSG1881 08/22/07,pd 01/10/06,r	60				
			AmtRec: 20ML,500MLP	#Containers: 2			Scr:	Alpha: -9.32E-05 uCi/Sa	Beta: 1.08E-04 uCi/Sa	
9 J5AV7-1-AC J7H210278-1-SAMP 08/20/2007 13:40			126.20g,in	126.20g						
			AmtRec: 20ML,500ML,LP	#Containers: 3			Scr:	Alpha: 6.68E-05 uCi/Sa	Beta: 3.05E-04 uCi/Sa	
10 J5AWX-1-AA J7H210278-2-SAMP 08/20/2007 12:06			126.30g,in	126.30g						
			AmtRec: 20ML,500ML	#Containers: 2			Scr:	Alpha: 2.04E-05 uCi/Sa	Beta: 1.89E-04 uCi/Sa	
11 J5AW9-1-AA J7H210278-3-SAMP 08/20/2007 12:06			126.60g,in	126.60g						
			AmtRec: 20ML,500ML	#Containers: 2			Scr:	Alpha: 3.44E-05 uCi/Sa	Beta: 3.09E-05 uCi/Sa	
12 J5KTV-1-AA-B J7H240000-479-BLK 08/07/2007 07:30			125.50g,in	125.50g						
			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	
13 J5KTV-1-AC-C J7H240000-479-LCS 08/07/2007 07:30			125.40g,in	125.40g	TCSE2153 07/17/07,pd 01/10/06,r					
			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	
14 J5KTV-1-AD-BN J7H240000-479-IBLK 08/07/2007 07:30										
			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	

11

TAL RICHLAND

9/5/2007 2:35:19 PM

**Sample Preparation/Analysis**

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

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

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

AnalyDueDate: 09/17/2007

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

Batch: 7236479 pCi/L

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

SEQ Batch, Test: None

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



Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
60										
J4D8W1AD-SAMP										
J7H240000-479-IBLK										
08/07/2007 07:30										
AmtRec: #Containers: 1 Scr: Alpha: Bela:										

Comments: pH < 2.10 RC 09/05/07

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

J4D8W1AD-SAMP Constituent List:					
Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20
J4M9C1AC-MS:					
J5KTV1AA-BLK:					
Tc-99	RDL:15	pCi/L	LCL:	UCL:	RPD:
J5KTV1AC-LCS:					
Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20
J5KTV1AD-IBLK:					
Tc-99	RDL:15	pCi/L	LCL:	UCL:	RPD:
J5KTV1AE-IBLK:					
Tc-99	RDL:15	pCi/L	LCL:	UCL:	RPD:
J4D8W1AD-SAMP Calc Info:					
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J4M9C1AC-MS:					
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J5KTV1AA-BLK:					
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J5KTV1AC-LCS:					
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J5KTV1AD-IBLK:					
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		
J5KTV1AE-IBLK:					
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N
Sci.Not.:	Y	ODRs:	B		

STL Richland Key: In - Initial Amt, fl - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3  
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 15  
 Prep\_SamplePrep v4.8.26

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TAL RICHLAND

9/5/2007 2:35:19 PM

### Sample Preparation/Analysis

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

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

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

AnalyDueDate: 09/17/2007

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

Batch: 7236479  
SEQ Batch, Test: None

pCi/L

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

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



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

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

STL Richland  
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2  
pd - Prep Dt r - Reference Dt, ec-Enrichment Cell, ct-Cocktalled Added

ISV - Insufficient Volume for Analysis

WO Cnt: 15  
Prep\_SamplePrep v4.8.26

113

TAL RICHLAND

9/5/2007 2:57:16 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 09/17/2007 W05219

Sep1 DT/Tm Tech:

Batch: 7236495 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,ClarkR



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 J4D90-1-AA J7H080124-4-SAMP 08/03/2007 09:12	127.20g,in			60				
		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: 6.03E-05 uCi/Sa	Beta: 2.87E-04 uCi/Sa	
2 J4D90-1-AC-X J7H080124-4-DUP 08/03/2007 09:12	125.30g,in							
		AmtRec: 20ML,3XLP	#Containers: 4			Scr: Alpha: 6.03E-05 uCi/Sa	Beta: 2.87E-04 uCi/Sa	
3 J4D92-1-AC J7H080124-5-SAMP 08/03/2007 10:44	125.00g,in							
		AmtRec: 20ML,500ML,3XLP,4LP	#Containers: 6			Scr: Alpha: 2.83E-03 uCi/Sa	Beta: 4.72E-04 uCi/Sa	
4 J4D92-1-AE-S J7H080124-5-MS 08/03/2007 10:44	127.90g,in		TCSG1882 08/22/07.pd 01/10/06.r					
		AmtRec: 20ML,500ML,3XLP,4LP	#Containers: 6			Scr: Alpha: 2.83E-03 uCi/Sa	Beta: 4.72E-04 uCi/Sa	
5 J5KX4-1-AA-B J7H240000-495-BLK 08/03/2007 09:12	125.00g,in							
		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
6 J5KX4-1-AC-C J7H240000-495-LCS 08/03/2007 09:12	125.40g,in		TCSE2154 07/17/07.pd 01/10/06.r					
		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
7 J5KX4-1-AD-BN J7H240000-495-IBLK 08/03/2007 09:12								
		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	

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TAL RICHLAND

9/5/2007 2:57:17 PM

Sample Preparation/Analysis

Balance Id:

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

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236495 pCi/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:
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Comments: pH < 2.0 RC 09/05/07

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

J4D901AA-SAMP Constituent List:						
Tc-99	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20	
J4D921AE-MS:						
J5KX41AA-BLK:						
Tc-99	RDL:1.50E+01	pCi/L	LCL:	UCL:	RPD:	
J5KX41AC-LCS:						
Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20	
J5KX41AD-TBLK:						
Tc-99	RDL:1.50E+01	pCi/L	LCL:	UCL:	RPD:	
J4D901AA-SAMP Calc Info:						
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
J4D921AE-MS:						
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
J5KX41AA-BLK:						
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
J5KX41AC-LCS:						
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	
J5KX41AD-TBLK:						
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	

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

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STL RICHLAND

8/24/2007 2:50:31 PM

**Sample Preparation/Analysis**

Balance Id: *12445*

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 10/04/2007 *W05219*

Sep1 DT/Tm Tech: *9-19-07 am*

Batch: 7236500 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: SA, 57671

Sep2 DT/Tm Tech:

Prep Tech:



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Allquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
<b>1 J5AV7-1-AA</b>								
J7H210278-1-SAMP								
08/20/2007 13:40		AmtRec: 20ML,500ML,LP	#Containers: 3			Scr: Alpha: 6.68E-05 uCi/Sa	Beta: 3.05E-04 uCi/Sa	
<b>2 J5AV7-1-AD-X</b>								
J7H210278-1-DUP								
08/20/2007 13:40		AmtRec: 20ML,500ML,LP	#Containers: 3			Scr: Alpha: 6.88E-05 uCi/Sa	Beta: 3.05E-04 uCi/Sa	
<b>3 J5K0A-1-AA-B</b>								
J7H240000-500-BLK								
08/20/2007 13:40		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
<b>4 J5K0A-1-AC-C</b>								
J7H240000-500-LCS								
08/20/2007 13:40		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
<b>5 J5K0A-1-AD-BX</b>								
J7H240000-500-MBLK								
08/20/2007 13:40		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
<b>6 J5K0A-1-AE-CM</b>								
J7H240000-500-MLCS								
08/20/2007 13:40		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	
<b>7 J5K0A-1-AF-BN</b>								
J7H240000-500-IBLK								
08/20/2007 13:40		AmtRec:	#Containers: 1			Scr: Alpha:	Beta:	

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8/24/2007 2:50:32 PM

Sample Preparation/Analysis

Balance Id: 12445

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

Pipet #:

AnalyDueDate: 10/04/2007

Sep1 DT/Tm Tech: 9-19-07 am

Batch: 7236500 pCi/L  
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech:



Work Order, Lot, Sample Date/Tm	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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8 J5K0A-1-AG-BN  
J7H240000-500-IBLK



08/20/2007 13:40

Amt/Rec:

#Containers: 1

Scr:

Alpha:

Beta:

Comments:

All Clients for Batch:

384868, Pacific Northwest National Laboratory

Pacific Northwest National Lab, SA, 57671

J5AV71AA-SAMP Constituent List:

H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20			
J5K0A1AA-BLK:								
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:			
J5K0A1AC-LCS:								
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20			
J5K0A1AD-MBLK:								
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:			
J5K0A1AE-MLCS:								
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20			
J5K0A1AF-IBLK:								
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:			
J5K0A1AG-IBLK:								
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:			
J5AV71AA-SAMP Calc Info:								
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
J5K0A1AA-BLK:								
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
J5K0A1AC-LCS:								
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
J5K0A1AD-MBLK:								
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
J5K0A1AE-MLCS:								
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
J5K0A1AF-IBLK:								
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			

STL Richland Key: In - Initial Amt, fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 8

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.26

STL RICHLAND

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TAL RICHLAND

9/13/2007 7:31:48 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

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

Pipet #:

AnalyDueDate: 09/17/2007 *W05219*

Sep1 DT/Tm Tech:

Batch: 7236478 WATER ug/L

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: BockJ,ClarkR



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Allquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J4D8W-1-AE J7H080124-1-SAMP 08/03/2007 12:58	27.20g,in							
AmtRec: 20ML,2X500ML,3XLP,4LP #Containers: 7 Scr: Alpha: 6.34E-03 uCi/Sa 1.7E-01L Beta: 4.15E-04 uCi/Sa								
2 J4D85-1-AD J7H080124-2-SAMP 08/03/2007 12:11	26.60g,in							
AmtRec: 20ML,2X500ML,4LP #Containers: 4 Scr: Alpha: 2.99E-06 uCi/Sa Beta: -1.76E-07 uCi/Sa								
3 J4D9T-1-AD J7H080124-3-SAMP 08/03/2007 12:11	25.20g,in							
AmtRec: 20ML,2X500ML,4LP #Containers: 4 Scr: Alpha: 2.09E-06 uCi/Sa Beta: 6.96E-07 uCi/Sa								
4 J4D92-1-AD J7H080124-5-SAMP 08/03/2007 10:44	25.90g,in							
AmtRec: 20ML,500ML,3XLP,4LP #Containers: 6 Scr: Alpha: 2.83E-03 uCi/Sa Beta: 4.72E-04 uCi/Sa								
5 J4EE0-1-AD J7H080124-6-SAMP 08/03/2007 11:26	26.70g,in							
AmtRec: 20ML,2X500MLP,4LP #Containers: 4 Scr: Alpha: 1.13E-07 uCi/Sa Beta: 4.10E-08 uCi/Sa								
6 J41P7-1-AA J7H160242-1-SAMP 08/14/2007 13:41	26.00g,in							
AmtRec: 20ML,500MLP #Containers: 2 Scr: Alpha: 6.23E-05 uCi/Sa Beta: -3.41E-05 uCi/Sa								
7 J41P7-1-AC-X J7H160242-1-DUP 08/14/2007 13:41	27.40g,in							
AmtRec: 20ML,500MLP #Containers: 2 Scr: Alpha: 6.23E-05 uCi/Sa Beta: -3.41E-05 uCi/Sa								

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt. s1 - Sep1, s2 - Sep2 Page 1  
Richland Wa. pd - Prep Dt, r - Reference Dt, ec - Enrichment Cell, ct - Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 7  
Prep\_SamplePrep v4.8 26

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TAL RICHLAND

9/13/2007 7:31:50 AM

**Sample Preparation/Analysis**

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

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

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

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236478 WATER ug/L  
SEQ Batch, Test: None

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,ClarkR



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 J41QC-1-AA J7H160242-2-SAMP  08/14/2007 13:09		27.30g,in						
			AmtRec: 20ML500MLP	#Containers: 2		Scr: Alpha: -9.73E-05 uCi/Sa	Beta: 1.78E-04 uCi/Sa	
9 J41QC-1-AC-S J7H160242-2-MS  08/14/2007 13:09		26.20g,in	UNSF3949 08/06/07 pd 01/23/07					
			AmtRec: 20ML500MLP	#Containers: 2		Scr: Alpha: -9.73E-05 uCi/Sa	Beta: 1.78E-04 uCi/Sa	
10 J41QQ-1-AA J7H160242-3-SAMP  08/14/2007 13:09		25.00g,in						
			AmtRec: 20ML500MLP	#Containers: 2		Scr: Alpha: -4.57E-05 uCi/Sa	Beta: 2.06E-04 uCi/Sa	
11 J41Q2-1-AA J7H160242-4-SAMP  08/14/2007 11:46		26.60g,in						
			AmtRec: 20ML500MLP	#Containers: 2		Scr: Alpha: 3.01E-05 uCi/Sa	Beta: 8.59E-05 uCi/Sa	
12 J41RC-1-AA J7H160242-5-SAMP  08/14/2007 11:01		26.00g,in						
			AmtRec: 20ML500MLP	#Containers: 2		Scr: Alpha: -1.33E-04 uCi/Sa	Beta: 2.06E-04 uCi/Sa	
13 J5KTL-1-AA-B J7H240000-478-BLK  08/14/2007 13:41		25.70g,in						
			AmtRec:	#Containers: 1		Scr: Alpha:	Beta:	
14 J5KTL-1-AC-C J7H240000-478-LCS  08/14/2007 13:41		25.40g,in	UNSF3950 08/06/07 pd 01/23/07					
			AmtRec:	#Containers: 1		Scr: Alpha:	Beta:	

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TAL RICHLAND

9/13/2007 7:31:52 AM

Sample Preparation/Analysis

Balance Id:1120482733

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

Pipet #:

AnalyDueDate: 09/17/2007

Sep1 DT/Tm Tech:

Batch: 7236478  
 SEO Batch, Test: None

ug/L

Sep2 DT/Tm Tech:

Prep Tech: ,ClarkR



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Allquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15J5KTL-1-AD-C J7H240000-478-LCS		25.60g,in	UNSC1901 08/09/07 pd 04/28/06 r					
08/14/2007 13:41		Amt/Rec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments: ;H < 2.0 RC 09/13/07

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

J4D8W1AE-SAMP Constituent List:

Uranium	RDL:1.44E-01	ug/L	LCL:	UCL:	RPD:
J41QC1AC-MS:					
J5KTL1AA-BLK:					
Uranium	RDL:1.44E-01	ug/L	LCL:	UCL:	RPD:
J5KTL1AC-LCS:					
Uranium	RDL:0.144343	ug/L	LCL:70	UCL:130	RPD:20
J5KTL1AD-LCS:					
Uranium	RDL:0.144343	ug/L	LCL:70	UCL:130	RPD:20

J4D8W1AE-SAMP Calc Info:

Uncert Level (#s):	Decay to SaDt:	Blk Subt.:	Sci.Not.:	ODRs:
J41QC1AC-MS:	Y	N	Y	B
J5KTL1AA-BLK:	Y	N	Y	B
J5KTL1AC-LCS:	Y	N	Y	B
J5KTL1AD-LCS:	Y	N	Y	B

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

120

9/22/2007 11:22:04 AM

# ICOC Fraction Transfer/Status Report

ByDate: 9/22/2006, 9/27/2007, Batch: '7236499', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7236499				
AC		CalcC	ClarkR	9/18/2007 3:37:36 PM
SC			wagarr	IsBatched 8/24/2007 2:54:03 PM
SC			ClarkR	InPrap 9/18/2007 3:37:36 PM
SC			ClarkR	Prep1C 9/18/2007 3:42:53 PM
SC			BockJ	Prep2C 9/20/2007 8:55:19 AM
SC			BlackCL	InCnt1 9/20/2007 9:07:39 AM
SC			BlackCL	CalcC 9/20/2007 11:13:03 AM
AC			ClarkR	9/18/2007 3:42:53 PM
AC			BockJ	9/20/2007 8:55:19
AC			BlackCL	9/20/2007 9:07:39
AC			BlackCL	9/20/2007 11:13:03

AC: Accepting Entry SC: Status Change

STL Richland

Richland Wa.

9/17/2007 3:14:41 PM

# ICOC Fraction Transfer/Status Report

ByDate: 9/17/2006, 9/22/2007, Batch: '7236496', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7236496				
AC	CalcC	BockJ	9/5/2007 3:32:25 PM	
SC		wagarr	IsBatched	8/24/2007 2:54:03 PM
SC		BockJ	InPrep	9/5/2007 3:32:25 PM
SC		BockJ	Prep1C	9/5/2007 3:40:09 PM
SC		ManisD	InSep1	9/6/2007 7:46:07 AM
SC		ManisD	Sep1C	9/7/2007 3:26:02 PM
SC		DAWKINSO	InCnt1	9/7/2007 4:36:39 PM
SC		DAWKINSO	Cnt1C	9/7/2007 9:55:00 PM
SC		ManisD	Sep2C	9/14/2007 3:00:09 PM
SC		StringerR	InCnt1	9/14/2007 3:05:50 PM
SC		BlackCL	CalcC	9/17/2007 7:08:05 AM
AC		BockJ	9/5/2007 3:40:09 PM	
AC		ManisD	9/6/2007 7:46:07 AM	
AC		ManisD	9/7/2007 3:26:02 PM	
AC		DAWKINSO	9/7/2007 4:36:39 PM	
AC		DAWKINSO	9/7/2007 9:55:00 PM	
AC		ManisD	9/14/2007 3:00:09 PM	
AC		StringerR	9/14/2007 3:05:50 PM	
AC		BlackCL	9/17/2007 7:06:05	

AC: Accepting Entry, SC: Status Change

STL Richland

Richland Wa.

9/29/2007 1:26:11 PM

# ICOC Fraction Transfer/Status Report

ByDate: 9/29/2006, 10/4/2007, Batch: '7236494', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments	
7236494					
AC	CalcC	ClarkR	9/14/2007 2:02:49 PM		
SC		wagarr	IsBatched	8/24/2007 2:54:03 PM	ICOC_RADCALC v4.8.26
SC		ClarkR	InPrep	9/14/2007 2:02:49 PM	RICH-RC-5017 Revision 6
SC		ClarkR	Prep1C	9/14/2007 2:17:10 PM	RICH-RC-5017 REVISION 6
SC		BockJ	InPrep2	9/17/2007 8:00:58 AM	RICH-RC-5017 REVISION 6
SC		AshworthA	Prep2C	9/18/2007 8:50:05 AM	RICH-RC-5017 REVISION 6
SC		BockJ	Prep2C	9/18/2007 8:50:21 AM	RICH-RC-5017 REVISION 6
SC		BlackCL	InCnt1	9/18/2007 8:52:53 AM	RICH-RD-0007 REVISION 6
SC		DAWKINSO	CalcC	9/21/2007 10:19:37 PM	RICH-RD-0007 REVISION 6
SC		StringerR	InCnt1	9/28/2007 2:27:00 PM	RICH-RD-0007 REVISION 6
SC		StringerR	CalcC	9/29/2007 1:15:18 PM	RICH-RD-0007 REVISION 6
AC		ClarkR	9/14/2007 2:17:10 PM		
AC		BockJ	9/17/2007 8:00:58		
AC		AshworthA	9/18/2007 8:50:05		
AC		BockJ	9/18/2007 8:50:21		
AC		BlackCL	9/18/2007 8:52:53		
AC		DAWKINSO	9/21/2007 10:19:37		
AC		StringerR	9/28/2007 2:27:00 PM		
AC		StringerR	9/29/2007 1:15:18 PM		

AC: Accepting Entry, SC: Status Change

STL Richland  
Richland Wa.

9/28/2007 2:03:59 PM

# ICOC Fraction Transfer/Status Report

ByDate: 9/28/2006, 10/3/2007, Batch: '7236501', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7236501				
AC	CalcC	McDowellD	8/30/2007 9:53:07	
SC		wegarr	IsBatched 8/24/2007 2:54:03 PM	ICOC_RADCALC v4.8.26
SC		McDowellD	InPrep 8/30/2007 9:53:07 AM	RICH-RC-5024 REVISION 2
SC		McDowellD	InSep1 9/7/2007 8:24:55 AM	RICH-RC-5024 REVISION 2
SC		McDowellD	Sep1C 9/27/2007 8:54:44 AM	RICH-RC-5024 REVISION 2
SC		StringerR	InCnt1 9/27/2007 9:19:05 AM	RICH-RD-0001 REVISION 4
SC		BlackCL	CalcC 9/28/2007 7:35:11 AM	RICH-RD-0001 REVISION 4
AC		McDowellD	9/7/2007 8:24:55 AM	Revision 2
AC		McDowellD	9/7/2007 8:25:03 AM	
AC		McDowellD	9/27/2007 8:54:44	
AC		StringerR	9/27/2007 9:19:05	
AC		BlackCL	9/28/2007 7:35:11	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

9/28/2007 9:58:57 AM

# ICOC Fraction Transfer/Status Report

ByDate: 9/28/2006, 10/3/2007, Batch: '7236479', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7236479				
AC	InCnt1	ClarkR	9/5/2007 2:10:20 PM	
SC		wagarr	IsBatched 8/24/2007 2:54:03 PM	ICOC_RADCALC v4.8.26
SC		ClarkR	InPrep 9/5/2007 2:10:20 PM	RICH-RC-5014 Revision 7
SC		ClarkR	Prep1C 9/5/2007 2:35:29 PM	RICH-RC-5016 REVISION 7
SC		FABREM	Sep1C 9/6/2007 12:25:17 PM	RICH-RC-5065 REVISION 6
SC		StringerR	InCnt1 9/6/2007 12:28:58 PM	RICH-RD-0001 REVISION 4
AC		ClarkR	9/5/2007 2:35:29 PM	
AC		FABREM	9/6/2007 12:25:17 PM	
AC		StringerR	9/6/2007 12:28:58 PM	

AC: Accepting Entry, SC: Status Change

STL Richland  
Richland Wa.

9/28/2007 10:06:16 AM

# ICOC Fraction Transfer/Status Report

ByDate: 9/28/2006, 10/3/2007, Batch: '7267576', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7267576				
AC		CalcC	DAWKINSO 9/24/2007 5:33:54 PM	
SC			DAWKINSO InCnt1 9/24/2007 5:33:54 PM	RICH-RD-0001 REVISION 4
SC			BlackCL CalcC 9/25/2007 7:48:33 AM	RICH-RD-0001 REVISION 4
AC			BlackCL 9/25/2007 7:48:33	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

9/18/2007 3:25:46 PM

# ICOC Fraction Transfer/Status Report

ByDate: 9/18/2006, 9/23/2007, Batch: '7236495', User: 'ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	7236495				
AC		CaicC	ClarkR	9/5/2007 2:45:22 PM	
SC			wagarr	IsBatched 8/24/2007 2:54:03 PM	ICOC_RADCALC v4.8.26
SC			ClarkR	InPrep 9/5/2007 2:45:22 PM	RICH-RC-5014 Revision 7
SC			ClarkR	Prep1C 9/5/2007 2:57:20 PM	RICH-RC-5016 REVISION 7
SC			FABREM	Sep1C 9/11/2007 1:55:57 PM	RICH-RC-5078 REVISION 4
SC			StringerR	InCnt1 9/11/2007 1:59:56 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CaicC 9/12/2007 6:43:12 AM	RICH-RD-0001 REVISION 4
AC			ClarkR	9/5/2007 2:57:20 PM	
AC			FABREM	9/11/2007 1:55:57 PM	
AC			StringerR	9/11/2007 1:59:56 PM	
AC			BlackCL	9/12/2007 6:43:12	

AC: Accepting Entry SC: Status Change

STL Richland  
Richland Wa.

9/25/2007 9:09:13 AM

# ICOC Fraction Transfer/Status Report

ByDate: 9/25/2006, 9/30/2007, Batch: '7236500', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7236500				
AC	CalcC	McDowellD	9/18/2007 9:19:48	
SC		wagarr	IsBatched 8/24/2007 2:54:03 PM	ICOC_RADCALC v4.8.26
SC		McDowellD	InSep1 9/18/2007 9:19:48 AM	RICH-RC-5007 REVISION 6
SC		McDowellD	Sep1C 9/20/2007 2:11:55 PM	RICH-RC-5007 REVISION 6
SC		StringerR	InCnt1 9/20/2007 2:47:10 PM	RICH-RD-0001 REVISION 4
SC		StringerR	CalcC 9/21/2007 10:00:18 AM	RICH-RD-0001 REVISION 4
AC		McDowellD	9/20/2007 2:11:55 PM	
AC		StringerR	9/20/2007 2:47:10 PM	
AC		StringerR	9/21/2007 10:00:18	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.

9/18/2007 11:30:31 AM

# ICOC Fraction Transfer/Status Report

ByDate: 9/18/2006, 9/23/2007, Batch: '7236478', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7236478				
AC	Cnt1C	ClarkR	9/13/2007 7:11:00	
SC		wagarr	IsBatched 8/24/2007 2:54:03 PM	ICOC_RADCALC v4.8.26
SC		ClarkR	InPrep 9/13/2007 7:11:00 AM	RICH-RC-5015 Revision 6
SC		ClarkR	Prep1C 9/13/2007 7:31:53 AM	RICH-RC-5015 REVISION 6
SC		AshworthA	InPrep2 9/13/2007 9:59:52 AM	RICH-RC-5015 REVISION 6
SC		BockJ	InPrep2 9/13/2007 10:00:18 AM	RICH-RC-5015 REVISION 6
SC		BockJ	Prep2C 9/17/2007 12:20:09 PM	RICH-RC-5015 REVISION 6
SC		AshworthA	Prep2C 9/17/2007 12:20:42 PM	RICH-RC-5015 REVISION 6
SC		NelsonT	Cnt1C 9/17/2007 3:50:59 PM	RICH-RC-5058 REV 7
AC		ClarkR	9/13/2007 7:31:53	
AC		AshworthA	9/13/2007 9:59:52	
AC		BockJ	9/13/2007 10:00:18	
AC		BockJ	9/17/2007 12:20:09	
AC		AshworthA	9/17/2007 12:20:42	
AC		NelsonT	9/17/2007 3:50:59 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

# STL

STL St. Louis  
13715 Rider Trail North  
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757  
www.stl-inc.com

## ANALYTICAL REPORT

F07-028

Lot #: F7H160258  
SDG #: W05220

Steve Trent

Fluor Hanford Inc  
1200 Jadwin Ave.  
Richland, WA 99352

TESTAMERICA LABORATORIES, INC.



Michael C. Franks  
Project Manager



September 13, 2007

**Case Narrative**  
**LOT NUMBER: F7H160258**  
**SDG: W05220**

This report contains the analytical results for the three samples received under chain of custody by STL St. Louis on August 16, 2007. These samples are associated with your F07-028 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

**Observations/Nonconformances**

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

**Total Petroleum Hydrocarbons by SW846 8015**

The Method Blank surrogate recovery in batch 7229186 is outside acceptance limits. Samples associated with this method blank demonstrated acceptable surrogate recoveries indicating the surrogate excursion is isolated to the method blank and not indicative of the batch.

The LCS surrogate recovery is outside acceptance limits. LCS spike recoveries are within QC limits demonstrating acceptable sample extraction and instrument performance.

**Affected Samples:**

F7H160258 (2): B1P3X2

**ICP Metals by SW846 6010B**

The samples in batch 7233293 were analyzed at a dilution for all elements due to high concentrations of the target analytes Calcium and Sodium. The reporting limit has been adjusted only for those targets reported from the dilution run.

**Affected Samples:**

F7H160258 (1): B1P3X1

F7H160258 (2): B1P3X2

**Ion Chromatography by EPA 300.0**

The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries. Poor matrix spike recovery for Chloride in batch 7229061, Fluoride in batch 7229062, Sulfate in batch 7229063, Nitrite in batch 7229064, and Ortho Phosphate in batch 7229065 is attributed to matrix interference.

**Affected Samples:**

F7H160258 (1): B1P3X1

F7H160258 (2): B1P3X2

F7H160258 (3): B1P3X9

TestAmerica St. Louis

**There were no Observations/Nonconformances for the following analysis:**

**Alkalinity by EPA 310.1**  
**Total Organic Carbon by EPA 415.1**

## METHODS SUMMARY

F7H160258

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Chloride	MCAWW 300.0A	MCAWW 300.0A
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3510
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	
Nitrate as NO3	MCAWW 300.0A	
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Phosphate as P, Ortho	MCAWW 300.0A	MCAWW 300.0A
Sulfate	MCAWW 300.0A	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1	MCAWW 415.1

**References:**

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

### SAMPLE SUMMARY

F7H160258

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
J410C	001	B1P3X1	08/08/07	10:50
J411A	002	B1P3X2	08/08/07	12:05
J411T	003	B1P3X9	08/14/07	09:20

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica St. Louis

LOT# F7H160258

W05220

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Fluor Hanford Inc. <i>W05220</i>		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F07-028-223	PAGE 1 OF 1
COLLECTOR Pfister, Pope, Hughes <i>Connolly, Webb</i>		COMPANY CONTACT Trent, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ		PRICE CODE 7N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION Array - 13A		PROJECT DESIGNATION AQUIFER TUBE SAMPLING ALONG THE 100-N AREA SHORELINE		SAF NO. F07-028	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. N/A		FIELD LOGBOOK NO. HNF-N-451-1	COA 122543ES10	METHOD OF SHIPMENT FEDERAL EXPRESS			
SHIPPED TO Savern Trent St. Louis		OFFSITE PROPERTY NO. See PTR		BILL OF LADING/AIR BILL NO. N/A			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	HNO3 to pH <2	Cool-4C	Cool-4C		
		TYPE OF CONTAINER	G/P	P	G/P		
		NO. OF CONTAINER(S)	1	1	1		
		VOLUME	500mL	500mL	500mL		
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1P3X1	WATER	8-8-07	1050	✓	✓	✓	
CHAIN OF POSSESSION		SIGN/ PRINT NAMES			SPECIAL INSTRUCTIONS		
RELINQUISHED BY/REMOVED FROM <i>D Connolly</i>	DATE/TIME 8-8-07 1515	RECEIVED BY/STORED IN <i>M0745 ref 1</i>	DATE/TIME 8-8-07 1515	(1)ICP Metals - 6010B (TAL) (Antimony, Barium, Cadmium, Calcium, Chromium, Cobalt, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc) ICP Metals - 6010B (Add-On) (Arsenic, Beryllium, Strontium) (2)IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate)			
RELINQUISHED BY/REMOVED FROM <i>MU-745/REF-41</i>	DATE/TIME 8-15-07 1130	RECEIVED BY/STORED IN <i>J.S. Pope/ASAP</i>	DATE/TIME 8-15-07 1130				
RELINQUISHED BY/REMOVED FROM <i>J.S. Pope/ASAP</i>	DATE/TIME 8-15-07 1230	RECEIVED BY/STORED IN <i>D. Lillane</i>	DATE/TIME 8-15-07 1230				
RELINQUISHED BY/REMOVED FROM <i>D. Lillane</i>	DATE/TIME 8-15-07 1400	RECEIVED BY/STORED IN <i>M0745</i>	DATE/TIME 8-16-07 0930				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME			

LOT# F7H160258

W05220

7 OF 37

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F07-028-216	PAGE 1 OF 1			
<b>COLLECTOR</b> Pflster, Pope, Hughes / <u>CONNOLLY</u>		<b>COMPANY CONTACT</b> Trent, SJ		<b>TELEPHONE NO.</b> 373-5869		<b>PROJECT COORDINATOR</b> TRENT, SJ		<b>PRICE CODE</b> 7N	<b>DATA TURNAROUND</b> 45 Days / 45 Days		
<b>SAMPLING LOCATION</b> Array - 3A		<b>PROJECT DESIGNATION</b> AQUIFER TUBE SAMPLING ALONG THE 100-N AREA SHORELINE			<b>SAF NO.</b> F07-028		<b>AIR QUALITY</b> <input type="checkbox"/>				
<b>ICE CHEST NO.</b> N/A		<b>FIELD LOGBOOK NO.</b> HNF-N-451-1		<b>COA</b> 122543E510		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS					
<b>SHIPPED TO</b> Severn Trent St. Louis		<b>OFFSITE PROPERTY NO.</b> See PTR			<b>BILL OF LADING/AIR BILL NO.</b> N/A						
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>PRESERVATION</b>		HNO3 to pH <2	Cool-4C	Cool-4C	HCl to pH <2/Cool-4C	HCl or H2SO4 to pH <2/Cool-4C		
			<b>TYPE OF CONTAINER</b>		G.P.	P	G.P.	aG	G		
			<b>NO. OF CONTAINER(S)</b>		1	1	1	3	1		
			<b>VOLUME</b>		500mL	500mL	500mL	1000mL	500mL		
			<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	TOC - 415.1 (Total organic carbon)
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>								
B1P3X2	WATER	8-8-07	1205	X	X	X	X	X			
<b>CHAIN OF POSSESSION</b>			<b>SIGN/ PRINT NAMES</b>			<b>SPECIAL INSTRUCTIONS</b>					
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME	(1)ICP Metals - 6010B (TAL) (Antimony, Barium, Cadmium, Calcium, Chromium, Cobalt, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc) ICP Metals - 6010B (Add-On) (Arsenic, Beryllium, Strontium) (2)IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate) (3)TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range)					
<u>CONNOLLY</u>		8-8-07 1515	<u>M. P. 745 REF 1</u>		8-8-7 1515						
<u>MU-745/LEA#1</u>		8-15-07 1130	<u>J.S. POPE / AGM</u>		8-15-07 1130						
<u>POPE</u>		8-15-07 1230	<u>W. LANE</u>		8-15-07 1230						
<u>W. LANE TAL</u>		8-15-07 1400	<u>W. LANE</u>		08/16/07 0930						
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME						
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME						
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME						
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>		<b>TITLE</b>			<b>DATE/TIME</b>					
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>		<b>DISPOSED BY</b>			<b>DATE/TIME</b>					

LOT# F7H160258

<b>Fluor Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		F07-028-225	PAGE 1 OF 1
<b>COLLECTOR</b> Pflstar, Pope, Webb		<b>COMPANY CONTACT</b> Trent, SJ		<b>TELEPHONE NO.</b> 373-5869	
<b>SAMPLING LOCATION</b> Array - 3A		<b>PROJECT DESIGNATION</b> AQUIFER TUBE SAMPLING ALONG THE 100-N AREA SHORELINE		<b>PROJECT COORDINATOR</b> TRENT, SJ	
<b>ICE CHEST NO.</b> N/A		<b>FIELD LOGBOOK NO.</b> HNF-N-451-1		<b>SAF NO.</b> F07-028	
<b>SHIPPED TO</b> Severn Trent St. Louis		<b>OFFSITE PROPERTY NO.</b> See PTR		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>PRICE CODE</b> 7N		<b>COA</b> 122543E510		<b>DATA TURNAROUND</b> 45 Days / 45 Days	
<b>AIR QUALITY</b> <input type="checkbox"/>		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		<b>BILL OF LADING/AIR BILL NO.</b> N/A	

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<b>PRESERVATION</b> Cool-4C			
	<b>TYPE OF CONTAINER</b>	P			
	<b>NO. OF CONTAINER(S)</b>	1			
	<b>VOLUME</b>	500mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1P3X9	WATER	8-14-07	0920	✓					
	Lot #			024518					

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
Webb/R. Webb	8-14-07 1135	MO 745 FRIDE 1
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
MU-745/REF #1	8-15-07 1130	J.S. HITE/AGW
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
J.S. HITE/AGW	8-15-07 1230	F. R. LILANE
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
F. R. LILANE/TAC	8-15-07 1400	ALBERTSON
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

(1)IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate)

<b>LABORATORY SECTION</b>	RECEIVED BY	TITLE	DATE/TIME
<b>FINAL SAMPLE DISPOSITION</b>	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

8 OF 37

Lot #(s): F7H160259

- 1 -

Client: Hanford COC/RFA No: F07-028-216, 223, 225 Date: 08.16.07  
 Quote No: 74530 Initiated By: [Signature] Time: 0930

Shipping Information

Shipper Name: FedEx Multiple Packages Y (N)  
 Shipping # (s):\* 7996 9423 0323 Sample Temperature (s):\*\*  
 1. 6° 6. \_\_\_\_\_  
 2. \_\_\_\_\_ 7. \_\_\_\_\_  
 3. \_\_\_\_\_ 8. \_\_\_\_\_  
 4. \_\_\_\_\_ 9. \_\_\_\_\_  
 5. \_\_\_\_\_ 10. \_\_\_\_\_

\*Numbered shipping lines correspond to Numbered Sample Temp lines  
 \*\*Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on the cooler?	8. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on bottles?
2. <input type="radio"/> Y <input checked="" type="radio"/> N <input type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. <input type="radio"/> Y <input checked="" type="radio"/> N <input type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> Y <input type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Was sample received with proper pH? (If not, make note below)
4. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received with Chain of Custody?	11. <input type="radio"/> Y <input type="radio"/> N	If N/A- Was pH taken by original TestAmerica lab?
5. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received in proper containers?
6. <input type="radio"/> Y <input checked="" type="radio"/> N	Was sample received broken?	13. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <input checked="" type="radio"/> Y <input type="radio"/> N	Is sample volume sufficient for analysis?	14. <input type="radio"/> Y <input type="radio"/> N	Was Internal COC/Workshare received?

<sup>1</sup> For DOE-AL (Partex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes: FOC bottle is preserved with HCL

Corrective Action:  
 Client Contact Name: \_\_\_\_\_ Informed by: \_\_\_\_\_  
 Sample(s) processed "as is"  
 Sample(s) on hold until: \_\_\_\_\_ If released, notify: \_\_\_\_\_  
 Project Management Review: [Signature] Date: 08.20.07

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

**EXTRACTABLE  
PETROLEUM  
HYDROCARBONS**

Fluor Hanford Inc

Client Sample ID: B1P3K2

GC Semivolatiles

Lot-Sample #...: F7H160258-002 Work Order #...: J411A1CC Matrix.....: WATER  
Date Sampled...: 08/08/07 12:05 Date Received...: 08/16/07  
Prep Date.....: 08/17/07 Analysis Date...: 08/22/07  
Prep Batch #...: 7229186 Analysis Time...: 14:13  
Dilution Factor: 1  
Method.....: SW846 8015 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>MDL</u>
		<u>LIMIT</u>	<u>UNITS</u>	
Kerosene	ND	0.50	mg/L	0.50
TPH - Diesel Range - WTPH-D	ND	0.50	mg/L	0.050
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
	<u>RECOVERY</u>	<u>LIMITS</u>		
o-Terphenyl	56	(16 - 150)		

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F7H160258      Work Order #...: J43P51AA      Matrix.....: WATER  
MB Lot-Sample #: F7H170000-186      Prep Date.....: 08/17/07      Analysis Time...: 13:02  
Analysis Date...: 08/22/07      Prep Batch #...: 7229186  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
Kerosene	ND	0.50	mg/L	SW846 8015 MOD
TPH - Diesel Range - WTPH	ND	0.50	mg/L	SW846 8015 MOD

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
o-Terphenyl	53 *	(73 - 150)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

\* Surrogate recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: F7H160258      Work Order #....: J43P51AC      Matrix.....: WATER  
LCS Lot-Sample#: F7H170000-186  
Prep Date.....: 08/17/07      Analysis Date...: 08/22/07  
Prep Batch #....: 7229186      Analysis Time...: 13:37  
Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>
TPH - Diesel Range - WTPH	39	(35 - 129)	SW846 8015 MOD

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
o-Terphenyl	68 *	(73 - 150)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: F7H160258      Work Order #....: J411A1CD-MS      Matrix.....: WATER  
 MS Lot-Sample #: F7H160258-002      J411A1CE-MSD  
 Date Sampled...: 08/08/07 12:05      Date Received...: 08/16/07  
 Prep Date.....: 08/17/07      Analysis Date...: 08/22/07  
 Prep Batch #....: 7229186      Analysis Time...: 14:48  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
TPH - Diesel Range - <b>WTPH</b>	46	(30 - 170)			<b>SW846 8015 MOD</b>
	45	(30 - 170)	2.5	(0-25)	SW846 8015 MOD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
o-Terphenyl	96	(16 - 150)
	88	(16 - 150)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

TestAmerica St. Louis

# METALS

LOT# F7H160258

W05220

15 of 37

Fluor Hanford Inc

Client Sample ID: B1P3X1

TOTAL Metals

Lot-Sample #....: F7H160258-001

Matrix.....: WATER

Date Sampled....: 08/08/07 10:50 Date Received...: 08/16/07

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #....: 7233293						
Arsenic	ND D	400	ug/L	SW846 6010B	08/21-09/08/07	J410C1AC
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 3.8	
Antimony	ND D	120	ug/L	SW846 6010B	08/21-09/08/07	J410C1AD
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 89.7	
Barium	40.1 B,D	400	ug/L	SW846 6010B	08/21-09/08/07	J410C1AE
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 10.0	
Beryllium	ND D	10.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AF
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 2.1	
Cadmium	ND D	10.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AG
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 7.1	
Calcium	19900 D	10000	ug/L	SW846 6010B	08/21-09/08/07	J410C1AH
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 200	
Chromium	ND D	20.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AJ
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 4.9	
Cobalt	ND D	100	ug/L	SW846 6010B	08/21-09/08/07	J410C1AK
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 4.0	
Iron	245 D	200	ug/L	SW846 6010B	08/21-09/05/07	J410C1AL
		Dilution Factor: 2		Analysis Time...: 14:48	MDL.....: 37.2	
Magnesium	5230 B,D	10000	ug/L	SW846 6010B	08/21-09/08/07	J410C1AM
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 256	
Manganese	21.6 B,C,D	30.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AN
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 2.1	
Nickel	ND D	80.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AP
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 9.1	
Potassium	ND D	10000	ug/L	SW846 6010B	08/21-09/05/07	J410C1AQ
		Dilution Factor: 2		Analysis Time...: 14:48	MDL.....: 3270	

(Continued on next page)

Fluor Hanford Inc

Client Sample ID: B1P3X1

TOTAL Metals

Lot-Sample #: F7H160258-001

Matrix: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Silver	3.6 B,D	20.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AR
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 3.4	
Sodium	2180 B,D	10000	ug/L	SW846 6010B	08/21-09/05/07	J410C1AT
		Dilution Factor: 2		Analysis Time...: 14:48	MDL.....: 157	
Strontium	103 C,D	100	ug/L	SW846 6010B	08/21-09/08/07	J410C1AU
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 1.1	
Vanadium	ND D	100	ug/L	SW846 6010B	08/21-09/08/07	J410C1AV
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 12.1	
Zinc	ND D	40.0	ug/L	SW846 6010B	08/21-09/08/07	J410C1AW
		Dilution Factor: 2		Analysis Time...: 00:49	MDL.....: 19.3	

NOTE(S):

- D Result was obtained from the analysis of a dilution.
- B Estimated result. Result is less than RL.
- C Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Fluor Hanford Inc

Client Sample ID: B1P3X2

TOTAL Metals

Lot-Sample #...: F7H160258-002

Matrix.....: WATER

Date Sampled...: 08/08/07 12:05 Date Received...: 08/16/07

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Prep Batch #...: 7233293							
Arsenic	ND D	400	ug/L	SW846 6010B	08/21-09/08/07	J411A1AD	MDL.....: 3.8
		Dilution Factor: 2		Analysis Time..: 01:06			
Antimony	ND D	120	ug/L	SW846 6010B	08/21-09/08/07	J411A1AE	MDL.....: 89.7
		Dilution Factor: 2		Analysis Time..: 01:06			
Barium	28.3 B,D	400	ug/L	SW846 6010B	08/21-09/08/07	J411A1AF	MDL.....: 10.0
		Dilution Factor: 2		Analysis Time..: 01:06			
Beryllium	ND D	10.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AG	MDL.....: 2.1
		Dilution Factor: 2		Analysis Time..: 01:06			
Cadmium	ND D	10.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AH	MDL.....: 7.1
		Dilution Factor: 2		Analysis Time..: 01:06			
Calcium	32700 D	10000	ug/L	SW846 6010B	08/21-09/08/07	J411A1AJ	MDL.....: 200
		Dilution Factor: 2		Analysis Time..: 01:06			
Chromium	ND D	20.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AK	MDL.....: 4.9
		Dilution Factor: 2		Analysis Time..: 01:06			
Cobalt	ND D	100	ug/L	SW846 6010B	08/21-09/08/07	J411A1AL	MDL.....: 4.0
		Dilution Factor: 2		Analysis Time..: 01:06			
Iron	651 D	200	ug/L	SW846 6010B	08/21-09/05/07	J411A1AM	MDL.....: 37.2
		Dilution Factor: 2		Analysis Time..: 15:03			
Magnesium	5330 B,D	10000	ug/L	SW846 6010B	08/21-09/08/07	J411A1AN	MDL.....: 256
		Dilution Factor: 2		Analysis Time..: 01:06			
Manganese	27.2 B,C,D	30.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AP	MDL.....: 2.1
		Dilution Factor: 2		Analysis Time..: 01:06			
Nickel	ND D	80.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AQ	MDL.....: 9.1
		Dilution Factor: 2		Analysis Time..: 01:06			
Potassium	ND D	10000	ug/L	SW846 6010B	08/21-09/05/07	J411A1AR	MDL.....: 3270
		Dilution Factor: 2		Analysis Time..: 15:03			

(Continued on next page)

Fluor Hanford Inc

Client Sample ID: B1P3X2

TOTAL Metals

Lot-Sample #...: F7H160258-002

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Silver	ND D	20.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AT
		Dilution Factor: 2		Analysis Time...: 01:06	MDL.....: 3.4	
Sodium	2770 B,D	10000	ug/L	SW846 6010B	08/21-09/05/07	J411A1AU
		Dilution Factor: 2		Analysis Time...: 15:03	MDL.....: 157	
Strontium	121 C,D	100	ug/L	SW846 6010B	08/21-09/08/07	J411A1AV
		Dilution Factor: 2		Analysis Time...: 01:06	MDL.....: 1.1	
Vanadium	ND D	100	ug/L	SW846 6010B	08/21-09/08/07	J411A1AW
		Dilution Factor: 2		Analysis Time...: 01:06	MDL.....: 12.1	
Zinc	ND D	40.0	ug/L	SW846 6010B	08/21-09/08/07	J411A1AX
		Dilution Factor: 2		Analysis Time...: 01:06	MDL.....: 19.3	

NOTE(S):

- D Result was obtained from the analysis of a dilution.
- B Estimated result. Result is less than RL.
- C Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7H160258

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #: F7H210000-293 Prep Batch #...: 7233293</b>						
Antimony	ND	60.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AA
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Barium	ND	200	ug/L	SW846 6010B	08/21-09/07/07	J490E1AC
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Beryllium	2.3 B	5.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AD
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Cadmium	ND	5.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AE
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Calcium	ND	5000	ug/L	SW846 6010B	08/21-09/07/07	J490E1AF
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Chromium	ND	10.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AG
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Cobalt	2.6 B	50.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AH
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Iron	ND	100	ug/L	SW846 6010B	08/21-09/05/07	J490E1AK
		Dilution Factor: 1				
		Analysis Time...: 13:32				
Magnesium	ND	5000	ug/L	SW846 6010B	08/21-09/07/07	J490E1AL
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Manganese	2.3 B	15.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AM
		Dilution Factor: 1				
		Analysis Time...: 23:33				
Nickel	ND	40.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AN
		Dilution Factor: 1				
		Analysis Time...: 23:33				

(Continued on next page)

**METHOD BLANK REPORT**

**TOTAL Metals**

Client Lot #...: F7H160258

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Potassium	ND	5000	ug/L	SW846 6010B	08/21-09/05/07	J490E1AP
		Dilution Factor: 1 Analysis Time...: 13:32				
Silver	ND	10.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AQ
		Dilution Factor: 1 Analysis Time...: 23:33				
Sodium	ND	5000	ug/L	SW846 6010B	08/21-09/05/07	J490E1AR
		Dilution Factor: 1 Analysis Time...: 13:32				
Strontium	2.5 B	50.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AT
		Dilution Factor: 1 Analysis Time...: 23:33				
Vanadium	ND	50.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AU
		Dilution Factor: 1 Analysis Time...: 23:33				
Zinc	ND	20.0	ug/L	SW846 6010B	08/21-09/07/07	J490E1AV
		Dilution Factor: 1 Analysis Time...: 23:33				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7H160258

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: F7H210000-293 Prep Batch #...: 7233293					
Antimony	104	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CH
			Dilution Factor: 1	Analysis Time...: 23:39	
Barium	106	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CJ
			Dilution Factor: 1	Analysis Time...: 23:39	
Beryllium	111	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CK
			Dilution Factor: 1	Analysis Time...: 23:39	
Cadmium	106	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CL
			Dilution Factor: 1	Analysis Time...: 23:39	
Calcium	103	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CM
			Dilution Factor: 1	Analysis Time...: 23:39	
Chromium	105	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CN
			Dilution Factor: 1	Analysis Time...: 23:39	
Cobalt	103	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CP
			Dilution Factor: 1	Analysis Time...: 23:39	
Iron	98	(80 - 120)	SW846 6010B	08/21-09/05/07	J490E1CR
			Dilution Factor: 1	Analysis Time...: 13:47	
Magnesium	104	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CT
			Dilution Factor: 1	Analysis Time...: 23:39	
Manganese	106	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CU
			Dilution Factor: 1	Analysis Time...: 23:39	
Nickel	103	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CV
			Dilution Factor: 1	Analysis Time...: 23:39	
Potassium	102	(80 - 120)	SW846 6010B	08/21-09/05/07	J490E1CW
			Dilution Factor: 1	Analysis Time...: 13:47	
Silver	101	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1CX
			Dilution Factor: 1	Analysis Time...: 23:39	
Sodium	101	(80 - 120)	SW846 6010B	08/21-09/05/07	J490E1CO
			Dilution Factor: 1	Analysis Time...: 13:47	

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7H160258

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Strontium	109	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1C1
		Dilution Factor: 1		Analysis Time...: 23:39	
Vanadium	105	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1C2
		Dilution Factor: 1		Analysis Time...: 23:39	
Zinc	116	(80 - 120)	SW846 6010B	08/21-09/07/07	J490E1C3
		Dilution Factor: 1		Analysis Time...: 23:39	

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: F7H160258

Matrix.....: WATER

Date Sampled....: 08/08/07 10:50 Date Received...: 08/16/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F7H160258-001 Prep Batch #....: 7233293							
Arsenic	105 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1A8
	106 D	(75 - 125)	1.5	(0-20)	SW846 6010B	08/21-09/08/07	J410C1A9
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Antimony	100 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CA
	103 D	(75 - 125)	2.4	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CC
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Barium	103 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CD
	104 D	(75 - 125)	1.3	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CE
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Beryllium	107 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CF
	108 D	(75 - 125)	1.2	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CG
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Cadmium	102 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CH
	103 D	(75 - 125)	1.5	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CJ
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Calcium	98 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CK
	100 D	(75 - 125)	0.98	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CL
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Chromium	102 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CM
	103 D	(75 - 125)	1.2	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CN
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Cobalt	98 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CP
	100 D	(75 - 125)	1.5	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CQ
			Dilution Factor: 2				
			Analysis Time...: 00:55				

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7H160258

Matrix.....: WATER

Date Sampled...: 08/08/07 10:50 Date Received...: 08/16/07

PARAMETER	PERCENT	RECOVERY	RPD		METHOD	PREPARATION-	WORK
	RECOVERY	LIMITS	RPD	LIMITS		ANALYSIS DATE	ORDER #
Iron	102 D	(75 - 125)			SW846 6010B	08/21-09/05/07	J410C1CR
	96 D	(75 - 125)	4.1	(0-20)	SW846 6010B	08/21-09/05/07	J410C1CT
			Dilution Factor: 2				
			Analysis Time...: 14:53				
Magnesium	101 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CU
	102 D	(75 - 125)	1.4	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CV
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Manganese	102 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1CW
	103 D	(75 - 125)	1.2	(0-20)	SW846 6010B	08/21-09/08/07	J410C1CX
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Nickel	98 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1C0
	100 D	(75 - 125)	2.1	(0-20)	SW846 6010B	08/21-09/08/07	J410C1C1
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Potassium	94 D	(75 - 125)			SW846 6010B	08/21-09/05/07	J410C1C2
	89 D	(75 - 125)	4.8	(0-20)	SW846 6010B	08/21-09/05/07	J410C1C3
			Dilution Factor: 2				
			Analysis Time...: 14:53				
Silver	78 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1C4
	89 D	(75 - 125)	12	(0-20)	SW846 6010B	08/21-09/08/07	J410C1C5
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Sodium	106 D	(75 - 125)			SW846 6010B	08/21-09/05/07	J410C1C6
	103 D	(75 - 125)	2.7	(0-20)	SW846 6010B	08/21-09/05/07	J410C1C7
			Dilution Factor: 2				
			Analysis Time...: 14:53				
Strontium	104 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1C8
	106 D	(75 - 125)	1.1	(0-20)	SW846 6010B	08/21-09/08/07	J410C1C9
			Dilution Factor: 2				
			Analysis Time...: 00:55				
Vanadium	100 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1DA
	102 D	(75 - 125)	2.1	(0-20)	SW846 6010B	08/21-09/08/07	J410C1DC
			Dilution Factor: 2				
			Analysis Time...: 00:55				

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7H160258

Matrix.....: WATER

Date Sampled...: 08/08/07 10:50 Date Received...: 08/16/07

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Zinc	114 D	(75 - 125)			SW846 6010B	08/21-09/08/07	J410C1DD
	116 D	(75 - 125)	1.7	(0-20)	SW846 6010B	08/21-09/08/07	J410C1DE

Dilution Factor: 2

Analysis Time...: 00:55

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

D Result was obtained from the analysis of a dilution.

TestAmerica St. Louis

# WET CHEMISTRY

LOT# F7H160258

W05220

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Fluor Hanford Inc

Client Sample ID: B1P3X1

General Chemistry

Lot-Sample #...: F7H160258-001 Work Order #...: J410C Matrix.....: WATER  
 Date Sampled...: 08/08/07 10:50 Date Received...: 08/16/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	ND	0.25	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.062	7229121
		Dilution Factor: 1				
Chloride	1.1 N	0.20	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.020	7229061
		Dilution Factor: 1				
Fluoride	0.057 B,N	0.10	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.025	7229062
		Dilution Factor: 1				
Nitrate	0.64	0.020	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.0040	7229120
		Dilution Factor: 1				
Nitrite	ND N	0.020	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.0050	7229064
		Dilution Factor: 1				
Phosphate as P, Ortho	ND N	0.50	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.16	7229065
		Dilution Factor: 1				
Sulfate	9.2 N	0.50	mg/L	MCAWW 300.0A Analysis Time...: 11:14	08/16/07 MDL.....: 0.050	7229063
		Dilution Factor: 1				
Total Alkalinity	61.0	5.0	mg/L	MCAWW 310.1 Analysis Time...: 00:00	08/22/07 MDL.....: 0.85	7234048
		Dilution Factor: 1				

NOTE(S):

- RL Reporting Limit
- N Spiked analyte recovery is outside stated control limits.
- B Estimated result. Result is less than RL.

Fluor Hanford Inc

Client Sample ID: H1P3X2

General Chemistry

Lot-Sample #....: F7H160258-002    Work Order #....: J411A    Matrix.....: WATER  
 Date Sampled....: 08/08/07 12:05    Date Received...: 08/16/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	0.20 B	0.25	mg/L	MCAWW 300.0A Dilution Factor: 1 Analysis Time...: 10:39	08/16/07 MDL.....: 0.062	7229121
Chloride	5.1 DN	2.0	mg/L	MCAWW 300.0A Dilution Factor: 10 Analysis Time...: 04:27	08/16/07 MDL.....: 0.20	7229061
Fluoride	0.073 B,N	0.10	mg/L	MCAWW 300.0A Dilution Factor: 1 Analysis Time...: 10:39	08/16/07 MDL.....: 0.025	7229062
Nitrate	0.19	0.020	mg/L	MCAWW 300.0A Dilution Factor: 1 Analysis Time...: 10:39	08/16/07 MDL.....: 0.0040	7229120
Nitrite	ND N	0.020	mg/L	MCAWW 300.0A Dilution Factor: 1 Analysis Time...: 10:39	08/16/07 MDL.....: 0.0050	7229064
Phosphate as P, Ortho	0.52 C,N	0.50	mg/L	MCAWW 300.0A Dilution Factor: 1 Analysis Time...: 10:39	08/16/07 MDL.....: 0.16	7229065
Sulfate	10.2 N	0.50	mg/L	MCAWW 300.0A Dilution Factor: 1 Analysis Time...: 10:39	08/16/07 MDL.....: 0.050	7229063
Total Alkalinity	87.0	5.0	mg/L	MCAWW 310.1 Dilution Factor: 1 Analysis Time...: 00:00	08/22/07 MDL.....: 0.85	7234048
Total Organic Carbon	ND	1.0	mg/L	MCAWW 415.1 Dilution Factor: 1 Analysis Time...: 00:00	08/27/07 MDL.....: 0.76	7239444

**NOTE(S):**

- RL Reporting Limit
- B Estimated result. Result is less than RL.
- DN Result obtained from dilution; spike sample recovery outside control limits.
- N Spiked analyte recovery is outside stated control limits.
- C Analyte detected in method blank above the MDL/IDL.

Fluor Hanford Inc  
 Client Sample ID: B1P3X9  
 General Chemistry

Lot-Sample #....: F7H160258-003    Work Order #....: J411T    Matrix.....: WATER  
 Date Sampled...: 08/14/07 09:20    Date Received...: 08/16/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	0.23 B	0.25	mg/L	MCAWW 300.0A Analysis Time...: 10:56	08/16/07 MDL.....: 0.062	7229121
	Dilution Factor: 1					
Chloride	5.8 DN	2.0	mg/L	MCAWW 300.0A Analysis Time...: 04:45	08/16/07 MDL.....: 0.20	7229061
	Dilution Factor: 10					
Fluoride	0.054 B,N	0.10	mg/L	MCAWW 300.0A Analysis Time...: 10:56	08/16/07 MDL.....: 0.025	7229062
	Dilution Factor: 1					
Nitrate	0.19	0.020	mg/L	MCAWW 300.0A Analysis Time...: 10:56	08/16/07 MDL.....: 0.0040	7229120
	Dilution Factor: 1					
Nitrite	ND N	0.020	mg/L	MCAWW 300.0A Analysis Time...: 10:56	08/16/07 MDL.....: 0.0050	7229064
	Dilution Factor: 1					
Phosphate as P, Ortho	0.46 B,C,N	0.50	mg/L	MCAWW 300.0A Analysis Time...: 10:56	08/16/07 MDL.....: 0.16	7229065
	Dilution Factor: 1					
Sulfate	10.6 N	0.50	mg/L	MCAWW 300.0A Analysis Time...: 10:56	08/16/07 MDL.....: 0.050	7229063
	Dilution Factor: 1					

**NOTE(S):**

- RL Reporting Limit
- B Estimated result. Result is less than RL.
- DN Result obtained from dilution; spike sample recovery outside control limits.
- N Spiked analyte recovery is outside stated control limits.
- C Analyte detected in method blank above the MDL/IDL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F7H160258

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	PREP
		LIMIT	UNITS		ANALYSIS DATE	BATCH #
Bromide	ND	Work Order #: J498F1AA 0.25	mg/L	MB Lot-Sample #: F7H170000-121 MCAWW 300.0A	F7H170000-121 08/16/07	7229121
		Dilution Factor: 1 Analysis Time...: 08:46				
Chloride	ND	Work Order #: J49511AA 0.20	mg/L	MB Lot-Sample #: F7H170000-061 MCAWW 300.0A	F7H170000-061 08/16/07	7229061
		Dilution Factor: 1 Analysis Time...: 08:46				
Fluoride	ND	Work Order #: J496A1AA 0.10	mg/L	MB Lot-Sample #: F7H170000-062 MCAWW 300.0A	F7H170000-062 08/16/07	7229062
		Dilution Factor: 1 Analysis Time...: 08:46				
Nitrate	ND	Work Order #: J498D1AA 0.020	mg/L	MB Lot-Sample #: F7H170000-120 MCAWW 300.0A	F7H170000-120 08/16/07	7229120
		Dilution Factor: 1 Analysis Time...: 08:46				
Nitrite	ND	Work Order #: J496E1AA 0.020	mg/L	MB Lot-Sample #: F7H170000-064 MCAWW 300.0A	F7H170000-064 08/16/07	7229064
		Dilution Factor: 1 Analysis Time...: 08:46				
Phosphate as P, Ortho	0.24 B	Work Order #: J496P1AA 0.50	mg/L	MB Lot-Sample #: F7H170000-065 MCAWW 300.0A	F7H170000-065 08/16/07	7229065
		Dilution Factor: 1 Analysis Time...: 08:46				
Sulfate	ND	Work Order #: J496D1AA 0.50	mg/L	MB Lot-Sample #: F7H170000-063 MCAWW 300.0A	F7H170000-063 08/16/07	7229063
		Dilution Factor: 1 Analysis Time...: 08:46				
Total Alkalinity	ND	Work Order #: J5C991AA 5.0	mg/L	MB Lot-Sample #: F7H220000-048 MCAWW 310.1	F7H220000-048 08/22/07	7234048
		Dilution Factor: 1 Analysis Time...: 00:00				
Total Organic Carbon	ND	Work Order #: J5QJH1AA 1.0	mg/L	MB Lot-Sample #: F7H270000-444 MCAWW 415.1	F7H270000-444 08/27/07	7239444
		Dilution Factor: 1 Analysis Time...: 00:00				

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TestAmerica St. Louis

**METHOD BLANK REPORT**

**General Chemistry**

**Client Lot #...: F7H160258**

**Matrix.....: WATER**

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F7H160258

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Alkalinity		WO#:J5C991AC-LCS/J5C991AD-LCSD LCS Lot-Sample#: F7H220000-048					
	100	(90 - 110)			MCAWW 310.1	08/22/07	7234048
	100	(90 - 110)	1.0	(0-15)	MCAWW 310.1	08/22/07	7234048
		Dilution Factor: 1		Analysis Time...: 00:00			
Total Organic Carbon		WO#:J5QJH1AC-LCS/J5QJH1AD-LCSD LCS Lot-Sample#: F7H270000-444					
	100	(87 - 113)			MCAWW 415.1	08/27/07	7239444
	100	(87 - 113)	0.46	(0-20)	MCAWW 415.1	08/27/07	7239444
		Dilution Factor: 1		Analysis Time...: 00:00			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F7H160258

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	99	Work Order #: J498F1AC (90 - 110)	LCS Lot-Sample#: F7H170000-121 MCAWW 300.0A	08/16/07	7229121
		Dilution Factor: 1	Analysis Time...: 08:28		
Chloride	95	Work Order #: J49511AC (90 - 110)	LCS Lot-Sample#: F7H170000-061 MCAWW 300.0A	08/16/07	7229061
		Dilution Factor: 1	Analysis Time...: 08:28		
Fluoride	99	Work Order #: J496A1AC (90 - 110)	LCS Lot-Sample#: F7H170000-062 MCAWW 300.0A	08/16/07	7229062
		Dilution Factor: 1	Analysis Time...: 08:28		
Nitrate	98	Work Order #: J498D1AC (90 - 110)	LCS Lot-Sample#: F7H170000-120 MCAWW 300.0A	08/16/07	7229120
		Dilution Factor: 1	Analysis Time...: 08:28		
Nitrite	92	Work Order #: J496E1AC (90 - 110)	LCS Lot-Sample#: F7H170000-064 MCAWW 300.0A	08/16/07	7229064
		Dilution Factor: 1	Analysis Time...: 08:28		
Phosphate as P, Ortho	96	Work Order #: J496P1AC (90 - 110)	LCS Lot-Sample#: F7H170000-065 MCAWW 300.0A	08/16/07	7229065
		Dilution Factor: 1	Analysis Time...: 08:28		
Sulfate	94	Work Order #: J496D1AC (90 - 110)	LCS Lot-Sample#: F7H170000-063 MCAWW 300.0A	08/16/07	7229063
		Dilution Factor: 1	Analysis Time...: 08:28		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: F7H160258

Matrix.....: WATER

Date Sampled...: 08/08/07 10:50 Date Received...: 08/16/07

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	99	Work Order #...: J410C1DU (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229121
		Dilution Factor: 1		Analysis Time...: 11:14	
Chloride	114 N	Work Order #...: J410C1DF (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229061
		Dilution Factor: 1		Analysis Time...: 11:14	
Fluoride	121 N	Work Order #...: J410C1DH (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229062
		Dilution Factor: 1		Analysis Time...: 11:14	
Nitrate	106	Work Order #...: J410C1DR (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229120
		Dilution Factor: 1		Analysis Time...: 11:14	
Nitrite	78 N	Work Order #...: J410C1DM (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229064
		Dilution Factor: 1		Analysis Time...: 11:14	
Phosphate as P, Ortho	111 N	Work Order #...: J410C1DP (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229065
		Dilution Factor: 1		Analysis Time...: 11:14	
Sulfate	112 N	Work Order #...: J410C1DK (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F7H160258-001 08/16/07	7229063
		Dilution Factor: 1		Analysis Time...: 11:14	
Total Alkalinity	97	Work Order #...: J410C1DW (80 - 120)	MCAWW 310.1	MS Lot-Sample #: F7H160258-001 08/22/07	7234048
		Dilution Factor: 1		Analysis Time...: 00:00	
Total Organic Carbon	119	Work Order #...: J411A1CG (78 - 135)	MCAWW 415.1	MS Lot-Sample #: F7H160258-002 08/27/07	7239444
		Dilution Factor: 1		Analysis Time...: 00:00	

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.



