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SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99352

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

June 7, 2006

Leasa Hetzer
2430 Stevens Drive
Richland, WA 99354

Reference: Contract 615

Dear Ms. Hetzer:

Accompanying this letter are the Data Package(s) and Invoice(s) for the radiochemical analyses for the following Fluor Sample Delivery Groups:

SDG NUMBER	SAF NUMBER
W04930	F06-024

If you have any questions regarding this data package or require any additional information please contact Sherryl Adam at 375-3131.

Receipt of this letter and the packages are acknowledged by:

Leasa E Hetzer 6/19/2006
Name Date

RECEIVED MAR 28 2008 EDMC

XC: File

Attempted Delivery on: 6/12/06 at 1:05 SKS 6/12/06
6/14/06 at 2:20 SKS 6/14/06

JUL 2006 RECEIVED

Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 44 ***Pages***

Report No.: 32308

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W04930	F06-024	B1JFN9	J6E180374-1	H5PV01AD	9H5PV010	6142140
		B1JFN9	J6E180374-1	H5PV01AC	9H5PV010	6142141
		B1JFN9	J6E180374-1	H5PV01AA	9H5PV010	6142142

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SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99352

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

Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

June 7, 2006

Attention: John Trechter

SAF Number	:	F06-024
Date SDG Closed	:	May 18, 2006
Number of Samples	:	One (1)
Sample Type	:	Solid
SDG Number	:	W04930
Data Deliverable	:	7 Day Summary

AMENDED CASE NARRATIVE

I. Introduction

On May 18, 2006, one solid sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned to lot J6E180374 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1JFN9	H5PVO	SOLID	5/18/06

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The requested analyses were: **Alpha Spectroscopy**
Thorium 228,230,232 by method RICH-RC-5003
Uranium 234, 235 and 238 by method RICH-RC-5039
Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Thorium 228,230,232 by method RICH-RC-5003

Since it was known from a gamma screen that there was Th-234 in the sample, the Thiso samples were traced with Th-229 instead of the usual Th-234. Except as noted, the LCS, blank, sample and sample duplicate **(B1JFN9)** results are all within acceptance limits. **The sample was a filter with dirt. The technician leached the sample and brought it up to a certain weight. He then called this leachate the sample weight and the sample was calculated as pCi/g. The sample has been recalculated as pCi/Sa.**

Uranium 234, 235 and 238 by method RICH-RC-5039

The LCS, blank, sample and sample duplicate **(B1JFN9)** results are all within acceptance limits. **The sample was a filter with dirt. The technician leached the sample and brought it up to a certain weight. He then called this leachate the sample weight and the sample was calculated as pCi/g. The sample has been recalculated as pCi/Sa.**

Gamma Spectroscopy

Gamma Spec by method RICH-RC-5017

The LCS, blank, sample and sample duplicate **(B1JFN9)** results are all within acceptance limits. **The sample was a filter with dirt. The technician leached the sample and brought it up to a certain weight. He then called this leachate the sample weight and the sample was calculated as pCi/g. The sample has been recalculated as pCi/Sa.**

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

Reviewed and approved:

Sandra Seger

for Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

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

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

Report Definitions

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

Sample Results Summary

STL Richland STLRL

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

Date: 07-Jun-06

Report No. : 32308

SDG No: W04930

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6142141 THPRECIP									
B1JFN9									
	H5PV01AC	TH-228	-3.50E-01 +- 7.03E-01	U	pCi/sample	86%	3.18E+01	1.00E+00	
		TH-230	9.40E+01 +- 6.00E+01		pCi/sample	86%	3.47E+01	1.00E+00	
		TH-232	-3.44E-01 +- 6.92E-01	U	pCi/sample	86%	3.13E+01	1.00E+00	
B1JFN9 DUP									
	H5PV01AF	TH-228	5.34E+00 +- 1.28E+01	U	pCi/sample	100%	2.91E+01	1.00E+00	228.0
		TH-230	4.94E+01 +- 3.66E+01		pCi/sample	100%	2.71E+01	1.00E+00	82.2
		TH-232	0.00E+00 +- 1.54E+01	U	pCi/sample	100%	1.70E+01	1.00E+00	-200.0
6142142 UPLATE									
B1JFN9									
	H5PV01AA	U-234	4.88E+03 +- 9.41E+02		pCi/sample	80%	4.08E+01	1.00E+00	
		U-235	2.24E+02 +- 8.77E+01		pCi/sample	80%	2.84E+01	1.00E+00	
		U-238	4.77E+03 +- 9.22E+02		pCi/sample	80%	3.26E+01	1.00E+00	
B1JFN9 DUP									
	H5PV01AG	U-234	4.88E+03 +- 9.48E+02		pCi/sample	77%	2.78E+01	1.00E+00	0.1
		U-235	3.25E-02 +- 1.10E+02		pCi/sample	77%	1.80E+01	1.00E+00	37.1
		U-238	5.12E+03 +- 9.92E+02		pCi/sample	77%	3.18E+01	1.00E+00	7.0
6142140 GAMMAHI									
B1JFN9									
	H5PV01AD	BE-7	-1.20E+01 +- 2.52E+01	U	pCi/sample		4.27E+01		
		CO-60	1.40E+00 +- 3.45E+00	U	pCi/sample		6.48E+00	5.00E-02	
		CS-134	1.52E+00 +- 3.79E+00	U	pCi/sample		6.76E+00		
		CS-137	3.00E-01 +- 3.35E+00	U	pCi/sample		5.84E+00	1.00E-01	
		EU-152	4.08E+00 +- 8.28E+00	U	pCi/sample		1.44E+01	1.00E-01	
		EU-154	-6.90E+00 +- 1.05E+01	U	pCi/sample		1.72E+01	1.00E-01	
		EU-155	4.52E+00 +- 9.83E+00	U	pCi/sample		1.69E+01	1.00E-01	
		K-40	-8.03E+01 +- 8.42E+01	U	pCi/sample		1.58E+02		
		RU-106	1.36E+00 +- 2.75E+01	U	pCi/sample		4.81E+01		
		SB-125	-3.25E+00 +- 7.74E+00	U	pCi/sample		1.30E+01		
B1JFN9 DUP									
	H5PV01AE	BE-7	-3.97E+00 +- 1.88E+01	U	pCi/sample		3.27E+01		
		CO-60	3.37E-01 +- 2.17E+00	U	pCi/sample		4.16E+00	5.00E-02	
		CS-134	-7.65E-01 +- 2.72E+00	U	pCi/sample		4.63E+00		
		CS-137	1.32E+00 +- 2.63E+00	U	pCi/sample		4.77E+00	1.00E-01	
		EU-152	-2.48E+00 +- 6.71E+00	U	pCi/sample		1.13E+01	1.00E-01	
		EU-154	5.01E+00 +- 6.61E+00	U	pCi/sample		1.33E+01	1.00E-01	
		EU-155	5.28E+00 +- 8.97E+00	U	pCi/sample		1.53E+01	1.00E-01	
		K-40	-4.22E+01 +- 3.21E+01	U	pCi/sample		5.68E+01		

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RPD - Relative Percent Difference.

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

Sample Results Summary

STL Richland STLRL

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

Date: 07-Jun-06

Report No. : 32308

SDG No: W04930

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6142140	GAMMAHI								
	B1JFN9 DUP								
	H5PV01AE	RU-106	-1.02E+01 +- 2.25E+01	U	pCi/sample		3.80E+01		
		SB-125	-7.62E-01 +- 6.59E+00	U	pCi/sample		1.12E+01		

No. of Results: 32

STL Richland

rptSTLRchSaSummary2 V4.15.0 A97

RPD - Relative Percent Difference.

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

QC Results Summary

STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

Date: 07-Jun-06

Report No. : 32308

SDG No.: W04930

Batch Work Order	Parameter	Result +- Uncertainty (2a)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
THPRECIP								
6142141 BLANK QC								
H5WT11AA	TH-228	-6.33E-03 +- 9.06E-03	U	pCi/sample	72%			1.52E-01
	TH-230	2.49E-01 +- 1.85E-01		pCi/sample	72%			8.44E-02
	TH-232	0.00E+00 +- 7.63E-02	U	pCi/sample	72%			8.44E-02
6142141 LCS								
H5WT11AC	TH-230	1.95E+00 +- 5.99E-01		pCi/sample	94%	106%	0.1	6.68E-02
UPLATE								
6142142 BLANK QC								
H5WT21AA	U-234	-3.91E-03 +- 4.57E-03	U	pCi/sample	92%			6.85E-02
	U-235	-7.82E-03 +- 6.53E-03	U	pCi/sample	92%			8.22E-02
	U-238	2.47E-02 +- 4.61E-02	U	pCi/sample	92%			9.88E-02
6142142 LCS								
H5WT21AC	U-234	1.86E+00 +- 4.58E-01		pCi/sample	86%	108%	0.1	7.27E-02
	U-238	2.04E+00 +- 4.91E-01		pCi/sample	86%	112%	0.1	8.73E-02
GAMMAHI								
6142140 BLANK QC								
H5WT01AA	BE-7	1.59E+01 +- 2.20E+01	U	pCi/sample				4.02E+01
	CO-60	3.03E+00 +- 3.21E+00	U	pCi/sample				6.35E+00
	CS-134	-5.77E-01 +- 3.29E+00	U	pCi/sample				5.68E+00
	CS-137	-9.64E-01 +- 3.11E+00	U	pCi/sample				5.28E+00
	EU-152	7.49E-01 +- 7.64E+00	U	pCi/sample				1.31E+01
	EU-154	-7.86E-01 +- 9.29E+00	U	pCi/sample				1.64E+01
	EU-155	-4.77E+00 +- 6.17E+00	U	pCi/sample				1.02E+01
	K-40	-7.00E+01 +- 8.27E+01	U	pCi/sample				1.57E+02
	RU-106	3.42E+00 +- 2.39E+01	U	pCi/sample				4.25E+01
	SB-125	-4.86E+00 +- 7.55E+00	U	pCi/sample				1.24E+01
6142140 LCS								
H5WT01AC	CO-60	8.50E+01 +- 1.64E+01		pCi/sample		102%	0.0	5.00E+00
	CS-137	5.77E+01 +- 1.14E+01		pCi/sample		108%	0.1	5.87E+00
	EU-152	1.84E+02 +- 3.28E+01		pCi/sample		109%	0.1	1.38E+01

No. of Results: 22

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rptSTLRchQcSummary V4.15.0 A97

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

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

STL RICHLAND AMENDED REPORT

FORM I

SAMPLE RESULTS

Date: 07-Jun-06

Lab Name:	STL Richland	SDG:	W04930	Collection Date:	5/15/2006 1:35:00 PM
Lot-Sample No.:	J6E180374-1	Report No. :	32308	Received Date:	5/18/2006 3:00:00 PM
Client Sample ID:	B1JFN9	COC No. :	20060483	Matrix:	SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6142140	GAMMAHI			Work Order: H5PV01AD		Report DB ID: 9H5PV010						
BE-7	-1.20E+01	U	2.5E+01	2.5E+01	4.27E+01	pCi/sample		-0.28	5/23/06 03:44 p		1.0	GER6$1
								-0.95			SA	
CO-60	1.40E+00	U	3.5E+00	3.5E+00	6.48E+00	pCi/sample		0.22	5/23/06 03:44 p		1.0	GER6$1
							5.00E-02	0.81			SA	
CS-134	1.52E+00	U	3.8E+00	3.8E+00	6.76E+00	pCi/sample		0.23	5/23/06 03:44 p		1.0	GER6$1
								0.8			SA	
CS-137	3.00E-01	U	3.4E+00	3.4E+00	5.84E+00	pCi/sample		0.05	5/23/06 03:44 p		1.0	GER6$1
							1.00E-01	0.18			SA	
EU-152	4.08E+00	U	8.3E+00	8.3E+00	1.44E+01	pCi/sample		0.28	5/23/06 03:44 p		1.0	GER6$1
							1.00E-01	0.98			SA	
EU-154	-6.90E+00	U	1.0E+01	1.0E+01	1.72E+01	pCi/sample		-0.4	5/23/06 03:44 p		1.0	GER6$1
							1.00E-01	-(1.3)			SA	
EU-155	4.52E+00	U	9.8E+00	9.8E+00	1.69E+01	pCi/sample		0.27	5/23/06 03:44 p		1.0	GER6$1
							1.00E-01	0.92			SA	
K-40	-6.03E+01	U	8.4E+01	8.4E+01	1.58E+02	pCi/sample		-0.51	5/23/06 03:44 p		1.0	GER6$1
								-(1.9)			SA	
RU-106	1.36E+00	U	2.7E+01	2.7E+01	4.81E+01	pCi/sample		0.03	5/23/06 03:44 p		1.0	GER6$1
								0.1			SA	
SB-125	-3.25E+00	U	7.7E+00	7.7E+00	1.30E+01	pCi/sample		-0.25	5/23/06 03:44 p		1.0	GER6$1
								-0.84			SA	
Batch: 6142141	THPRECIP			Work Order: H5PV01AC		Report DB ID: 9H5PV010						

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rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

STL RICHLAND AMENDED REPORT

FORM I

SAMPLE RESULTS

Date: 07-Jun-06

Lab Name:	STL Richland	SDG:	W04930	Collection Date:	5/15/2006 1:35:00 PM
Lot-Sample No.:	J6E180374-1	Report No. :	32308	Received Date:	5/18/2006 3:00:00 PM
Client Sample ID:	B1JFN9	COC No. :	20060483	Matrix:	SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
TH-228	***-3.50E-01***	U	7.0E-01	7.0E-01	3.18E+01	pCi/sample	86%	*-0.01*	5/24/06 04:00 p	503.7	1.16	ALP117
						4.07E+00	1.00E+00	*-1.*		G	G	
TH-230	***9.40E+01***		5.7E+01	6.0E+01	3.47E+01	pCi/sample	86%	*(2.7)*	5/24/06 04:00 p	503.7	1.16	ALP117
						5.67E+00	1.00E+00	*(3.1)*		G	G	
TH-232	***-3.44E-01***	U	6.9E-01	6.9E-01	3.13E+01	pCi/sample	86%	*-0.01*	5/24/06 04:00 p	503.7	1.16	ALP117
						4.01E+00	1.00E+00	*-1.*		G	G	
Batch: 6142142	UPLATE			**Work Order:**	H5PV01AA		**Report DB ID:**	9H5PV010				
U-234	***4.88E+03***		3.6E+02	9.4E+02	4.08E+01	pCi/sample	80%	*(119.6)*	5/24/06 02:18 p	503.7	1.14	ALP1
						1.12E+01	1.00E+00	*(10.4)*		G	G	
U-235	***2.24E+02***		7.8E+01	8.8E+01	2.84E+01	pCi/sample	80%	*(7.9)*	5/24/06 02:18 p	503.7	1.14	ALP1
						5.01E+00	1.00E+00	*(5.1)*		G	G	
U-238	***4.77E+03***		3.6E+02	9.2E+02	3.26E+01	pCi/sample	80%	*(146.5)*	5/24/06 02:18 p	503.7	1.14	ALP1
						7.08E+00	1.00E+00	*(10.4)*		G	G	

Ratio U-234/238 = 1.0

No. of Results: 16 **Comments:**

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 07-Jun-06

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	W04930	Collection Date:	5/15/2006 1:35:00 PM
Lot-Sample No.:	J6E180374-1	Report No. :	32308	Received Date:	5/18/2006 3:00:00 PM
Client Sample ID:	B1JFN9 DUP	COC No. :	20060483	Matrix:	SOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6142140	GAMMAHI			Work Order: H5PV01AE		Report DB ID: H5PV01ER			Orig Sa DB ID: 9H5PV010			
BE-7	-3.97E+00	U	1.9E+01	1.9E+01	3.27E+01	pCi/sample		-0.12	5/23/06 09:13 p		1.0	GER8$1
	-1.20E+01	U	RPD	-100.5				-0.42			SA	
CO-60	3.37E-01	U	2.2E+00	2.2E+00	4.16E+00	pCi/sample		0.08	5/23/06 09:13 p		1.0	GER8$1
	1.40E+00	U	RPD	122.6		5.00E-02		0.31			SA	
CS-134	-7.65E-01	U	2.7E+00	2.7E+00	4.63E+00	pCi/sample		-0.17	5/23/06 09:13 p		1.0	GER8$1
	1.52E+00	U	RPD	603.4				-0.56			SA	
CS-137	1.32E+00	U	2.6E+00	2.6E+00	4.77E+00	pCi/sample		0.28	5/23/06 09:13 p		1.0	GER8$1
	3.00E-01	U	RPD	126.0		1.00E-01		(1.)			SA	
EU-152	-2.48E+00	U	6.7E+00	6.7E+00	1.13E+01	pCi/sample		-0.22	5/23/06 09:13 p		1.0	GER8$1
	4.08E+00	U	RPD	621.7		1.00E-01		-0.74			SA	
EU-154	5.01E+00	U	6.6E+00	6.6E+00	1.33E+01	pCi/sample		0.38	5/23/06 09:13 p		1.0	GER8$1
	-6.90E+00	U	RPD	-1257.9		1.00E-01		(1.5)			SA	
EU-155	5.28E+00	U	9.0E+00	9.0E+00	1.53E+01	pCi/sample		0.35	5/23/06 09:13 p		1.0	GER8$1
	4.52E+00	U	RPD	15.6		1.00E-01		(1.2)			SA	
K-40	-4.22E+01	U	3.2E+01	3.2E+01	5.68E+01	pCi/sample		-0.74	5/23/06 09:13 p		1.0	GER8$1
	-8.03E+01	U	RPD	-62.3				-(2.6)			SA	
RU-106	-1.02E+01	U	2.2E+01	2.2E+01	3.80E+01	pCi/sample		-0.27	5/23/06 09:13 p		1.0	GER8$1
	1.36E+00	U	RPD	-261.4				-0.91			SA	
SB-125	-7.62E-01	U	6.6E+00	6.6E+00	1.12E+01	pCi/sample		-0.07	5/23/06 09:13 p		1.0	GER8$1
	-3.25E+00	U	RPD	-124.1				-0.23			SA	

Batch: 6142141 THPRECIP Work Order: H5PV01AF Report DB ID: H5PV01FR Orig Sa DB ID: 9H5PV010

STL Richland
rptSTLRchDupV4.1
5.0 A97

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

STL RICHLAND AMENDED REPORT

FORM II

Date: 07-Jun-06

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	W04930	Collection Date:	5/15/2006 1:35:00 PM
Lot-Sample No.:	J6E180374-1	Report No. :	32308	Received Date:	5/18/2006 3:00:00 PM
Client Sample ID:	B1JFN9 DUP	COC No. :	20060483	Matrix:	SOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
TH-228	5.34E+00	U	1.3E+01	1.3E+01	2.91E+01	pCi/sample	100%	0.18	5/24/06 04:00 p	503.7	1.12	ALP118
	-3.50E-01	U	RPD	228.0		1.00E+00		0.83		G	G	
TH-230	4.94E+01		3.5E+01	3.7E+01	2.71E+01	pCi/sample	100%	(1.8)	5/24/06 04:00 p	503.7	1.12	ALP118
	9.40E+01		RPD	62.2		1.00E+00		(2.7)		G	G	
TH-232	0.00E+00	U	0.0E+00	1.5E+01	1.70E+01	pCi/sample	100%	0.	5/24/06 04:00 p	503.7	1.12	ALP118
	-3.44E-01	U	RPD	-200.0		1.00E+00		0.		G	G	

Alpha Spec Result Sum = 5.5E+01

Batch: 6142142 UPLATE Work Order: H5PV01AG Report DB ID: H5PV01GR Orig Sa DB ID: 9H5PV010

U-234	4.88E+03	3.6E+02	9.5E+02	2.78E+01	pCi/sample	77%	(175.5)	5/24/06 02:19 p	503.7	1.22	ALP2
	4.88E+03	RPD	0.1		1.00E+00		(10.3)		G	G	
U-235	3.25E+02	9.3E+01	1.1E+02	1.80E+01	pCi/sample	77%	(18.1)	5/24/06 02:19 p	503.7	1.22	ALP2
	2.24E+02	RPD	37.1		1.00E+00		(5.9)		G	G	
U-238	5.12E+03	3.7E+02	9.9E+02	3.18E+01	pCi/sample	77%	(160.9)	5/24/06 02:19 p	503.7	1.22	ALP2
	4.77E+03	RPD	7.0		1.00E+00		(10.3)		G	G	

Ratio U-234/238 = 1.0 *Alpha Spec Result Sum = 1.0E+04*

No. of Results: 16 Comments:

STL Richland RPD - Relative Percent Difference.
rptSTLRchDupV4.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
5.0 A97 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 07-Jun-06

Lab Name: STL Richland
Matrix: SOLID

SDG: W04930
Report No. : 32308

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6142142	UPLATE			**Work Order:**	H5WT21AA	**Report DB ID:**	H5WT21AB					
U-234	-3.91E-03	U	4.5E-03	4.6E-03	6.85E-02	pCi/sample	92%	-0.06	5/24/06 02:19 p	1.0	1.0	ALP3
					1.66E-02	1.00E+00		-(1.7)		G	G	
U-235	-7.82E-03	U	6.4E-03	6.5E-03	8.22E-02	pCi/sample	92%	-0.1	5/24/06 02:19 p	1.0	1.0	ALP3
					2.35E-02	1.00E+00		-(2.4)		G	G	
U-238	2.47E-02	U	4.6E-02	4.6E-02	9.88E-02	pCi/sample	92%	0.25	5/24/06 02:19 p	1.0	1.0	ALP3
					3.18E-02	1.00E+00		(1.1)		G	G	
							Ratio U-234/238 = -0.2					
Batch: 6142141	THPRECIP			**Work Order:**	H5WT11AA	**Report DB ID:**	H5WT11AB					
TH-228	-6.33E-03	U	8.9E-03	9.1E-03	1.52E-01	pCi/sample	72%	-0.04	5/24/06 04:01 p	1.0	1.0	ALP119
					3.29E-02	1.00E+00		-(1.4)		G	G	
TH-230	2.49E-01		1.8E-01	1.8E-01	8.44E-02	pCi/sample	72%	(3.)	5/24/06 04:01 p	1.0	1.0	ALP119
						1.00E+00		(2.7)		G	G	
TH-232	0.00E+00	U	0.0E+00	7.6E-02	8.44E-02	pCi/sample	72%	0.	5/24/06 04:01 p	1.0	1.0	ALP119
						1.00E+00		0.		G	G	
Batch: 6142140	GAMMAHI			**Work Order:**	H5WT01AA	**Report DB ID:**	H5WT01AB					
BE-7	1.59E+01	U	2.2E+01	2.2E+01	4.02E+01	pCi/sample		0.4	5/23/06 09:13 p		1.0	GER6$1
								(1.4)			SA	
CO-60	3.03E+00	U	3.2E+00	3.2E+00	6.35E+00	pCi/sample		0.48	5/23/06 09:13 p		1.0	GER6$1
						6.00E-02		(1.9)			SA	
CS-134	-5.77E-01	U	3.3E+00	3.3E+00	5.68E+00	pCi/sample		-0.1	5/23/06 09:13 p		1.0	GER6$1
								-0.35			SA	
CS-137	-9.64E-01	U	3.1E+00	3.1E+00	5.28E+00	pCi/sample		-0.18	5/23/06 09:13 p		1.0	GER6$1
						1.00E-01		-0.62			SA	

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

STL RICHLAND AMENDED REPORT

FORM II

BLANK RESULTS

Date: 07-Jun-06

Lab Name: STL Richland

Matrix: SOLID

SDG: W04930

Report No. : 32308

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
EU-152	7.49E-01	U	7.8E+00	7.6E+00	1.31E+01	pCi/sample		0.06	5/23/06 09:13 p		1.0	GER6$1
						1.00E-01		0.2			SA	
EU-154	-7.88E-01	U	9.3E+00	9.3E+00	1.64E+01	pCi/sample		-0.05	5/23/06 09:13 p		1.0	GER6$1
						1.00E-01		-0.17			SA	
EU-155	-4.77E+00	U	6.2E+00	6.2E+00	1.02E+01	pCi/sample		-0.47	5/23/06 09:13 p		1.0	GER6$1
						1.00E-01		-(1.5)			SA	
K-40	-7.00E+01	U	8.3E+01	8.3E+01	1.57E+02	pCi/sample		-0.45	5/23/06 09:13 p		1.0	GER6$1
								-(1.7)			SA	
RU-106	3.42E+00	U	2.4E+01	2.4E+01	4.25E+01	pCi/sample		0.08	5/23/06 09:13 p		1.0	GER6$1
								0.29			SA	
SB-125	-4.86E+00	U	7.5E+00	7.5E+00	1.24E+01	pCi/sample		-0.39	5/23/06 09:13 p		1.0	GER6$1
								-(1.3)			SA	

No. of Results: 16 Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

STL RICHLAND AMENDED REPORT

FORM II

LCS RESULTS

Date: 07-Jun-06

Lab Name: STL Richland

Matrix: SOLID

SDG: W04930

Report No. : 32308

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6142142	UPLATE			**Work Order:** H5WT21AC			**Report DB ID:** H5WT21CS						
U-234	1.86E+00		3.2E-01	4.6E-01	7.27E-02	pCi/sample	86%	1.73E+00	9.8E-03	108%	5/24/06 02:19 p	1.0	ALP4
						Rec Limits:		20	105	0.1		G	
U-238	2.04E+00		3.4E-01	4.9E-01	8.73E-02	pCi/sample	86%	1.81E+00	1.0E-02	112%	5/24/06 02:19 p	1.0	ALP4
						Rec Limits:		20	105	0.1		G	
Batch: 6142141	THPRECIP			**Work Order:** H5WT11AC			**Report DB ID:** H5WT11CS						
TH-230	1.95E+00		4.4E-01	6.0E-01	6.68E-02	pCi/sample	94%	1.83E+00	6.1E-02	106%	5/24/06 04:01 p	1.0	ALP120
						Rec Limits:		70	130	0.1		G	
Batch: 6142140	GAMMAHI			**Work Order:** H5WT01AC			**Report DB ID:** H5WT01CS						
CO-60	8.50E+01		1.6E+01	1.6E+01	5.00E+00	pCi/sample		8.32E+01	5.2E-01	102%	5/23/06 09:14 p	1.0	GER7$1
						Rec Limits:		75	125	0.0		SA	
CS-137	5.77E+01		1.1E+01	1.1E+01	5.87E+00	pCi/sample		5.36E+01	1.1E+00	108%	5/23/06 09:14 p	1.0	GER7$1
						Rec Limits:		70	130	0.1		SA	
EU-152	1.84E+02		3.3E+01	3.3E+01	1.38E+01	pCi/sample		1.69E+02	6.8E+00	109%	5/23/06 09:14 p	1.0	GER7$1
						Rec Limits:		70	130	0.1		SA	

No. of Results: 6 **Comments:**

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/25/2006 11:33:20 AM

Lot No., Due Date: J6E180374; 05/24/2006

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 6142140; RGAMMA Gamma by GER

SDG, Matrix: W04930; SOLID

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

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 5-25-06

STL RICHLAND AMENDED REPORT

16

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6142140

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

Comments on any "No" response:

Second Level Review: Sheryl A Adam Date: 5-25-06

LS-038B Rev. 10. 8/02

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: 10-08132
NCM Initiated By: Pam Anderson
Date Opened: 06/01/2006
Date Closed:

Classification: **Deficiency**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Gamma by GER, Thlso by ALP, Ulso by ALP
Lot #'s (Sample #'s): J6E180374 (1), J6E220000 (140,141,142),
QC Batches: 6142140, 6142141, 6142142

Nonconformance: Technician Error
Subcategory: Laboratory error: prep error

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	06/01/2006	The sample associated with these batches was a filter with dirt. The tech in the lab leached the sample and brought it up to a certain weight. He then called this leachate the sample weight and the samples were calculated as pCi/g. The sample was then reported to the client. The samples have been recalculated as pCi/Sa.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	06/01/2006	The results need to be rereported.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/25/2006 11:34:28 AM

Lot No., Due Date: J6E180374; 05/24/2006

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 6142142; RUISO Uiso by ALP

SDG, Matrix: W04930; SOLID

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

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 5-25-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 614214Z

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

Comments on any "No" response:

Second Level Review: Sheryl A. Wilson Date: 5-25-05

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08132**
NCM Initiated By: Pam Anderson
Date Opened: 06/01/2006
Date Closed:

Classification: **Deficiency**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Gamma by GER, Thiso by ALP, Uiso by ALP
Lot #'s (Sample #'s): J6E180374 (1), J6E220000 (140,141,142),
QC Batches: 6142140, 6142141, 6142142

Nonconformance: Technician Error
Subcategory: Laboratory error: prep error

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	06/01/2006	The sample associated with these batches was a filter with dirt. The tech in the lab leached the sample and brought it up to a certain weight. He then called this leachate the sample weight and the samples were calculated as pCi/g. The sample was then reported to the client. The samples have been recalculated as pCi/Sa.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	06/01/2006	The results need to be rereported.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/25/2006 11:31:48 AM

Lot No., Due Date: J6E180374; 05/24/2006

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 6142141; RTHISO Thiso by ALP

SDG, Matrix: W04930; SOLID

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

6.0 Comments on any No response:

10-04088

First Level Review Pam Anderson **Date** 5-25-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6142141

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

Comments on any "No" response: See NCM

Second Level Review: Sheryl A Adam Date: 5-25-06

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08088**
NCM Initiated By: Pam Anderson
Date Opened: 05/25/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Thiso by ALP
Lot #'s (Sample #'s): J6E180374 (1), J6E220000 (141),
QC Batches: 6142141

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	05/25/2006	Since it was known from a gamma screen that there was Th 234 in the sample the Th iso samples were traced with The 229 instead of the usual Th 234.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	05/25/2006	None at this time.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: 10-08132
NCM Initiated By: Pam Anderson
Date Opened: 06/01/2006
Date Closed:

Classification: **Deficiency**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Gamma by GER, Thlso by ALP, Ulso by ALP
Lot #'s (Sample #'s): J6E180374 (1), J6E220000 (140,141,142),
QC Batches: 6142140, 6142141, 6142142

Nonconformance: Technician Error
Subcategory: Laboratory error: prep error

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	06/01/2006	The sample associated with these batches was a filter with dirt. The tech in the lab leached the sample and brought it up to a certain weight. He then called this leachate the sample weight and the samples were calculated as pCi/g. The sample was then reported to the client. The samples have been recalculated as pCi/Sa.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	06/01/2006	The results need to be rereported.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

JGE180374
W04930 due 7-3-06 5/18/06 20060483

Fluor Hanford, Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		Page 1 of 1
(1) Collector CHL NELSON	(2) Company Contact THOMAS BRADFIELD Telephone No. 430-2939	(3) Project Coordinator DOUG HOLBROOK	(7) Price Code / (8) Data Turnaround
(4) Sampling Location UPLANT W-42 LINE EXCAVATION	(5) Project Designation W-42 PIPELINE EXCAVATION / V PLANT	(6) SAF No. FDO-024	(9) Air Quality ☐
(10) Ice Chest No. NA	(11) Field Logbook No. NA / (12) COA 122168	(13) Method of Shipment GOVERNMENT VEHICLE	
(14) Shipped To WSCF	(15) Offsite Property No. NA	(16) Bill of Lading/Air Bill No. NA	

Matrix *: 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

(17) POSSIBLE SAMPLE HAZARDS/REMARKS: SAMPLE IS ADHESIVE DISC WITH BOTH BETA-GAMMA AND ALPHA CONTAMINATION ON ITS SURFACE. HANDLE WITH CARE - MATERIAL EASILY REMOVED FROM DISC SURFACE

(18) SPECIAL HANDLING AND/OR STORAGE: SAMPLE TO BE HANDLED AND STORED AS RADIOACTIVE MATERIAL

(19) Preservation	NONE
(20) Type of Container	PLASTIC BAG
(21) No. of Container(s)	1
(22) Volume	
(23) SAMPLE ANALYSIS	GEA

(24) Sample No.	(25) Matrix*	(26) Sample Date	(27) Sample Time										
W-42 SOIL SMEAR	SOIL	5-15-06	~~0900~~ 1335 5-15-06										
W06 0001193						H5PVO							
B1JFN9													

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Carl R. Nelson	5/15/06 1555	Received By/Stored In: JA FRAZIER	1555 5/15/06
Relinquished By/Removed From: [signature]	5/18/06 1405	Received By/Stored In: gaalexander/gaalexander	1405 5/18/06
Relinquished By/Removed From: gaalexander/gaalexander	5/18/06 1500	Received By/Stored In: S. Welch	1500 5/18/06
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

(30) SPECIAL INSTRUCTIONS

(31) LABORATORY SECTION	Received By	Title	Date/Time
(32) FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

A-6003-618 (01/06)

STL RICHLAND AMENDED REPORT

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number :

Group #: 20060483

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units

RQ=Result Qualifier

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Thomas Bradfield **Group #:** 20060483

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Radiochemistry														
W060001193	W-42	BRA	10198-40-0	Co-60 by GEA	SOLID	LA-508-481	U	-2.49	pCi	1.00	4.8	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Co-60 Rel. Count Error (GEA)	SOLID	LA-508-481		110	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	13982-39-3	Zn-65 by GEA	SOLID	LA-508-481	U	0.286	pCi	1.00	11	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Zn-65 Rel. Count Error (GEA)	SOLID	LA-508-481		1.00e+03	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	14681-63-1	Nb-94 by GEA	SOLID	LA-508-481	U	-1.90	pCi	1.00	5.9	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Nb-94 Rel. Count Error (GEA)	SOLID	LA-508-481		180	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	13968-53-1	Ru-103 by GEA	SOLID	LA-508-481	U	0.807	pCi	1.00	6.1	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Ru-103 Rel. Count Error (GEA)	SOLID	LA-508-481		436	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	13967-48-1	Ru-106 by GEA	SOLID	LA-508-481	U	13.9	pCi	1.00	68	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Ru-106 Rel. Count Error (GEA)	SOLID	LA-508-481		231	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	14234-35-6	Sb-125 by GEA	SOLID	LA-508-481	U	2.33	pCi	1.00	17	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Sb-125 Rel. Count Error (GEA)	SOLID	LA-508-481		422	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	13967-70-9	Cs-134 by GEA	SOLID	LA-508-481	U	0.891	pCi	1.00	6.4	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Cs-134 Rel. Count Error (GEA)	SOLID	LA-508-481		411	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	10045-97-3	Cs-137 by GEA	SOLID	LA-508-481	U	4.50	pCi	1.00	6.1	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Cs-137 Rel. Count Error (GEA)	SOLID	LA-508-481		100	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	CE/PR-144	CePr-144 by GEA	SOLID	LA-508-481	U	-26.9	pCi	1.00	1.0e+02	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	CePr-144 Rel. Count Error	SOLID	LA-508-481		260	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	14683-23-9	Eu-152 by GEA	SOLID	LA-508-481	U	-4.20	pCi	1.00	18	05/16/06	05/15/06	05/16/06
W060001193	W-42	BRA	E,T,C	Eu-152 Rel. Count Error (GEA)	SOLID	LA-508-481		261	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	15585-10-1	Eu-154 by GEA	SOLID	LA-508-481	U	3.67	pCi	1.00	17	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Eu-154 Rel. Count Error (GEA)	SOLID	LA-508-481		281	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	14391-16-3	Eu-155 by GEA	SOLID	LA-508-481	U	23.5	pCi	1.00	31	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Eu-155 Rel. Count Error (GEA)	SOLID	LA-508-481		88.5	%	1.00	0.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	13966-06-8	Sn-113 by GEA	SOLID	LA-508-481	U	2.44	pCi	1.00	8.0	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Sn-113 Rel. Count Error (GEA)	SOLID	LA-508-481		187	%	1.00	0.0	05/16/06	05/15/06	05/15/06

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.
RQ=Result Qualifier

DF=Dilution Factor

* - Indicates results that have NOT been validated: + - Indicates more than six qualifier symbols

Report W005/ver. 1.2
MISC-NP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Thomas Bradfield **Group #:** 20060483

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W060001193	W-42	BRA	14762-78-8	Ce-144 by GEA	SOLID	LA-508-481	U	-12.9	pCi	1.00	52	05/16/06	05/15/06	05/15/06
W060001193	W-42	BRA	E,T,C	Ce-144 Rel. Count Error (GEA)	SOLID	LA-508-481		260	%	1.00	0.0	05/16/06	05/15/06	05/15/06

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.
RQ = Result Qualifier

DF = Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report W005/ver. 1.2
MISC-NP

STL RICHLAND AMENDED REPORT

WSCF
METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-508-481 LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE
HEIS GAMMA_GS Gamma Emmision Spectrometry

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at \\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf. This document includes on-line links to full-text versions of the procedures and methods, where available.

Report Date: 16-may-2006
Report#: 20060483
Report W_005M/1

STL RICHLAND AMENDED REPORT

wl3qlog v1 16-may-2006 16:14:19

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
28644	1	29015	32849	SAMPLE	W060001193	Gamma Energy Analysis-general

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060483

SAF Number:

Matrix:
Test:

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ

Lab ID:
BATCH QC ASSOCIATED WITH SAMPLE

WSCF
ANALYTICAL COMMENT REPORT

Attention: Thomas Bradfield **Group #:** 20060483

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		The following nuclide activity came from the GEA Test: K-40 = 1.3E+02 pCi/each TH-234 = 1.4E+04 pCi/each U-235 = 6.6E+02 pCi/each Activity will be based on the location within the bag. Geometry used was approximate. Results will conservative. Activity is composed of Uranium isotopes in partial equilibrium with daughters.

Lab Areas: VALGROUP - Group Validation; LOGSAMP - Login for Sample; VALTEST - Test Validation; LOGTEST - Login for Tests; TESTDATA - Test Data Entry

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Fluor Hanford Inc.

SAMPLING AUTHORIZATION FORM

SAF NUM F06-024 **SAF TITLE** U Plant W-42 Line Excavation - Technical Smears **REV** 0

Field Sampling Requirements

Laboratory: **Severn Trent Incorporated, Richland** **Matrix: OTHER SOLID**

Parameter / Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
Isotopic Uranium	UISO_PLATE_AEA	Zip Loc Bag 6 g	Full QC	None	6 Months
Isotopic Thorium	THISO_IE_PLATE_AEA		Full QC		6 Months

Fluor Hanford Inc.

SAMPLING AUTHORIZATION FORM

SAF NUM F06-024 **SAF TITLE** U Plant W-42 Line Excavation - Technical Smears **REV** 0

Field Sampling Requirements

Laboratory: **Waste Sampling & Characterization** **Matrix: OTHER SOLID**

Parameter / Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
Gamma Spectroscopy	GAMMA_GS	Zip Loc Bag 6 g	Full QC	None	6 Months
Gamma Spec - Add-on	GAMMA_GS		Full QC		6 Months

Key to Container Types

G = Glass
Gs = Glass w/ septum cap
Gs*= Glass w/septum cap- no head space in container
P = Plastic (Polyethylene)
aG = Amber Glass
aGs = Amber Glass w/ septum cap
aGs*= Amber Glass w/septum cap- no head space in container

Fluor Hanford Inc.
SAMPLING AUTHORIZATION FORM

SAF NUM F06-024 **SAF TITLE** U Plant W-42 Line Excavation - Technical Smears **REV** 0

PROJECT	CPP 200 Area		
PROGRAM/PROJECT TYPE	GRP CERCLA		
OPERABLE UNIT	200-UW-1		
REQUESTER	BRADFIELD, TA	**CHARGE CODES**	
TASK MANAGER	KLAGES, DL	FH Field Sampling	122168ES10
PROJECT COORDINATOR	TRENT, SJ	Analytical Services	122168ES20
		Sample Management	122168ES30
ESTIMATED START DATE	5/18/2006	**SAMPLE AREA**	200 West
ESTIMATED COMPLETION DATE	9/30/2006	**MATRIX**	OTHER SOLID
ESTIMATED NUMBER OF SAMPLES	1		

SAMPLING ORGANIZATIONS

Facility Samplers

LABORATORY/PRICE_CODE/PRIORITY TURNAROUND/REQUIRED TURNAROUND/DATA DELIVERABLE

Primary / Severn Trent Incorporated, Richland / 3C / 72 Hours / 15 Days / Interim Results & Periodic SDG Rpt
Primary / Waste Sampling & Characterization / 3C / 72 Hours / 15 Days / Interim Results & Periodic SDG Rpt

SAF COMMENT

** Sample media is Miscellaneous Materials (MM).
** Collection purpose is Radiological Control (RC).

** Laboratory is to review analytical data and recommend additional analyses.

** Sample Management will send copies of all data to Diana Klages and Tom Bradfield.

COC COMMENT

** Laboratory is to review analytical data and recommend additional analyses.

STL RICHLAND AMENDED REPORT

WSCF
ANALYTICAL RESULTS REPORT

for

MISC-NP
RICHLAND, WA 99354

Attention: Thomas Bradfield

Analytical: S. Fitzgerald

Client Services:

All results are reported on an "as received" basis unless otherwise noted in the comment section.

CONTROLLED USE INFORMATION: The recipient of this report has the responsibility to protect and safeguard the requested information from unauthorized disclosure or misuse. This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authurized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. WSCF will not identify analytical reports as Official Use Only (OUO) or Sensitive. This classification must be determined by the owner of the report.

Report#: 20060483
Report Date: 16-may-2006
Report W005/ver. 1.2
MISC-NP

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 5.18.06 15:10

Client Flow SDG #: _____ NA [ ] SAF #: _____ NA [ ]

Work Order Number: _____ Chain of Custody # _____

Shipping Container ID: _____ Air Bill # _____

Solid

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

Sample Custodian: S. Welch Date: 5.18.06 15:10

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 12/05, Rev. 6

STL RICHLAND AMENDED REPORT

STL RICHLAND AMENDED REPORT

5/22/2006 2:38:43 PM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/24/2006

Sep1 DT/Tm Tech:

Batch: 6142140 SOLID pCi/g PM, Quote: HC , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

[redacted]

Prep Tech: ,HansenM

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, Init/Date	Comments:
1 H5PV0-1-AD J6E160374-1-SAMP [redacted] 05/15/2006 13:35		503.07g,in 15A 5-31-06 AmtRec: JARPINTG	#Containers: 1		MA	50 30 5/23/06	G6 Scr:	2044 Alpha:	5/23/06 MD Beta:	
2 H5PV0-1-AE-X J6E180374-1-DUP [redacted] 05/15/2006 13:35		503.07g,in 15A AmtRec: JARPINTG	#Containers: 1				G8 Scr:	0213 Alpha:	Beta:	
3 H5WT0-1-AA-B J6E220000-140-BLK [redacted] ~~05/15/2006 13:35~~ 5-22-06 mH		500.00g,in 5-22-06 mH 15.4 AmtRec:	#Containers: 1				G6 Scr:	0213 Alpha:	Beta:	
4 H5WT0-1-AC-C J6E220000-140-LCS [redacted] 05/15/2006 13:35		500.00g,in 15.4 AmtRec:	QCAG1220 05/22/06,pd 06/14/05,r #Containers: 1				G7 Scr:	0214 Alpha:	Beta:	

Comments: recount dup on seperate ~~det~~ detector mH 5-22-06
mH 5-22-06

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , HC , 50639

H5PV01AD-SAMP Constituent List:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

H5WT01AA-BLK:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

6/1/2006 4:54:31 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/1/2005, 6/6/2006, Batch: '6142140', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6142140						
AC		Rev1C	HansenM	5/23/2006 3:15:21 PM		
SC			hansenm	IsBatched	5/22/2006 2:22:58 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	5/23/2006 3:15:21 PM	RICH-RC-5017 REVISION 4
SC			HansenM	Prep2C	5/23/2006 3:15:35 PM	RICH-RC-5017 REVISION 4
SC			DAWKINSO	InCnt1	5/23/2006 4:34:54 PM	RICH-RD-0007 REVISION 5
SC			BlackCL	CalcC	5/24/2006 8:39:07 AM	RICH-RD-0007 REVISION 5
SC			AndersonP	Rev1C	5/25/2006 11:39:53 AM	RICH-RC-0002 REVISION 7
AC			HansenM	5/23/2006 3:15:35 PM		
AC			DAWKINSO	5/23/2006 4:34:54 PM		
AC			BlackCL	5/24/2006 8:39:07		
AC			AndersonP	5/25/2006 11:39:53		

AC: Accepting Entry; SC: Status Change

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Grp Rec Cnt: 5

ICOCFractions v4.8.18

STL RICHLAND AMENDED REPORT

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AMENDED REPORT

5/22/2006 3:03:24 PM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

7S Uiso PrpRC5013/RC5019, SepRC5079(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/24/2006

Sep1 DT/Tm Tech:

Batch: 6142142 SOLID pCi/g PM, Quote: HC , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

[redacted]

Prep Tech: ,HansenM

Work Order, Lot, Sample DateTime	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 H5PV0-1-AA J6E180374-1-SAMP [redacted] 05/15/2006 13:35		1.14g,in AmtRec: JARPINTG	UITC15653 05/22/06,pd 01/20/04,r #Containers: 1	100		Scr:	Alpha:	Beta:
2 H5PV0-1-AG-X J6E180374-1-DUP [redacted] 05/15/2006 13:35		1.22g,in AmtRec: JARPINTG	UITC15654 05/22/06,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:
3 H5WT2-1-AA-B J6E220000-142-BLK [redacted] 05/15/2006 13:35		1.00g,in AmtRec:	UITC15655 05/22/06,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:
4 H5WT2-1-AC-C J6E220000-142-LCS [redacted] 05/15/2006 13:35		1.00g,in AmtRec:	UISG1338 05/22/06,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , HC , 50639

H5PV01AA-SAMP Constituent List:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/g	LCL:	UCL:	RPD:

H5WT21AA-BLK:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/g	LCL:	UCL:	RPD:

5/31/2006 3:25:18 PM

ICOC Fraction Transfer/Status Report

ByDate: 5/31/2005, 6/5/2006, Batch: '6142142', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6142142						
AC		Rev1C	**HansenM**	5/22/2006 7:10:44 PM		
SC			hansenm	IsBatched	5/22/2006 2:22:58 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	5/22/2006 7:10:44 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	5/22/2006 7:11:07 PM	RICH-RC-5016 REVISION 5
SC			ManisD	Sep2C	5/24/2006 12:48:37 PM	RICH-RC-5039 REV 4
SC			BlackCL	InCnt1	5/24/2006 12:57:14 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	5/24/2006 10:00:50 PM	RICH-RD-0008 REVISION 4
SC			AndersonP	Rev1C	5/25/2006 11:40:01 AM	RICH-RC-0002 REVISION 7
AC			**HansenM**	5/22/2006 7:11:07 PM		
AC			**ManisD**	5/24/2006 12:48:37		
AC			**BlackCL**	5/24/2006 12:57:14		
AC			**DAWKINSO**	5/24/2006 10:00:50		
AC			**AndersonP**	5/25/2006 11:40:01		

AC: Accepting Entry; SC: Status Change

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Grp Rec Cnt:6

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AMENDED REPORT

5/22/2006 3:03:23 PM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

9R Thiso ~~PrpRC5013/RC5019~~, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/24/2006

Sep1 DT/Tm Tech:

Batch: 6142141 SOLID pCi/g PM, Quote: HC , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

[redacted]

Prep Tech: ,HansenM

Work Order, Lot, Sample DateTime	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 H5PV0-1-AC J6E180374-1-SAMP [redacted] 05/15/2006 13:35		1.16g,in AmtRec: JARPINTG	THTE0118 05/22/06,pd 05/23/05,r #Containers: 1	100			Scr: Alpha: Beta:	
2 H5PV0-1-AF-X J6E180374-1-DUP [redacted] 05/15/2006 13:35		1.12g,in AmtRec: JARPINTG	THTE0119 05/22/06,pd 05/23/05,r #Containers: 1				Scr: Alpha: Beta:	
3 H5WT1-1-AA-B J6E220000-141-BLK [redacted] 05/15/2006 13:35		1.00g,in AmtRec:	THTE0120 05/22/06,pd 05/23/05,r #Containers: 1				Scr: Alpha: Beta:	
4 H5WT1-1-AC-C J6E220000-141-LCS [redacted] 05/15/2006 13:35		1.00g,in AmtRec:	THSM0046 05/22/06,pd 05/23/05,r #Containers: 1				Scr: Alpha: Beta:	

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , HC , 50639

H5PV01AC-SAMP Constituent List:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

H5WT11AA-BLK:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

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5/31/2006 3:24:06 PM

ICOC Fraction Transfer/Status Report

ByDate: 5/31/2005, 6/5/2006, Batch: '6142141', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6142141						
AC		Rev1C	HansenM	5/22/2006 7:10:56 PM		
SC			hansenm	IsBatched	5/22/2006 2:22:58 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	5/22/2006 7:10:56 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	5/22/2006 7:11:15 PM	RICH-RC-5016 REVISION 5
SC			ManisD	Sep2C	5/24/2006 12:49:04 PM	RICH-RC-5003 REV 6
SC			BlackCL	InCnt1	5/24/2006 12:57:18 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	5/24/2006 10:00:45 PM	RICH-RD-0008 REVISION 4
SC			AndersonP	Rev1C	5/25/2006 11:39:43 AM	RICH-RC-0002 REVISION 7
AC			HansenM	5/22/2006 7:11:15 PM		
AC			ManisD	5/24/2006 12:49:04		
AC			BlackCL	5/24/2006 12:57:18		
AC			DAWKINSO	5/24/2006 10:00:45		
AC			AndersonP	5/25/2006 11:39:43		

AC: Accepting Entry; SC: Status Change

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