RECEIVED FEBRUARY 12, 2007

RECORD COPY
PROJ. 52494
CAT. T3.1
WORKING COPY

W05080

REPORT COVER PAGE 1
CASE NARRATIVE 2
SAMPLE RESULTS SUMMARY 6
DATA REVIEW CHECKLISTS 19
CHAIN OF CUSTODY 28
SAMPLE PREP ANALYSIS SHEETS 34
ICOC 39
TOTAL # PAGES IN DOCUMENTS 41

RECEIVED
FEB 13 2007
D L STEWART
42 pages

8-11-09 KB
000

Analytical Data Package Prepared For

Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

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

Data Package Contains _____ Pages

Report Nbr: 34469

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05080	I06-054	B1K568	J6L180175-1	JLPH61AA	9JLPH610	7002228
		B1K568	J6L180175-1	JLPH61AC	9JLPH610	7002227
		B1K568	J6L180175-1	JLPH61AD	9JLPH610	7002225
	S06-007	B1JL27	J6L290143-1	JL8VE1AA	9JL8VE10	7002225
		B1JL54	J6L290143-2	JL8VJ1AC	9JL8VJ10	7002225
		B1JL53	J6L290143-3	JL8VL1AC	9JL8VL10	7002225

RECEIVED
OCT 08 2009
EDMC

Comments:

0083533

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99354

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

Certificate of Analysis

Pacific Northwest National Laboratories
Sigma V Building
Richland, WA 99352

February 12, 2007

Attention: Dot Stewart

SAF Number	:	106-054, S06-007
Date SDG Closed	:	December 28, 2006
Number of Samples	:	Four (4)
Sample Type	:	Water
SDG Number	:	W05080
Data Deliverable	:	45-Day / Summary

CASE NARRATIVE

I. Introduction

Between December 14, 2006 and December 27, 2006, four water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

PGW ID#	STLR ID#	DATE OF RECEIPT	MATRIX
B1K568	JLPH6	12/14/06	WATER
B1JL53	JL8VL	12/27/06	WATER
B1JL54	JL8VJ	12/27/06	WATER
B1JL27	JL8VE	12/27/06	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:

Gamma Spectroscopy
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
Laser Induced Phosphorimetry
Total Uranium by method RICH-RC-5058

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Gamma Spectroscopy
Iodine-129 (LL) by method RICH-RC-5025:
The LCS, batch blank, samples and sample duplicate (B1K568) results are within contractual requirements.

Liquid Scintillation Counting
Technetium-99 by TEVA method RICH-RC-5065:
The LCS, batch blank, samples, sample duplicate (B1K568), and sample matrix spike (B1K568) results are within contractual requirements.

Enriched Tritium by method RICH-RC-5024
The enriched tritium analysis was not completed at the time of reporting.

Total Uranium
Total Uranium by method RICH-RC-5058:
The LCS, batch blank, samples, sample duplicate (B1JL27), and sample matrix spike (B1JL54) results are within contractual requirements.

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

Reviewed and approved:

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.

2/12/2007 1:53:26 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34469 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.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:
9JL8VE10	B1JL27		MW6-SBB-A1	S06-007	W05080					12/27/2006 13:20

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002225	Uranium	7440-61-1	8.48E+00	ug/L	1.0E+00	1.0E+00		7.76E-02		UTOT_KPA	2.70E-02	ML	01/29/2007 13:54	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:
9JL8VJ10	B1JL54		MW6-SBB-A1	S06-007	W05080					12/27/2006 12:12

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002225	Uranium	7440-61-1	8.21E+00	ug/L	9.7E-01	9.7E-01		8.25E-02		UTOT_KPA	2.54E-02	ML	01/29/2007 14:00	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:
9JL8VL10	B1JL53		MW6-SBB-A1	S06-007	W05080					12/27/2006 07:05

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002225	Uranium	7440-61-1	0.00E+00	ug/L	0.0E+00	0.0E+00	U	2.10E-01		UTOT_KPA	2.53E-02	ML	01/29/2007 14:04	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:
9JLPH610	B1K568		MW6-SBB-A1	I06-054	W05080					12/14/2006 09:16

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7002228	I-129L	15046-84-1	6.85E-01	pCi/L	2.2E-01	2.2E-01	U	4.19E-01	99.5	I129LL_SEP_LEPS	3.9032E+00	L	01/30/2007 16:14	I
7002227	TC-99	14133-76-7	1.73E+03	pCi/L	2.3E+01	1.2E+02		9.84E+00	100.0	TC99_ETVDSK_LS	1.25E-01	L	01/17/2007 03:19	I
7002225	Uranium	7440-61-1	3.95E+02	ug/L	4.7E+01	4.7E+01		8.32E-02		UTOT_KPA	2.52E-02	ML	01/29/2007 13:51	I

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, February 12, 2007

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JMAM21AB	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/14/2006 09:16
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BLK	**Received Date:**	12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AJ	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
7002228	I-129L	3.90E-02	pCi/L	1.4E-01	U	2.67E-01	97.8		I129LL_SEP_L	3.8605E+00	01/30/2007				D
BLK	15046-84-1			1.4E-01						L	18:13				

STL Richland

rptFeadRadEdd v3.68

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

Monday, February 12, 2007

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JMAMV1AB	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/27/2006 13:20
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BLK	**Received Date:**	12/27/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AL	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
7002225	Uranium	0.00E+00	ug/L	0.0E+00	U	2.10E-01			UTOT_KPA	2.64E-02	01/29/2007				D
BLK	7440-61-1			0.0E+00						ML	13:39				

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, February 12, 2007

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JMAMX1AB	Sdg/Rept Nbr:	W05080 34469	Collection Date:	12/14/2006 09:16
Client Id:	NA	Matrix:	WATER WATER	Sample On Date:	
Moisture/Solids%*:		QC Type:	BLK	Received Date:	12/14/2006

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

Batch # / Qc Type	Analyt/ CAS#	Resul/ 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
7002227	TC-99	1.32E+00	pCi/L	6.1E+00	U	9.66E+00	100.0		TC99_ETVDSK	1.266E-01	01/17/2007				D
BLK	14133-76-7			4.0E+00						L	03:19				

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, February 12, 2007

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JMAM21CS	Sdg/Rept Nbr:	W05080 34469	Collection Date:	12/14/2006 09:16
Client Id:	NA	Matrix:	WATER WATER	Sample On Date:	
Moisture/Solids%*:		QC Type:	BS	Received Date:	12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AK	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
7002228	I-129L	7.35E+00	pCi/L	1.0E+00		2.86E-01	97.6	9.58E+00	I129LL_SEP_L	3.9964E+00	01/30/2007			70	D
BS	15046-84-1			1.0E+00				76.8		L	18:15			130	

STL Richland
rptFeadRadEdd v3.68

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

Monday, February 12, 2007

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469 Edd

Lab Sample Id:	JMAMV1CS	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/27/2006 13:20
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BS	**Received Date:**	12/27/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AM	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
7002225	Uranium	3.55E+01	ug/L	4.2E+00		8.35E-02		3.62E+01	UTOT_KPA	2.51E-02	01/29/2007			75	D
BS	7440-61-1			4.2E+00				98.1		ML	13:44			125	

STL Richland

rptFeadRadEdd v3.68

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

Monday, February 12, 2007

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JMAMV1DS	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/27/2006 13:20
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BS	**Received Date:**	12/27/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AN	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
7002225	Uranium	3.64E+00	ug/L	3.7E-01		8.38E-02		3.62E+00	UTOT_KPA	2.50E-02	01/29/2007			75	D
BS	7440-61-1			3.7E-01				100.6		ML	13:46			125	

STL Richland
rptFeadRadEdd v3.68

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

Monday, February 12, 2007

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JMAMX1CS	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/14/2006 09:16
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BS	**Received Date:**	12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AP	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
7002227	TC-99	5.20E+02	pCi/L	4.1E+01		9.81E+00	100.0	5.42E+02	TC99_ETVDSK	1.252E-01	01/17/2007			70	D
BS	14133-76-7			1.3E+01				95.9		L	03:19			130	

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, February 12, 2007

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JL8VE1CR	**Sdg/Rept Nbr:**	W05080	34469	**Collection Date:** 12/27/2006 13:20
Client Id:	B1JL27	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	DUP		**Received Date:** 12/27/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S06-007	MW6-SBB-A19981								AE	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
7002225	Uranium	8.60E+00	ug/L	1.0E+00		8.28E-02			UTOT_KPA	2.53E-02	01/29/2007	1.4	0.2		D
DUP	7440-61-1	8.48E+00		1.0E+00						ML	13:58	20.0	3		

STL Richland
rptFeadRadEdd v3.68

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

Monday, February 12, 2007

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JLPH61ER	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/14/2006 09:16
Client Id:	B1K568	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	DUP	**Received Date:**	12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
I06-054	MW6-SBB-A19981								AG	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
7002227	TC-99	1.75E+03	pCi/L	1.2E+02		9.81E+00	100.0		TC99_ETVDSK	1.257E-01	01/17/2007	1.3	0.3		D
DUP	14133-76-7	1.73E+03		2.3E+01						L	03:19	20.0	3		

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, February 12, 2007

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JLPH61GR	Sdg/Rept Nbr:	W05080	34469	Collection Date: 12/14/2006 09:16
Client Id:	B1K568	Matrix:	WATER	WATER	Sample On Date:
Moisture/Solids%*:		QC Type:	DUP		Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
I06-054	MW6-SBB-A19981								AI	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
7002228	I-129L	5.19E-01	pCi/L	1.8E-01	U	4.05E-01	95.1		I129LL_SEP_L	3.8921E+00	01/30/2007	27.6	1.3		D
DUP	15046-84-1	6.85E-01		1.8E-01						L	16:15	20.0	3		

STL Richland

rptFeadRadEdd v3.68

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

Monday, February 12, 2007

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JL8VJ1DW	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/27/2006 12:12
Client Id:	B1JL54	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	**MS**	**Received Date:**	12/27/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S06-007	MW6-SBB-A19981								AF	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
7002225	Uranium	3.26E+01	ug/L	4.9E+00		7.57E-02		3.29E+01	UTOT_KPA	2.77E-02	01/29/2007			60	D
MS	7440-61-1			4.9E+00				99.1		ML	14:02			140	

STL Richland

rptFeadRadEdd v3.68

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

11

Monday, February 12, 2007

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05080.Edd, h:\Reportdb\edd\FeadIV\Rad\34469.Edd

Lab Sample Id:	JLPH61FW	**Sdg/Rept Nbr:**	W05080 34469	**Collection Date:**	12/14/2006 09:16
Client Id:	B1K568	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	MS	**Received Date:**	12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
I06-054	MW6-SBB-A19981								AH	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
7002227	TC-99	3.39E+03	pCi/L	3.7E+02		9.80E+00	100.0	3.59E+03	TC99_ETVDSK	1.257E-01	01/17/2007			60	D
MS	14133-76-7			3.9E+01				94.4		L	03:19			140	

STL Richland

rptFeadRadEdd v3.68

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

SEVERN STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

1/31/2007 8:50:41 AM

Lot No., Due Date: J6L180175; 02/12/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7002228; RGAMLEPS Gamma by LEPS

SDG, Matrix: W05080; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	✓		
8.01 The Appropriate Methods Were Used To Analyze the Samples Method Differs => JLPH61AA LEP<>TB JLPH61AG LEP<>TB JMAM21AA LEP<>TB JMAM21AC LEP<>TB Q:V6		✓	
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 => JLPH61AA 3.903<4000.00 Q:VB		✓	
8.07 The Correct Count Geometry was Used. Count Geometry => JLPH61AA I_FA<>IFA JLPH61AG I_FA<>IFA OK JMAM21AA I_FA<>IFA PA JMAM21AC I_FA<>IFA Q:VC 1-31-07		✓	
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 Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> JLPH61AG I-129L 28.0 (RPD) Both < CRDL OK PA 1-31-07		✓	
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. 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. Batch Positive Result => JLPH61AA I-129L 6.8E-01 L:4.2E-01		✓	
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => I-129L OK; No Callin Level Found => I-129L	✓		

8.24 Result + 3s >=0, Not Too Negative. Yes No N/A
OK ✓

8.25 Counting Spectrum are within FWHM Limits. Yes No N/A
FWHM > maxFWHM => JMAM21AC I-129L 29>0 Q:V1 ✓

8.26 Instruments have Current Calibrations. Yes No N/A

8.27 Correct Count Library Used. Yes No N/A
Library Not Specified => JLPH61AA I:[NUC_LIBR]LEPS.NLB Q:
JLPH61AG I:[NUC_LIBR]LEPS.NLB Q:
JMAM21AA I:[NUC_LIBR]LEPS.NLB Q:
JMAM21AC I:[NUC_LIBR]LEPS.NLB Q:

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

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

8.3 Comments:

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

First Level Review Tom Lindsay Date 1/31/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 700222 W05080

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: 2-1-07

SEVERN STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

1/30/2007 10:21:20 AM

Lot No., Due Date: J6L180175; 02/12/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7002227; RTC99 Tc-99 by LSC

SDG, Matrix: W05080; 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 Incorrect Tracer/Vial => JLPH61AF TCSG<>TCSE Q:V9		✓	
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 (MBlks) found in Batch!			✓
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13 QAS 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!

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

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

8.3 Comments:

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

First Level Review Pam Anderson Date 1-30-07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7002227
W050080

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 R Adam Date: 1-30-07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

1/30/2007 12:57:27 PM

Lot No., Due Date: J6L290143,J6L180175; 02/12/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7002225; RUNAT UNat by KPA

SDG, Matrix: W05080; 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 Incorrect Tracer/Vial => JMAMV1AD UNSC<>UNSF Q:V9		✓	
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06 At Least the Minimum Sample Volume Was Used No Count Analysis Size found in Batch Data!			✓
8.07 The Correct Count Geometry was Used. No Count Geometry found in Batch Data!			✓
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. No Count Duration Field Found in Batch Data!			✓
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 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. MDC/MDA > CRDL => JL8VL1AC Uranium 2.1E-01>1.4E-01 JMAMV1AA Uranium 2.1E-01>1.4E-01 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 => JL8VE1AA Uranium 8.5E+00 L:7.8E-02 JL8VJ1AC Uranium 8.2E+00 L:8.3E-02 JLPH61AD Uranium 4.0E+02 L:8.3E-02 Calc_IDL Not Calculated		✓	
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => Uranium OK; No Callin Level Found => Uranium	✓		
8.24 Result + 3s >=0, Not Too Negative. OK	✓		

8.25 Counting Spectrum are within FWHM Limits. Yes No N/A ✓
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!

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

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

8.3 Comments:

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

First Level Review Paul Anderson Date 1-30-07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7002225
W05080

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: Sherryl R Adam Date: 1-30-07

PNNL J6L180175
W05080
Due 01.29.07

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I06-054-50

Page 1 of 1

Collector: Fluor Hanford D. E. PARCHEN	Contact/Requester: Dot Stewart	Telephone No.: 509-376-5056 MSIN FAX
SAF No.: I06-054	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UP1-LOI, AUGUST 2006	Logbook: HNF-N-506-4	Ice Chest No.: GRP-03-011 Temp.
Shipped To (Lab): Severn Trent Incorporated, Richland	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1K568		W	12/14/06	0916	1x20-mL P	Activity Scan	None
B1K568		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1K568		W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1K568		W			1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
						JLPH6	
				L. Wall 12/14/06			

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford D. E. PARCHEN			DEC 14 2006 1345		S. Smith	S. Smith	DEC 14 2006 1345
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 12-14-06 1345

Client: PGW SDG #: W05080 NA [ ] SAF # I06-054 NA [ ]

Work Order Number: V6L180125 Chain of Custody # I06-054-50

Shipping Container ID: GRP 03 011 Air Bill # N/A

1 Custody Seals on shipping container intact? NA [ ] Yes [/] No [ ]

2 Custody Seals dated and signed? NA [ ] Yes [/] No [ ]

3. Chain of Custody record present? Yes [/] No [ ]

4. Cooler temperature: _____ NA [/] 5. Vermiculite/packing material is NA [/] Yes [ ] No [ ]

6. Number of samples in shipping container: 1

7 Sample holding times exceeded? NA [/] Yes [ ] No [ ]

8. Samples have:
_____tape
_____custody seals
_____hazard labels
__/__appropriate sample labels

9. Samples are:
____/in good condition
_____broken
_____leaking
_____have air bubbles
(Only for samples requiring headspace)

10 Sample pH taken? NA [ ] pH<2 [/] pH>2 [/] pH>9 [ ]

11. Sample Location, Sample Collector Listed? * Yes [/] No [ ]
*For documentation only. No corrective action needed

12. Were any anomalies identified in sample receipt? Yes [ ] No [/]

13 Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date 12-14-06 1345

Client Sample ID	Analysis Requested	Condition	Comment

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

STL RICHLAND

PNNL: U6L-090143
WO5080
Due 02 09 07

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S06-007-186

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: Dot Stewart	Telephone No.: 509-376-5056 MSIN FAX
SAF No.: S06-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV, JULY 2006	ANF-N-506-2	Ice Chest No.: SHWS-209 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 ☑ No ☐
Batch all PNNL GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1JL53		W	12-27-06	0705	1x20-mL P	Activity Scan	None
B1JL53		W			3x1000-mL P	TRITIUM_ELECT_LSC_LL: H-3 (1)	None
B1JL53		W			1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
						JLSVL	

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D.P. CONNOLLY			DEC 27 2006 1435	David Harbinson			DEC 27 2006 1435
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

STL RICHLAND

PNNL UGL-290143
WO 5780
due 02-09-07

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S06-007-187

Page 1 of 1

Collector D. P. CONNOLLY	Contact/Requester Dot Stewart	Telephone No. 509-376-5056 MSIN FAX
SAF No. S06-007	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV, JULY 2006	HNF N-506 2	Ice Chest No. SAWS-207 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 ☑ No ☐
Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1JL54		W	12-27-06	1212	1x20-mL P	Activity Scan	None
B1JL54		W			3x1000-mL P	TRITIUM_ELECT_LSC_LL: H-3 (1)	None
B1JL54		W			1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2

CTL 8VJ

12-27-06

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. P. CONNOLLY			DEC 27 2006 1435	DAVID HARBINSON			DEC 27 2006 1435
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL U6L-290140 SKS 1/2/07
WO 5080
Due 02-09-07

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S06-007-120

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: Dot Stewart	Telephone No.: 509-376-5056 MSIN FAX
SAF No.: S06-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV, JULY 2006	HNF-N-506 2	Ice Chest No.: SAWS-209 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 ☑ No ☐
Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1JL27		W	12-27-06	13:20	1x20-mL P	Activity Scan	None
B1JL27		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2

JL8VE

1040
12-27-06

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. P. CONNOLLY		DEC 27 2006 1435		David HARBINSON		DEC 27 2006 1435
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

STL RICHLAND

32

SEVERN TRENT STL

Sample Check-In List

Date/Time Received: 12-27-06 1435

Client: PGW SDG #: W05086 NA [ ] SAF #: S06 007 NA [ ]

Work Order Number: V6L290143 Chain of Custody #: S06 007-120, 187, 186

Shipping Container ID: SAWS-209 Air Bill #: N/A

1 Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]

2 Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]

3 Chain of Custody record present? Yes [✓] No [ ]

4 Cooler temperature: _____ NA [✓] 5 Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]

6 Number of samples in shipping container: 3

7 Sample holding times exceeded? NA [✓] Yes [ ] No [ ]

8 Samples have:
_____ tape
_____ custody seals
_____ hazard labels
✓ appropriate sample labels

9. Samples are:
✓ in good condition
_____ broken
_____ leaking
_____ have air bubbles
(Only for samples requiring head space)

10. Sample pH taken? NA [ ] pH<2 [✓] pH>2 [✓] pH>9 [ ]

11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
*For documentation only. No corrective action needed.

12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]

13. Description of anomalies (include sample numbers): N/A

Sample Custodian: DH Date: 12-27-06 1435

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LI-022 9/03, Rev. 5

STL RICHLAND

STL RICHLAND

1/22/2007 1:54:19 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

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

Pipet #: _____

AnalyDueDate: 01/29/2007 WO5080

Sep1 DT/Tm Tech:

Batch: 7002228 WATER pCi/L PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BockJ

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 JLPH6-1-AA J6L180175-1-SAMP		3903.20g,in	ITA5961 01/17/07		36.8	100	L2	1754	1/30/07 ON	
12/14/2006 09:16		AmtRec: 20ML,2X500ML,2X4LP	#Containers: 5				Scr:	Alpha: 4.20E-03 uCi/Sa		Beta: 9.23E-04 uCi/Sa
2 JLPH6-1-AG-X J6L180175-1-DUP		3892.10g,in	ITA5962 01/17/07		35.2		L4	1755		
12/14/2006 09:16		AmtRec: 20ML,2X500ML,2X4LP	#Containers: 5				Scr:	Alpha: 4.20E-03 uCi/Sa		Beta: 9.23E-04 uCi/Sa
3 JMAM2-1-AA-B J7A020000-228-BLK		3860.50g,in	ITA5963 01/17/07		36.2		L2	1453		
12/14/2006 09:16		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
4 JMAM2-1-AC-C J7A020000-228-LCS		3996.40g,in	ISD0710 12/14/06,pd 11/17/04,r		39.4		L4	1955		
12/14/2006 09:16		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

Comments:

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

JLPH61AA-SAMP Constituent List:

I-129	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
JMAM21AA-BLK:					
I-129	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
JMAM21AC-LCS:					
I-129	RDL:5	pCi/L	LCL:70	UCL:130	RPD:20

JLPH61AA-SAMP Calc Info:

STL RICHLAND

1/15/2007 11:18:15 AM

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: 01/29/2007 W05080

Sep1 DT/Tm Tech:

Batch: 7002227 WATER pCi/L

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BockJ

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JLPH6-1-AC J6L180175-1-SAMP 12/14/2006 09:16			125.00g,in	125.00g		.60				
	AmtRec: 20ML,2X500ML,2X4LP		#Containers: 5				Scr:	Alpha: 4.20E-03 uCi/Sa		Beta: 9.23E-04 uCi/Sa
2 JLPH6-1-AE-X J6L180175-1-DUP 12/14/2006 09:16			125.70g,in	125.70g						
	AmtRec: 20ML,2X500ML,2X4LP		#Containers: 5				Scr:	Alpha: 4.20E-03 uCi/Sa		Beta: 9.23E-04 uCi/Sa
3 JLPH6-1-AF-S J6L180175-1-MS 12/14/2006 09:16			125.70g,in	125.70g	TCSG1752 01/03/07,pd 01/10/06,r					
	AmtRec: 20ML,2X500ML,2X4LP		#Containers: 5				Scr:	Alpha: 4.20E-03 uCi/Sa		Beta: 9.23E-04 uCi/Sa
4 JMAMX-1-AA-B J7A020000-227-BLK 12/14/2006 09:16			126.60g,in	126.60g						
	AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:
5 JMAMX-1-AC-C J7A020000-227-LCS 12/14/2006 09:16			125.20g,in	125.20g	TCSE2052 12/20/06,pd 01/10/06,r					
	AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:
6 JMAMX-1-AD-BN J7A020000-227-IBLK 12/14/2006 09:16						.15				
	AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:

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: 6

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.26

STL RICHLAND

1/15/2007 11:18:23 AM

Sample Preparation/Analysis

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

AnalyDueDate: 01/29/2007

Batch: 7002227 pCi/L
SEQ Batch, Test: None

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
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:

Comments:

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

JLPH61AC-SAMP Constituent List:
Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20
JLPH61AF-MS:

JMAMX1AA-BLK:
Tc-99 RDL:15 pCi/L LCL: UCL: RPD:
JMAMX1AC-LCS:
Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20
JMAMX1AD-IBLK:
Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

JLPH61AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JLPH61AF-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JMAMX1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JMAMX1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JMAMX1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

1/15/2007 10:45:16 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

DH UNat_Laser PrpRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 01/29/2007 W05080

Sep1 DT/Tm Tech:

Batch: 7002225 WATER ug/L

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BockJ

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 JLPH6-1-AD J6L180175-1-SAMP 12/14/2006 09:16		25.20g,in AmtRec: 20ML,2X500ML,2X4LP	#Containers: 5			Scr:	Alpha: 4.20E-03 uCi/Sa	Beta: 9.23E-04 uCi/Sa
2 JL8VE-1-AA J6L290143-1-SAMP 12/27/2006 13:20		27.00g,in AmtRec: 20ML,500MLP,3XLP	#Containers: 2			Scr:	Alpha: -1.91E-04 uCi/Sa	Beta: 2.22E-04 uCi/Sa
3 JL8VE-1-AC-X J6L290143-1-DUP 12/27/2006 13:20		25.30g,in AmtRec: 20ML,500MLP,3XLP	#Containers: 2			Scr:	Alpha: -1.91E-04 uCi/Sa	Beta: 2.22E-04 uCi/Sa
4 JL8VJ-1-AC J6L290143-2-SAMP 12/27/2006 12:12		25.40g,in AmtRec: 20ML,500MLP,3XLP	#Containers: 5			Scr:	Alpha: 5.12E-05 uCi/Sa	Beta: -1.35E-04 uCi/Sa
5 JL8VJ-1-AD-S J6L290143-2-MS 12/27/2006 12:12		27.70g,in AmtRec: 20ML,500MLP,3XLP	UNSF3538 12/18/06,pd 03/22/05,r #Containers: 5			Scr:	Alpha: 5.12E-05 uCi/Sa	Beta: -1.35E-04 uCi/Sa
6 JL8VL-1-AC J6L290143-3-SAMP 12/27/2006 07:05		25.30g,in AmtRec: 20ML,500MLP,3XLP	#Containers: 5			Scr:	Alpha: 6.78E-04 uCi/Sa	Beta: -2.59E-04 uCi/Sa
7 JMAMV-1-AA-B J7A020000-225-BLK 12/27/2006 13:20		26.40g,in AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

STL RICHLAND

1/15/2007 10:45:22 AM

Sample Preparation/Analysis

DH UNat_Laser PrpRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120482733

Pipet #:

AnalyDueDate: 01/29/2007

Sep1 DT/Tm Tech:

Batch: 7002225 ug/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BockJ

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:
8 JMAMV-1-AC-C J7A020000-225-LCS 12/27/2006 13:20		25.10g,in AmtRec:	UNSF3539 12/18/06,pd 03/22/05,r #Containers: 1			Scr:	Alpha:	Beta:
9 JMAMV-1-AD-C J7A020000-225-LCS 12/27/2006 13:20		25.00g,in AmtRec:	UNSC1461 12/18/06,pd 04/28/06,r #Containers: 1			Scr:	Alpha:	Beta:

Comments: pH < 2.0 1-15-07

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

JLPH61AD-SAMP Constituent List:
Uranium RDL:1.44E-01 ug/L LCL: UCL: RPD:
JL8VJ1AD-MS:

JMAMV1AA-BLK:
Uranium RDL:1.44E-01 ug/L LCL: UCL: RPD:
JMAMV1AC-LCS:
Uranium RDL:0.144343 ug/L LCL:70 UCL:130 RPD:20
JMAMV1AD-LCS:
Uranium RDL:0.144343 ug/L LCL:70 UCL:130 RPD:20

JLPH61AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JL8VJ1AD-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JMAMV1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JMAMV1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JMAMV1AD-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

38

1/31/2007 8:43:58 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/31/2006, 2/5/2007, Batch: '7002228', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7002228						
AC		CalcC	BockJ	1/22/2007 1:42:00 PM		
SC			wagarr	IsBatched	1/2/2007 10:25:47 AM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep	1/22/2007 1:42:00 PM	RICH-RC-5016 Revision 6
SC			BockJ	Prep1C	1/22/2007 1:54:31 PM	RICH-RC-5017 REVISION 5
SC			BostedD	Prep2C	1/30/2007 4:09:33 PM	RICHRC5025 REV3
SC			DAWKINSO	InCnt1	1/30/2007 4:17:16 PM	RICH-RD-0007 REVISION 5
SC			DAWKINSO	CalcC	1/30/2007 8:47:41 PM	RICH-RD-0007 REVISION 5
AC			BockJ	1/22/2007 1:54:31 PM		
AC			BostedD	1/30/2007 4:09:33 PM		
AC			DAWKINSO	1/30/2007 4:17:16 PM		
AC			DAWKINSO	1/30/2007 8:47:41 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.26

1/30/2007 10:07:26 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/30/2006, 2/4/2007, Batch: '7002227', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7002227						
AC		CalcC	BockJ	1/15/2007 11:14:31		
SC			wagarr	IsBatched	1/2/2007 10:25:47 AM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep	1/15/2007 11:14:31 AM	RICH-RC-5016 Revision 6
SC			BockJ	Prep1C	1/15/2007 11:18:25 AM	RICH-RC-5016 REVISION 6
SC			HarveyK	InSep1	1/15/2007 1:08:17 PM	RICH-RC-5065 REV5
SC			HarveyK	Sep1C	1/16/2007 1:07:43 PM	RICH-RC-5065 REV5
SC			BlackCL	InCnt1	1/16/2007 1:09:52 PM	RICH-RD-0001 REVISION 3
SC			BlackCL	CalcC	1/17/2007 6:56:23 AM	RICH-RD-0001 REVISION 3
AC			BockJ	1/15/2007 11:18:25		
AC			HarveyK	1/15/2007 1:08:17 PM		
AC			HarveyK	1/16/2007 1:07:43 PM		
AC			BlackCL	1/16/2007 1:09:52 PM		
AC			BlackCL	1/17/2007 6:56:23		

AC: Accepting Entry; SC: Status Change

1/30/2007 12:13:26 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/30/2006. 2/4/2007, Batch: '7002225', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7002225						
AC		Cnt1C	BockJ	1/15/2007 9:52:08		
SC			wagarr	IsBatched	1/2/2007 10:25:47 AM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep	1/15/2007 9:52:08 AM	RICH-RC-5016 Revision 6
SC			BockJ	Prep1C	1/15/2007 10:45:24 AM	RICH-RC-5015 REVISION 4
SC			AntonsonL	InSep1	1/23/2007 1:11:39 PM	RICH-RC-5015 REVISION 4
SC			AntonsonL	Sep1C	1/29/2007 8:35:54 AM	RICH-RC-5015 REVISION 4
SC			NelsonT	Cnt1C	1/29/2007 6:03:19 PM	RICH-RC-5058 REV 7
AC			BockJ	1/15/2007 10:45:24		
AC			AntonsonL	1/23/2007 1:11:39 PM		
AC			AntonsonL	1/29/2007 8:35:54		
AC			NelsonT	1/29/2007 6:03:19 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:5

ICOCFractions v4.8.26