

W05066B

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RECEIVED

FEB 27 2007

D L STEWART

20 pages

Analytical Data Package Prepared For
Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

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

Data Package Contains _____ Pages

Report Nbr: 34547

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05066B	W07-011	B1L6X9	J7B070314-1	JN3071AA	9JN30710	7038397

Comments:



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 25, 2007

Attention: Dot Stewart

SAF Number	:	W07-011
Date SDG Closed	:	November 17, 2006
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W05066A
Data Deliverable	:	15-Day / Summary

CASE NARRATIVE

I. Introduction

On January 25, 2007 a request for reanalysis of a water sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1L6X9	JN307	WATER	1/25/07

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:

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

Liquid Scintillation Counting

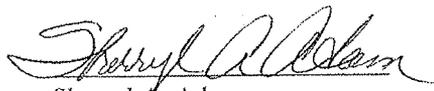
Total Uranium

Total Uranium by method RICH-RC-5058:

The LCS, batch blank, samples, sample duplicate (B1L6X9), and sample matrix spike (B1L6X9) 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

W05066B

02/07/2007
RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-A19981

Severn Trent Incorporated,
2800 George Washington
Richland, WA 99354

JTB070314
Due 02-22-07

Battelle PNNL Order Number: 070207STLRL-R3709

Sample Delivery Group: W05066

Special Instructions None

Samples(s)

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME:
9JJ2KR10	B1L6X9	Reanalysis	15/15	UTOT_KPA

JN307

Deliver Report Results to: Dorothy L. Stewart, K6-96
c/o Secretary
3110 Port of Benton Blvd.
Richland, WA 99352

The report results must reference the Battelle PNNL-order number, SDG number, and the Battelle PNNL sample identification number shown above.

Adam, Sherryl

From: Hampt, Heidi [heidi.hampt@pnl.gov]
Sent: Wednesday, February 07, 2007 1:52 PM
To: Adam, Sherryl
Cc: Stewart, Dorothy L
Subject: Request for Recheck, Recount, or Reanalysis Order

Attachments: 070207STLR3709.rtf



070207STLR3709
.rtf (3 KB)

<<070207STLR3709.rtf>>

See Attached

Drinking Water Method Cross References

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

Uncertainty Estimation

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

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

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

Report Definitions

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

2/25/2007 3:13:16 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34547 File Name: h:\Reportdb\edd\Fead\VRad\W05066B.Edd, h:\Reportdb\edd\Fead\VRad\34547.E

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JN30710	B1L6X9		MW6-SBB-A1	W07-011	W05066B					11/16/2006 13:36				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7038397	Uranium	7440-61-1	4.81E+01	ug/L	5.7E+00	5.7E+00		8.25E-02		UTOT_KPA	2.54E-02	ML	02/22/2007 09:22	1

STL Richland

rptFeadRadSummaryEdd v3.48

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

1

Sunday, February 25, 2007

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05066B.Edd, h:\Reportdb\edd\Fead\Rad\34547.E

Lab Sample Id: JN3331AB

Sdg/Rept Nbr: W05066B 34547

Collection Date: 11/16/2006 13:36

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 02/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								AD	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
7038397 BLK	Uranium 7440-61-1	0.00E+00	ug/L	0.0E+00 0.0E+00	U	2.10E-01			UTOT_KPA	2.51E-02 ML	02/22/2007 09:13				D

Sunday, February 25, 2007

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\Fead\Rad\W05066B.Edd, h:\Reportdb\eddd\Fead\Rad\34547.E

Lab Sample Id: JN3331CS

Sdg/Rept Nbr: W05066B 34547

Collection Date: 11/16/2006 13:36

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 02/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp	AE	H			
	MW6-SBB-A19981														
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7038397 BS	Uranium 7440-61-1	3.49E+01	ug/L	4.1E+00 4.1E+00		8.22E-02		3.55E+01 98.2	UTOT_KPA	2.55E-02	02/22/2007 09:18			70 130	D

STL Richland

rptFeadRadEdd v3.68

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

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

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

2

Sunday, February 25, 2007

STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05066B.Edd, h:\Reportdb\edd\Fead\Rad\34547.E

Lab Sample Id: JN3331DS

Sdg/Rept Nbr: W05066B 34547

Collection Date: 11/16/2006 13:36

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 02/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	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
7038397 BS	Uranium 7440-61-1	3.63E+00	ug/L	3.7E-01 3.7E-01		8.32E-02		3.60E+00 100.8	UTOT_KPA	2.52E-02 ML	02/22/2007 09:20			70 130	D

Sunday, February 25, 2007

STL Richland QC Duplicate Report

Lab Code: STLRLL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\eddd\FeadIV\Rad\W05066B.Edd, h:\Reportdb\eddd\FeadIV\Rad\34547.E

Lab Sample Id: JN3071DR **Sdg/Rept Nbr:** W05066B 34547 **Collection Date:** 11/16/2006 13:36
Client Id: B1L6X9 **Matrix:** WATER WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 02/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-011	MW6-SBB-A19981								AC	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
7038397 DUP	Uranium 7440-61-1	4.84E+01 4.81E+01	ug/L	5.7E+00 5.7E+00		8.00E-02			UTOT_KPA	2.62E-02 ML	02/22/2007 09:25	.6 20.0	0.1 3		D

Sunday, February 25, 2007

STL Richland Qc Matrix Spike Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\Fead\Rad\W05066B.Edd, h:\Reportdb\eddd\Fead\Rad\34547.E

Lab Sample Id: JN3071CW

Sdg/Rept Nbr: W05066B 34547

Collection Date: 11/16/2006 13:36

Client Id: B1L6X9

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 02/07/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W07-011	MW6-SBB-A19981								AB	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
7038397 MS	Uranium 7440-61-1	3.50E+01	ug/L	1.1E+01 1.1E+01		8.22E-02		3.54E+01 99.0	UTOT_KPA	2.55E-02 ML	02/22/2007 09:23			60 140	D



STL

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

2/23/2007 11:25:42 AM

Lot No., Date: J7B070314; 02/22/2007
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 7038397; RUNAT UNat by KPA
SDG, Matrix: W05066B; WATER

1.0 COC

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

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

3.0 QC & Samples

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

4.0 Raw Data

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

Yes No N/A

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

Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

Yes No N/A

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

Yes No N/A

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

Yes No N/A

5.0 Other

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

5.4 Was transcription checked? Yes No N/A

Yes No N/A

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

Yes No N/A

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

Yes No N/A

6.0 Comments on any No response:

First Level Review ETZ Date 2/23/07



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 7038397
W05066B

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

Comments on any "No" response: _____

Second Level Review: Sheryl A Adams Date: 2-23-07

PNNL <i>JL K180129</i> <i>W05064</i> Fluor Hanford <i>due 01-01-07</i>		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # W07-011-228
Collector D. WALL		Contact/Requester Dot Stewart		Telephone No. 509-376-5056 MSIN FAX
SAF No. W07-011		Sampling Origin Hanford Site		Purchase Order/Charge Code
Project Title RCRA, NOVEMBER 2006		<i>HNF-N-5063</i>		Ice Chest No. <i>GRP-06005</i> Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland		Method of Shipment Govt. Vehicle		Bill of Lading/Air Bill No.
Protocol RCRA		Priority: 45 Days		Offsite Property No.
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.	

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1L6X9		W	<i>11-16-06</i>	<i>1336</i>	1x20-mL P	Activity Scan	None
B1L6X9		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
B1L6X9		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1L6X9		W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	HNO3 to pH <2
B1L6X9		W	↓	↓	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
<i>JJZKR</i>							

Relinquished By Fluor Hanford L. D. WALL <i>P. O. Wall</i>	Date/Time NOV 16 2006	Received By <i>S. Smith</i> S. SMITH	Date/Time NOV 16 2006	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time



STL

Sample Check-in List

Date/Time Received: 11-16-06 1510

Client: P6W SDG #: W05044 NA SAF #: W07-011 NA

Work Order Number: UGR180129 Chain of Custody # W07-011-288, 294, 228

Shipping Container ID: _____ Air Bill # _____

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

Sample Custodian: S. Smith Date: 11-16-06 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, 9/03, Rev. 5

STL RICHLAND

2/8/2007 7:33:26 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

DH UNat_Laser PrpRC5015

PRIORITY

Pipet #: _____

SS Total Uranium by KPA

SI CLIENT: HANFORD

Sep1 DT/Tm Tech:

AnalyDueDate: 02/22/2007

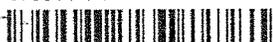
W050668

Batch: 7038397 WATER ug/L
SEQ Batch, Test: None All Tests: 7038397 DHSS,

PM, Quote: SA , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JN307-1-AA J7B070314-1-SAMP  11/16/2006 13:36		25.40g,in						
			AmtRec: 500MLP		#Containers: 1		Scr: Alpha: Beta:	
2 JN307-1-AC-S J7B070314-1-MS  11/16/2006 13:36		25.50g,in	unsi3585 02/05/07,pd 01/23/07,r					
			AmtRec: 500MLP		#Containers: 1		Scr: Alpha: Beta:	
3 JN307-1-AD-X J7B070314-1-DUP  11/16/2006 13:36		26.20g,in						
			AmtRec: 500MLP		#Containers: 1		Scr: Alpha: Beta:	
4 JN333-1-AA-B J7B070000-397-BLK  11/16/2006 13:36		25.10g,in						
			AmtRec:		#Containers: 1		Scr: Alpha: Beta:	
5 JN333-1-AC-C J7B070000-397-LCS  11/16/2006 13:36		25.50g,in	unsi3586 02/05/07,pd 01/23/07,r					
			AmtRec:		#Containers: 1		Scr: Alpha: Beta:	
6 JN333-1-AD-C J7B070000-397-LCS  11/16/2006 13:36		25.20g,in	unsc1486 01/10/07,pd 04/28/06,r					
			AmtRec:		#Containers: 1		Scr: Alpha: Beta:	

2/23/2007 11:25:08 AM

ICOC Fraction Transfer/Status Report

ByDate: 2/23/2006, 2/28/2007, Batch: '7038397', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
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7038397

AC		Cnt1C	BockJ	2/8/2007 7:26:26 AM	
SC			wagarr	IsBatched 2/7/2007 2:44:09 PM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep 2/8/2007 7:26:26 AM	rich-rc-5015 rEVISION 4
SC			BockJ	Prep1C 2/8/2007 7:33:29 AM	RICH-RC-5015 REVISION 4
SC			AshworthA	InPrep2 2/13/2007 11:26:42 AM	RICH-RC-5015 REVISION 4
SC			AntonsonL	Prep2C 2/15/2007 7:16:27 AM	RICH-RC-5015 REVISION 4
SC			NelsonT	Cnt1C 2/22/2007 11:36:01 AM	RICH-RC-5058 REV 7
AC			BockJ	2/8/2007 7:33:29 AM	
AC			AshworthA	2/13/2007 11:26:42	
AC			AntonsonL	2/15/2007 7:16:27	
AC			NelsonT	2/22/2007 11:36:01	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.