

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: 32774**

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W04894A	S06-003	B1HM78	J6G060205-1	H8QLG1AC	9H8QLG10	6191187
		B1HM78	J6G060205-1	H8QLG2AA	9H8QLG20	6191186

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Comments:

**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

July 21, 2006

Attention: Dot Stewart

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SAF Number	:	S06-003,
Date SDG Closed	:	March 29, 2006
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W04894A
Data Deliverable	:	15-Day / Priority

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### CASE NARRATIVE

#### I. Introduction

On July 6, 2006, a request for reanalysis of one water sample was received at STL Richland (STLR). Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Pacific Northwest National Laboratories (PGW) specific ID:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1HM78	H8QLG (H29M9)	WATER	4/13/06

#### II. Sample Receipt

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

#### III. Analytical Results/Methodology

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

The requested analyses were:

**Gas Proportional Counting**  
Gross Alpha by method RICH-RC-5014  
Gross Beta by method RICH-RC-5014

**IV. Quality Control**

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

QC and sample results are reported in the same units.

**V. Comments**

**Gas Proportional Counting**

Gross Alpha by method RICH-RC-5014:

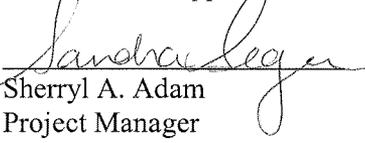
The aliquot size for sample B1HM78 was reduced due to high weight screens. Initially the duplicate and its sample did not agree, however upon recounting the results were acceptable. The reanalysis results are within RER acceptance criteria. The LCS, batch blank, samples and sample duplicate (B1HM78) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

The aliquot size for sample B1HM78 was reduced due to high weight screens. The reanalysis results are within RER acceptance criteria. The LCS, batch blank, samples and sample duplicate (B1HM78) 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:

  
for Sherryl A. Adam  
Project Manager

## Drinking Water Method Cross References

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

## Uncertainty Estimation

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

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

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

## Report Definitions

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

7/21/2006 12:50:44 PM

### STL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 32774      File Name: h:\Reportdb\edd\Fead\VRad\W04894A.Edd, h:\Reportdb\edd\Fead\VRad\32774.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:				
9H8QLG10	B1HM78		MW6-SBB-A1	S06-003	W04894A					04/13/2006 09:28				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6191187	BETA	12587-47-2	1.84E+02	pCi/L	1.0E+01	2.5E+01		6.95E+00	100.0	9310_ALPHABETA	8.23E-02	L	07/20/200 12:56	I

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Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9H8QLG20	B1HM78		MW6-SBB-A1	S06-003	W04894A					04/13/2006 09:28				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6191186	ALPHA	12587-46-1	3.14E+01	pCi/L	6.7E+00	9.3E+00		3.22E+00	100.0	9310_ALPHABETA	1.057E-01	L	07/21/200 08:22	I

Friday, July 21, 2006

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04894A.Edd, h:\Reportdb\edd\FeadIV\Rad\32774.E

Lab Sample Id: H8WX52AB

Sdg/Rept Nbr: W04894A

32774

Collection Date: 04/13/2006 09:28

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 07/06/2006

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
6191186 BLK	ALPHA 12587-46-1	6.53E-02	pCi/L	3.9E-01 3.9E-01	U	1.08E+00	100.0		9310_ALPHAB	1.997E-01 L	07/21/2006 08:22				D

Friday, July 21, 2006

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04894A.Edd, h:\Reportdb\edd\FeadIV\Rad\32774.E

Lab Sample Id: H8WX71AB

Sdg/Rept Nbr: W04894A 32774

Collection Date: 04/13/2006 09:28

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	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
6191187 BLK	BETA 12587-47-2	1.16E+00	pCi/L	1.2E+00 1.2E+00	U	2.53E+00	100.0		9310_ALPHAB	1.999E-01 L	07/20/2006 12:56				D

Friday, July 21, 2006

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\Rad\W04894A.Edd, h:\Reportdb\ledd\Fead\Rad\32774.E

Lab Sample Id: H8WX51CS

Sdg/Rept Nbr: W04894A 32774

Collection Date: 04/13/2006 09:28

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	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/ L	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6191186 BS	ALPHA 12587-46-1	2.19E+01	pCi/L	5.3E+00 3.1E+00		1.04E+00	100.0	2.29E+01 95.7	9310_ALPHAB	2.005E-01	07/20/2006 12:14			70 130	D

Friday, July 21, 2006

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04894A.Edd, h:\Reportdb\edd\Fead\Rad\32774.E

Lab Sample Id: H8WX52CS

Sdg/Rept Nbr: W04894A 32774

Collection Date: 04/13/2006 09:28

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								AG	H					
Batch #/ Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6191186 BS	ALPHA 12587-46-1	1.97E+01	pCi/L	5.0E+00 3.0E+00		7.69E-01	100.0	2.29E+01 86.1	9310_ALPHAB	2.005E-01 L	07/21/2006 08:22			70 130	D

Friday, July 21, 2006

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04894A.Edd, h:\Reportdb\edd\FeadIV\Rad\32774.E

Lab Sample Id: H8WX71CS

Sdg/Rept Nbr: W04894A 32774

Collection Date: 04/13/2006 09:28

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								AI	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6191187 BS	BETA 12587-47-2	2.28E+01	pCi/L	3.8E+00 2.4E+00		2.57E+00	100.0	2.29E+01 99.5	9310_ALPHAB	1.996E-01 L	07/20/2006 12:56			70 130	D

Friday, July 21, 2006

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04894A.Edd, h:\Reportdb\edd\FeadIV\Rad\32774.E

Lab Sample Id: H8QLG1ER

Sdg/Rept Nbr: W04894A 32774

Collection Date: 04/13/2006 09:28

Client Id: B1HM78

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
S06-003	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
6191187 DUP	BETA 12587-47-2	1.81E+02 1.84E+02	pCi/L	3.7E+01 9.6E+00		6.34E+00	100.0		9310_ALPHAB	8.60E-02 L	07/20/2006 12:56	1.5 20.0	0.1 3		D

Friday, July 21, 2006

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04894A.Edd, h:\Reportdb\ledd\Fead\I\Rad\32774.E

Lab Sample Id: H8QLG2DR

Sdg/Rept Nbr: W04894A 32774

Collection Date: 04/13/2006 09:28

Client Id: B1HM78

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
S06-003	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
6191186 DUP	ALPHA 12587-46-1	2.65E+01 3.14E+01	pCi/L	8.1E+00 6.1E+00		3.03E+00	100.0		9310_ALPHAB	1.057E-01 L	07/21/2006 08:22	17.1 20.0	0.9 3		D

Lot No., Due Date: J6G060205; 07/21/2006  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 6191186; RALPHA-A Alpha by GPC-Am  
 SDG, Matrix: W04894A; WATER

**1.0 COC**

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

Yes No N/A

**2.0 QC Batch**

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

**3.0 QC & Samples**

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

Yes No N/A

3.2 Is the LCS 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:

Initially the duplicate and its sample did not match  
 However upon recounting it was acceptable.

First Level Review \_\_\_\_\_

Date \_\_\_\_\_



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: \_\_\_\_\_

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: *Sandra Seger* Date: 7/21/06

# Clouseau Nonconformance Memo



NCM #: <b>10-08370</b>	Classification: <b>Anomaly</b>
NCM Initiated By: <u>Steven Wheland</u>	Status: <b>GLREVIEW</b>
Date Opened: <u>07/21/2006</u>	Production Area: Environmental - Prep
Date Closed:	Tests: Alpha by GPC-Am
	Lot #'s (Sample #'s): J6G060205 (1), J6G100000 (186),
	QC Batches: 6191186
Nonconformance: Dups not within acceptance limits	
Subcategory: Other (explanation required)	

### Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Steven Wheland	07/21/2006	Initially the duplicate and its sample did not match, however upon recounting they were acceptable.

### Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Steven Wheland	07/21/2006	report data

### Client Notification Summary

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

### Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
		This section not yet completed by QA.	

### Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
----------------------	--------------------	-----------------

Lot No., Due Date: J6G060205; 07/21/2006  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6191187; RBETA-SR Beta by GPC-Sr/Y  
SDG, Matrix: W04894A; WATER

**1.0 COC**

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

**2.0 QC Batch**

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

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

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

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

**3.0 QC & Samples**

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

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

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

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

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

**4.0 Raw Data**

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

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

4.3 Were Yields entered correctly?  Yes  No  N/A

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

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

**5.0 Other**

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

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

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

5.4 Was transcription checked?  Yes  No  N/A

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

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

6.0 Comments on any No response:

First Level Review



Date

7/21/06



# STL

## Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6191187  
W04894A

Review Item	Yes (✓)	No (✓)	N/A (✓)
<b>A. Sample Analysis</b>			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
<b>B. QC Samples</b>			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery 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?	✓		
<b>C. Other</b>			
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: 7-21-06

J6G060205  
W04894A  
Due 7-21-06

WΦ 4894 A

07/06/2006

**RECHECK, RECOUNT, OR REANALYSIS ORDER**  
**CONTRACT NO MW6-SBB-**

**Severn Trent**  
**2800 George Washington**  
**Richland, WA 99354**

B1H m78  
Alpha  
Beta

Battelle PNNL Order 060706STLRL-R3494  
Sample Delivery W04866 (Co-60) and W04894 (alpha/beta)  
Special Please reanalyze sample B1HM78 for alpha and beta.

Rec'd 7/6/06  
Due 7/21/06

Samples(s)

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME
9HXD3T10	B1HCR7	Reanalysis	15/15	GAMMALL_GS
9H29M910	B1HM78	Reanalysis	15/15	9310_ALPHABETA

H8QLG

Deliver Report Results Dorothy L. Stewart, K6-96

c/o Secretary  
3110 Port of Benton Blvd.

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

## Seger, Sandra

---

**From:** Adam, Sherryl  
**Sent:** Thursday, July 06, 2006 9:06 AM  
**To:** Seger, Sandra  
**Subject:** FW: Request for Recheck, Recount, or Reanalysis Order

**Attachments:** 060706STLRLR3494.rtf



060706STLRLR3494  
.rtf (11 KB)

-----Original Message-----

**From:** Hampt, Heidi [mailto:heidi.hampt@pnl.gov]  
**Sent:** Thursday, July 06, 2006 9:02 AM  
**To:** Adam, Sherryl  
**Cc:** Stewart, Dorothy L  
**Subject:** Request for Recheck, Recount, or Reanalysis Order

<<060706STLRLR3494.rtf>>  
Sherryl,

My RDR system just grouped two RDRs from different SDGs together with one RDR number. Please let me know if this will be a problem for you.

Thanks,  
Heidi

STILL RICHLAND

PNNL J6D140129  
W04894  
Due 5/29/04

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S06-003-83  
Page 1 of 1

Collector <b>D. P. CONNOLLY</b>	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN FAX
SAF No. S06-003	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title SURV MARCH 2006	<i>DTS-SMWS-H104</i>	Ice Chest No. <i>SAWS-109</i>	Temp.
Shipped To (Lab) Sevcon 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
B1HM78		W	<i>4/30/06</i>	<i>0928</i>	1x20-mL P	Activity Scan <i>H29m9</i>	None
B1HM78		W	↓	↓	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1HM78		W	↓	↓	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B1HM78		W	↓	↓	3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1)	HNO3 to pH <2
B1HM78		W	↓	↓	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None

Relinquished By <b>D. P. CONNOLLY</b> <i>[Signature]</i>	Date/Time <i>1500</i> <b>APR 13 2006</b>	Received By <i>S. Welch</i> <b>S. Welch</b>	Date/Time <i>1500</i> <b>APR 13 2006</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SI = Sludge WI = Wine W = Water 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

111

7/18/2006 8:24:13 AM

### Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

AZ Gross Alpha PrpRC5014  
S7 Gross Alpha by GPC using Am-241 curve  
5I CLIENT: HANFORD

Pipet #: 229

AnalyDueDate: 07/21/2006

WO 4894B

**PRIORITY**

Sep1 DT/Tm Tech:

Batch: 6191186 WATER pCi/L

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: RutherfordJ

*[Handwritten signature]*

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8QLG-1-AA J6G060205-1-SAMP 04/13/2006 09:28	105.70g,in									
<p style="text-align: center;"><i>1.5 42.6 50 10A 1239 7/18/06</i></p>										
			AmtRec: LP	#Containers: 1			Scr:	Alpha:		Beta:
2 H8QLG-1-AD-X J6G060205-1-DUP 04/13/2006 09:28	105.70g,in									
<p style="text-align: center;"><i>39.8 10B</i></p>										
			AmtRec: LP	#Containers: 1			Scr:	Alpha:		Beta:
3 H8WX5-1-AA-B J6G100000-186-BLK 04/13/2006 09:28	199.70g,in									
<p style="text-align: center;"><i>0.1 10C</i></p>										
			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:
4 H8WX5-1-AC-C J6G100000-186-LCS 04/13/2006 09:28	200.50g,in		ASD3920 07/18/06,pd 02/09/06,r							
<p style="text-align: center;"><i>0.5 10D</i></p>										
			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:

Comments: H8QLG-SAMP "Comments: Reduced aliquots on sample H8QLG due to wt. screen activity. jhr 07/18/06"

*PHC 2.0 JHR 7/18/06*

All Clients for Batch:

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

H8QLG1AA-SAMP Constituent List:

ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
H8WX51AA-BLK:					
ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
H8WX51AC-LCS:					
Am-241	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

7/18/2006 8:24:15 AM

### Sample Preparation/Analysis

Balance Id:1120482733

AZ Gross Alpha PrpRC5014  
S7 Gross Alpha by GPC using Am-241 curve  
5I CLIENT: HANFORD

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

AnalyDueDate: 07/21/2006

Sep1 DT/Tm Tech:

Batch: 6191186  
SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ



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

H8QLG1AA-SAMP Calc Info:

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

H8WX51AA-BLK:

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

H8WX51AC-LCS:

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

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



STL

\*\*\* RE-COUNT REQUEST \*\*\*

DUE DATE 7/21/06

CUSTOMER Hanford  
ANALYSIS d  
MATRIX H<sub>2</sub>O  
LOT NUMBER J64060205  
SAMPLE DELIVERY GROUP W04894B  
OLD BATCH NUMBER 6191286

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) <u>all</u>	<u>duplicate mismatch</u>
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	

7/20/2006 3:46:37 PM

### Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,  
Pacific Northwest National Lab

AZ Gross Alpha PrpRC5014  
S7 Gross Alpha by GPC using Am-241 curve  
5I CLIENT: HANFORD

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

AnalyDueDate: 07/21/2006

Sep1 DT/Tm Tech:

Batch: 6191186 WATER pCi/L  
SEQ Batch, Test: None

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

Prep Tech: RutherfordJ



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8QLG-1-AA J6G060205-1-SAMP 04/13/2006 09:28		105.70g,in								
2 H8QLG-1-AD-X J6G060205-1-DUP 04/13/2006 09:28		105.70g,in								
3 H8QLG-2-AA J6G060205-1-SAMP 04/13/2006 09:28		105.70g		105	42.6	50.	10B	0844	7/2/06	
4 H8QLG-2-AD-X J6G060205-1-DUP 04/13/2006 09:28		105.70g			37.8 <sup>unit</sup>		10C			
5 H8WX5-1-AA-B J6G100000-186-BLK 04/13/2006 09:28		199.70g,in								
6 H8WX5-1-AC-C J6G100000-186-LCS 04/13/2006 09:28		200.50g,in	ASD3920 07/18/06,pd 02/09/06,r							
7 H8WX5-2-AA-B J6G100000-186-BLK 04/13/2006 09:28		199.70g			0.5		10D	0844	7/2/06	

7/20/2006 3:46:38 PM

### Sample Preparation/Analysis

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

AZ Gross Alpha PrpRC5014  
S7 Gross Alpha by GPC using Am-241 curve  
5I CLIENT: HANFORD

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

AnalyDueDate: 07/21/2006

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

Batch: 6191186

pCi/L

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

SEQ Batch, Test: None

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



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

8 H8WX5-2-AC-C J6G100000-186-LCS		200.50g	ASD 3970	1.5	0.5	50	10E	0848	7/20/06	
-------------------------------------	--	---------	-------------	-----	-----	----	-----	------	---------	--



04/13/2006 09:28      AmtRec:      #Containers: 1      Scr:      Alpha:      Beta:

Comments: H8QLG-SAMP "Comments: Reduced aliquots on sample H8QLG due to wt. screen activity. jhr 07/18/06"

All Clients for Batch:

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

H8QLG1AA-SAMP Constituent List:

H8QLG1AA-SAMP	ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
H8WX51AA-BLK:	ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
H8WX51AC-LCS:	Am-241	RDL:	pCi/L	LCL:70	UCL:130	RPD:20
H8WX52AA-BLK:	ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
H8WX52AC-LCS:	Am-241	RDL:	pCi/L	LCL:70	UCL:130	RPD:20
H8QLG1AA-SAMP	Calc Info:					
	Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N      Sci.Not.: Y      ODRs: B
H8WX51AA-BLK:	Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N      Sci.Not.: Y      ODRs: B
H8WX51AC-LCS:	Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N      Sci.Not.: Y      ODRs: B
H8WX52AA-BLK:	Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N      Sci.Not.: Y      ODRs: B
H8WX52AC-LCS:	Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N      Sci.Not.: Y      ODRs: B

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

# ICOC Fraction Transfer/Status Report

ByDate: 7/21/2005, 7/26/2006, Batch: '6191186', User: \*ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	6191186				
AC		CalcC	RutherfordJ	7/13/2006 12:09:26	
SC			wagarr	IsBatched	7/10/2006 9:28:13 AM
SC			RutherfordJ	InPrep	7/13/2006 12:09:26 PM
SC			ScottM	InPrep2	7/18/2006 9:12:24 AM
SC			ScottM	Prep2C	7/20/2006 11:25:13 AM
SC			ScottM	Prep2C	7/20/2006 11:25:29 AM
SC			BlackCL	InCnt1	7/20/2006 11:37:11 AM
SC			BlackCL	CalcC	7/20/2006 12:57:52 PM
SC			BlackCL	InCnt1	7/21/2006 6:06:03 AM
SC			BlackCL	CalcC	7/21/2006 10:21:36 AM
AC			ScottM		7/18/2006 9:12:24
AC			ScottM		7/20/2006 11:25:13
AC			ScottM		7/20/2006 11:25:29
AC			BlackCL		7/20/2006 11:37:11
AC			BlackCL		7/20/2006 12:57:52
AC			BlackCL		7/21/2006 6:06:03
AC			BlackCL		7/21/2006 10:21:36

AC: Accepting Entry; SC: Status Change

7/18/2006 8:24:15 AM

### Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,  
Pacific Northwest National Lab

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

Pipet #: 229

AnalyDueDate: 07/21/2006 WO 4894B

Sep1 DT/Tm Tech:

Batch: 6191187 WATER pCi/L

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: RutherfordJ *[Signature]*

**PRIORITY**

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8QLG-1-AC J6G060205-1-SAMP 04/13/2006 09:28	82.30g,in									
<div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> <span><i>1.5</i></span> <span><i>590</i></span> <span><i>100</i></span> <span><i>87A</i></span> <span><i>1345</i></span> <span><i>7/20/06</i></span> </div>										
AmtRec: LP			#Containers: 1		Scr:		Alpha:		Beta:	
2 H8QLG-1-AE-X J6G060205-1-DUP 04/13/2006 09:28	86.00g,in									
<div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> <span><i>493</i></span> <span><i>27B</i></span> </div>										
AmtRec: LP			#Containers: 1		Scr:		Alpha:		Beta:	
3 H8WX7-1-AA-B J6G100000-187-BLK 04/13/2006 09:28	199.90g,in									
<div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> <span><i>0.1</i></span> <span><i>87C</i></span> </div>										
AmtRec:			#Containers: 1		Scr:		Alpha:		Beta:	
4 H8WX7-1-AC-C J6G100000-187-LCS 04/13/2006 09:28	199.60g,in		BESB2863 07/06/06,pd 12/28/05,r							
<div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> <span><i>0.5</i></span> <span><i>87D</i></span> </div>										
AmtRec:			#Containers: 1		Scr:		Alpha:		Beta:	

Comments: H8QLG-SAMP "Comments: Reduced aliquots on sample H8QLG due to wt. screen activity. jhr 07/18/06"

*pHC2.0 JHR 7/18/06*

All Clients for Batch:

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

H8QLG1AC-SAMP Constituent List:

BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
H8WX71AA-BLK:					
BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
H8WX71AC-LCS:					
Sr-90	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

7/18/2006 8:24:16 AM

### Sample Preparation/Analysis

Balance Id:1120482733

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

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

AnalyDueDate: 07/21/2006

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

Batch: 6191187  
SEQ Batch, Test: None

pCi/L

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

Prep Tech: ,RutherfordJ



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

**H8QLG1AC-SAMP Calc Info:**

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

**H8WX71AA-BLK:**

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

**H8WX71AC-LCS:**

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

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

# ICOC Fraction Transfer/Status Report

ByDate: 7/21/2005, 7/26/2006, Batch: '6191187', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
<b>6191187</b>				
AC		<b>CalcC</b>	<b>ScottM</b> 7/18/2006 9:12:30	
SC		wagarr	IsBatched 7/10/2006 9:28:13 AM	ICOC_RADCALC v4.8.24
SC		ScottM	InPrep2 7/18/2006 9:12:30 AM	RICH-RC-5014 REVISION 6
SC		ScottM	Prep2C 7/20/2006 11:25:57 AM	RICH-RC-5014 REVISION 6
SC		BlackCL	InCnt1 7/20/2006 11:36:52 AM	RICH-RD-0003 REVISION 4
SC		DAWKINSO	CalcC 7/20/2006 10:43:38 PM	RICH-RD-0003 REVISION 4
AC		<b>RutherfordJ</b>	7/18/2006 9:32:20	
AC		<b>ScottM</b>	7/20/2006 11:25:57	
AC		<b>BlackCL</b>	7/20/2006 11:36:52	
AC		<b>DAWKINSO</b>	7/20/2006 10:43:38	

AC: Accepting Entry; SC: Status Change

## Seger, Sandra

---

**From:** Seger, Sandra  
**Sent:** Friday, July 21, 2006 1:00 PM  
**To:** Stewart, Dorothy L  
**Cc:** Felmy, Diana; 'Hampt, Heidi'  
**Subject:** W04894A Priority Report and EDD

**Attachments:** W04894A.Edd; W04894A.pdf



W04894A.Edd (8 KB)



W04894A.pdf (910 KB)

STL Richland  
2800 George Washington Way  
Richland, WA 99354-1613  
(509) 375-3131  
(509) 375-5590 FAX

30056643 21 JUL 06  
J6G060205 00384868

SEVERN TRENT LABORATORIES, INC.  
BOX 4305  
PHILADELPHIA, PA 19175-4305

NET 30 DAYS  
SAMPLE RECEIVING DATE : 7/06/06  
REPORT DATE : 7/21/06  
Pacific Northwest Nationa

Pacific Northwest National Labortories  
Pacific Northwest National Laboratory  
K6-96  
P O Box 999  
Richland, WA 99352

Pacific Northwest National Laboratory  
K6-96  
P O Box 999  
Richland, WA 99352

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