

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 28 Pages*

Report Nbr: 35556

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05154	X07-013	B1LX49	J7D110328-1	JTP801AA	9JTP8010	7115523
		B1LX50	J7D110328-2	JTP851AA	9JTP8510	7115523
		B1LX51	J7D110328-3	JTP861AA	9JTP8610	7115523
		B1LX52	J7D110328-4	JTP891AA	9JTP8910	7115524

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Comments:

# Certificate of Analysis

Fluor Hanford  
1200 Jadwin Ave.  
Richland, WA 99352

June 11, 2007

Attention: Steve Trent

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SAF Number	:	X07-013
Date SDG Closed	:	April 25, 2007
Number of Samples	:	Four (4)
Sample Type	:	Water
SDG Number	:	W05154
Data Deliverable	:	45-Day / Summary

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## CASE NARRATIVE

### I. Introduction

On April 11, 2007 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:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B1LX49	JTP80	4/11/07	WATER
B1LX50	JTP85	4/11/07	WATER
B1LX51	JTP86	4/11/07	WATER
B1LX52	JTP89	4/11/07	WATER

### II. Sample Receipt

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

### III. Analytical Results/Methodology

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

The requested analyses were:

**Alpha Spectroscopy**

Plutonium-238, -239/240 by method RICH-RC-5010

**Gas Proportional Counting**

Strontium-90 by method RICH-RC-5006

**IV. Quality Control**

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

QC and sample results are reported in the same units.

**V. Comments**

**Alpha Spectroscopy**

Plutonium-238, -239/240 by method RICH-RC-5010

The LCS, batch blank, samples and sample duplicate (B1LX49) results are within contractual requirements.

**Gas Proportional Counting**

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1LX52) 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,  $R = \text{constants} * f(x,y,z,...)$ . 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 ( $S/\sqrt{n}$ ), 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 (Result/Expected)-1 as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or STL Richland.
<b>Count Error (#s)</b>	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
<b>Total Uncert (#s) <i>u<sub>c</sub> Combined Uncertainty.</i></b>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
<b>(#s), Coverage Factor</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
<b>CRDL (RL)</b>	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
<b>Lc</b>	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgrndCnt} / \text{BkgrndCntMin}) / \text{SCntMin})) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$ . 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/TotUncert</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.

6/11/2007 1:17:05 PM

# STL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 35556      File Name: h:\Reportdb\edd\FeadIV\Rad\W05154.Edd, h:\Reportdb\edd\FeadIV\Rad\35556.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:				
9JTP8010	B1LX49		MW6-SBB-A1	X07-013	W05154					04/11/2007 10:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7115523	PU-238	13981-16-3	0.00E+00	pCi/L	9.7E-02	9.7E-02	U	2.28E-01	72.8	PUISO_PLATE_AE	2.005E-01	L	06/08/2007 16:51	I
7115523	PU-239	PU-239/240	1.42E+00	pCi/L	5.2E-01	5.6E-01		2.27E-01	72.8	PUISO_PLATE_AE	2.005E-01	L	06/08/2007 16:51	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:				
9JTP8510	B1LX50		MW6-SBB-A1	X07-013	W05154					04/11/2007 10:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7115523	PU-238	13981-16-3	-1.25E-02	pCi/L	7.9E-02	7.9E-02	U	2.08E-01	77.0	PUISO_PLATE_AE	2.001E-01	L	06/08/2007 16:52	I
7115523	PU-239	PU-239/240	1.43E+00	pCi/L	4.7E-01	5.2E-01		1.94E-01	77.0	PUISO_PLATE_AE	2.001E-01	L	06/08/2007 16:52	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:				
9JTP8610	B1LX51		MW6-SBB-A1	X07-013	W05154					04/11/2007 10:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7115523	PU-238	13981-16-3	0.00E+00	pCi/L	7.4E-02	7.4E-02	U	1.48E-01	86.4	PUISO_PLATE_AE	2.028E-01	L	06/08/2007 16:52	I
7115523	PU-239	PU-239/240	1.54E+00	pCi/L	4.8E-01	5.3E-01		1.68E-01	86.4	PUISO_PLATE_AE	2.028E-01	L	06/08/2007 16:52	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:				
9JTP8910	B1LX52		MW6-SBB-A1	X07-013	W05154					04/11/2007 10:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7115524	SR-90	10098-97-2	2.61E+01	pCi/L	1.1E+00	4.0E+00		6.14E-01	69.3	SRISO_SEP_PRE	9.75E-01	L	06/10/2007 11:12	I

Monday, June 11, 2007

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05154.Edd, h:\Reportdb\eddd\FeadIV\Rad\35556.Edd

Lab Sample Id: JVMVF1AB

Sdg/Rept Nbr: W05154 35556

Collection Date: 04/11/2007 10:00

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 04/11/2007

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	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7115523 BLK	PU-238 13981-16-3	2.51E-02	pCi/L	6.7E-02 6.7E-02	U	1.65E-01	105.0		PUIISO_PLATE	1.999E-01 L	06/08/2007 16:52				D
7115523 BLK	PU-239 PU-239/240	2.51E-02	pCi/L	6.7E-02 6.7E-02	U	1.65E-01	105.0		PUIISO_PLATE	1.999E-01 L	06/08/2007 16:52				D

Monday, June 11, 2007

### STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05154.Edd, h:\Reportdb\edd\FeadIV\Rad\35556.Edd

Lab Sample Id: JVMVH1AB

Sdg/Rept Nbr: W05154 35556

Collection Date: 04/11/2007 10:00

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 04/11/2007

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	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7115524 BLK	SR-90 10098-97-2	5.09E-01	pCi/L	6.3E-01 6.3E-01	U	1.28E+00	26.4		SRISO_SEP_P	1.0003E+00 L	06/10/2007 11:17				D

Monday, June 11, 2007

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05154.Edd, h:\Reportdb\edd\Fead\Rad\35556.Edd

Lab Sample Id: JVMVF1CS

Sdg/Rept Nbr: W05154 35556

Collection Date: 04/11/2007 10:00

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 04/11/2007

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
7115523 BS	PU-239 PU-239/240	5.03E+00	pCi/L	1.1E+00 7.8E-01		2.08E-01	98.8	4.75E+00 106.0	PUISO_PLATE	1.984E-01 L	06/08/2007 16:52			70 130	D

Monday, June 11, 2007

### STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05154.Edd, h:\Reportdb\edd\FeadIV\Rad\35556.Edd

Lab Sample Id: JVMVH1CS

Sdg/Rept Nbr: W05154 35556

Collection Date: 04/11/2007 10:00

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 04/11/2007

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
7115524 BS	SR-90 10098-97-2	1.46E+01	pCi/L	2.4E+00 1.2E+00		7.95E-01	43.0	1.37E+01 106.3	SRISO_SEP_P	9.993E-01 L	06/10/2007 11:17			70 130	D

Monday, June 11, 2007

### STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05154.Edd, h:\Reportdb\edd\Fead\Rad\35556.Edd

Lab Sample Id: JTP801CR

Sdg/Rept Nbr: W05154 35556

Collection Date: 04/11/2007 10:00

Client Id: B1LX49

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 04/11/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
X07-013	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
7115523 DUP	PU-238 13981-16-3	0.00E+00 0.00E+00	pCi/L	7.9E-02 7.9E-02	U	1.85E-01	87.8		PUISO_PLATE	2.005E-01 L	06/08/2007 16:52	0.0 20.0	0. 3		D
7115523 DUP	PU-239 PU-239/240	1.66E+00 1.42E+00	pCi/L	5.5E-01 5.1E-01		1.85E-01	87.8		PUISO_PLATE	2.005E-01 L	06/08/2007 16:52	15.5 20.0	0.6 3		D

Monday, June 11, 2007

### STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05154.Edd, h:\Reportdb\edd\FeadIV\Rad\35556.Edd

Lab Sample Id: JTP891CR

Sdg/Rept Nbr: W05154 35556

Collection Date: 04/11/2007 10:00

Client Id: B1LX52

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 04/11/2007

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
X07-013	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
7115524 DUP	SR-90 10098-97-2	2.45E+01 2.61E+01	pCi/L	3.7E+00 1.0E+00		5.47E-01	79.8		SRISO_SEP_P	1.0081E+00 L	06/10/2007 11:12	6.5 20.0	0.6 3		D

Lot No., Due Date: J7D110328; 06/11/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7115523; RPUISO Pulso by ALP  
 SDG, Matrix: W05154; WATER

8.0	Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used OK	Yes	No	N/A
8.07	The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09	Method Blank is within Control Limits. OK	Yes	No	N/A
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch!	Yes	No	N/A
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13	QAS Specified Duplicate Equation Value within Control Limits. Not Compared => JTP801AC PU-238 (RPD)	Yes	No	N/A
8.14	LCS within Control Limits. OK	Yes	No	N/A
8.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17	Tracer within Control Limits. OK	Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19	Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22	Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JTP801AA PU-239 1.4E+00 L:2.3E-01 JTP851AA PU-239 1.4E+00 L:1.9E-01 JTP861AA PU-239 1.5E+00 L:1.7E-01	Yes	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => PU-238 PU-239  OK; No Callin Level Found => PU-238 PU-239	Yes	No	N/A
8.24	Result + 3s >=0, Not Too Negative. OK	Yes	No	N/A

8.25 Counting Spectrum are within FWHM Limits. FWHM > maxFWHM => JTP851AA PU-239 59.4>0 JVMVF1AC PU-239 65.975>0 Q:V1	Yes No N/A <input checked="" type="checkbox"/>
8.26 Instruments have Current Calibrations.	Yes No N/A
8.27 Correct Count Library Used. Library Not Specified => JTP801AA I:[NUC_LIBR]AR_PU Q: JTP801AC I:[NUC_LIBR]AR_PU Q: JTP851AA I:[NUC_LIBR]AR_PU Q: JTP861AA I:[NUC_LIBR]AR_PU Q: JVMVF1AA I:[NUC_LIBR]AR_PU Q: JVMVF1AC I:[NUC_LIBR]AR_PU Q:	Yes No N/A
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version)	Yes No N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later version)	Yes No N/A
8.3 Comments:	
8.31 Results Blank Subtracted as Appropriate. OK	Yes No N/A <input checked="" type="checkbox"/>

First Level Review *Lisa Austerson*

Date 4/11/07



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

7115523

W05154

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:

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Second Level Review

*Sheryl A Adams*

Date: 6-11-07

Lot No., Due Date: J7D110328; 06/11/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 7115524; RSR85907 Sr-85/90 by GPC-7  
 SDG, Matrix: W05154; 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

*Ben Antonson*

Date

*6/11/07*



STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 7115524  
W05154

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: Sherry A. Adams Date: 6-11-07





PNNL <i>J7D110328</i> <i>W05154</i> <i>Due 03-25.07</i>	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # <b>X07-013-14</b>
		Page <u>1</u> of <u>1</u>

Collector <b>KJ. YOUNG</b>	Contact/Requester Dot Stewart	Telephone No. <b>MSIN FAX</b> 509-376-5056
SAF No. X07-013	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SPECIAL SAMPLING, JANUARY 2007	<b>HNF - N - 506 - 8</b>	Ice Chest No. <b>EDSG</b> Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol SURV	Priority: 45 Days	Offsite Property No.

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<b>SPECIAL INSTRUCTIONS</b> Hold Time      Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Do not combine X SAF samples with other sets. Need SDG to be stand alone. All labs except WSCF: Do not exceed SDG closure of 14 days. WSCF: SDG will close on a daily basis; X SAF samples into own SDG.
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
✓ B1LX51		W	<i>4/11/07</i>	<i>1000</i>	1x20-mL P	Activity Scan	None
✓ B1LX51		W	↓	↓	1x1000-mL G/P	PUISO_PLATE_AEA: Pu-238 + 239/240 (2)	HNO3 to pH <2
						<i>JTP 86</i>	

Relinquished By <b>KJ. YOUNG</b>	Print	Sign	Date/Time <i>1345</i> <b>APR 11 2007</b>	Received By <i>Epic Darby E. Darby</i>	Print	Sign	Date/Time <i>1345</i> <b>APR 11 2007</b>	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	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time	





# STL

### Sample Check-in List

Date/Time Received: 4/11/07 1345

Client: P6W

SDG #: W05154 NA

SAR #: X07-013 NA

Work Order Number: JAD110328

Chain of Custody #: X07-013-12, 13, 14, 15

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 material is NA  Wet  Dry
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA  Yes  No
8. Samples have:
  - \_\_\_\_\_ tape
  - \_\_\_\_\_ custody seals
  - \_\_\_\_\_ hazard labels
  - \_\_\_\_\_ appropriate samples labels
9. Samples are:
  - in good condition
  - \_\_\_\_\_ broken
  - \_\_\_\_\_ leaking
  - \_\_\_\_\_ have air bubbles

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

Sample Custodian: Lu Darby

Date: 4/11/07 1345

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

[ ] No action necessary; process as is.

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

6/4/2007 10:17:57 AM

### Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,  
Pacific Northwest National Lab

6D Pu PrpRC5016, SepRC5010(5039)  
SO Plutonium-238,239/40 by Alpha Spec  
5I CLIENT: HANFORD

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

AnalyDueDate: 06/11/2007 *W05154*

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

Batch: 7115523 WATER pCi/L

PM, Quote: SA , 57671

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

SEQ Batch, Test: None

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 JTP80-1-AA J7D110328-1-SAMP  04/11/2007 10:00	200.50g,in	200.50g,in	PUTC10673 04/10/07,pd 03/13/07,r	<i>200</i>				
AmtRec: 20ML,LP		#Containers: 2		Scr:	Alpha: -1.51E-04 uCi/Sa		Beta: 6.80E-05 uCi/Sa	
2 JTP80-1-AC-X J7D110328-1-DUP  04/11/2007 10:00	200.50g,in	200.50g,in	PUTC10674 04/10/07,pd 03/13/07,r					
AmtRec: 20ML,LP		#Containers: 2		Scr:	Alpha: -1.51E-04 uCi/Sa		Beta: 6.80E-05 uCi/Sa	
3 JTP85-1-AA J7D110328-2-SAMP  04/11/2007 10:00	200.10g,in	200.10g,in	PUTC10675 04/10/07,pd 03/13/07,r					
AmtRec: 20ML,LP		#Containers: 2		Scr:	Alpha: -1.51E-05 uCi/Sa		Beta: 8.95E-06 uCi/Sa	
4 JTP86-1-AA J7D110328-3-SAMP  04/11/2007 10:00	202.80g,in	202.80g,in	PUTC10676 04/10/07,pd 03/13/07,r					
AmtRec: 20ML,LP		#Containers: 2		Scr:	Alpha: 5.62E-05 uCi/Sa		Beta: 1.27E-04 uCi/Sa	
5 JVMVF-1-AA-B J7D250000-523-BLK  04/11/2007 10:00	199.90g,in	199.90g,in	PUTC10677 04/10/07,pd 03/13/07,r					
AmtRec:		#Containers: 1		Scr:	Alpha:		Beta:	
6 JVMVF-1-AC-C J7D250000-523-LCS  04/11/2007 10:00	198.40g,in	198.40g,in	PUSG0923 05/24/07,pd 03/13/07,r					
AmtRec:		#Containers: 1		Scr:	Alpha:		Beta:	

Sample Preparation/Analysis

Balance Id:1120482733

6D Pu PrpRC5016, SepRC5010(5039)  
SO Plutonium-238,239/40 by Alpha Spec  
5I CLIENT: HANFORD

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

AnalyDueDate: 06/11/2007

Sep1 DT/Tm Tech:

Batch: 7115523

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

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:
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Comments: PA 2.0 JS 6-4-07

All Clients for Batch:

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

JTP801AA-SAMP Constituent List:

PU-238	RDL:1	pCi/L	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20
Pu-242	RDL:	pCi/L	LCL:20	UCL:105	RPD:20						
JVMVF1AA-BLK:											
PU-238	RDL:1	pCi/L	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/L	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/L	LCL:20	UCL:105	RPD:20						
JVMVF1AC-LCS:											
PU-239	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20	Pu-242	RDL:	pCi/L	LCL:20	UCL:105	RPD:20

JTP801AA-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JVMVF1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JVMVF1AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

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

6/8/2007 5:24:26 PM

### Sample Preparation/Analysis

Balance Id:1120482733,I4 A,I4 A,I4 A,I4

384868, Pacific Northwest National Laboratory  
Pacific Northwest National Lab

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

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

AnalyDueDate: 06/11/2007

Sep1 DT/Tm Tech: 06/01/2007 16:45,ManisD

Batch: 7115524 WATER pCi/L

PM, Quote: SA , 57671

Sep2 DT/Tm Tech: 06/08/2007 08:57,ManisD

SEQ Batch, Test: None

Prep Tech: ManisD



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 JTP89-1-AA J7D110328-4-SAMP	975.00g,in		srtb14812 05/09/07,pd 09/11/06,r		1.0	21.8	100	1c 1c	1243 1204	6/9/07 r 6/10/07 r	
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06/01/2007 16:45;s1;06/08/2007

04/11/2007 10:00	AmtRec: 20ML,3XLP	#Containers: 4						Scr:	Alpha: 6.58E-04 uCi/Sa	Beta: -8.29E-04 uCi/Sa	
2 JTP89-1-AC-X J7D110328-4-DUP	1008.10g,in		srtb14813 05/09/07,pd 09/11/06,r		1.0	24	100	1d 1d	1243 1204	6/9/07 r 6/10/07 r	

06/08/2007 08:57;s2

04/11/2007 10:00	AmtRec: 20ML,3XLP	#Containers: 4						Scr:	Alpha: 6.58E-04 uCi/Sa	Beta: -8.29E-04 uCi/Sa	
3 JVMVH-1-AA-B J7D250000-524-BLK	1000.30g,in		srtb14814 05/09/07,pd 09/11/06,r		1.0	24.5	100	2a 2a	1243 1204	6/9/07 r 6/10/07 r	

06/01/2007 16:45;s1;06/08/2007

04/11/2007 10:00	AmtRec:	#Containers: 1						Scr:	Alpha:	Beta:	
4 JVMVH-1-AC-C J7D250000-524-LCS	999.30g,in		srsrg1347 04/19/07,pd 09/11/06,r		1.0	24.6	100	2b 2b	1243 1204	6/9/07 r 6/10/07 r	

06/01/2007 16:45;s1;06/08/2007

04/11/2007 10:00	AmtRec:	#Containers: 1						Scr:	Alpha:	Beta:	
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6/8/2007 5:24:30 PM

### Sample Preparation/Analysis

Balance Id:1120482733,1120482733,1120

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

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

AnalyDueDate: 06/11/2007

Sep1 DT/Tm Tech: 06/01/2007 16:45,ManisD

Batch: 7115524

pCi/L

Sep2 DT/Tm Tech: 06/08/2007 08:57,ManisD

SEQ Batch, Test: None

Prep Tech: ManisD



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

#### All Clients for Batch:

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

#### JTP891AA-SAMP Constituent List:

Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
JVMVH1AA-BLK:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:	UCL:	RPD:
JVMVH1AC-LCS:											
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20

#### JTP891AA-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JVMVH1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JVMVH1AC-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: 6/11/2006, 6/16/2007, Batch: '7115523', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7115523				
AC	CalcC	BockJ	6/4/2007 10:10:51	
SC		wagarr	IsBatched 4/25/2007 4:29:06 PM	ICOC_RADCALC v4.8.26
SC		BockJ	InPrep 6/4/2007 10:10:51 AM	RICH-RC-5016 Revision 6
SC		BockJ	Prep1C 6/4/2007 10:18:13 AM	RICH-RC-5016 REVISION 6
SC		FABREM	Sep1C 6/7/2007 6:35:04 PM	RICH-RC-5010 REVISION 4
SC		FABREM	Sep2C 6/8/2007 2:29:10 PM	RICH-RC-5010 REVISION 5
SC		DAWKINSO	InCnt1 6/8/2007 3:16:48 PM	RICH-RD-0008 REVISION 4
SC		DAWKINSO	CalcC 6/8/2007 8:35:41 PM	RICH-RD-0008 REVISION 4
AC		BockJ	6/4/2007 10:18:13	
AC		FABREM	6/7/2007 6:35:04 PM	
AC		FABREM	6/8/2007 2:29:10 PM	
AC		DAWKINSO	6/8/2007 3:16:48 PM	
AC		DAWKINSO	6/8/2007 8:35:41 PM	

AC: Accepting Entry; SC: Status Change

# ICOC Fraction Transfer/Status Report

ByDate: 6/11/2006, 6/16/2007, Batch: '7115524', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7115524				
AC	<b>CalcC</b>	<b>BockJ</b>	5/29/2007 12:26:11	
SC		wagarr	IsBatched 4/25/2007 4:29:06 PM	ICOC_RADCALC v4.8.26
SC		BockJ	InPrep 5/29/2007 12:26:11 PM	RICH-RC-5016 Revision 6
SC		BockJ	Prep1C 5/29/2007 12:31:29 PM	RICH-RC-5016 REVISION 6
SC		ManisD	InSep1 5/29/2007 2:58:13 PM	RICH-RC-5006 REVISION 6
SC		ManisD	Sep1C 6/4/2007 8:26:28 AM	RICH-RC-5006 REVISION 6
SC		BlackCL	InCnt1 6/4/2007 8:34:01 AM	RICH-RD-0007 REVISION 5
SC		BlackCL	Cnt1C 6/4/2007 1:44:57 PM	RICH-RD-0007 REVISION 5
SC		ManisD	InSep2 6/8/2007 7:02:46 AM	RICH-RC-5071 REVISION 4
SC		ManisD	Sep2C 6/8/2007 5:30:37 PM	RICH-RC-5071 REVISION 4
SC		DAWKINSO	InCnt2 6/8/2007 7:40:41 PM	RICH-RD-0003 REVISION 5
SC		StringerR	CalcC 6/10/2007 2:06:55 PM	RICH-RD-0003 REVISION 5
AC		<b>BockJ</b>	5/29/2007 12:31:29	
AC		<b>BockJ</b>	5/29/2007 12:44:47	
AC		<b>ManisD</b>	5/29/2007 2:58:13 PM	
AC		<b>ManisD</b>	6/4/2007 8:26:28 AM	
AC		<b>BlackCL</b>	6/4/2007 8:34:01 AM	
AC		<b>BlackCL</b>	6/4/2007 1:44:57 PM	
AC		<b>ManisD</b>	6/8/2007 7:02:46 AM	
AC		<b>ManisD</b>	6/8/2007 5:30:37 PM	
AC		<b>DAWKINSO</b>	6/8/2007 7:40:41 PM	
AC		<b>StringerR</b>	6/10/2007 2:06:55 PM	

AC: Accepting Entry; SC: Status Change