

0073516

SEVERN  
TRENT

STL

STL Richland  
2800 George Washington Way  
Richland, WA 99354

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

April 26, 2007

Leasa Hetzer  
2430 Stevens Drive  
Richland, WA 99354

Reference: Contract 615

Dear Ms. Hetzer:

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

<u>SDG NUMBER</u>	<u>SAF NUMBER</u>
W05136	F07-028
W05138	F07-028

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

Receipt of this letter and the packages are acknowledged by:

*Leasa E. Hetzer*  
Name

4/30/2007  
Date

XC: File



Attempted Delivery 4/26/07 1:38 SKS 4/26/07  
4/27/07 1:18 SKS 4/27/07

RECEIVED  
AUG 01 2007

EDMC

Analytical Data Package Prepared For

**Fluor Hanford Inc.**

Radiochemical Analysis By

**STL Richland**

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

Assigned Laboratory Code: STLRL

Data Package Contains 18 Pages

Report No.: 35130

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W05136	F07-028	B1MRN5	J7C140137-1	JQ1M31AA	9JQ1M310	7073551





**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

Fluor Hanford, Inc.  
1200 Jadwin Ave.  
Richland, WA 99352

April 26, 2007

Attention: Steve Trent

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SAF Number	:	F07-028
Date SDG Closed	:	March 14, 2007
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W05136
Data Deliverable	:	45/45 Day

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### CASE NARRATIVE

#### I. Introduction

On March 14, 2007 one water sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned to lot J7C140137 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

<u>FH ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1MRN5	JQIM3	WATER	3/14/07

#### 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:

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

April 26, 2007

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**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**

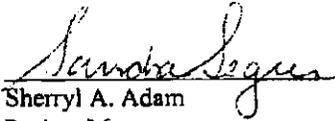
**Gas Proportional Counting**

Gross Beta by method RICH-RC-5014:

The LCS, batch blank, sample and sample duplicate (B1MRN5) 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:



105 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 D2480	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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$ . 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.
<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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$ . For LSC methods the batch blank is used as a measure of the background variability.
<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 Work Order 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.

**Sample Results Summary**  
**STL Richland STLRL**  
 Ordered by Client Sample ID, Batch No.

Date: 26-Apr-07

Report No. : 35130

SDG No: W05136

Client ID	Work Order Number	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Yield	MDC MDA	RPD
B1MRN5	JQ1M31AA	BETA	6.83E+03 +- 1.27E+03		pCi/L	100%	5.62E+00	
B1MRN5 DUP	JQ1M31AC	BETA	5.98E+03 +- 7.44E+02		pCi/L	100%	6.19E+00	13.2

Number of Results: 2

---

STL Richland RPD - Relative Percent Difference.  
 rptSTLRichSaSum  
 V5.1 A2002

**QC Results Summary**  
**STL Richland STLRL**  
 Ordered by QC Type, Batch No.

Date: 26-Apr-07

Report No. : 35130

SDG No.: W05136

QC Type	Work Order Number	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
BLANK QC	JQ3F41AA	BETA	7.99E-01 +- 8.70E-01	U	pCi/L	100%			1.67E+00
LCS	JQ3F41AC	BETA	2.00E+01 +- 4.08E+00		pCi/L	100%	90%	-0.1	1.66E+00

Number of Results: 2

---

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
 rptSTLRechQcSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by  
 V5.1 A2002 gamma scan software.

FORM I  
SAMPLE RESULTS

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05136

Collection Date: 3/13/2007 1:15:00 PM

Lot-Sample No.: J7C140137-1

Report No.: 35130

Received Date: 3/14/2007 7:20:00 AM

Client Sample ID: B1MRN5

COC No.: F07-028-055

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual Error (2 s)	Total Uncert( 2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7073551	Work Order: JQ1M31AA		Report DB ID: 9JQ1M310								
BETA	<b>6.83E+03</b>	4.6E+04	1.3E+03	5.82E+00	pCVL	100%	(1214.9)	3/28/07 04:37 p		0.0614	BETA_GPC
					2.71E+00	4.00E+00	(10.7)			L	GPC31A

Number of Results: 1

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 rptSTLRchSample U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.  
 V5.1 A2002

## FORM II

Date: 26-Apr-07

## DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W05136

Collection Date: 3/13/2007 1:15:00 PM

Lot-Sample No.: J7C140137-1

Report No.: 35130

Received Date: 3/14/2007 7:20:00 AM

Client Sample ID: B1MRN5 DUP

COC No.: F07-028-055

Matrix: WATER

Parameter	Result, Orig Rst	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7073551	Work Order: JQ1M31AC	Report DB ID: JQ1M31CR	Orig Sa DB ID: 9JQ1M310								
BETA	5.98E+03	4.4E+01	7.4E+02	6.19E+00	pCi/L	100%	(986.8)	3/28/07 04:37 p		0.0602	BETA_GPC
	6.83E+03	RPD	13.2		4.00E+00		(16.1)			L	GPC31C

Number of Results: 1

Comments:

STL Richland

RPD - Relative Percent Difference.

rptSTLRchDupV5.1  
A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II  
BLANK RESULTS

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05136

Lot-Sample No.: J7C140000-551

Report No. : 35130

Matrix: WATER

Parameter	Result	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
Batch: 7073551	Work Order: JQ3F41AA		Report DB ID: JQ3F41AB									
BETA	7.99E-01	U	8.6E-01	8.7E-01	1.67E+00	pCi/L	100%	0.48	3/28/07 04:37 p		0.2021	BETA_GPC
					8.01E-01	4.00E+00		(1.8)			L	GPC31B

Number of Results: 1

Comments:

**FORM II**  
**LCS RESULTS**

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05136

Lot-Sample No.: J7C140000-551

Report No.: 35130

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7073551	Work Order: JQ3F41AC		Report DB ID: JQ3F41CS									
BETA	2.00E+01	1.6E+00	4.1E+00	1.66E+00	pC/L	100.00%	2.22E+01	2.57E-01	90%	3/28/07 04:37 p	0.2011	BETA_GPC
						Rec Limits:	70.	130.	-0.1		L	GPC31D

Number of Results: 1

Comments:

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

rptSTLRchLcs  
V6.1 A2002



STL

Data Review/Verification Checklist  
RADIOCHEMISTRY, First Level Review

3/29/2007 11:57:10 AM

Lot No., Due Date: J7C140137; 04/30/2007  
Client, Site: 108302; FLH HANFORD  
QC Batch No., Method Test: 7073551; RBETA-SR Beta by GPC-Sr/Y  
SDG, Matrix: W05136; 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 Pam Anderson

Date 3-29-07



# STL

## Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 7073551  
W05134

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: 7-29-07

STILL RICHLAND

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-028-055

PAGE 1 OF 1

COLLECTOR

JTC140151  
605136-30  
Rec. 01/28/07

COMPANY CONTACT  
TRENT, SJ

TELEPHONE NO.  
373-5869

PROJECT COORDINATOR  
TRENT, SJ

PRICE CODE 7N

DATA  
TURNAROUND  
45 Days /  
45 Days

SAMPLING LOCATION

NVP 2 - 115.4

ICE CHEST NO.

RW  
3/14/07

PROJECT DESIGNATION

AQUIFER TUBE SAMPLING ALONG THE 100-N AREA SHORELINE

FIELD LOGBOOK NO.

HNF-N-451-1

COA

122543E510

SAF NO.  
F07-028

AIR QUALITY

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

BILL OF LADING/AIR BILL NO.

N/A

SHIPPED TO

Severn Trent Incorporated, Richland

MATRIX\*

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

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)

PRESERVATION

HNO3 to pH <2

TYPE OF CONTAINER

P

NO. OF CONTAINER(S)

1

VOLUME

1000mL

SAMPLE ANALYSIS

Gross Beta;

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.

MATRIX\*

B1MRNS

WATER

SAMPLE DATE

SAMPLE TIME

3/13/07

1315

✓

JG1m3

CHAIN OF POSSESSION

SIGN / PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM

DATE/TIME

R. W. GIES / JTC / 3-13-07 / 1615

RECEIVED BY/STORED IN

DATE/TIME

M. 745 Fridge A / 3-13-07 / 1615

RELINQUISHED BY/REMOVED FROM

DATE/TIME

M. 745 / REF # 1 / 3-14-07

RECEIVED BY/STORED IN

DATE/TIME

J. P. [unclear] / 3-14-07

RELINQUISHED BY/REMOVED FROM

DATE/TIME

J. S. [unclear] / 3-14-07

RECEIVED BY/STORED IN

DATE/TIME

[unclear] / 3-14-07 / 0720

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

LABORATORY SECTION

RECEIVED BY

TITLE

DATE/TIME

FINAL SAMPLE DISPOSITION

DISPOSAL METHOD

DISPOSED BY

DATE/TIME



# STL

## Sample Check-in List

Date/Time Received: 03-14-07 07:20

Client: FLH SDG #: W05130 NA  SAF #: F07-008 NA

Work Order Number: J7C 140137 Chain of Custody # F07-028-055

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: 1
7. Sample holding times exceeded? LP NA  Yes  No
8. Samples have:
  - \_\_\_\_\_ tape \_\_\_\_\_ hazard labels
  - \_\_\_\_\_ custody seals 1 appropriate samples labels
9. Samples are:
  - 1 in good condition \_\_\_\_\_ leaking
  - \_\_\_\_\_ broken \_\_\_\_\_ 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: A. Smith Date: 03-14-07 07:20

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

No action necessary; process as is.

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

LS-023, 12/05, Rev. 6

STL RICHLAND

3/28/2007 2:28:38 PM **Sample Preparation/Analysis** Balance Id:1120482733

108302, Fluor Hanford Inc , Waste BC Gross Beta PrpRC5014 Pipet #: \_\_\_\_\_  
 Management Federal Servi S8 Gross Beta by GPC using Sr/Y-90 curve

**AnalytDueDate: 04/24/2007** 5I CLIENT: HANFORD Sep1 DT/Tm Tech: \_\_\_\_\_

**Batch: 7073551 WATER** pCi/L PM, Quote: SA , 29754 Sep2 DT/Tm Tech: \_\_\_\_\_  
 SEQ Batch, Test: None All Tests: 7073551 BCS8, Prep Tech: BockJ,HARBINSOND

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, In/Date	Comments:
1 JQ1M3-1-AA J7C140137-1-SAMP 03/13/2007 13:15	61.40g.in					200	31A	1816	3/28/2007	
AmtRec: LP #Containers: 1 Scr: Alpha: 5.45E-04 uCi/Sa 3.3E-01L Beta: 1.53E-03 uCi/Sa 5.9E-02L										
2 JQ1M3-1-AC-X J7C140137-1-DUP 03/13/2007 13:15	60.20g.in					200	31C			
AmtRec: LP #Containers: 1 Scr: Alpha: 5.45E-04 uCi/Sa 3.3E-01L Beta: 1.53E-03 uCi/Sa 5.9E-02L										
3 JQ3F4-1-AA-B J7C140000-551-BLK 03/13/2007 13:15	202.10g.in					200	31D			
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
4 JQ3F4-1-AC-C J7C140000-551-LCS 03/13/2007 13:15	201.10g.in		BESB3036 02/26/07.pd 08/08/06.r			200	31D			
AmtRec: #Containers: 1 Scr: Alpha: Beta:										

**Comments:** JQ1M3-SAMP "Comments. Aliquots reduced due to high screening results JB 03/23/07"

DH 3/28/2007

All Clients for Batch:  
 108302, Fluor Hanford Inc Waste Management Federal Servi, SA , 29754

**JQ1M31AA-SAMP Constituent List:**

Constituent	RDL	pCi/L	LCL	UCL	RPD
BETA	4				
JQ3F41AA-BLK:					
BETA	4				
JQ3F41AC-LCS:					
Sr-90			70	150	20

STL RICHLAND

3/28/2007 2:28:43 PM

**Sample Preparation/Analysis**

Balance Id:1120482733

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

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

AnalyDueDate: 04/24/2007

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

Batch: 7073551

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	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analys. Init/Date	Comments:
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7Q1M31AA-SAMP Calc Info:  
 Uncert Level (#s): 2    Decay to Std: Y    Blk Subt.: N    Sci. Not.: Y    ODRs: B  
 7Q3F41AA-BLK:  
 Uncert Level (#s): 2    Decay to Std: Y    Blk Subt.: N    Sci. Not.: Y    ODRs: B  
 7Q3F41AC-LCS:  
 Uncert Level (#s): 2    Decay to Std: Y    Blk Subt.: N    Sci. Not.: Y    ODRs: B

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

3/29/2007 11:43:42 AM

# ICOC Fraction Transfer/Status Report

ByDate: 3/29/2006, 4/3/2007, Batch: '7073551', User: 'ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
<b>7073551</b>					
AC		CalcC	BockJ	3/23/2007 12:07:43	
SC			wagarr	IsBatched 3/14/2007 3:40:18 PM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep 3/23/2007 12:07:43 PM	RICH-RC-5014 Revision 8
SC			BockJ	Prep1C 3/23/2007 12:11:27 PM	RICH-RC-5014 REVISION 6
SC			BockJ	Prep1C 3/23/2007 12:28:43 PM	RICH-RC-5014 REVISION 6
SC			AshworthA	InPrep2 3/27/2007 1:36:33 PM	RICH-RC-5014 REVISION 6
SC			HARBINSOND	Prep1C 3/28/2007 2:10:54 PM	RICHRC5014 REV6
SC			StringerR	InCnt1 3/28/2007 2:58:19 PM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC 3/28/2007 7:29:08 PM	RICH-RD-0003 REVISION 4
AC			BockJ	3/23/2007 12:11:27	
AC			BockJ	3/23/2007 12:23:51	
AC			BockJ	3/23/2007 12:28:43	
AC			AshworthA	3/27/2007 1:36:33 PM	
AC			HARBINSOND	3/28/2007 2:10:54 PM	
AC			StringerR	3/28/2007 2:58:19 PM	
AC			DAWKINSO	3/28/2007 7:29:08 PM	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.