

Analytical Data Package Prepared For

**Fluor Hanford Inc.**

**RECEIVED**  
AUG 07 2006

Radiochemical Analysis By

**STL Richland**

**EDMC**

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

Assigned Laboratory Code: STLRL

Data Package Contains 18 Pages

Report No.: 31720

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W04878	F05-08	BICVD8	J6C060205-1	H0PL41AA	9H0PL410	6065416

**RECORD COPY**



## Certificate of Analysis

Fluor Hanford  
P.O. Box 1000, T6-03  
Richland, WA 99352

March 27, 2006

Attention: Steve Trent

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SAF Number	:	F05-018
Date SDG Closed	:	March 6, 2006
Number of Samples	:	One (1)
Sample Type	:	Other Solid
SDG Number	:	W04878
Data Deliverable	:	15 / 30-Day Summary

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### CASE NARRATIVE

#### I. Introduction

On March 6, 2006, One Other solid sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned to lot J6C060205 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>
B1CVD8	H0PL4	OTHER SOLID	3/6/06

#### II. Sample Receipt

The sample was received without a chain of custody. Analysis was started based upon sample data provided by the client until the COC was later received. Other than as noted 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**  
Strontium-90 by method RICH-RC-5006

AMENDED PAGE

Fluor Hanford  
March 27, 2006

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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**

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, sample and sample duplicate (BICVD8) 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:

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Hans Carman  
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) <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%. $L_c = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$ . 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**

Date: 27-Mar-06

**STL Richland STLRL**

Ordered by Method, Batch No., Client Sample ID.

Report No. : 31720

SDG No: W04878

Batch	Client Id Work Order	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6065416	SRISO_SEP_PRECIP_GPC								
	BICVD8								
	H0PL41AA	STRONTIUM	2.34E+02 +- 6.15E+01		pCi/g	94%	2.75E-01	2.00E+00	
	BICVD8 DUP								
	H0PL41AC	STRONTIUM	2.56E+02 +- 7.01E+01		pCi/g	99%	8.23E-01	2.00E+00	9.0
No. of Results: 2									

STL Richland RPD - Relative Percent Difference.

rptSTLRichSaSum  
mary2 V4.15.0 A97

QC Results Summary

Date: 27-Mar-06

STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

Report No. : 31720

SDG No.: W04878

Batch	Work Order	Parameter	Result + Uncertainty ( 2σ)	Qual	Units	Yield	Recovery	Bias	MDC MDA
SRISO_SEP_PRECIP_GPC									
6065416 BLANK QC									
	HOPRK1AA	STRONTIUM	5.50E-02 + 1.37E-01	U	pCi/g	89%			2.95E-01
6065416 LCS									
	HOPRK1AC	STRONTIUM	3.71E+00 + 1.03E+00		pCi/g	93%	106%	0.1	2.83E-01
No. of Results: 2									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
 rptSTLRichQcSummary V4.15.0 A97 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.

**FORM I**  
**SAMPLE RESULTS**

Date: 27-Mar-06

Lab Name: STL Richland

SDG: W04878

Collection Date: 5/12/2005 12:00:00 PM

Lot-Sample No.: J6C060205-1

Report No. : 31720

Received Date: 3/6/2006 12:00:00 PM

Client Sample ID: BICVD8

COC No. :

Matrix: WILDLIFE OTHER

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/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6065416	SRISO_SEP_PRECIP_GPC			Work Order: HOPLA1AA		Report DB ID: 9HOPL410					
STRONTIUM	2.34E+02	2.2E+00	6.2E+01	2.75E-01	pCi/g	94%	(851.3)	3/17/06 01:39 p		2.17	GPC27A
						1.31E-01	2.00E+00			G	

No. 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.  
 V4.15.0 A97

## FORM II

Date: 27-Mar-06

## DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W04878

Collection Date: 5/12/2005 12:00:00 PM

Lot-Sample No.: J6C060205-1

Report No. : 31720

Received Date: 3/6/2006 12:00:00 PM

Client Sample ID: BICVD8 DUP

COC No. :

Matrix: WILDLIFE OTHER

Parameter	Result, Orig Rst	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6065416	SRISO_SEP_PRECIP_GPC				Work Order: H0PL41AC			Report DB ID: H0PL41CR		Orig Sa DB ID: 9H0PL410		
STRONTIUM	2.58E+02		4.0E+00	7.0E+01	8.23E-01	pCi/g	99%	(311.5)	3/17/06 01:39 p		0.68	GPC27B
	2.34E+02		RPD 9.0			2.00E+00		(7.3)			G	

No. of Results: 1    Comments:

STL Richland    RPD - Relative Percent Difference.

rptSTLRechDupV4.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
5.0 A97

**FORM II**  
**BLANK RESULTS**

Date: 27-Mar-06

Lab Name: STL Richland

SDG: W04878

Matrix: WILDLIFE

Report No. : 31720

Parameter	Result	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6065416	SRISO_SEP_PRECIP_GPC		Work Order: H0PRK1AA		Report DB ID: H0PRK1AB							
STRONTIUM	5.50E-02	U	1.4E-01	1.4E-01	2.95E-01	pCi/g	89%	0.19	3/17/06 01:39 p		2.0	GPC27C
					1.40E-01	2.00E+00		0.8			G	

No. 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.

rptSTLRchBlank

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.

V4.15.0 A97

FORM II  
LCS RESULTS

Date: 27-Mar-06

Lab Name: STL Richland

SDG: W04878

Matrix: WILDLIFE

Report No. : 31720

Parameter	Result	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC/MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Primary Detector
Batch: 6065416	SRISO_SEP_PRECIP_GPC					Work Order: H0PRK1AC		Report DB ID: H0PRK1CS					
STRONTIUM	3.71E+00		3.1E-01	1.0E+00	2.83E-01	pCi/g	93%	3.51E+00	2.51E-02	106%	3/17/06 01:39 p	2.0	GPC27D
							Rec Limits:	20	115	0.1		G	
No. of Results:	1	Comments:											

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
rptSTLRchLcs  
V4.15.0 A97

Lot No., Due Date: J6C060205; 03/24/2006  
 Client, Site: 108302; FLH HANFORD  
 QC Batch No., Method Test: 6065416; RSRTOT SrTot by GPC  
 SDG, Matrix: W04878; MOUSE

- |                             |   |     |    |     |
|-----------------------------|---|-----|----|-----|
| <b>1.0 ICOC</b>             |   |     |    |     |
| 1.1                         | Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?           | Yes | No | N/A |
| <b>2.0 QC Batch</b>         |   |     |    |     |
| 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 |
| <b>3.0 QC &amp; Samples</b> |   |     |    |     |
| 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 |
| <b>4.0 Raw Data</b>         |   |     |    |     |
| 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 |
| <b>5.0 Other</b>            |   |     |    |     |
| 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 3-21-06

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 6065416

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: *[Signature]* Date: 3-21-00

Inbound Acceptance Checklist SAF FOS-08

FRM# 10311

36060205

W04878

29754

HMSR# \_\_\_\_\_

Slot 202

Sample  
BICBUDB

5-12-05

For Information Only

HOPLY

5:12

Destination:

2800 216-6-63

Continued from:

Fluor

Duratek Federal Services

Area 3000

Bldg. G.W. WAY

2355 Stevens Drive

Contact name HANS CARMAN

Bldg. 1162/1100 Area

Phone # 375-3131

Richland, WA 99352

Fluor

This shipment is being forwarded from ~~Duratek Federal Services~~ to Hanford PHMC or Enterprise companies in the same packaging prepared by the original shipper. Attached is the original shipping papers.

Shipment complies with all DOT or IATA shipping papers, packaging, markings, labeling, and placarding requirements.

Surface Dose Rate of Package <input checked="" type="checkbox"/> <0.005 or _____ mSv/hr <0.5 or _____ mrem/hr (N+βγ)  <input type="checkbox"/> N/A	Dose Rate @ 1 Meter from Surface of Package <input checked="" type="checkbox"/> <0.005 or _____ mSv/hr <0.5 or _____ mrem/hr (N+βγ)  <input type="checkbox"/> N/A	Smears of Outer Container <input checked="" type="checkbox"/> <0.41 Bq (22 dpm) βγ/cm <sup>2</sup> <input checked="" type="checkbox"/> <0.04 Bq (2.2 dpm) α/cm <sup>2</sup> <input checked="" type="checkbox"/> <Tbl. 2-2 HSRM Onsite Limits	TRUCK LOAD OR EXCLUSIVE USE Surface <input checked="" type="checkbox"/> <2 mSv/hr (200 mrem/hr) @ 2 meters <input checked="" type="checkbox"/> <0.1 mSv/hr (10 mrem/hr) @ Cab <input checked="" type="checkbox"/> <0.02 mSv/hr (2 mrem/hr) or sleeper (Using N+βγ)	
Additional Data and Instructions (inc. Readings on Internal Packagings) Signature - Radiation Monitoring _____		Bldg. <u>1162</u>	Survey No. <u>35271407</u>	Date <u>2-28-06</u>

Approved by Grego. Brown Date 2/28/06

Title Trans spec

EMERGENCY CONTACT PHONE # (509) 373-3800

Received by The One Date \_\_\_\_\_

Title \_\_\_\_\_

RECEIVED: [Signature] 3/6/06

White/Yellow copies (Transporter return to Shipping/Receiving, GI-40) Pink copy (To be retained by receiver)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F05-018-041

PAGE 1 OF 1

**COLLECTOR**  
KIRBY, B

**SAMPLING LOCATION**  
Central Plateau

**ICE CHEST NO.**  
SAWS 329

**SHIPPED TO**  
Southwest Research Institute

**COMPANY CONTACT**  
TRENT, SJ

**PROJECT DESIGNATION**  
200 Area Ecological Study - Phase I Animals

**FIELD LOGBOOK NO.**  
DTS-SAWS-H94

**OFFSITE PROPERTY NO.**  
N/A

**TELEPHONE NO.**  
(509)376-5122

**PROJECT COORDINATOR**  
TRENT, SJ

**SAF NO.**  
F05-018

**METHOD OF SHIPMENT**  
FEDERAL EXPRESS

**BILL OF LADING/AIR BILL NO.**  
N/A SHIPPING # EJO15000

**PRICE CODE** 9N

**AIR QUALITY**

**DATA TURNAROUND**  
45 Days / 45 Days

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Frozen/Frozen
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WL=Wipe X=Other		TYPE OF CONTAINER	P
		NO. OF CONTAINER(S)	1
		VOLUME	500ML
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
	SPECIAL HANDLING AND/OR STORAGE		

Client: Fluor Hanford Inc.  
SRR #28056  
Case: F05-018  
VTSR: 0923/05 0830  
Sample(s) Received Intact

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1CVB2	OTHER SOLID	4-25-05	00:00	X	100cpm
B1CVB4	OTHER SOLID	4-25-05	00:00	X	100cpm
B1CVG3	OTHER SOLID	5-3-05	00:00	X	100cpm
B1CVC7	OTHER SOLID	5-4-05	00:00	X	100cpm
B1CVD8	OTHER SOLID	5-12-05	00:00	X	100cpm

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
CHAIN OF CUSTODY # F05-018-041	9-22-05	J.G. HOGAN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
J.G. HOGAN	9-22-05/1000	FEDER
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

**SPECIAL INSTRUCTIONS**

\*\* All insect, mice, and lizard samples will be preserved by freezing.  
\*\* The laboratories are to report all results on an "as received" basis.  
(1)PCBs - 8082; Pesticides - 8081; Total Cyanide - 9010; ICP Metals - 6010B (TAL); ICP Metals - 6020 (TAL) {Antimony} ICP Metals - 6020 (Add-on) {Thallium} ICP Metals - 6020 (Hg);

**LABORATORY SECTION** RECEIVED BY: *[Signature]* TITLE: Technician

**FINAL SAMPLE DISPOSITION** DISPOSAL METHOD: DATE/TIME: 9/23/05 0930

**Sample Check-in List**

Date/Time Received: 3/6/06

Client: FLU SDG #: \_\_\_\_\_ NA  SAF #: F05-08 NA

Work Order Number: 560060205 Chain of Custody # 442918

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? NA  Yes  No
8. Samples have:  
 \_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
 \_\_\_\_\_ custody seals  appropriate samples labels
9. Samples are:  
 in good condition \_\_\_\_\_ leaking  
 \_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
 (Only for samples requiring head space)
10. Sample pH taken? NA  pH<2  pH>2  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: [Signature] Date: 3-6-06

Client Sample ID	Analysis Requested	Condition	Comments/Action

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

No action necessary; process as is.

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

STL RICHLAND

3/8/2006 11:36:07 AM

Sample Preparation/Analysis

Balance Id: 1120373922, 01

108302, FLUOR HANFORD IC  
Management Federal Servi

, Waste

CI Sr-Total PrpRc5016, SepRC5006

Pipet #: NA

Report Due: 03/24/2006

404879

TH Total Strontium by GPC

Sep1 DT/Tm Tech: 3-17-06 8:33 <sup>AD</sup>

Batch: 6065416 MOUSE pCi/g

PM, Quote: HC, 29754

Sep2 DT/Tm Tech: NA

SEQ Batch, Test: None All Tests: 6065416 CITH,

Prep Tech: HansenM

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 H0PL4-1-AA J6C060205-1-SAMP [REDACTED]	2.17g, in		SRTA15319 02/23/06, pd 11/09/05, r			1.0	27a	1428		3/17/06 R
05/12/2005 12:00	Amt/Rec: 3G	#Containers: 1			94.3				Scr:	Alpha: Beta:
2 H0PL4-1-AC-X J6C060205-1-DUP [REDACTED]	0.68g, in		SRTA15320 02/23/06, pd 11/09/05, r				27b			
05/12/2005 12:00	Amt/Rec: 3G	#Containers: 1			98.9				Scr:	Alpha: Beta:
3 H0PRK-1-AA-B J6C060000-416-BLK [REDACTED]	2.00g, in		SRTA15321 02/23/06, pd 11/09/05, r				27c			
05/12/2005 12:00	Amt/Rec:	#Containers: 1			88.9				Scr:	Alpha: Beta:
4 H0PRK-1-AC-C J6C060000-416-LCS [REDACTED]	2.00g, in		STSB1086 02/23/06, pd 11/09/05, r				27d			
05/12/2005 12:00	Amt/Rec:	#Containers: 1			92.7				Scr:	Alpha: Beta:

Comments: Samples were muffled with 31 dose  
50 mt 3-13-06

All Clients for Batch: 108302, FLUOR HANFORD IC Waste Management Federal Servi, HC, 29754

H0PL41AA-SAMP Constituent List:

Sr-89/90	RDL: 2	pCi/g	LCL:	UCL:	RPD:
H0PRK1AA-BLK:					
Sr-89/90	RDL: 2	pCi/g	LCL:	UCL:	RPD:
H0PRK1AC-LCS:					
Sr-90	RDL:	pCi/g	LCL: 70	UCL: 130	RPD: 35

H0PL41AA-SAMP Calc Info:

3/21/2006 8:22:15 AM

# ICOC Fraction Transfer/Status Report

ByDate: 3/21/2005, 3/28/2006, Batch: '8065416', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
<b>6065416</b>				
AC	CalcC	WAGNERJ	3/13/2006 3:34:49 PM	
SC		wagarr	IsBatched 3/6/2006 4:03:23 PM	ICOC_RADCALC v4.8.18
SC		WAGNERJ	Prep2C 3/13/2006 3:34:49 PM	RICH-RC-5016 REVISION 5
SC		FABREM	InSep1 3/13/2006 5:12:40 PM	RICH-RC-5006 REVISION 6
SC		FABREM	Sep1C 3/17/2006 10:47:01 AM	RICH-RC-5006 REVISION 6
SC		StringerR	InCrt1 3/17/2006 10:48:33 AM	RICH-RD-0003 REVISION 4
SC		DAWKINSO	CalcC 3/17/2006 6:17:14 PM	RICH-RD-0003 REVISION 4
AC		FABREM	3/13/2006 5:12:40 PM	
AC		FABREM	3/17/2006 10:47:01	
AC		StringerR	3/17/2006 10:48:33	
AC		DAWKINSO	3/17/2006 6:17:14 PM	

AC: Accepting Entry; SC: Status Change

STL Richland  
Richland Wa.