0071596

SAF-RC-078
618-2 Burial Ground
Closeout Samples - Soils
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 10/23/06 INITIAL/DATE
Jeanette Duncan	H4-21	KW 10/23/2006 INITIAL/DATE

COMMENTS:

SDG J00099 **SAF-RC-078**

☐ Rad only ☐ Chem only X Rad & Chem

X Complete ☐ Partial

Waste Site: 618-2 DZ/SZ/OB

RECEIVED
NOV 14 2006
EDMC

SEVERN TRENT STL

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

RECEIVED
SEP 2006

RC-078

Lot #: F6I120158
SDG #: J00099

Joan Kessner

Washington Closure Hanford
3190 George Washington Way
MSIN H9-02
Richland, WA 99352

SEVERN TRENT LABORATORIES, INC.

James M. Klymis
for
Melania Harris
Project Manager

September 25, 2006

Case Narrative
Lot Number: **F6I120158**
SDG: **J00099**

This report contains the analytical results for the three samples received under chain of custody by STL St. Louis on September 12, 2006. These samples are associated with your RC-078 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances
Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP Metals by SW846 6010B

The MS/MSD recoveries for silver are outside the established QC limits. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.
Affected Samples:
F6I120158 (1): J13DH4
F6I120158 (2): J13DK2
F6I120158 (3): J13DK3

METHODS SUMMARY

F6I120158

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F6I120158

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JD42P	001	J13DH4	09/07/06	10:05
JD424	002	J13DK2	09/07/06	08:10
JD429	003	J13DK3	09/07/06	09:10

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-078-018	Page 1 of 1

Collector FAHLBERG/KERKOW/HUDSON	Company Contact R Kerkow	Telephone No. 531-0635	Project Coordinator KESSNER, JH
Project Designation 618-2 Burial Ground Closeout Samples - Soils	Sampling Location 300-FF-2 618-2 DZ/SZ/OB		SAF No. RC-078
Ice Chest No. AFS-04-033	Field Logbook No. EL 1395-12	COA RG61822000	Method of Shipment ~~GOVERNMENT VEHICLE~~ 9/11/06 9/11/06
Shipped To Severn Trent Incorporated, ~~Richland~~ St Louis MO 9/11/06	Offsite Property No. NA A060077		Bill of Lading/Air Bill No. NA see OSPC

Price Code 86 Data Turnaround 15/30 Days

Air Quality ☐

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive < DOT Limits

Special Handling and/or Storage

Preservation	None	None									
Type of Container	P	P									
No. of Container(s)	1	1									
Volume	~~60mL~~ 125mL	~~1000mL~~									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.									

Sample No.	Matrix *	Sample Date	Sample Time									
J13DH4	SOIL	9.7.06	1005	X								
J13DK2	SOIL	9-7-06	0810	X								
J13DK3	SOIL	9-7-06	0910	X								

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	BHudson BHudson	9/7/06 1100	3728 #1A	9/7/06 1100
Relinquished By/Removed From	3728/1A	9/11/06 1030	mstanbouch	9/11/06 1030
Relinquished By/Removed From	CWC G mstanbouch	9/11/06 1030	Received By/Stored In	Fed Ex
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (Add-on) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver, Tin)
(2) Gamma Spectroscopy (TCL List); Isotopic Plutonium; Plutonium-241; Isotopic Uranium; Americium-241; Nickel-63; Strontium-89,90 -- Total Sr; Tritium - H3; Total Uranium

Personnel not available to relinquish samples from 3728 Ref # 1A on 9/11/06

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

LABORATORY SECTION	Received By Gil Clark 9.12.06 0915	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

18

L ST. LOUIS

STL St. Louis

Lot #(s): F6112015B

- 4234 -

Condition Upon Receipt Form

Client: Elusr
Quote No: 71497
COC/RFA No: RC-078-018
Initiated By: [illegible]
Date: 9.12.06
Time: 0915

Shipping Information

Shipper Name: Fed Ex
Shipping # (s):*
1. 7900 6520 3308
2.
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages Y (N) N/A
Sample Temperature (s):**
1. Ambient
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Was sample received broken?	8.	(Y) N	Sample received with Chain of Custody?
2.	Y N (N/A)	Was sample received with proper pH[1] ? (If not, make note below)	9.	(Y) N	Chain of Custody matches sample ID's on container(s)?
3.	Y N	If N/A-Was pH taken by original STL Lab?	10.	(Y) N	Are there custody seals present on cooler?
4.	(Y) N	Sample received in proper containers?	11.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?
5.	(Y) N	Sample volume sufficient for analysis?	12.	(Y) N	Are there custody seals present on bottles?
6.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)	13.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
7.	(Y) N	Were contents of the cooler frisked after opening	14.	Y N (NA)	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:

- ☐ Client Contact Name: _____ Informed by: _____
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: K. [illegible] Date: 09-20-06

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 03/01/06\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004030106.doc

METALS

Washington Closure Hanford

Client Sample ID: J13DH4

TOTAL Metals

Lot-Sample #...: F6I120158-001 **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06
% Moisture.....: 0.44

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6256134						
Silver	ND N	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AD
		Dilution Factor: 1		MDL.....: 0.20		
Arsenic	2.0	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AE
		Dilution Factor: 1		MDL.....: 0.28		
Barium	84.1	5.0	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AF
		Dilution Factor: 1		MDL.....: 0.50		
Cadmium	ND	0.50	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AG
		Dilution Factor: 1		MDL.....: 0.14		
Chromium	7.0	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AH
		Dilution Factor: 1		MDL.....: 0.36		
Lead	3.2	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AJ
		Dilution Factor: 1		MDL.....: 0.15		
Selenium	0.55 B	1.5	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AK
		Dilution Factor: 1		MDL.....: 0.17		
Tin	ND	10.0	mg/kg	SW846 6010B	09/13-09/14/06	JD42P1AL
		Dilution Factor: 1		MDL.....: 2.8		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

Washington Closure Hanford

Client Sample ID: J13DK2

TOTAL Metals

Lot-Sample #...: F6I120158-002 **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06
% Moisture.....: 0.89

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6256134						
Silver	ND N	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AD
		Dilution Factor: 1		MDL.....: 0.20		
Arsenic	1.8	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AE
		Dilution Factor: 1		MDL.....: 0.28		
Barium	79.8	5.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AF
		Dilution Factor: 1		MDL.....: 0.50		
Cadmium	ND	0.50	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AG
		Dilution Factor: 1		MDL.....: 0.14		
Chromium	5.5	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AH
		Dilution Factor: 1		MDL.....: 0.36		
Lead	2.6	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AJ
		Dilution Factor: 1		MDL.....: 0.15		
Selenium	0.55 B	1.5	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AK
		Dilution Factor: 1		MDL.....: 0.17		
Tin	ND	10.1	mg/kg	SW846 6010B	09/13-09/14/06	JD4241AL
		Dilution Factor: 1		MDL.....: 2.8		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

Washington Closure Hanford

Client Sample ID: J13DK3

TOTAL Metals

Lot-Sample #...: F6I120158-003 **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06
% Moisture.....: 2.2

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6256134						
Silver	ND N	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AD
		Dilution Factor: 1		MDL.....: 0.20		
Arsenic	1.8	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AE
		Dilution Factor: 1		MDL.....: 0.28		
Barium	185	5.1	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AF
		Dilution Factor: 1		MDL.....: 0.51		
Cadmium	ND	0.51	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AG
		Dilution Factor: 1		MDL.....: 0.14		
Chromium	5.4	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AH
		Dilution Factor: 1		MDL.....: 0.36		
Lead	3.5	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AJ
		Dilution Factor: 1		MDL.....: 0.15		
Selenium	0.39 B	1.5	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AK
		Dilution Factor: 1		MDL.....: 0.18		
Tin	8.7 B	10.2	mg/kg	SW846 6010B	09/13-09/14/06	JD4291AL
		Dilution Factor: 1		MDL.....: 2.9		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F6I120158 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F6I130000-134 **Prep Batch #...:** 6256134						
Arsenic	ND	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AC
		Dilution Factor: 1				
Barium	ND	5.0	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AD
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AE
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AF
		Dilution Factor: 1				
Lead	ND	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AG
		Dilution Factor: 1				
Selenium	ND	1.5	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AH
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AA
		Dilution Factor: 1				
Tin	ND	10.0	mg/kg	SW846 6010B	09/13-09/14/06	JD6PW1AJ
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6I120158 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F6I130000-134 **Prep Batch #...:** 6256134							
Silver	130	151	mg/kg	116	SW846 6010B	09/13-09/14/06	JD6PW1AK
			Dilution Factor: 1				
Arsenic	161	171	mg/kg	106	SW846 6010B	09/13-09/14/06	JD6PW1AL
			Dilution Factor: 1				
Barium	252	264	mg/kg	105	SW846 6010B	09/13-09/14/06	JD6PW1AM
			Dilution Factor: 1				
Cadmium	128	133	mg/kg	104	SW846 6010B	09/13-09/14/06	JD6PW1AN
			Dilution Factor: 1				
Chromium	69.5	70.1	mg/kg	101	SW846 6010B	09/13-09/14/06	JD6PW1AP
			Dilution Factor: 1				
Lead	142	147	mg/kg	103	SW846 6010B	09/13-09/14/06	JD6PW1AQ
			Dilution Factor: 1				
Selenium	64.2	67.7	mg/kg	105	SW846 6010B	09/13-09/14/06	JD6PW1AR
			Dilution Factor: 1				
Tin	61.0	62.2	mg/kg	102	SW846 6010B	09/13-09/14/06	JD6PW1AT
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6I120158 **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06

MS Lot-Sample #: F6I120158-001 **Prep Batch #...:** 6256134
% Moisture.....: 0.44

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Arsenic									
	2.0	100	96.8	mg/kg	94		SW846 6010B	09/13-09/14/06	JD42P1AP
	2.0	100	103	mg/kg	101	6.2	SW846 6010B	09/13-09/14/06	JD42P1AQ
			Dilution Factor: 1						
Barium									
	84.1	100	168	mg/kg	84		SW846 6010B	09/13-09/14/06	JD42P1AR
	84.1	100	197	mg/kg	113	16	SW846 6010B	09/13-09/14/06	JD42P1AT
			Dilution Factor: 1						
Cadmium									
	ND	2.51	2.22	mg/kg	89		SW846 6010B	09/13-09/14/06	JD42P1AU
	ND	2.51	2.41	mg/kg	96	8.0	SW846 6010B	09/13-09/14/06	JD42P1AV
			Dilution Factor: 1						
Chromium									
	7.0	10.0	17.0	mg/kg	99		SW846 6010B	09/13-09/14/06	JD42P1AW
	7.0	10.0	18.3	mg/kg	112	7.4	SW846 6010B	09/13-09/14/06	JD42P1AX
			Dilution Factor: 1						
Lead									
	3.2	25.1	26.3	mg/kg	92		SW846 6010B	09/13-09/14/06	JD42P1A0
	3.2	25.1	27.9	mg/kg	98	5.6	SW846 6010B	09/13-09/14/06	JD42P1A1
			Dilution Factor: 1						
Selenium									
	0.55	100	91.5	mg/kg	91		SW846 6010B	09/13-09/14/06	JD42P1A2
	0.55	100	98.1	mg/kg	97	7.0	SW846 6010B	09/13-09/14/06	JD42P1A3
			Dilution Factor: 1						
Silver									
	ND	2.51	1.64 N	mg/kg	65		SW846 6010B	09/13-09/14/06	JD42P1AM
	ND	2.51	1.78 N	mg/kg	71	8.3	SW846 6010B	09/13-09/14/06	JD42P1AN
			Dilution Factor: 1						
Tin									
	ND	100	93.0	mg/kg	93		SW846 6010B	09/13-09/14/06	JD42P1A4
	ND	100	98.4	mg/kg	98	5.6	SW846 6010B	09/13-09/14/06	JD42P1A5
			Dilution Factor: 1						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

WET CHEMISTRY

Washington Closure Hanford

Client Sample ID: J13DH4

General Chemistry

Lot-Sample #...: F6I120158-001 **Work Order #...:** JD42P **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06
% Moisture.....: 0.44

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	0.44	0.10	%	MCAWW 160.3 MOD	09/13-09/14/06	6256252

Dilution Factor: 1 MDL.....:

Washington Closure Hanford

Client Sample ID: J13DK2

General Chemistry

Lot-Sample #...: F6I120158-002 **Work Order #...:** JD424 **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06
% Moisture.....: 0.89

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	0.89	0.10	%	MCAWW 160.3 MOD	09/13-09/14/06	6256252

Dilution Factor: 1 MDL.....:

Washington Closure Hanford

Client Sample ID: J13DK3

General Chemistry

Lot-Sample #...: F6I120158-003 **Work Order #...:** JD429 **Matrix.....:** SOLID
Date Sampled...: 09/07/06 **Date Received..:** 09/12/06
% Moisture.....: 2.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	2.2	0.10	%	MCAWW 160.3 MOD	09/13-09/14/06	6256252

Dilution Factor: 1 MDL.....:

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6I120158 **Work Order #...:** JD6Q0-SMP JD6Q0-DUP **Matrix.....:** SOLID

Date Sampled...: 09/12/06 **Date Received..:** 09/13/06

% Moisture.....: 15

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F6I130112-002	
	15.0	15.2	%	1.3	(0-30)	MCANW 160.3 MOD	09/13-09/14/06	6256252

Dilution Factor: 1

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
OCT 2006

Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 90 ***Pages***

Report No.: 33510

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00099	RC-078	J13DH4	J6I120209-1	JD5FA1AF	9JD5FA10	6256275
		J13DH4	J6I120209-1	JD5FA1AE	9JD5FA10	6256276
		J13DH4	J6I120209-1	JD5FA1AJ	9JD5FA10	6256278
		J13DH4	J6I120209-1	JD5FA1AA	9JD5FA10	6256280
		J13DH4	J6I120209-1	JD5FA1AD	9JD5FA10	6256281
		J13DH4	J6I120209-1	JD5FA1AG	9JD5FA10	6256282
		J13DH4	J6I120209-1	JD5FA1AH	9JD5FA10	6256284
		J13DH4	J6I120209-1	JD5FA1AC	9JD5FA10	6256285
		J13DH4	J6I120209-1	JD5FA1AK	9JD5FA10	6256286
		J13DK2	J6I120209-2	JD5FH1AF	9JD5FH10	6256275
		J13DK2	J6I120209-2	JD5FH1AE	9JD5FH10	6256276
		J13DK2	J6I120209-2	JD5FH1AJ	9JD5FH10	6256278
		J13DK2	J6I120209-2	JD5FH1AA	9JD5FH10	6256280
		J13DK2	J6I120209-2	JD5FH1AD	9JD5FH10	6256281
		J13DK2	J6I120209-2	JD5FH1AG	9JD5FH10	6256282
		J13DK2	J6I120209-2	JD5FH1AH	9JD5FH10	6256284
		J13DK2	J6I120209-2	JD5FH1AC	9JD5FH10	6256285
		J13DK2	J6I120209-2	JD5FH1AK	9JD5FH10	6256286
		J13DK3	J6I120209-3	JD5FJ1AF	9JD5FJ10	6256275
		J13DK3	J6I120209-3	JD5FJ1AE	9JD5FJ10	6256276
		J13DK3	J6I120209-3	JD5FJ1AJ	9JD5FJ10	6256278
		J13DK3	J6I120209-3	JD5FJ1AA	9JD5FJ10	6256280
		J13DK3	J6I120209-3	JD5FJ1AD	9JD5FJ10	6256281
		J13DK3	J6I120209-3	JD5FJ1AG	9JD5FJ10	6256282
		J13DK3	J6I120209-3	JD5FJ1AH	9JD5FJ10	6256284
		J13DK3	J6I120209-3	JD5FJ1AC	9JD5FJ10	6256285

Report No.: 33510

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00099	RC-078	J13DK3	J6I120209-3	JD5FJ1AK	9JD5FJ10	6256286

SEVERN TRENT 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

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

October 19, 2006

Attention: Joan Kessner

SAF Number	:	RC-078
Date SDG Closed	:	September 11, 2006
Number of Samples	:	Three (3)
Sample Type	:	Soil
SDG Number	:	J00099
Data Deliverable	:	30 – Day / Summary

CASE NARRATIVE

I. Introduction

On September 11, 2006 three soil samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
J13DH4	JD5FA	SOIL	9/11/06
J13DK2	JD5FH	SOIL	9/11/06
J13DK3	JD5FJ	SOIL	9/11/06

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:

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010
Uranium 234, 235 and 238 by method RICH-RC-5079
Americium 241 by method RICH-RC-5072
Gas Proportional Counting
Total Strontium by method RICH-RC-5006
Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017
Liquid Scintillation Counter
Nickel-63 by method RICH-RC-5069
Plutonium-241 by method RICH-RC-5010
Tritium by method RICH-RC-5007
Laser Induced Phosphorimetry
Total Uranium by method RICH-RC-5058

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010
The LCS, batch blank, samples and sample duplicate (J13DH4) results are within contractual requirements.

Americium 241 by method RICH-RC-5072
The LCS had a high recovery of 131%. STL Richland was given permission by the client to report the data. Except as noted, the LCS, batch blank, samples and sample duplicate (J13DH4) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5079
The LCS, batch blank, samples and sample duplicate (J13DK2) results are within contractual requirements.

Gas Proportional Counting
Total Strontium by method RICH-RC-5006:
The LCS, batch blank, sample and sample duplicate (J13DH4) results are within contractual requirements.

Washington Closure Hanford
October 19, 2006

Gamma Spectroscopy

Gamma Spec by method RICH-RC-5017:

The analyte of Ra 226 in the LCS has a 69% recovery. There are four other isotopes in the LCS that have acceptable recoveries. Data will be accepted based on these other isotopes. Except as noted the LCS, batch blank, sample and sample duplicate (J13DK3) results are within contractual requirements.

Liquid Scintillation Counter

Nickel-63 by method RICH-RC-5069:

The LCS, batch blank, sample and sample duplicate (J13DK3) results are within contractual requirements.

Plutonium-241 by method RICH-RC-5010

The LCS, batch blank, samples and sample duplicate (J13DH4) results are within contractual requirements.

Tritium by method RICH-RC-5007

The LCS, batch blank, samples and sample duplicate (J13DK3) results are within contractual requirements.

Total Uranium

Total Uranium by method RICH-RC-5058:

The matrix spike was out of limits on the first analysis. The matrix spike and the sample associated with the matrix spike were reanalyzed. The matrix spike was acceptable but the sample was ten times higher than the original sample result. Assuming the aliquot for counting was entered into the KPA incorrectly, the entire original batch was recounted. The recount results of the original analysis are acceptable. Except as noted, the LCS, batch blank, samples, sample duplicate (J13DH4), and sample matrix spike (J13DH4) 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:

Sandra Seger
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 = 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/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

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

Report Definitions

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

Sample Results Summary

STL Richland STLRL

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

Date: 19-Oct-06

Report No. : 33510

SDG No: J00099

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6256278 UTOT_KPA									
J13DH4									
	JD5FA1AJ	TOTAL-URANIUM	2.69E+00 +- 2.76E-01		ug/g		2.10E-02	1.00E+00	
J13DH4 DUP									
	JD5FA1AP	TOTAL-URANIUM	2.59E+00 +- 2.66E-01		ug/g		2.09E-02	1.00E+00	
J13DK2									
	JD5FH1AJ	TOTAL-URANIUM	1.25E+01 +- 1.28E+00		ug/g		2.08E-02	1.00E+00	
J13DK3									
	JD5FJ1AJ	TOTAL-URANIUM	8.98E+01 +- 1.07E+01		ug/g		2.04E-02	1.00E+00	
6256275 RICHRC5010									
J13DH4									
	JD5FA1AF	PU-238	0.00E+00 +- 1.62E-02	U	pCi/g	49%	1.79E-02	1.00E+00	
		PU239/40	-1.32E-03 +- 2.65E-03	U	pCi/g	49%	3.16E-02	1.00E+00	
J13DH4 DUP									
	JD5FA1AL	PU-238	-1.78E-03 +- 2.54E-03	U	pCi/g	72%	2.52E-02	1.00E+00	-200.0
		PU239/40	3.03E-02 +- 2.41E-02		pCi/g	72%	2.13E-02	1.00E+00	218.3
J13DK2									
	JD5FH1AF	PU-238	1.57E-02 +- 1.90E-02	U	pCi/g	70%	2.92E-02	1.00E+00	
		PU239/40	1.73E+00 +- 3.33E-01		pCi/g	70%	2.92E-02	1.00E+00	
J13DK3									
	JD5FJ1AF	PU-238	1.32E+00 +- 2.52E-01		pCi/g	86%	2.19E-02	1.00E+00	
		PU239/40	9.23E+01 +- 1.46E+01		pCi/g	86%	2.19E-02	1.00E+00	
6256276 RICHRC5080									
J13DH4									
	JD5FA1AE	AM-241	2.97E-02 +- 2.46E-02		pCi/g	95%	2.03E-02	1.00E+00	
J13DH4 DUP									
	JD5FA1AM	AM-241	3.44E-03 +- 1.03E-02	U	pCi/g	92%	2.06E-02	1.00E+00	158.5
J13DK2									
	JD5FH1AE	AM-241	3.37E-01 +- 9.53E-02		pCi/g	100%	2.52E-02	1.00E+00	
J13DK3									
	JD5FJ1AE	AM-241	1.78E+01 +- 3.05E+00		pCi/g	104%	2.00E-02	1.00E+00	
6256280 UISO_IE_PLATE_AEA									
J13DH4									
	JD5FA1AA	U-234	1.02E+00 +- 2.41E-01		pCi/g	97%	3.74E-02	1.00E+00	
		U-235	2.97E-02 +- 2.76E-02		pCi/g	97%	2.43E-02	1.00E+00	
		U-238	7.67E-01 +- 1.94E-01		pCi/g	97%	2.43E-02	1.00E+00	
J13DK2									
	JD5FH1AA	U-234	5.02E+00 +- 9.80E-01		pCi/g	87%	3.84E-02	1.00E+00	
		U-235	1.15E-01 +- 5.88E-02		pCi/g	87%	3.23E-02	1.00E+00	
		U-238	4.98E+00 +- 9.72E-01		pCi/g	87%	2.61E-02	1.00E+00	

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A2002

RPD - Relative Percent Difference.

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.

Sample Results Summary

STL Richland STLRL

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

Date: 19-Oct-06

Report No. : 33510

SDG No: J00099

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6256280 UISO_IE_PLATE_AEA									
J13DK2 DUP									
	JD5FH1AL	U-234	4.27E+00 +- 8.61E-01		pCi/g	80%	4.66E-02	1.00E+00	16.3
		U-235	8.27E-02 +- 5.21E-02		pCi/g	80%	2.04E-02	1.00E+00	32.7
		U-238	4.07E+00 +- 8.24E-01		pCi/g	80%	3.03E-02	1.00E+00	20.2
J13DK3									
	JD5FJ1AA	U-234	2.94E+01 +- 5.33E+00		pCi/g	98%	3.44E-02	1.00E+00	
		U-235	1.00E+00 +- 2.35E-01		pCi/g	98%	2.89E-02	1.00E+00	
		U-238	2.95E+01 +- 5.36E+00		pCi/g	98%	3.09E-02	1.00E+00	
6256284 GAMMA_GS									
J13DH4									
	JD5FA1AH	CO-60	1.98E-03 +- 9.34E-03	U	pCi/g		1.65E-02	5.00E-02	
		CS-137	1.55E-02 +- 1.34E-02		pCi/g		1.50E-02	1.00E-01	
		EU-152	-1.99E-02 +- 2.00E-02	U	pCi/g		3.28E-02	1.00E-01	
		EU-154	2.36E-02 +- 2.99E-02	U	pCi/g		5.37E-02	1.00E-01	
		EU-155	1.92E-02 +- 2.35E-02	U	pCi/g		4.05E-02	1.00E-01	
J13DK2									
	JD5FH1AH	CO-60	8.05E-03 +- 1.01E-02	U	pCi/g		1.84E-02	5.00E-02	
		CS-137	5.00E-02 +- 1.46E-02		pCi/g		1.57E-02	1.00E-01	
		EU-152	-8.08E-03 +- 2.24E-02	U	pCi/g		3.70E-02	1.00E-01	
		EU-154	-1.63E-02 +- 3.50E-02	U	pCi/g		5.89E-02	1.00E-01	
		EU-155	3.61E-02 +- 2.39E-02	U	pCi/g		4.06E-02	1.00E-01	
J13DK3									
	JD5FJ1AH	CO-60	4.98E-03 +- 1.04E-02	U	pCi/g		1.88E-02	5.00E-02	
		CS-137	2.78E-01 +- 4.02E-02		pCi/g		1.80E-02	1.00E-01	
		EU-152	-1.00E-02 +- 2.50E-02	U	pCi/g		4.12E-02	1.00E-01	
		EU-154	-2.80E-02 +- 3.49E-02	U	pCi/g		5.74E-02	1.00E-01	
		EU-155	4.37E-02 +- 4.38E-02	U	pCi/g		5.46E-02	1.00E-01	
J13DK3 DUP									
	JD5FJ1AM	CO-60	-4.23E-03 +- 9.09E-03	U	pCi/g		1.52E-02	5.00E-02	
		CS-137	2.69E-01 +- 3.88E-02		pCi/g		1.68E-02	1.00E-01	
		EU-152	5.37E-03 +- 2.33E-02	U	pCi/g		3.98E-02	1.00E-01	
		EU-154	7.29E-03 +- 3.12E-02	U	pCi/g		5.47E-02	1.00E-01	
		EU-155	6.59E-02 +- 3.62E-02	U	pCi/g		6.11E-02	1.00E-01	
6256285 SRTOT_SEP_PRECIP_GPC									
J13DH4									
	JD5FA1AC	STRONTIUM	8.98E-02 +- 6.50E-02	U	pCi/g	86%	1.20E-01		
J13DH4 DUP									
	JD5FA1AQ	STRONTIUM	-1.37E-02 +- 5.34E-02	U	pCi/g	78%	1.32E-01		271.9

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RPD - Relative Percent Difference.

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.

Sample Results Summary

STL Richland STLRL

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

Date: 19-Oct-06

Report No. : 33510

SDG No: J00099

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6256285 SRTOT_SEP_PRECIP_GPC									
	J13DK2								
	JD5FH1AC	STRONTIUM	9.71E-03 +- 5.39E-02	U	pCi/g	80%	1.26E-01		
	J13DK3								
	JD5FJ1AC	STRONTIUM	1.48E+01 +- 3.86E+00		pCi/g	84%	1.21E-01		
6256281 NI63_LSC									
	J13DH4								
	JD5FA1AD	NI-63	1.82E+00 +- 4.38E+00	U	pCi/g	88%	5.96E+00	3.00E+01	
	J13DK2								
	JD5FH1AD	NI-63	5.95E+00 +- 4.80E+00	U	pCi/g	88%	6.18E+00	3.00E+01	
	J13DK3								
	JD5FJ1AD	NI-63	4.44E+00 +- 4.81E+00	U	pCi/g	87%	6.05E+00	3.00E+01	
	J13DK3 DUP								
	JD5FJ1AL	NI-63	3.63E+00 +- 4.46E+00	U	pCi/g	89%	5.92E+00	3.00E+01	20.0
6256282 906.0_H3_LSC									
	J13DH4								
	JD5FA1AG	H-3	3.38E-02 +- 2.07E-02	U	pCi/g	100%	4.15E-02	4.00E+02	
	J13DK2								
	JD5FH1AG	H-3	8.82E-03 +- 1.81E-02	U	pCi/g	100%	3.89E-02	4.00E+02	
	J13DK2 DUP								
	JD5FH1AM	H-3	9.55E-03 +- 1.67E-02	U	pCi/g	100%	3.53E-02	4.00E+02	7.9
	J13DK3								
	JD5FJ1AG	H-3	7.13E-02 +- 2.13E-02		pCi/g	100%	3.80E-02	4.00E+02	
6256286 PU241_IE_LSC									
	J13DH4								
	JD5FA1AK	PU-241	3.28E-01 +- 8.32E-01	U	pCi/g	49%	1.50E+00	1.50E+01	
	J13DH4 DUP								
	JD5FA1AR	PU-241	3.48E-01 +- 5.75E-01	U	pCi/g	72%	1.01E+00	1.50E+01	5.8
	J13DK2								
	JD5FH1AK	PU-241	6.60E-01 +- 5.87E-01	U	pCi/g	70%	9.79E-01	1.50E+01	
	J13DK3								
	JD5FJ1AK	PU-241	2.65E+01 +- 2.23E+00		pCi/g	86%	8.06E-01	1.50E+01	

No. of Results: 64

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A2002

RPD - Relative Percent Difference.

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.

QC Results Summary
STL Richland STLRL

Date: 19-Oct-06

Ordered by Method, Batch No, QC Type,.

Report No. : 33510

SDG No.: J00099

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
UTOT_KPA								
6256278 BLANK QC								
JD7GR1AA	TOTAL-URANIUM	1.45E-02 +- 1.51E-03	U	ug/g				2.10E-02
6256278 LCS								
JD7GR1AC	TOTAL-URANIUM	1.01E+01 +- 1.20E+00		ug/g		100%	0.0	2.10E-02
6256278 MATRIX SPIKE								
JD5FA1AN	TOTAL-URANIUM	9.81E+00 +- 1.31E+00		ug/g		98%	0.0	2.08E-02
RICHRC5010								
6256275 BLANK QC								
JD7GM1AA	PU-238	0.00E+00 +- 1.25E-02	U	pCi/g	67%			1.39E-02
	PU239/40	4.60E-02 +- 3.16E-02		pCi/g	67%			1.39E-02
6256275 LCS								
JD7GM1AC	PU239/40	2.50E+00 +- 4.59E-01		pCi/g	71%	109%	0.1	1.27E-02
RICHRC5080								
6256276 BLANK QC								
JD7GQ1AA	AM-241	1.43E-02 +- 1.85E-02	U	pCi/g	86%			2.28E-02
6256276 LCS								
JD7GQ1AC	AM-241	3.07E+00 +- 5.78E-01		pCi/g	98%	131%	0.3	2.21E-02
UISO_IE_PLATE_AEA								
6256280 BLANK QC								
JD7G01AA	U-234	6.14E-02 +- 4.82E-02		pCi/g	75%			5.11E-02
	U-235	-6.61E-04 +- 1.33E-03	U	pCi/g	75%			3.32E-02
	U-238	3.30E-02 +- 3.36E-02	U	pCi/g	75%			2.24E-02
6256280 LCS								
JD7G01AC	U-234	3.16E+00 +- 6.44E-01		pCi/g	88%	97%	0.0	3.63E-02
	U-238	3.28E+00 +- 6.65E-01		pCi/g	88%	96%	0.0	2.74E-02
GAMMA_GS								
6256284 BLANK QC								
JD7HD1AA	CO-60	-5.68E-04 +- 3.31E-03	U	pCi/g				6.09E-03
	CS-137	-5.35E-03 +- 4.05E-03	U	pCi/g				6.09E-03
	EU-152	2.00E-03 +- 9.06E-03	U	pCi/g				1.63E-02
	EU-154	4.03E-04 +- 1.10E-02	U	pCi/g				2.04E-02
	EU-155	6.35E-03 +- 9.75E-03	U	pCi/g				1.75E-02
6256284 LCS								
JD7HD1AC	CS-137	2.11E-01 +- 4.30E-02		pCi/g		80%	-0.2	3.26E-02
	K-40	1.56E+01 +- 2.14E+00		pCi/g		80%	-0.2	2.81E-01
	RA-226	7.91E-01 +- 1.19E-01		pCi/g		69%	-0.3	5.02E-02
	RA-228	1.56E+00 +- 2.94E-01		pCi/g		83%	-0.2	1.04E-01
	U-238	9.19E-01 +- 1.36E-01		pCi/g		87%	-0.1	5.17E-02
SRTOT_SEP_PRECIP_GPC								
6256285 BLANK QC								
JD7HG1AA	STRONTIUM	3.34E-02 +- 5.36E-02	U	pCi/g	85%			1.17E-01

STL Richland

rptSTLRchQcSummary V5.0.3 A2002

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

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.

QC Results Summary

STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

Date: 19-Oct-06

Report No. : 33510

SDG No.: J00099

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
6256285 LCS								
JD7HG1AC	STRONTIUM	1.14E+00 +- 3.26E-01		pCi/g	88%	99%	0.0	1.14E-01
NI63_LSC								
6256281 BLANK QC								
JD7G31AA	NI-63	2.32E+00 +- 4.78E+00	U	pCi/g	84%			6.45E+00
6256281 LCS								
JD7G31AC	NI-63	5.21E+02 +- 5.27E+01		pCi/g	84%	85%	-0.1	6.45E+00
906.0_H3_LSC								
6256282 BLANK QC								
JD7G91AA	H-3	6.81E-03 +- 1.62E-01	U	pCi/g	100%			3.56E-01
6256282 LCS								
JD7G91AC	H-3	2.68E+00 +- 3.10E-01		pCi/g	100%	98%	0.0	3.54E-01
PU241_IE_LSC								
6256286 BLANK QC								
JD7HJ1AA	PU-241	4.57E-01 +- 6.20E-01	U	pCi/g	67%			1.06E+00
6256286 LCS								
JD7HJ1AC	PU-241	1.87E+01 +- 1.77E+00		pCi/g	71%	81%	-0.2	9.94E-01

No. of Results: 31

STL Richland
rptSTLRchQcSummary V5.0.3 A2002

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

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: 19-Oct-06

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 10:05:00 AM
Lot-Sample No.:	J6I120209-1	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DH4	COC No. :	RC-078-018	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count 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: 6256275	RICHRC5010			Work Order:	JD5FA1AF		Report DB ID:	9JD5FA10				
PU-238	***0.00E+00***	U	0.0E+00	1.6E-02	1.79E-02	pCi/g	49%	*0.*	10/4/06 09:57 p		2.02	ALP37
							1.00E+00	*0.*			G	
PU239/40	***-1.32E-03***	U	2.6E-03	2.7E-03	3.16E-02	pCi/g	49%	*-0.04*	10/4/06 09:57 p		2.02	ALP37
						6.67E-03	1.00E+00	*-1.*			G	
Batch: 6256276	RICHRC5080			Work Order:	JD5FA1AE		Report DB ID:	9JD5FA10				
AM-241	***2.97E-02***		2.4E-02	2.5E-02	2.03E-02	pCi/g	95%	*(1.5)*	10/12/06 08:27 p		2.02	ALP37
						4.41E-03	1.00E+00	*(2.4)*			G	
Batch: 6256278	UTOT_KPA			Work Order:	JD5FA1AJ		Report DB ID:	9JD5FA10				
TOTAL-URANIUM	***2.69E+00***		0.0E+00	2.8E-01	2.10E-02	ug/g		*(128.)*	10/17/06 02:42 p		0.001	KPAW3
						7.43E-03	1.00E+00	*(19.5)*			ML	
Batch: 6256280	UISO_IE_PLATE_AEA			Work Order:	JD5FA1AA		Report DB ID:	9JD5FA10				
U-234	***1.02E+00***		1.6E-01	2.4E-01	3.74E-02	pCi/g	97%	*(27.2)*	10/2/06 10:09 a		1.05	ALP71
						1.05E-02	1.00E+00	*(8.4)*			G	
U-235	***2.97E-02***		2.7E-02	2.8E-02	2.43E-02	pCi/g	97%	*(1.2)*	10/2/06 10:09 a		1.05	ALP71
						3.98E-03	1.00E+00	*(2.2)*			G	
U-238	***7.67E-01***		1.4E-01	1.9E-01	2.43E-02	pCi/g	97%	*(31.5)*	10/2/06 10:09 a		1.05	ALP71
						3.98E-03	1.00E+00	*(7.9)*			G	
								Ratio U-234/238 = 1.3				
Batch: 6256281	NI63_LSC			Work Order:	JD5FA1AD		Report DB ID:	9JD5FA10				
NI-63	***1.82E+00***	U	2.5E+00	4.4E+00	5.96E+00	pCi/g	88%	*0.31*	9/28/06 10:32 p		0.2589	LSC4
						2.89E+00	3.00E+01	*0.83*			G	

STL Richland
rptSTLRchSample
V5.0.3 A2002

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

SAMPLE RESULTS

Date: 19-Oct-06

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 10:05:00 AM
Lot-Sample No.:	J6I120209-1	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DH4	COC No. :	RC-078-018	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count 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: 6256282	906.0_H3_LSC			Work Order: JD5FA1AG			Report DB ID: 9JD5FA10					
H-3	*3.38E-02*	U	1.9E-02	2.1E-02	4.15E-02	pCi/g	100%	*0.81*	10/3/06 07:10 p		100.4	LSC3
						1.91E-02	4.00E+02	*(3.3)*			G	
Batch: 6256284	GAMMA_GS			Work Order: JD5FA1AH			Report DB ID: 9JD5FA10					
CO-60	*1.98E-03*	U	9.3E-03	9.3E-03	1.65E-02	pCi/g		*0.12*	9/25/06 06:37 a		799.5	GER7$1
							5.00E-02	*0.42*			g	
CS-137	*1.55E-02*		1.3E-02	1.3E-02	1.50E-02	pCi/g		*(1.)*	9/25/06 06:37 a		799.5	GER7$1
							1.00E-01	*(2.3)*			g	
EU-152	*-1.99E-02*	U	2.0E-02	2.0E-02	3.28E-02	pCi/g		*-0.61*	9/25/06 06:37 a		799.5	GER7$1
							1.00E-01	*-(2.)*			g	
EU-154	*2.36E-02*	U	3.0E-02	3.0E-02	5.37E-02	pCi/g		*0.44*	9/25/06 06:37 a		799.5	GER7$1
							1.00E-01	*(1.6)*			g	
EU-155	*1.92E-02*	U	2.3E-02	2.3E-02	4.05E-02	pCi/g		*0.47*	9/25/06 06:37 a		799.5	GER7$1
							1.00E-01	*(1.6)*			g	
Batch: 6256285	SRTOT_SEP_PRECIP_GPC			Work Order: JD5FA1AC			Report DB ID: 9JD5FA10					
STRONTIUM	*8.98E-02*	U	6.1E-02	6.5E-02	1.20E-01	pCi/g	86%	*0.75*	9/29/06 02:46 p		6.02	GPC26B
						5.58E-02		*(2.8)*			G	
Batch: 6256286	PU241_IE_LSC			Work Order: JD5FA1AK			Report DB ID: 9JD5FA10					
PU-241	*3.28E-01*	U	6.2E-01	8.3E-01	1.50E+00	pCi/g	49%	*0.22*	10/10/06 01:07 p		2.02	LSC7
						7.18E-01	1.50E+01	*0.79*			G	

No. of Results: 16 Comments:

STL Richland
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V5.0.3 A2002

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FORM I

SAMPLE RESULTS

Date: 19-Oct-06

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 8:10:00 AM
Lot-Sample No.:	J6I120209-2	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DK2	COC No. :	RC-078-018	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count 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: 6256275	RICHRC5010			Work Order: JD5FH1AF			Report DB ID: 9JD5FH10					
PU-238	*1.57E-02*	U	1.9E-02	1.9E-02	2.92E-02	pCi/g	70%	*0.54*	10/4/06 09:57 p		2.06	ALP40
						8.35E-03	1.00E+00	*(1.7)*			G	
PU239/40	*1.73E+00*		1.8E-01	3.3E-01	2.92E-02	pCi/g	70%	*(59.3)*	10/4/06 09:57 p		2.06	ALP40
						8.34E-03	1.00E+00	*(10.4)*			G	
Batch: 6256276	RICHRC5080			Work Order: JD5FH1AE			Report DB ID: 9JD5FH10					
AM-241	*3.37E-01*		7.6E-02	9.5E-02	2.52E-02	pCi/g	100%	*(13.4)*	10/12/06 08:28 p		2.06	ALP40
						7.19E-03	1.00E+00	*(7.1)*			G	
Batch: 6256278	UTOT_KPA			Work Order: JD5FH1AJ			Report DB ID: 9JD5FH10					
TOTAL-URANIUM	*1.25E+01*		0.0E+00	1.3E+00	2.08E-02	ug/g		*(602.5)*	10/17/06 03:31 p		0.00102	KPAW3
						7.35E-03	1.00E+00	*(19.5)*			ML	
Batch: 6256280	UISO_IE_PLATE_AEA			Work Order: JD5FH1AA			Report DB ID: 9JD5FH10					
U-234	*5.02E+00*		3.6E-01	9.8E-01	3.84E-02	pCi/g	87%	*(130.7)*	10/2/06 01:38 p		1.07	ALP69
						1.04E-02	1.00E+00	*(10.3)*			G	
U-235	*1.15E-01*		5.5E-02	5.9E-02	3.23E-02	pCi/g	87%	*(3.6)*	10/2/06 01:38 p		1.07	ALP69
						7.39E-03	1.00E+00	*(3.9)*			G	
U-238	*4.98E+00*		3.6E-01	9.7E-01	2.61E-02	pCi/g	87%	*(191.)*	10/2/06 01:38 p		1.07	ALP69
						4.26E-03	1.00E+00	*(10.3)*			G	
							Ratio U-234/238 = 1.0					
Batch: 6256281	NI63_LSC			Work Order: JD5FH1AD			Report DB ID: 9JD5FH10					
NI-63	*5.95E+00*	U	2.7E+00	4.8E+00	6.18E+00	pCi/g	88%	*0.96*	9/29/06 12:15 a		0.2505	LSC4
						3.00E+00	3.00E+01	*(2.5)*			G	

STL Richland
rptSTLRchSample
V5.0.3 A2002

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

SAMPLE RESULTS

Date: 19-Oct-06

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 8:10:00 AM
Lot-Sample No.:	J6I120209-2	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DK2	COC No. :	RC-078-018	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count 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: 6256282	906.0_H3_LSC			Work Order: JD5FH1AG			Report DB ID: 9JD5FH10					
H-3	***8.82E-03***	U	1.6E-02	1.8E-02	3.89E-02	pCi/g	100%	*0.23*	10/3/06 07:53 p		100.9	LSC3
						1.79E-02	4.00E+02	*0.98*			G	
Batch: 6256284	GAMMA_GS			Work Order: JD5FH1AH			Report DB ID: 9JD5FH10					
CO-60	***8.05E-03***	U	1.0E-02	1.0E-02	1.84E-02	pCi/g		*0.44*	9/25/06 09:06 a		781.8	GER6$1
							5.00E-02	*(1.6)*			g	
CS-137	***5.00E-02***		1.5E-02	1.5E-02	1.57E-02	pCi/g		*(3.2)*	9/25/06 09:06 a		781.8	GER6$1
							1.00E-01	*(6.8)*			g	
EU-152	***-8.08E-03***	U	2.2E-02	2.2E-02	3.70E-02	pCi/g		*-0.22*	9/25/06 09:06 a		781.8	GER6$1
							1.00E-01	*-0.72*			g	
EU-154	***-1.63E-02***	U	3.5E-02	3.5E-02	5.89E-02	pCi/g		*-0.28*	9/25/06 09:06 a		781.8	GER6$1
							1.00E-01	*-0.93*			g	
EU-155	***3.61E-02***	U	2.4E-02	2.4E-02	4.06E-02	pCi/g		*0.89*	9/25/06 09:06 a		781.8	GER6$1
							1.00E-01	*(3.)*			g	
Batch: 6256285	SRTOT_SEP_PRECIP_GPC			Work Order: JD5FH1AC			Report DB ID: 9JD5FH10					
STRONTIUM	***9.71E-03***	U	5.4E-02	5.4E-02	1.26E-01	pCi/g	80%	*0.08*	9/29/06 02:46 p		6.0	GPC26D
						5.84E-02		*0.36*			G	
Batch: 6256286	PU241_IE_LSC			Work Order: JD5FH1AK			Report DB ID: 9JD5FH10					
PU-241	***6.60E-01***	U	4.3E-01	5.9E-01	9.79E-01	pCi/g	70%	*0.67*	10/10/06 01:07 p		2.06	LSC7
						4.69E-01	1.50E+01	*(2.3)*			G	

No. of Results: 16 Comments:

STL Richland
rptSTLRchSample
V5.0.3 A2002

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FORM I

SAMPLE RESULTS

Date: 19-Oct-06

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 9:10:00 AM
Lot-Sample No.:	J6I120209-3	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DK3	COC No. :	RC-078-018	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count 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: 6256275	RICHRC5010			Work Order:	JD5FJ1AF		Report DB ID:	9JD5FJ10				
PU-238	***1.32E+00***		1.4E-01	2.5E-01	2.19E-02	pCi/g	86%	*(60.1)*	10/4/06 09:58 p		2.05	ALP41
						5.71E-03	1.00E+00	*(10.4)*			G	
PU239/40	***9.23E+01***		1.2E+00	1.5E+01	2.19E-02	pCi/g	86%	*(4212.9)*	10/4/06 09:58 p		2.05	ALP41
						5.70E-03	1.00E+00	*(12.6)*			G	
Batch: 6256276	RICHRC5080			Work Order:	JD5FJ1AE		Report DB ID:	9JD5FJ10				
AM-241	***1.78E+01***		5.5E-01	3.0E+00	2.00E-02	pCi/g	104%	*(890.1)*	10/12/06 08:28 p		2.05	ALP41
						4.34E-03	1.00E+00	*(11.7)*			G	
Batch: 6256278	UTOT_KPA			Work Order:	JD5FJ1AJ		Report DB ID:	9JD5FJ10				
TOTAL-URANIUM	***8.98E+01***		0.0E+00	1.1E+01	2.04E-02	ug/g		*(4406.1)*	10/17/06 03:38 p		0.00103	KPAW3
						7.21E-03	1.00E+00	*(16.8)*			ML	
Batch: 6256280	UISO_IE_PLATE_AEA			Work Order:	JD5FJ1AA		Report DB ID:	9JD5FJ10				
U-234	***2.94E+01***		8.2E-01	5.3E+00	3.44E-02	pCi/g	98%	*(854.)*	10/2/06 05:21 p		1.06	ALP69
						9.34E-03	1.00E+00	*(11.)*			G	
U-235	***1.00E+00***		1.5E-01	2.4E-01	2.89E-02	pCi/g	98%	*(34.6)*	10/2/06 05:21 p		1.06	ALP69
						6.61E-03	1.00E+00	*(8.5)*			G	
U-238	***2.95E+01***		8.3E-01	5.4E+00	3.09E-02	pCi/g	98%	*(953.4)*	10/2/06 05:21 p		1.06	ALP69
						7.63E-03	1.00E+00	*(11.)*			G	
								Ratio U-234/238 = 1.0				
Batch: 6256281	NI63_LSC			Work Order:	JD5FJ1AD		Report DB ID:	9JD5FJ10				
NI-63	***4.44E+00***	U	2.6E+00	4.6E+00	6.05E+00	pCi/g	87%	*0.73*	9/29/06 01:57 a		0.2582	LSC4
						2.94E+00	3.00E+01	*(1.9)*			G	

STL Richland
rptSTLRchSample
V5.0.3 A2002

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FORM I

SAMPLE RESULTS

Date: 19-Oct-06

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 9:10:00 AM
Lot-Sample No.:	J6I120209-3	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DK3	COC No. :	RC-078-018	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count 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: 6256282	906.0_H3_LSC			Work Order: JD5FJ1AG			Report DB ID: 9JD5FJ10					
H-3	*7.13E-02*		1.9E-02	2.1E-02	3.80E-02	pCi/g	100%	*(1.9)*	10/3/06 09:18 p		100.4	LSC3
						1.75E-02	4.00E+02	*(6.7)*			G	
Batch: 6256284	GAMMA_GS			Work Order: JD5FJ1AH			Report DB ID: 9JD5FJ10					
CO-60	*4.98E-03*	U	1.0E-02	1.0E-02	1.88E-02	pCi/g		*0.27*	9/25/06 05:34 a		743.8	GER6$1
							5.00E-02	*0.95*			g	
CS-137	*2.78E-01*		4.0E-02	4.0E-02	1.80E-02	pCi/g		*(15.5)*	9/25/06 05:34 a		743.8	GER6$1
							1.00E-01	*(13.8)*			g	
EU-152	*-1.00E-02*	U	2.5E-02	2.5E-02	4.12E-02	pCi/g		*-0.24*	9/25/06 05:34 a		743.8	GER6$1
							1.00E-01	*-0.8*			g	
EU-154	*-2.80E-02*	U	3.5E-02	3.5E-02	5.74E-02	pCi/g		*-0.49*	9/25/06 05:34 a		743.8	GER6$1
							1.00E-01	*-(1.6)*			g	
EU-155	*4.37E-02*	U	4.4E-02	4.4E-02	5.46E-02	pCi/g		*0.8*	9/25/06 05:34 a		743.8	GER6$1
							1.00E-01	*(2.)*			g	
Batch: 6256285	SRTOT_SEP_PRECIP_GPC			Work Order: JD5FJ1AC			Report DB ID: 9JD5FJ10					
STRONTIUM	*1.46E+01*		4.4E-01	3.9E+00	1.21E-01	pCi/g	84%	*(120.9)*	9/29/06 02:46 p		6.03	GPC27A
						5.63E-02		*(7.6)*			G	
Batch: 6256286	PU241_IE_LSC			Work Order: JD5FJ1AK			Report DB ID: 9JD5FJ10					
PU-241	*2.65E+01*		8.8E-01	2.2E+00	8.06E-01	pCi/g	86%	*(32.9)*	10/10/06 01:07 p		2.05	LSC7
						3.86E-01	1.50E+01	*(23.8)*			G	

No. of Results: 16 Comments:

STL Richland
rptSTLRchSample
V5.0.3 A2002

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

Date: 19-Oct-06

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 10:05:00 AM
Lot-Sample No.:	J6I120209-1	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DH4 DUP	COC No. :	RC-078-018	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	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	Primary Detector
Batch: 6256275	RICHRC5010			Work Order: JD5FA1AL		Report DB ID: JD5FA1LR			Orig Sa DB ID: 9JD5FA10			
PU-238	-1.78E-03	U	2.5E-03	2.5E-03	2.52E-02	pCi/g	72%	-0.07	10/4/06 09:57 p		2.0	ALP39
	0.00E+00	U	RPD	-200.0		1.00E+00		-(1.4)			G	
PU239/40	3.03E-02		2.4E-02	2.4E-02	2.13E-02	pCi/g	72%	(1.4)	10/4/06 09:57 p		2.0	ALP39
	-1.32E-03	U	RPD	218.3		1.00E+00		(2.5)			G	
									Alpha Spec Result Sum = 2.8E-02			
Batch: 6256276	RICHRC5080			Work Order: JD5FA1AM		Report DB ID: JD5FA1MR			Orig Sa DB ID: 9JD5FA10			
AM-241	3.44E-03	U	1.0E-02	1.0E-02	2.06E-02	pCi/g	92%	0.17	10/12/06 08:27 p		2.0	ALP39
	2.97E-02		RPD	158.5		1.00E+00		0.67			G	
									Alpha Spec Result Sum = 3.2E-02			
Batch: 6256278	UTOT_KPA			Work Order: JD5FA1AP		Report DB ID: JD5FA1PR			Orig Sa DB ID: 9JD5FA10			
TOTAL-URANIUM	2.59E+00		0.0E+00	2.7E-01	2.09E-02	ug/g		(124.1)	10/17/06 03:22 p		0.00101	KPAW3
	2.69E+00		RPD	3.7		1.00E+00		(19.5)			ML	
									Alpha Spec Result Sum = 3.2E-02			
Batch: 6256285	SRTOT_SEP_PRECIP_GPC			Work Order: JD5FA1AQ		Report DB ID: JD5FA1QR			Orig Sa DB ID: 9JD5FA10			
STRONTIUM	-1.37E-02	U	5.3E-02	5.3E-02	1.32E-01	pCi/g	78%	-0.1	9/29/06 02:46 p		6.05	GPC26C
	8.98E-02	U	RPD	271.9				-0.51			G	
									Alpha Spec Result Sum = 3.2E-02			
Batch: 6256286	PU241_IE_LSC			Work Order: JD5FA1AR		Report DB ID: JD5FA1RR			Orig Sa DB ID: 9JD5FA10			
PU-241	3.48E-01	U	4.3E-01	5.7E-01	1.01E+00	pCi/g	72%	0.35	10/10/06 01:07 p		2.0	LSC7
	3.28E-01	U	RPD	5.8		1.50E+01		(1.2)			G	

STL Richland
rptSTLRchDupV5.0 .3 A2002

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

Date: 19-Oct-06

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 10:05:00 AM
Lot-Sample No.:	J6I120209-1	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DH4 DUP	COC No. :	RC-078-018	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	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	Primary Detector

No. of Results: 6 Comments:

RPD - Relative Percent Difference.

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

FORM II

Date: 19-Oct-06

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 8:10:00 AM
Lot-Sample No.:	J6I120209-2	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DK2 DUP	COC No. :	RC-078-018	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	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	Primary Detector
Batch: 6256280	UISO_IE_PLATE_AEA			Work Order: JD5FH1AL		Report DB ID: JD5FH1LR			Orig Sa DB ID: 9JD5FH10			
U-234	4.27E+00		3.6E-01	8.6E-01	4.66E-02	pCi/g	80%	(91.7)	10/2/06 01:38 p		1.03	ALP71
	5.02E+00		RPD	16.3		1.00E+00		(9.9)			G	
U-235	8.27E-02		5.0E-02	5.2E-02	2.04E-02	pCi/g	80%	(4.1)	10/2/06 01:38 p		1.03	ALP71
	1.15E-01		RPD	32.7		1.00E+00		(3.2)			G	
U-238	4.07E+00		3.5E-01	8.2E-01	3.03E-02	pCi/g	80%	(134.4)	10/2/06 01:38 p		1.03	ALP71
	4.98E+00		RPD	20.2		1.00E+00		(9.9)			G	
						Ratio U-234/238 = 1.0			*Alpha Spec Result Sum = 8.4E+00*			
Batch: 6256282	906.0_H3_LSC			Work Order: JD5FH1AM		Report DB ID: JD5FH1MR			Orig Sa DB ID: 9JD5FH10			
H-3	9.55E-03	U	1.5E-02	1.7E-02	3.53E-02	pCi/g	100%	0.27	10/3/06 08:35 p		100.7	LSC3
	8.82E-03	U	RPD	7.9		4.00E+02		(1.1)			G	
									Alpha Spec Result Sum = 8.4E+00			

No. of Results: 4 Comments:

STL Richland RPD - Relative Percent Difference.
rptSTLRchDupV5.0 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
.3 A2002 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 II

Date: 19-Oct-06

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	J00099	Collection Date:	9/7/2006 9:10:00 AM
Lot-Sample No.:	J6I120209-3	Report No. :	33510	Received Date:	9/11/2006 12:50:00 PM
Client Sample ID:	J13DK3 DUP	COC No. :	RC-078-018	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	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	Primary Detector
Batch: 6256281	NI63_LSC			Work Order: JD5FJ1AL		Report DB ID: JD5FJ1LR			Orig Sa DB ID: 9JD5FJ10			
NI-63	3.63E+00	U	2.5E+00	4.5E+00	5.92E+00	pCi/g	89%	0.61	9/29/06 03:39 a		0.2576	LSC4
	4.44E+00	U	RPD	20.0		3.00E+01		(1.6)			G	
Batch: 6256284	GAMMA_GS			Work Order: JD5FJ1AM		Report DB ID: JD5FJ1MR			Orig Sa DB ID: 9JD5FJ10			
CO-60	-4.23E-03	U	9.1E-03	9.1E-03	1.52E-02	pCi/g		-0.28	9/25/06 09:06 a		743.8	GER4$1
	4.98E-03	U	RPD	2459.3		5.00E-02		-0.93			g	
CS-137	2.69E-01		3.9E-02	3.9E-02	1.68E-02	pCi/g		(16.)	9/25/06 09:06 a		743.8	GER4$1
	2.78E-01		RPD	3.5		1.00E-01		(13.8)			g	
EU-152	5.37E-03	U	2.3E-02	2.3E-02	3.98E-02	pCi/g		0.13	9/25/06 09:06 a		743.8	GER4$1
	-1.00E-02	U	RPD	-659.4		1.00E-01		0.46			g	
EU-154	7.29E-03	U	3.1E-02	3.1E-02	5.47E-02	pCi/g		0.13	9/25/06 09:06 a		743.8	GER4$1
	-2.80E-02	U	RPD	-340.7		1.00E-01		0.47			g	
EU-155	6.59E-02	U	3.6E-02	3.6E-02	6.11E-02	pCi/g		(1.1)	9/25/06 09:06 a		743.8	GER4$1
	4.37E-02	U	RPD	40.4		1.00E-01		(3.6)			g	

No. of Results: 6 Comments:

STL Richland
rptSTLRchDupV5.0
.3 A2002

RPD - Relative Percent Difference.
MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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 II

BLANK RESULTS

Date: 19-Oct-06

Lab Name: STL Richland

Matrix: SOIL

SDG: J00099

Report No. : 33510

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	Aliquot Size	Primary Detector
Batch: 6256275	RICHRC5010			Work Order:	JD7GM1AA		Report DB ID:	JD7GM1AB				
PU-238	0.00E+00	U	0.0E+00	1.3E-02	1.39E-02	pCi/g	67%	0.	10/4/06 09:58 p		2.0	ALP42
						1.00E+00		0.			G	
PU239/40	4.60E-02		3.1E-02	3.2E-02	1.39E-02	pCi/g	67%	(3.3)	10/4/06 09:58 p		2.0	ALP42
						1.00E+00		(2.9)			G	
Batch: 6256280	UISO_IE_PLATE_AEA			Work Order:	JD7G01AA		Report DB ID:	JD7G01AB				
U-234	6.14E-02		4.7E-02	4.8E-02	5.11E-02	pCi/g	75%	(1.2)	10/2/06 05:21 p		1.0	ALP71
					1.44E-02	1.00E+00		(2.5)			G	
U-235	-6.61E-04	U	1.3E-03	1.3E-03	3.32E-02	pCi/g	75%	-0.02	10/2/06 05:21 p		1.0	ALP71
					5.44E-03	1.00E+00		-1.			G	
U-238	3.30E-02	U	3.3E-02	3.4E-02	2.24E-02	pCi/g	75%	(1.5)	10/2/06 05:21 p		1.0	ALP71
						1.00E+00		(2.)			G	
								Ratio U-234/238 = 1.9				
Batch: 6256278	UTOT_KPA			Work Order:	JD7GR1AA		Report DB ID:	JD7GR1AB				
TOTAL-URANIUM	1.45E-02	U	0.0E+00	1.5E-03	2.10E-02	ug/g		0.69	10/17/06 03:42 p		0.001	KPAW3
					7.42E-03	1.00E+00		(19.2)			ML	
Batch: 6256276	RICHRC5080			Work Order:	JD7GQ1AA		Report DB ID:	JD7GQ1AB				
AM-241	1.43E-02	U	1.8E-02	1.9E-02	2.28E-02	pCi/g	86%	0.63	10/12/06 08:28 p		2.0	ALP42
					4.94E-03	1.00E+00		(1.5)			G	
Batch: 6256281	NI63_LSC			Work Order:	JD7G31AA		Report DB ID:	JD7G31AB				
NI-63	2.32E+00	U	2.7E+00	4.8E+00	6.45E+00	pCi/g	84%	0.36	9/29/06 05:22 a		0.25	LSC4
					3.13E+00	3.00E+01		0.97			G	
Batch: 6256286	PU241_IE_LSC			Work Order:	JD7HJ1AA		Report DB ID:	JD7HJ1AB				

STL Richland
rptSTLRchBlank
V5.0.3 A2002

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

BLANK RESULTS

Date: 19-Oct-06

Lab Name: STL Richland

SDG: J00099

Matrix: SOIL

Report No. : 33510

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	Aliquot Size	Primary Detector
PU-241	4.57E-01	U	4.6E-01	6.2E-01	1.06E+00	pCi/g	67%	0.43	10/10/06 01:07 p		2.0	LSC7
					5.08E-01	1.50E+01		(1.5)			G	
Batch: 6256282	906.0_H3_LSC			**Work Order:**	JD7G91AA		**Report DB ID:**	JD7G91AB				
H-3	6.81E-03	U	1.4E-01	1.6E-01	3.56E-01	pCi/g	100%	0.02	10/3/06 05:45 p		10.0	LSC3
					1.64E-01	4.00E+02		0.08			G	
Batch: 6256284	GAMMA_GS			**Work Order:**	JD7HD1AA		**Report DB ID:**	JD7HD1AB				
CO-60	-5.68E-04	U	3.3E-03	3.3E-03	6.09E-03	pCi/g		-0.09	9/25/06 10:02 a		859.27	GER7$1
						5.00E-02		-0.34			g	
CS-137	-5.35E-03	U	4.0E-03	4.0E-03	6.09E-03	pCi/g		-0.88	9/25/06 10:02 a		859.27	GER7$1
						1.00E-01		-(2.6)			g	
EU-152	2.00E-03	U	9.1E-03	9.1E-03	1.63E-02	pCi/g		0.12	9/25/06 10:02 a		859.27	GER7$1
						1.00E-01		0.44			g	
EU-154	4.03E-04	U	1.1E-02	1.1E-02	2.04E-02	pCi/g		0.02	9/25/06 10:02 a		859.27	GER7$1
						1.00E-01		0.07			g	
EU-155	6.35E-03	U	9.7E-03	9.7E-03	1.75E-02	pCi/g		0.36	9/25/06 10:02 a		859.27	GER7$1
						1.00E-01		(1.3)			g	
Batch: 6256285	SRTOT_SEP_PRECIP_GPC			**Work Order:**	JD7HG1AA		**Report DB ID:**	JD7HG1AB				
STRONTIUM	3.34E-02	U	5.3E-02	5.4E-02	1.17E-01	pCi/g	85%	0.29	9/29/06 02:46 p		6.0	GPC27B
					5.41E-02			(1.2)			G	

No. of Results: 16 Comments:

STL Richland
rptSTLRchBlank
V5.0.3 A2002

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

LCS RESULTS

Date: 19-Oct-06

Lab Name: STL Richland

SDG: J00099

Matrix: SOIL

Report No. : 33510

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6256275	RICHRC5010			Work Order:	JD7GM1AC		Report DB ID:	JD7GM1CS					
PU239/40	2.50E+00		2.2E-01	4.6E-01	1.27E-02	pCi/g	71%	2.30E+00	7.8E-02	109%	10/4/06 09:58 p	2.0	ALP44
							Rec Limits:	70	130	0.1		G	
Batch: 6256280	UISO_IE_PLATE_AEA			Work Order:	JD7G01AC		Report DB ID:	JD7G01CS					
U-234	3.16E+00		2.9E-01	6.4E-01	3.63E-02	pCi/g	88%	3.27E+00	1.8E-02	97%	10/2/06 09:40 p	1.0	ALP69
							Rec Limits:	70	130	0.0		G	
U-238	3.28E+00		3.0E-01	6.7E-01	2.74E-02	pCi/g	88%	3.42E+00	1.9E-02	96%	10/2/06 09:40 p	1.0	ALP69
							Rec Limits:	70	130	0.0		G	
Batch: 6256278	UTOT_KPA			Work Order:	JD7GR1AC		Report DB ID:	JD7GR1CS					
TOTAL-URANIUM	1.01E+01		0.0E+00	1.2E+00	2.10E-02	ug/g		1.01E+01	5.6E-02	100%	10/17/06 03:45 p	0.001	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 6256276	RICHRC5080			Work Order:	JD7GQ1AC		Report DB ID:	JD7GQ1CS					
AM-241	3.07E+00		2.4E-01	5.8E-01	2.21E-02	pCi/g	98%	2.34E+00	7.3E-02	131%	10/12/06 08:29 p	2.0	ALP43
							Rec Limits:	70	130	0.3		G	
Batch: 6256281	NI63_LSC			Work Order:	JD7G31AC		Report DB ID:	JD7G31CS					
NI-63	5.21E+02		8.9E+00	5.3E+01	6.45E+00	pCi/g	84%	6.10E+02	2.0E+01	85%	9/29/06 07:04 a	0.25	LSC4
							Rec Limits:	70	130	-0.1		G	
Batch: 6256286	PU241_IE_LSC			Work Order:	JD7HJ1AC		Report DB ID:	JD7HJ1CS					
PU-241	1.87E+01		8.7E-01	1.8E+00	9.94E-01	pCi/g	71%	2.29E+01	1.0E+00	81%	10/10/06 01:07 p	2.0	LSC7
							Rec Limits:	70	130	-0.2		G	
Batch: 6256282	906.0_H3_LSC			Work Order:	JD7G91AC		Report DB ID:	JD7G91CS					
H-3	2.68E+00		2.8E-01	3.1E-01	3.54E-01	pCi/g	100%	2.72E+00	8.2E-02	98%	10/3/06 06:28 p	10.0	LSC3
							Rec Limits:	70	130	0.0		G	

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

rptSTLRchLcs
V5.0.3 A2002

FORM II

LCS RESULTS

Date: 19-Oct-06

Lab Name: STL Richland

SDG: J00099

Matrix: SOIL

Report No. : 33510

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6256284	GAMMA_GS			Work Order:	JD7HD1AC		Report DB ID:	JD7HD1CS					
CS-137	2.11E-01		4.3E-02	4.3E-02	3.26E-02	pCi/g		2.63E-01	1.2E-02	80%	9/25/06 12:31 p	457.79	GER6$1
							Rec Limits:	70	130	-0.2		g	
K-40	1.56E+01		2.1E+00	2.1E+00	2.81E-01	pCi/g		1.95E+01	1.9E+00	80%	9/25/06 12:31 p	457.79	GER6$1
							Rec Limits:	70	130	-0.2		g	
RA-226	7.91E-01		1.2E-01	1.2E-01	5.02E-02	pCi/g		1.15E+00	5.2E-02	69%	9/25/06 12:31 p	457.79	GER6$1
							Rec Limits:	70	130	-0.3		g	
RA-228	1.56E+00		2.9E-01	2.9E-01	1.04E-01	pCi/g		1.87E+00	9.6E-02	83%	9/25/06 12:31 p	457.79	GER6$1
							Rec Limits:	70	130	-0.2		g	
U-238	9.19E-01		1.4E-01	1.4E-01	5.17E-02	pCi/g		1.05E+00	5.4E-02	87%	9/25/06 12:31 p	457.79	GER6$1
							Rec Limits:	70	130	-0.1		g	
Batch: 6256285	SRTOT_SEP_PRECIP_GPC			Work Order:	JD7HG1AC		Report DB ID:	JD7HG1CS					
STRONTIUM	1.14E+00		1.3E-01	3.3E-01	1.14E-01	pCi/g	88%	1.16E+00	8.3E-03	99%	9/29/06 02:46 p	6.0	GPC27C
							Rec Limits:	20	105	0.0		G	

No. of Results: 14 Comments:

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

rptSTLRchLcs
V5.0.3 A2002

FORM II

Date: 19-Oct-06

MATRIX SPIKE RESULTS

Lab Name: STL Richland SDG: J00099

Lot-Sample No.: J6I120209-1 Report No. : 33510 Matrix: SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Exp-ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6256278	Work Order: JD5FA1AN			Report DB ID: JD5FA1NW			Orig Sa DB ID: 9JD5FA10						
TOTAL-URANIUM	9.81E+00		0.0E+00	1.3E+00	2.08E-02	ug/g		97.71%	1.00E+01	5.6E-02	10/17/06 03:15 p	0.00101	UTOT_KPA
	2.69E+00											ML	KPAW3

Number of Results: 1

Comments:

STL Richland
rptSTLRchMs
V5.0.3 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/18/2006 7:52:01 AM

Lot No., Due Date: J6I120209; 10/11/2006

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 6256276; RAMISO Amiso by ALP

SDG, Matrix: J00099; SOIL

		Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02	Final Results Are in the Appropriate Activity Units OK	✓		
8.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04	The Correct Tracer and QC Vials Where Used in the Samples Incorrect Tracer/Vial => JD5FA1AE PATB<>AMTD JD5FA1AM PATB<>AMTD JD5FH1AE PATB<>AMTD JD5FJ1AE PATB<>AMTD JD7GQ1AA PATB<>AMTD JD7GQ1AC PASC<>AMSJ JD7GQ1AD PATB<>AMTD JD7GQ1AE PASC<>AMSJ Q:V9		✓	
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06	At Least the Minimum Sample Volume Was Used OK	✓		
8.07	The Correct Count Geometry was Used. OK	✓		
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09	Method Blank is within Control Limits. OK	✓		
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. OK	✓		
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
8.14	LCS within Control Limits. LCS Exceeds Control Limit => JD7GQ1AC AM-241 131 L:70|130 10-08829 JD7GQ1AC AM-241 131 L:70|130 Q:S0		✓	
8.15	MLCS within Control Limits. MLCS Exceeds Control Limit => => JD7GQ1AE AM-241 149 L:70|130 10-08829 JD7GQ1AE AM-241 149 L:70|130 Q:S1		✓	
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
8.17	Tracer within Control Limits. OK	✓		
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	✓		
8.19	Sample Specific MDC <= CRDL. OK	✓		
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
8.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => AM-241 OK; No Callin Level Found => AM-241	✓		

.24 Result + 3s >=0, Not Too Negative. Yes No N/A

OK ✓

.25 Counting Spectrum are within FWHM Limits. Yes No N/A

FWHM > maxFWHM => JD5FA1AE AM-241 31.7>0 ✓

JD5FH1AE AM-241 52.688>0

JD5FJ1AE AM-241 47.383>0

JD7GQ1AC AM-241 48.323>0

JD7GQ1AE AM-241 54.49>0 Q:V1

.26 Instruments have Current Calibrations. Yes No N/A

.27 Correct Count Library Used. Yes No N/A

Library Not Specified => JD5FA1AE I:[NUC_LIBR]AR_AM Q:

JD5FA1AM I:[NUC_LIBR]AR_AM Q:

JD5FH1AE I:[NUC_LIBR]AR_AM Q:

JD5FJ1AE I:[NUC_LIBR]AR_AM Q:

JD7GQ1AA I:[NUC_LIBR]AR_AM Q:

JD7GQ1AC I:[NUC_LIBR]AR_AM Q:

JD7GQ1AD I:[NUC_LIBR]AR_AM Q:

JD7GQ1AE I:[NUC_LIBR]AR_AM Q:

.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

.3 Comments:

First Level Review Pam Anderson Date 10-18-06

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 62562276

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: Jodie Co Date: 10/18/06

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: 10-08829
NCM Initiated By: Pam Anderson
Date Opened: 10/18/2006
Date Closed:

Classification: Anomaly
Status: GLREVIEW
Production Area: Environmental - Sep
Tests: Amiso by ALP
Lot #'s (Sample #'s): J6I120209 (1,2,3), J6I130000 (276),
QC Batches: 6256276

Nonconformance: LCS result out of limits
Subcategory: Analyte was recovered high in the LCS

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	10/18/2006	The Am in soil LCS has a high recovery of 131 %. The client was contacted. They said to report the data.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	10/18/2006	The Am yields are being monitored.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 10/18/2006

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/6/2006 8:39:11 AM

.ot No., Due Date: J6I120209; 10/11/2006

:lient, Site: 127642; HANFORD

QC Batch No., Method Test: 6256275; RPUISO Pulso by ALP

SDG, Matrix: J00099; SOIL

		Yes	No	N/A
.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
.02	Final Results Are in the Appropriate Activity Units OK	✓		
.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
.04	The Correct Tracer and QC Vials Where Used in the Samples Incorrect Tracer/Vial => JD5FA1AF PATB<>PUTC JD5FA1AL PATB<>PUTC JD5FH1AF PATB<>PUTC JD5FJ1AF PATB<>PUTC JD7GM1AA PATB<>PUTC JD7GM1AC PASC<>PUSK JD7GM1AD PATB<>PUTC JD7GM1AE PASC<>PUSK Q:V9		✓	
3.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
3.06	At Least the Minimum Sample Volume Was Used OK	✓		
3.07	The Correct Count Geometry was Used. OK	✓		
3.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
3.09	Method Blank is within Control Limits. OK	✓		
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. OK	✓		
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
8.14	LCS within Control Limits. OK	✓		
8.15	MLCS within Control Limits. OK	✓		
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
8.17	Tracer within Control Limits. Tracers Exceeds Control Limit => => JD5FA1AF PU-242 49 L:0|0 JD5FA1AL PU-242 72 L:0|0 JD5FH1AF PU-242 70 L:0|0 JD5FJ1AF PU-242 86 L:0|0 JD7GM1AA PU-242 67 L:0|0 JD7GM1AA PU-242 67 L:0|0 JD7GM1AC PU-242 71 L:0|0 JD7GM1AD PU-242 53 L:0|0 JD7GM1AE PU-242 73 L:0|0 Q:S2		✓	
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	✓		
8.19	Sample Specific MDC <= CRDL. OK	✓		
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓

.22 Result < Mdc, Activity Not Detected, U Flag. Yes No N/A ✓

No Limit Specified!

.23 Result <= Action Level, when Defined. Yes ✓ No N/A

OK; No Action Level Found => PU-238
PU-239

OK; No Callin Level Found => PU-238
PU-239

.24 Result + 3s >=0, Not Too Negative. Yes ✓ No N/A

OK

.25 Counting Spectrum are within FWHM Limits. Yes No ✓ N/A

FWHM > maxFWHM => JD5FH1AF PU-239 39.5>0
JD5FJ1AF PU-238 54.152>0
JD7GM1AA PU-239 17.465>0
JD7GM1AC PU-239 41.82>0
JD7GM1AE PU-239 72.099>0 Q:V1

.26 Instruments have Current Calibrations. Yes No N/A

.27 Correct Count Library Used. Yes No N/A

Library Not Specified => JD5FA1AF I:[NUC_LIBR]AR_PU Q:
JD5FA1AL I:[NUC_LIBR]AR_PU Q:
JD5FH1AF I:[NUC_LIBR]AR_PU Q:
JD5FJ1AF I:[NUC_LIBR]AR_PU Q:
JD7GM1AA I:[NUC_LIBR]AR_PU Q:
JD7GM1AC I:[NUC_LIBR]AR_PU Q:
JD7GM1AD I:[NUC_LIBR]AR_PU Q:
JD7GM1AE I:[NUC_LIBR]AR_PU Q:

.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

.3 Comments:

First Level Review Pam Anderson Date 10-6-04

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6256275

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: Jodie Co Date: 10/9/06

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/3/2006 4:46:04 PM

.ot No., Due Date: J6I120209; 10/11/2006

:lient, Site: 127642; HANFORD

)C Batch No., Method Test: 6256280; RUISO Uiso by ALP

;DG, Matrix: J00099; SOIL

		Yes	No	N/A
.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
.02	Final Results Are in the Appropriate Activity Units OK	✓		
.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
.04	The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
.06	At Least the Minimum Sample Volume Was Used OK	✓		
.07	The Correct Count Geometry was Used. OK	✓		
.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
.09	Method Blank is within Control Limits. OK	✓		
.1	Comments:			
.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!			✓
.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
.14	LCS within Control Limits. LCS Exceeds Control Limit => JD7G01AC U-235 58 L:70|130 JD7G01AC U-235 58 L:70|130 Q:S0		✓	
.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!			✓
.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
.17	Tracer within Control Limits. OK	✓		
.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	✓		
.19	Sample Specific MDC <= CRDL. OK	✓		
.2	Comments:			
.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
.23	Result <= Action Level, when Defined. OK; No Action Level Found => U-234 U-235 U-238 OK; No Callin Level Found => U-234 U-235 U-238	✓		
.24	Result + 3s >=0, Not Too Negative. OK	✓		
.25	Counting Spectrum are within FWHM Limits. FWHM > maxFWHM => JD5FA1AA U-234 38.9>0		✓	

JD5FH1AA U-234 60.421>0
JD5FH1AL U-234 51.833>0
JD5FJ1AA U-234 75.526>0
JD7G01AA U-238 25.916>0
JD7G01AC U-234 52.868>0 Q:V1

26 Instruments have Current Calibrations. Yes No N/A

27 Correct Count Library Used. Yes No N/A

Library Not Specified => JD5FA1AA I:[NUC_LIBR]AR_U. Q:
JD5FH1AA I:[NUC_LIBR]AR_U. Q:
JD5FH1AL I:[NUC_LIBR]AR_U. Q:
JD5FJ1AA I:[NUC_LIBR]AR_U. Q:
JD7G01AA I:[NUC_LIBR]AR_U. Q:
JD7G01AC I:[NUC_LIBR]AR_U. Q:

.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

.3 Comments:

First Level Review Pam Anderson Date 10-4-06

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 62566280

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: [signature] Date: 10/9/06

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/27/2006 9:55:25 AM

ot No., Due Date: J6I120209; 10/11/2006

llent, Site: 127642; HANFORD

IC Batch No., Method Test: 6256284; RGAMMA Gamma by GER

DG, Matrix: J00099; SOIL

.0 COC			
.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
.0 QC Batch			
.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓
.0 QC & Samples			
.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
.0 Raw Data			
.1 Were results calculated in the correct units?	Yes ✓	No	N/A
.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
.3 Were Yields entered correctly?	Yes	No	N/A ✓
.4 Were spectra reviewed/meet contractual requirements?	Yes ✓	No	N/A
.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:
See NCM. 10-05739

First Level Review Pam Anderson Date 9-27-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6256284

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: Jodie G Date: 9/27/04

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: 10-08739
NCM Initiated By: Pam Anderson
Date Opened: 09/27/2006
Date Closed:

Classification: Anomaly
Status: GLREVIEW
Production Area: Environmental - Sep
Tests: Gamma by GER
Lot #'s (Sample #'s): J6I120209 (1,2,3), J6I130000 (284),
QC Batches: 6256284

Nonconformance: LCS result out of limits
Subcategory: Analyte was recovered low in the LCS

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	09/27/2006	The analyte of Ra 226 in the LCS for this gamma has a 69% recovery. There are 4 other isotoes that have acceptable. recovery., in the 80%. Data wil be accepted on these other isotopes.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	09/27/2006	Note in case narrative.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 9/27/2006

STL RICHLAND

SEVERN TRENT **STL**

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/30/2006 11:15:21 AM

ɔt No., Due Date: J6I120209; 10/11/2006

lient, Site: 127642; HANFORD

C Batch No., Method Test: 6256285; RSRTOT SrTot by GPC

DG, Matrix: J00099; SOIL

		Yes	No	N/A
01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
02	Final Results Are in the Appropriate Activity Units OK	✓		
03	Batch Contains the Required QC Appropriate for the Method OK	✓		
04	The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
06	At Least the Minimum Sample Volume Was Used OK	✓		
07	The Correct Count Geometry was Used. OK	✓		
.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
.09	Method Blank is within Control Limits. OK; No CRDL Found => SR-89/90	✓		
.1	Comments:			
.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!			✓
.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
.14	LCS within Control Limits. OK	✓		
.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!			✓
.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
.17	Tracer within Control Limits. OK	✓		
.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	✓		
.19	Sample Specific MDC <= CRDL. OK; No CRDL Found => SR-89/90	✓		
.2	Comments:			
.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
.23	Result <= Action Level, when Defined. OK; No Action Level Found => SR-89/90 OK; No Callin Level Found => SR-89/90	✓		
8.24	Result + 3s >=0, Not Too Negative. OK	✓		
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!			✓
8.26	Instruments have Current Calibrations.			
8.27	Correct Count Library Used. No Count Library found in Batch Data!			✓

28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

3 Comments:

First Level Review Pam Anderson Date 10.1.06

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6256285

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: Jodie Co Date: 10/2/06

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/29/2006 3:56:24 PM

ɔt No., Due Date: J6I120209; 10/11/2006

'lent, Site: 127642; HANFORD

C Batch No., Method Test: 6256281; RNI63 NI-63 by LSC

DG, Matrix: J00099; SOIL

0 COC			
1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
0 QC Batch			
1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
4 Does the Worksheets include a Tracer Vial label for each sample?	Yes ✓	No	N/A
0 QC & Samples			
1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
.0 Raw Data			
.1 Were results calculated in the correct units?	Yes ✓	No	N/A
.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
.3 Were Yields entered correctly?	Yes ✓	No	N/A
.4 Were spectra reviewed/meet contractual requirements?	Yes ✓	No	N/A
.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
.0 Other			
.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
.2 Are all required forms filled out?	Yes ✓	No	N/A
.3 Was the correct methodology used?	Yes ✓	No	N/A
.4 Was transcription checked?	Yes ✓	No	N/A
.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

.0 Comments on any No response:

First Level Review Pam Anderson Date 9-29-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 02562281

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: Jodie [signature] Date: 10/2/06

LS-038B, Rev. 10, 8/02
STL RICHLAND

SEVERN TRENT **STL**

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/11/2006 8:53:11 AM

ɔt No., Due Date: J6I120209; 10/11/2006

llent, Site: 127642; HANFORD

C Batch No., Method Test: 6256286; RPU241 Pu-241 by LSC

DG, Matrix: J00099; SOIL

		Yes	No	N/A
01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
02	Final Results Are in the Appropriate Activity Units OK	✓		
03	Batch Contains the Required QC Appropriate for the Method OK	✓		
.04	The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
.06	At Least the Minimum Sample Volume Was Used OK	✓		
.07	The Correct Count Geometry was Used. OK	✓		
.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
.09	Method Blank is within Control Limits. OK	✓		
.1	Comments:			
.11	Matrix Blank is within Control Limits. OK	✓		
.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
.14	LCS within Control Limits. OK	✓		
.15	MLCS within Control Limits. OK	✓		
.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
.17	Tracer within Control Limits. No Tracers found in Batch!			✓
.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!			✓
.19	Sample Specific MDC <= CRDL. OK	✓		
.2	Comments:			
.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
.23	Result <= Action Level, when Defined. OK; No Action Level Found => PU-241 OK; No Callin Level Found => PU-241	✓		
.24	Result + 3s >=0, Not Too Negative. OK	✓		
.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!			✓
.26	Instruments have Current Calibrations.			
.27	Correct Count Library Used. No Count Library found in Batch Data!			✓

28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) N/A

.3 Comments:

First Level Review Pam Anderson Date 10-11-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6256286

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

Comments on any "No" response: _____

Second Level Review: Sheryl A Allen Date: 10-11-06

SEVERN TRENT **STL**

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/4/2006 2:23:34 PM

ot No., Due Date: J6I120209; 10/11/2006

:lient, Site: 127642; HANFORD

)C Batch No., Method Test: 6256282; RTRITIUM H-3 by LSC

;DG, Matrix: J00099; SOIL

		Yes	No	N/A
.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
.02	Final Results Are in the Appropriate Activity Units OK	✓		
.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
.04	The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
.06	At Least the Minimum Sample Volume Was Used OK	✓		
.07	The Correct Count Geometry was Used. OK	✓		
.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
.09	Method Blank is within Control Limits. OK	✓		
.1	Comments:			
.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!			✓
.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
.14	LCS within Control Limits. OK	✓		
.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!			✓
.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
.17	Tracer within Control Limits. No Tracers found in Batch!			✓
.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!			✓
.19	Sample Specific MDC <= CRDL. OK	✓		
.2	Comments:			
.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
.23	Result <= Action Level, when Defined. OK; No Action Level Found => H-3 OK; No Callin Level Found => H-3	✓		
.24	Result + 3s >=0, Not Too Negative. OK	✓		
.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!			✓
.26	Instruments have Current Calibrations.			
.27	Correct Count Library Used. No Count Library found in Batch Data!			✓

28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) N/A

3 Comments:

First Level Review Pam Anderson Date 10-4-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 62516282

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: Jodie Ca Date: 10/9/06

SEVERN TRENT **STL**

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

10/18/2006 11:24:04 AM

ɔt No., Due Date: J6I120209; 10/11/2006

lient, Site: 127642; HANFORD

C Batch No., Method Test: 6256278; RUNAT UNat by KPA

DG, Matrix: J00099; SOIL

01 The Appropriate Methods Were Used To Analyze the Samples — Yes ✓ No N/A
OK

02 Final Results Are in the Appropriate Activity Units — Yes No ✓ N/A
Incorrect Units => JD5FA1AJ ug/g PCI/G
JD5FA1AN ug/g PCI/G
JD5FA1AP ug/g PCI/G
JD5FH1AJ ug/g PCI/G
JD5FJ1AJ ug/g PCI/G
JD7GR1AA ug/g PCI/G
JD7GR1AC ug/g PCI/G Q:V7

.03 Batch Contains the Required QC Appropriate for the Method — Yes ✓ No N/A
OK

.04 The Correct Tracer and QC Vials Where Used in the Samples — Yes ✓ No N/A
OK

.05 Sample was Appropriately Traced Before or After Fractionating the Sample — Yes ✓ No N/A
OK

.06 At Least the Minimum Sample Volume Was Used — Yes No N/A ✓
No Count Analysis Size found in Batch Data!

.07 The Correct Count Geometry was Used. — Yes No N/A ✓
No Count Geometry found in Batch Data!

.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. — Yes No N/A ✓
No Count Duration Field Found in Batch Data!

.09 Method Blank is within Control Limits. — Yes ✓ No N/A
OK

.1 Comments:

.11 Matrix Blank is within Control Limits. — Yes No N/A ✓
No Matrix Blanks (MBlks) found in Batch!

.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). — Yes ✓ No N/A
OK

.13 QAS Specified Duplicate Equation Value within Control Limits. — Yes No N/A ✓
No Duplicate Limit Found in QAS! OK (RPD)

8.14 LCS within Control Limits. — Yes ✓ No N/A
OK

8.15 MLCS within Control Limits. — Yes No N/A ✓
No Matrix Spikes (MLCS) found in Batch!

8.16 MS within Control Limits. — Yes No ✓ N/A
MS Exceeds Control Limit => => JD5FA1AN Uranium 98 L:0|70 Q:S1 [illegible]

8.17 Tracer within Control Limits. — Yes No N/A ✓
No Tracers found in Batch!

8.18 Samples are above Minimum Tracer Yield (No Failed Samples) — Yes No N/A ✓
No Tracers found in Batch!

8.19 Sample Specific MDC <= CRDL. — Yes ✓ No N/A
OK

8.2 Comments:

8.21 Result < Lc, Activity Not Detected, U Flag. — Yes No N/A ✓
No Limit Specified!

8.22 Result < Mdc, Activity Not Detected, U Flag. — Yes No N/A ✓
No Limit Specified!

8.23 Result <= Action Level, when Defined. — Yes ✓ No N/A
OK; No Action Level Found => Uranium

OK; No Callin Level Found => Uranium

8.24 Result + 3s >=0, Not Too Negative. — Yes ✓ No N/A
OK

NCM # 10-08836

5 Counting Spectrum are within FWHM Limits. Yes No N/A ✓
No FWHM found in Batch Data!

6 Instruments have Current Calibrations. Yes No N/A

7 Correct Count Library Used. Yes No N/A ✓
No Count Library found in Batch Data!

8 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

9 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions). N/A

Comments:

First Level Review Pam Anderson Date 10/18/06

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6256278

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: Jodie Ca Date: 10/19/06

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #:	10-08836		
NCM Initiated By:	Pam Anderson	Classification:	Anomaly
Date Opened:	10/18/2006	Status:	GLREVIEW
Date Closed:		Production Area:	Environmental - Sep
		Tests:	UNat by KPA
		Lot #'s (Sample #'s):	J6I120209 (1,2,3),
		QC Batches:	6256278
Nonconformance:	Other (describe in detail)		
Subcategory:	Other (explanation required)		

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	10/18/2006	On the first analysis of this Uranium in soil batch the matrix spike was out of limits at 10% recovery. The matrix spike and the sample associated with it were reanalyzed. This time the matrix spike was acceptable but the sample was 10 times higher than the original sample. Assuming the aliquot for counting was mis- entered into the KPA the first batch was recounted. The recount gives very data. Recount data accepted.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	10/18/2006	The original batch was recounted with good results.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

STL RICHLAND

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-078-018
Collector: FAHLBERG/KERKOW/HUDSON	Company Contact: R Kerkow	Telephone No.: 531-0635	Project Coordinator: KESSNER, JH
Project Designation: 618-2 Burial Ground Closeout Samples - Soils	Sampling Location: 300-FF-2 618-2 DZ/SZ/OB		SAF No.: RC-078
Ice Chest No.	Field Logbook No.: EL 1395-12	COA: RG61822000	Method of Shipment: GOVERNMENT VEHICLE
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Price Code: Air Quality ☐

Data Turnaround: 30 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

potentially radioactive

Special Handling and/or Storage

Preservation	None	None									
Type of Container	P	P									
No. of Container(s)	1	1									
Volume	~~60mL~~ 125mL	1000mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.									

Sample No.	Matrix *	Sample Date	Sample Time										
J13DH4	SOIL	9.7.06	1005	X	X			JD5FA					
J13DK2	SOIL	9-7-06	0810	X	X			JD5FH					
J13DK3	SOIL	9-7-06	0910	X	X			JD5FJ					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Hudson B Hudson	9/7/06 1100	3728 #1A	9/7/06 1100
3728 #1A	9/11/06 1100	RTD M Stankovich	9/11/06 1100
RTD M Stankovich	9/11/06 1250	J Smith	9/11/06 12:50

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (Add-on) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver, Tin)
(2) Gamma Spectroscopy (TCL List); Isotopic Plutonium; Plutonium-241; Isotopic Uranium; Americium-241; Nickel-63; Strontium-89,90 -- Total Sr; Tritium - H3; Total Uranium

Personnel not available to relinquish samples from 3728 Ref # 1A on 9/11/06

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Radiological Counting Facility

Analysis Report for RCF15248

J13DH6; SAF RC-078; 300FF2 618-2 OVERBURDEN

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF15248
Sample Description	: J13DH6; SAF RC-078; 300FF2 618-2 OVERBURDEN
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.800E+01 grams
Facility	: Default
Sample Taken On	: 9/7/2006 10:05:00AM
Acquisition Started	: 9/7/2006 12:01:45PM
Procedure	: 80 gramp pill box
Operator	: RCT 9-7-06
Detector Name	: PGTWHITE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.5 seconds
Dead Time	: 0.01 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 40 - 4096
Peak Area Range (in channels)	: 40 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 1/25/2006
Efficiency Calibration Used Done On	: 2/6/2006
Efficiency Calibration Description	: Efficiency calibration PGTwhite 80 grams pill box
Sample Number	: 10590

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.998	1.81E+01	3.59E+00	
EU-155 <MDA	0.334	~~1.10E-01~~	8.16E-02	
TH-234 <MDA	0.340	~~8.63E-01~~	5.99E-01	

Radiological Counting Facility

D
A2-03

Analysis Report for RCF15130

J135C3 SAF: RC-078 300-FF-2 / 618-2 DEEP ZONE CLOSEOUT SAMPLES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF15130
Sample Description	: J135C3 SAF: RC-078 300-FF-2 / 618-2 DEEP ZONE CLOSEOUT SAMPLES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.800E+01 grams
Facility	: Default
Sample Taken On	: 8/17/2006 8:27:00AM
Acquisition Started	: 8/22/2006 11:54:56AM
Procedure	: 80 gram pill box
Operator	: RCT [illegible] 8-22-06
Detector Name	: BEGE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.2 seconds
Dead Time	: 0.00 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 40 - 4096
Peak Area Range (in channels)	: 40 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/21/2006
Efficiency Calibration Used Done On	: 3/20/2006
Efficiency Calibration Description	: Efficiency validation BEGE 50 ml pill box
Sample Number	: 10289

non regulated

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.994	1.29E+01	2.58E+00	
	CS-137	1.000	4.69E-01	1.26E-01	
?	RA-226	0.963	5.53E+00	1.51E+00	
	AC-228	0.316	7.41E-01	3.91E-01	
	TH-234	1.000	5.39E+00	7.05E-01	
?	U-235	0.546	3.43E-01	9.34E-02	
	AM-241	1.000	5.11E+00	3.73E-01	
	Pu-239		3.07 x10¹ pCi/gm		

Radiological Counting Facility

Analysis Report for RCF15150

J135F3 SAF: RC-078 300-FF-2 / 618-2 SHALLOW ZONE CLOSEOUT

SZ
A2-07

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF15150
Sample Description	: J135F3 SAF: RC-078 300-FF-2 / 618-2 SHALLOW ZONE CLOSEOUT
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.400E+01 grams
Facility	: Default
Sample Taken On	: 8/17/2006 9:27:24AM
Acquisition Started	: 8/23/2006 9:28:05AM
Procedure	: 80 gram pill box
Operator	: RCT 8-23-06
Detector Name	: WC83417
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.3 seconds
Dead Time	: 0.01 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 40 - 4096
Peak Area Range (in channels)	: 40 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/21/2006
Efficiency Calibration Used Done On	: 5/31/2006
Efficiency Calibration Description	: Efficiency validation PGTWC83417 80 gram pill box
Sample Number	: 10328

non Regulated

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.999	1.53E+01	4.19E+00	
TH-234	0.356	2.87E+00	1.04E+00	

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 9-11-06 1250

Client: WCH SDG #: J00099 NA [ ] SAF #: RC-078 NA [ ]

Work Order Number: J6I100309 Chain of Custody # RC-078-018

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   _____ tape
   _____ 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? Soil 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): N/A

Sample Custodian: _____ Date: _____

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

STL RICHLAND

9/25/2006 1:48:57 PM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

8E Am PrpRC5013/RC5019, SepRC5080(5003)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

Sep1 DT/Tm Tech:

AnalyDueDate: 10/02/2006

Batch: 6256276 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:
37 1 JD5FA-1-AE J6I120209-1-SAMP [redacted] 09/07/2006 10:05		2.02g,in AmtRec: LP	PATB4303 09/25/06,pd 06/07/94,r #Containers: 1	200		Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
39 2 JD5FA-1-AM-X J6I120209-1-DUP [redacted] 09/07/2006 10:05		2.00g,in AmtRec: LP	PATB4304 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
40 3 JD5FH-1-AE J6I120209-2-SAMP [redacted] 09/07/2006 08:10		2.06g,in AmtRec: LP	PATB4305 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha: 6.10E+01pCi/g	Beta: 1.67E+01pCi/g
41 4 JD5FJ-1-AE J6I120209-3-SAMP [redacted] 09/07/2006 09:10		2.05g,in AmtRec: LP	PATB4306 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha: 1.28E+02pCi/g	Beta: 2.99E+01pCi/g
42 5 JD7GQ-1-AA-B J6I130000-276-BLK [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PATB4307 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha:	Beta:
43 6 JD7GQ-1-AC-C J6I130000-276-LCS [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PASC0696 09/14/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha:	Beta:
44 7 JD7GQ-1-AD-BX J6I130000-276-MBLK [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PATB4308 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha:	Beta:

STL Richland
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Prep_SamplePrep v4.8.24

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STL RICHLAND

Sample Preparation/Analysis

8E Am PrpRC5013/RC5019, SepRC5080(5003)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256276 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:
46 8 JD7GQ-1-AE-CM J6I130000-276-MLCS [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PASC0697 09/14/06,pd 06/07/94,r #Containers: 1					

Scr: Alpha: Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AE-SAMP Constituent List:

Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
JD7GQ1AA-BLK:											
Am-241	RDL:1	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
JD7GQ1AC-LCS:											
Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
JD7GQ1AD-MBLK:											
Am-241	RDL:1	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
JD7GQ1AE-MLCS:											
Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

JD5FA1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7GQ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7GQ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7GQ1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7GQ1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

9/25/2006 1:48:59 PM

Sample Preparation/Analysis

8E Am PrpRC5013/RC5019, SepRC5080(5003)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:11203/3922

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256276 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

Approved By _____ Date: _____

10/18/2006 7:51:28 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/18/2005, 10/23/2006, Batch: '6256276', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256276						
C		CalcC	HansenM	9/25/2006 11:53:43		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			HansenM	InPrep2	9/25/2006 11:53:43 AM	RICH-RC-5019 REVISION 5
C			HansenM	Prep2C	9/27/2006 10:38:58 AM	RICH-RC-5019 REVISION 5
C			AndersonE	Sep1C	10/10/2006 1:42:07 PM	RICH-RC-5080 REVISION 2
C			FABREM	Sep2C	10/12/2006 5:51:20 PM	RICH-RC-5003 REV 6
C			StringerR	InCnt1	10/12/2006 6:24:49 PM	RICH-RD-0008 REVISION 4
C			BlackCL	CalcC	10/13/2006 7:49:55 AM	RICH-RD-0008 REVISION 4
C			HansenM	9/27/2006 10:38:58		
C			AndersonE	10/10/2006 1:42:07		
C			FABREM	10/12/2006 5:51:20		
C			StringerR	10/12/2006 6:24:49		
C			BlackCL	10/13/2006 7:49:55		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.16

STL RICHLAND

9/25/2006 1:48:54 PM

Sample Preparation/Analysis

Balance Id: 1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

6A Pu PrpRC5013/RC5019, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256275 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:
37 1 JD5FA-1-AF J6I120209-1-SAMP [redacted] 09/07/2006 10:05		2.02g,in AmtRec: LP	PATB4303 09/25/06,pd 06/07/94,r #Containers: 1	200		Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
39 2 JD5FA-1-AL-X J6I120209-1-DUP [redacted] 09/07/2006 10:05		2.00g,in AmtRec: LP	PATB4304 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
40 3 JD5FH-1-AF J6I120209-2-SAMP [redacted] 09/07/2006 08:10		2.06g,in AmtRec: LP	PATB4305 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha: 6.10E+01pCi/g	Beta: 1.67E+01pCi/g
41 4 JD5FJ-1-AF J6I120209-3-SAMP [redacted] 09/07/2006 09:10		2.05g,in AmtRec: LP	PATB4306 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha: 1.28E+02pCi/g	Beta: 2.99E+01pCi/g
42 5 JD7GM-1-AA-B J6I130000-275-BLK [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PATB4307 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha:	Beta:
44 6 JD7GM-1-AC-C J6I130000-275-LCS [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PASC0696 09/14/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha:	Beta:
121 7 JD7GM-1-AD-BX J6I130000-275-MBLK [redacted] 09/07/2006 10:05		2.00g,in AmtRec:	PATB4308 09/25/06,pd 06/07/94,r #Containers: 1			Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

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STL RICHLAND

9/25/2006 1:48:56 PM

Sample Preparation/Analysis

Balance Id:1120373922

6A Pu PrpRC5013/RC5019, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256275 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:
8 JD7GM-1-AE-CM		2.00g,in	PASC0697					
J6I130000-275-MLCS			09/14/06,pd					
[redacted]			06/07/94,r					
09/07/2006 10:05		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AF-SAMP Constituent List:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

JD7GM1AA-BLK:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

JD7GM1AC-LCS:

PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

JD7GM1AD-MBLK:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

JD7GM1AE-MLCS:

PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

JD5FA1AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7GM1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7GM1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7GM1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7GM1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

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9/25/2006 1:48:56 PM

Sample Preparation/Analysis

6A Pu PrpRC5013/RC5019, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373022

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256275 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

Approved By _____ Date: _____

0/6/2006 8:25:20 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/6/2005, 10/11/2006, Batch: '6256275', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256275						
3		CalcC	HansenM	9/25/2006 11:53:38		
3			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
3			HansenM	InPrep2	9/25/2006 11:53:38 AM	RICH-RC-5019 REVISION 5
3			HansenM	Prep2C	9/27/2006 10:39:09 AM	RICH-RC-5019 REVISION 5
C			AndersonE	Sep1C	10/4/2006 1:53:45 PM	RICH-RC-5080 REVISION 2
C			FABREM	Sep2C	10/4/2006 6:12:02 PM	RICH-RC-5039 REV 6
C			DAWKINSO	InCnt1	10/4/2006 7:38:22 PM	RICH-RD-0008 REVISION 4
C			BlackCL	CalcC	10/5/2006 8:00:11 AM	RICH-RD-0008 REVISION 4
C			HansenM	9/27/2006 10:39:09		
C			AndersonE	10/4/2006 1:53:45 PM		
C			FABREM	10/4/2006 6:12:02 PM		
C			DAWKINSO	10/4/2006 7:38:22 PM		
C			BlackCL	10/5/2006 8:00:11		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

STL RICHLAND

9/25/2006 1:53:30 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

7S Uiso PrpRC5013/RC5019, SepRC5079(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256280 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

[redacted]

Prep Tech: ,HansenM

Work Order, Lot, Sample DateTime	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 JD5FA-1-AA J6I120209-1-SAMP [redacted] 09/07/2006 10:05		1.05g,in AmtRec: LP	UITC16296 09/06/06,pd 07/28/06,r #Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
2 JD5FH-1-AA J6I120209-2-SAMP [redacted] 09/07/2006 08:10		1.07g,in AmtRec: LP	UITC16297 09/06/06,pd 07/28/06,r #Containers: 1			Scr:	Alpha: 6.10E+01pCi/g	Beta: 1.67E+01pCi/g
3 JD5FH-1-AL-X J6I120209-2-DUP [redacted] 09/07/2006 08:10		1.03g,in AmtRec: LP	UITC16298 09/06/06,pd 07/28/06,r #Containers: 1			Scr:	Alpha: 6.10E+01pCi/g	Beta: 1.67E+01pCi/g
4 JD5FJ-1-AA J6I120209-3-SAMP [redacted] 09/07/2006 09:10		1.06g,in AmtRec: LP	UITC16299 09/06/06,pd 07/28/06,r #Containers: 1			Scr:	Alpha: 1.28E+02pCi/g	Beta: 2.99E+01pCi/g
5 JD7G0-1-AA-B J6I130000-280-BLK [redacted] 09/07/2006 08:10		1.00g,in AmtRec:	UITC16305 09/06/06,pd 07/28/06,r #Containers: 1			Scr:	Alpha:	Beta:
6 JD7G0-1-AC-C J6I130000-280-LCS [redacted] 09/07/2006 08:10		1.00g,in AmtRec:	UISH0425 09/14/06,pd 07/28/06,r #Containers: 1			Scr:	Alpha:	Beta:

samples were crushed mct 9-26-06

Sample Preparation/Analysis

7S Uiso PrpRC5013/RC5019, SepRC5079(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Balance ID:1120373922

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256280 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AA-SAMP Constituent List:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/g	LCL:	UCL:	RPD:

JD7G01AA-BLK:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/g	LCL:	UCL:	RPD:

JD7G01AC-LCS:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	Uranium	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

JD5FA1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7G01AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7G01AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

0/3/2006 4:28:36 PM

ICOC Fraction Transfer/Status Report

ByDate: 10/3/2005, 10/8/2006, Batch: '6256280', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256280						
C		CalcC	HansenM	9/25/2006 11:53:31		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			HansenM	InPrep2	9/25/2006 11:53:31 AM	RICH-RC-5019 REVISION 5
C			HansenM	Prep2C	9/27/2006 10:36:00 AM	RICH-RC-5086 REVISION 2
C			FABREM	Sep2C	9/30/2006 2:56:16 PM	RICH-RC-5039 REV 6
C			StringerR	InCnt1	9/30/2006 3:02:40 PM	RICH-RD-0008 REVISION 4
C			BlackCL	CalcC	10/3/2006 7:15:53 AM	RICH-RD-0008 REVISION 4
C			HansenM	9/27/2006 10:36:00		
C			FABREM	9/30/2006 2:56:16 PM		
C			StringerR	9/30/2006 3:02:40 PM		
C			BlackCL	10/3/2006 7:15:53		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:5

ICOCFractions v4.8.18

STL RICHLAND

9/24/2006 11:58:55 AM

Sample Preparation/Analysis

Balance Id:1120421763

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006 J00099

Sep1 DT/Tm Tech:

Batch: 6256284 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

[redacted]

Prep Tech: ,HansenM

Work Order, Lot, Sample DateTime	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 JD5FA-1-AH J6I120209-1-SAMP [redacted] 09/07/2006 10:05		799.50g,in AmtRec: LP	#Containers: 1		SMA	200	~~16~~ 67	0957 ~~0854~~	9/25/06	Scr: 1/26/06 Alpha: 3.95E+01pCi/g Beta: 9.88E+00pCi/g
2 JD5FH-1-AH J6I120209-2-SAMP [redacted] 09/07/2006 08:10		781.80g,in AmtRec: LP	#Containers: 1				16	1326 ~~0854~~ 9/25/06	9/25/06	Scr: Alpha: 6.10E+01pCi/g Beta: 1.67E+01pCi/g
3 JD5FJ-1-AH J6I120209-3-SAMP [redacted] 09/07/2006 09:10		743.80g,in AmtRec: LP	#Containers: 1				66	0854	9/25/06	Scr: Alpha: 1.28E+02pCi/g Beta: 2.99E+01pCi/g
4 JD5FJ-1-AM-X J6I120209-3-DUP [redacted] 09/07/2006 09:10		743.80g,in AmtRec: LP	#Containers: 1				64	1326	9/25/06	Scr: Alpha: 1.28E+02pCi/g Beta: 2.99E+01pCi/g
5 JD7HD-1-AA-B J6I130000-284-BLK [redacted] 09/07/2006 09:10		859.27g,in AmtRec:	cal827 #Containers: 1		↓	↓	67	1322	9/25/06	Scr: Alpha: Beta:
6 JD7HD-1-AC-C J6I130000-284-LCS [redacted] 09/07/2006 09:10		457.79g,in AmtRec:	cal816 01/01/03,pd 01/01/02,r #Containers: 1		MA	↓	66	1551	↓	Scr: Alpha: Beta:

not enough sample for (Y) dup, please count on separate detector on 9-24-06

STL Richland Key: in - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 6
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

9/24/2006 11:58:59 AM

Sample Preparation/Analysis

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Balance Id: [illegible]

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256284 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AH-SAMP Constituent List:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

JD7ND1AA-BLK:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

JD7ND1AC-LCS:

Cs-137	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35	Cs-137DA	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
K-40	RDL:--	pCi/g	LCL:70	UCL:130	RPD:35	Ra-226	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
RA-228	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35	RA-228DA	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35
U-238	RDL:	pCi/g	LCL:70	UCL:130	RPD:35						

JD5FA1AH-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7ND1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7ND1AC-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: 9/27/2005, 10/2/2006, Batch: '6256284', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256284						
C		CalcC	HansenM	9/24/2006 12:11:15		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			HansenM	InPrep	9/24/2006 12:11:15 PM	RICH-RC-5013 REVISION 5
C			HansenM	Prep1C	9/24/2006 12:11:25 PM	RICH-RC-5017 REVISION 4
C			BlackCL	InCnt1	9/24/2006 12:13:16 PM	RICH-RD-0007 REVISION 5
C			DAWKINSO	CalcC	9/25/2006 9:26:20 PM	RICH-RD-0007 REVISION 5
C			HansenM	9/24/2006 12:11:25		
C			BlackCL	9/24/2006 12:13:16		
C			DAWKINSO	9/25/2006 9:26:20 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.18

STL RICHLAND

9/25/2006 1:53:32 PM

Sample Preparation/Analysis

Balance ID: 1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

CH Sr-Total PrpRC5013, SepRC5006
TH Total Strontium by GPC
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech: 28 Sep 06 1055 am

Batch: 6256285 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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 JD5FA-1-AC J6I120209-1-SAMP [redacted] 09/07/2006 10:05		6.02g,in AmtRec: LP	SRTA16023 09/06/06,pd 06/21/06,r #Containers: 1	1.5"	86.0	50	26B	1511 Scr: Alpha: 3.95E+01pCi/g	9/29/06	Beta: 9.88E+00pCi/g
2 JD5FA-1-AQ-X J6I120209-1-DUP [redacted] 09/07/2006 10:05		6.05g,in AmtRec: LP	SRTA16024 09/06/06,pd 06/21/06,r #Containers: 1		77.6		26C	Scr: Alpha: 3.95E+01pCi/g		Beta: 9.88E+00pCi/g
3 JD5FH-1-AC J6I120209-2-SAMP [redacted] 09/07/2006 08:10		6.00g,in AmtRec: LP	SRTA16025 09/06/06,pd 06/21/06,r #Containers: 1		80.4		26D	Scr: Alpha: 6.10E+01pCi/g		Beta: 1.67E+01pCi/g
4 JD5FJ-1-AC J6I120209-3-SAMP [redacted] 09/07/2006 09:10		6.03g,in AmtRec: LP	SRTA16026 09/06/06,pd 06/21/06,r #Containers: 1		83.7		27A	Scr: Alpha: 1.28E+02pCi/g		Beta: 2.99E+01pCi/g
5 JD7HG-1-AA-B J6I130000-285-BLK [redacted] 09/07/2006 10:05		6.00g,in AmtRec:	SRTA16027 09/06/06,pd 06/21/06,r #Containers: 1		85.0		27B	Scr: Alpha:		Beta:
6 JD7HG-1-AC-C J6I130000-285-LCS [redacted] 09/07/2006 10:05		6.00g,in AmtRec:	STSB1132 08/03/06,pd 06/21/06,r #Containers: 1		87.7		27C	Scr: Alpha:		Beta:

Sample JD5FJ foamed over slightly while neutralizing TOM 9/26/06

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 6
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

Sample Preparation/Analysis

CH Sr-Total PrpRC5013, SepRC5006
TH Total Strontium by GPC
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256285 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AC-SAMP Constituent List:
Sr-90 RDL:1 pCi/g LCL:70 UCL:130 RPD:35
JD7HG1AA-BLK:
Sr-90 RDL:1 pCi/g LCL: UCL: RPD:
JD7HG1AC-LCS:
Sr-90 RDL:1 pCi/g LCL:70 UCL:130 RPD:35

JD5FA1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7HG1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7HG1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

9/30/2006 11:03:13 AM

ICOC Fraction Transfer/Status Report

ByDate: 9/30/2005, 10/5/2006, Batch: '6256285', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256285						
C		CalcC	HansenM	9/25/2006 11:53:13		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			HansenM	InPrep2	9/25/2006 11:53:13 AM	RICH-RC-5013 REVISION 5
C			HansenM	Prep2C	9/25/2006 8:15:29 PM	RICH-RC-5013 REVISION 5
C			ManisD	Sep1C	9/29/2006 11:03:36 AM	RICH-RC-5006 REVISION 6
C			BlackCL	InCnt1	9/29/2006 11:10:34 AM	RICH-RD-0003 REVISION 4
C			DAWKINSO	CalcC	9/29/2006 7:09:00 PM	RICH-RD-0003 REVISION 4
C			HansenM	9/25/2006 8:15:29 PM		
C			ManisD	9/29/2006 11:03:36		
C			BlackCL	9/29/2006 11:10:34		
C			DAWKINSO	9/29/2006 7:09:00 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

STL RICHLAND

9/25/2006 1:50:03 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AF Ni-63 PrpRC5013/~~5018~~, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256281 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JD5FA-1-AD J6I120209-1-SAMP			0.2589g,in	0.2589g	NITA2306 09/25/06					
09/07/2006 10:05		AmtRec: LP		#Containers: 1				Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
2 JD5FH-1-AD J6I120209-2-SAMP			0.2505g,in	0.2505g	NITA2307 09/25/06					
09/07/2006 08:10		AmtRec: LP		#Containers: 1				Scr:	Alpha: 6.10E+01pCi/g	Beta: 1.67E+01pCi/g
3 JD5FJ-1-AD J6I120209-3-SAMP			0.2582g,in	0.2582g	NITA2308 09/25/06					
09/07/2006 09:10		AmtRec: LP		#Containers: 1				Scr:	Alpha: 1.28E+02pCi/g	Beta: 2.99E+01pCi/g
4 JD5FJ-1-AL-X J6I120209-3-DUP			0.2576g,in	0.2576g	NITA2309 09/25/06					
09/07/2006 09:10		AmtRec: LP		#Containers: 1				Scr:	Alpha: 1.28E+02pCi/g	Beta: 2.99E+01pCi/g
5 JD7G3-1-AA-B J6I130000-281-BLK			0.25g,in	0.25g	NITA2310 09/25/06					
09/07/2006 09:10		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
6 JD7G3-1-AC-C J6I130000-281-LCS			0.25g,in	0.25g	NISA0719 09/25/06					
09/07/2006 09:10		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
7 JD7G3-1-AD-BN J6I130000-281-IBLK										
09/07/2006 09:10		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

78

Sample Preparation/Analysis

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

Balance Id: 1120373922

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256281 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AD-SAMP Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
JD7G31AA-BLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:
JD7G31AC-LCS:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
JD7G31AD-IBLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:

JD5FA1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7G31AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7G31AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7G31AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

/29/2006 3:50:51 PM

ICOC Fraction Transfer/Status Report

ByDate: 9/29/2005, 10/4/2006, Batch: '6256281', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
56281						
3		InCnt1	HansenM	9/25/2006 11:53:04		
3			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
3			HansenM	InPrep2	9/25/2006 11:53:04 AM	RICH-RC-5013 REVISION 5
3			HansenM	Prep2C	9/26/2006 8:14:10 AM	RICH-RC-5013 REVISION 5
3			ManisD	Sep1C	9/28/2006 9:50:56 AM	RICH-RC-5069 REVISION 5
3			BlackCL	InCnt1	9/28/2006 9:58:00 AM	RICH-RD-0001 REVISION 3
3			HansenM	9/26/2006 8:14:10		
3			ManisD	9/28/2006 9:50:56		
3			BlackCL	9/28/2006 9:58:00		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.18

STL RICHLAND

STL RICHLAND

9/26/2006 1:12:29 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AG Pu/241 PrpRC5013/5019, SepRC5010(5039)
SP Plutonium-241 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256286 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

Work Order, Lot, Sample DateTime	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 JD5FA-1-AK J6I120209-1-SAMP 09/07/2006 10:05		2.02g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
2 JD5FA-1-AR-X J6I120209-1-DUP 09/07/2006 10:05		2.00g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	Beta: 9.88E+00pCi/g
3 JD5FH-1-AK J6I120209-2-SAMP 09/07/2006 08:10		2.06g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 6.10E+01pCi/g	Beta: 1.67E+01pCi/g
4 JD5FJ-1-AK J6I120209-3-SAMP 09/07/2006 09:10		2.05g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 1.28E+02pCi/g	Beta: 2.99E+01pCi/g
5 JD7HJ-1-AA-B J6I130000-286-BLK 09/07/2006 08:10		2.00g,in AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JD7HJ-1-AC-C J6I130000-286-LCS 09/07/2006 08:10		2.00g,in AmtRec:	241A0193 09/25/06,pd 09/23/04,r #Containers: 1			Scr:	Alpha:	Beta:
7 JD7HJ-1-AD-BN J6I130000-286-IBLK 09/07/2006 08:10		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

AG Pu/241 PrpRC5013/5019, SepRC5010(5039)
SP Plutonium-241 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256286 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:
8 JD7HJ-1-AE-BX J6I130000-286-MBLK [redacted] 09/07/2006 08:10		2.00g,in AmtRec:	#Containers: 1				Scr: Alpha:	Beta:
9 JD7HJ-1-AF-CM J6I130000-286-MLCS [redacted] 09/07/2006 08:10		2.00g,in AmtRec:	241A0194 09/25/06,pd 09/23/04,r #Containers: 1				Scr: Alpha:	Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AK-SAMP Constituent List:

Pu-241	RDL:15	pCi/g	LCL:	UCL:	RPD:	Pu-242	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

JD7HJ1AA-BLK:

Pu-241	RDL:15	pCi/g	LCL:	UCL:	RPD:	Pu-242	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

JD7HJ1AC-LCS:

PU-239	RDL:	pCi/g	LCL:70	UCL:130	RPD:35	Pu-241	RDL:15	pCi/g	LCL:70	UCL:130	RPD:35
Pu-242	RDL:	pCi/g	LCL:70	UCL:130	RPD:35						

JD7HJ1AD-IBLK:

Pu-241	RDL:15	pCi/g	LCL:	UCL:	RPD:	Pu-242	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

JD7HJ1AE-MBLK:

Pu-241	RDL:15	pCi/g	LCL:	UCL:	RPD:	Pu-242	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

JD7HJ1AF-MLCS:

PU-239	RDL:	pCi/g	LCL:70	UCL:130	RPD:35	Pu-241	RDL:15	pCi/g	LCL:70	UCL:130	RPD:35
Pu-242	RDL:	pCi/g	LCL:70	UCL:130	RPD:35						

JD5FA1AK-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

STL RICHLAND

AG Pu/241 PrpRC5013/5019, SepRC5010(5039)
SP Plutonium-241 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256286 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

JD7HJ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7HJ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7HJ1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7HJ1AE-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JD7HJ1AF-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

10/11/2006 8:52:38 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/11/2005, 10/16/2006, Batch: '6256286', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256286						
C		CalcC	HansenM	9/25/2006 11:53:49		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			HansenM	InPrep2	9/25/2006 11:53:49 AM	RICH-RC-5019 REVISION 5
C			HansenM	Prep2C	9/27/2006 10:36:36 AM	RICH-RC-5019 REVISION 5
C			AndersonE	Sep1C	10/9/2006 5:10:00 PM	RICH-RC-5010 REV4
C			AndersonE	InPrep	10/9/2006 5:10:32 PM	RICH-RC-5010 REV4
C			DAWKINSO	InCnt1	10/9/2006 5:35:26 PM	RICH-RD-0001 REVISION 3
C			BlackCL	CalcC	10/11/2006 6:59:05 AM	RICH-RD-0001 REVISION 3
C			HansenM	9/27/2006 10:36:36		
C			AndersonE	10/9/2006 5:10:00 PM		
C			AndersonE	10/9/2006 5:10:32 PM		
C			DAWKINSO	10/9/2006 5:35:26 PM		
C			BlackCL	10/11/2006 6:59:05		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:6

ICOCFractions v4.8.18

STL RICHLAND

9/13/2006 11:03:16 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 10/02/2006 Joo99

Sample Preparation/Analysis

AT H-3 Prp/SepRC5037
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Balance ID: 1644
Pipet #:
Sep1 DT/Tm Tech: 10-3-06 bm
Sep2 DT/Tm Tech:
Prep Tech:

Batch: 6256282 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None

[redacted]

Work Order, Lot, Sample DateTime	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 JD5FA-1-AG J6I120209-1-SAMP [redacted] 09/07/2006 10:05		AmtRec: LP	#Containers: 1			Scr:	Alpha:	Beta:
2 JD5FH-1-AG J6I120209-2-SAMP [redacted] 09/07/2006 08:10		AmtRec: LP	#Containers: 1			Scr:	Alpha:	Beta:
3 JD5FH-1-AM-X J6I120209-2-DUP [redacted] 09/07/2006 08:10		AmtRec: LP	#Containers: 1			Scr:	Alpha:	Beta:
4 JD5FJ-1-AG J6I120209-3-SAMP [redacted] 09/07/2006 09:10		AmtRec: LP	#Containers: 1			Scr:	Alpha:	Beta:
5 JD7G9-1-AA-B J6I130000-282-BLK [redacted] 09/07/2006 08:10		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JD7G9-1-AC-C J6I130000-282-LCS [redacted] 09/07/2006 08:10		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
7 JD7G9-1-AD-BN J6I130000-282-IBLK [redacted] 09/07/2006 08:10		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added ICOC v4.8.24

STL RICHLAND

9/13/2006 11:03:18 AM

Sample Preparation/Analysis

AT H-3 Prp/SepRC5037
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Balance Id: 6477
Pipet #:
Sep1 DT/Tm Tech: 10-3-06 [illegible]
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 10/02/2006

Batch: 6256282 pCi/g
SEQ Batch, Test: None

[redacted]

Work Order, Lot, Sample DateTime	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:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AG-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35
JD7G91AA-BLK:
H-3 RDL:400 pCi/g LCL: UCL: RPD:
JD7G91AC-LCS:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35
JD7G91AD-IBLK:
H-3 RDL:400 pCi/g LCL: UCL: RPD:

JD5FA1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7G91AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7G91AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7G91AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

0/4/2006 2:09:37 PM

ICOC Fraction Transfer/Status Report

ByDate: 10/4/2005, 10/9/2006, Batch: '6256282', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256282						
C		CalcC	McDowellD	10/2/2006 2:08:08 PM		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			McDowellD	InSep1	10/2/2006 2:08:08 PM	RICH-RC-5037 REVISION 3
C			McDowellD	Sep1C	10/3/2006 11:21:28 AM	RICH-RC-5037 REVISION 3
C			BlackCL	InCnt1	10/3/2006 11:32:12 AM	RICH-RD-0001 REVISION 3
C			BlackCL	CalcC	10/4/2006 7:49:58 AM	RICH-RD-0001 REVISION 3
C			McDowellD	10/3/2006 8:30:33		
C			McDowellD	10/3/2006 11:21:28		
C			BlackCL	10/3/2006 11:32:12		
C			BlackCL	10/4/2006 7:49:58		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.18

STL RICHLAND

Sample Preparation/Analysis

Balance ID:112037[illegible]

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

7Z Unat_Laser PrpRC5013/RC5019, SepRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256278 SOIL ug/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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 JD5FA-1-AJ J6I120209-1-SAMP [redacted] 09/07/2006 10:05		1.00g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	100.27 Beta: 9.88E+00pCi/g
2 JD5FA-1-AN-S J6I120209-1-MS [redacted] 09/07/2006 10:05		1.01g,in AmtRec: LP	UNSI0969 08/21/06,pd 03/22/05,r #Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	100.09 Beta: 9.88E+00pCi/g
3 JD5FA-1-AP-X J6I120209-1-DUP [redacted] 09/07/2006 10:05		1.01g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 3.95E+01pCi/g	100.60 Beta: 9.88E+00pCi/g
4 JD5FH-1-AJ J6I120209-2-SAMP [redacted] 09/07/2006 08:10		1.02g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 6.10E+01pCi/g	101.13 Beta: 1.67E+01pCi/g
5 JD5FJ-1-AJ J6I120209-3-SAMP [redacted] 09/07/2006 09:10		1.03g,in AmtRec: LP	#Containers: 1			Scr:	Alpha: 1.28E+02pCi/g	100.22 Beta: 2.99E+01pCi/g
6 JD7GR-1-AA-B J6I130000-278-BLK [redacted] 09/07/2006 10:05		1.00g,in AmtRec:	#Containers: 1			Scr:	Alpha:	100.00 Beta:
7 JD7GR-1-AC-C J6I130000-278-LCS [redacted] 09/07/2006 10:05		1.00g,in AmtRec:	UNSI0970 08/21/06,pd 03/22/05,r #Containers: 1			Scr:	Alpha:	100.37 Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

7Z Unat_Laser PrpRC5013/RC5019, SepRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 10/02/2006

Sep1 DT/Tm Tech:

Batch: 6256278 ug/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

Work Order, Lot, Sample DateTime	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:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

JD5FA1AJ-SAMP Constituent List:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35
JD5FA1AN-MS Constituent List:

JD7GR1AA-BLK:
Uranium RDL:1 ug/g LCL: UCL: RPD:
JD7GR1AC-LCS:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35

JD5FA1AJ-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD5FA1AN-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7GR1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JD7GR1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

10/18/2006 11:21:57 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/18/2005, 10/23/2006, Batch: '6256278', User: *ALL Order By DateTimeAccepting

Batch	Work Ord	CurStatus	Accepting			Comments
256278						
C		Cnt1C	HansenM	9/25/2006 11:53:23		
C			wagarr	IsBatched	9/13/2006 11:02:59 AM	ICOC_RADCALC v4.8.24
C			HansenM	InPrep2	9/25/2006 11:53:23 AM	RICH-RC-5019 REVISION 5
C			HansenM	Prep2C	9/26/2006 3:19:42 PM	RICH-RC-5015 REVISION 4
C			BarbosaH	Cnt1C	9/28/2006 2:54:50 PM	RICH-RC-5058 REVISION 7
C			HansenM	9/26/2006 3:19:42 PM		
C			BarbosaH	9/28/2006 2:54:50 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:3

ICOCFractions v4.8.18