0070356

SAF-RC-032
100-F Remaining Sites Burial Grounds - Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Randy Coffman	X9-07	KW 7/24/06 INITIAL/DATE
Jeanette Duncan	H9-02	KW 7/24/06 INITIAL/DATE

COMMENTS:

SDG J00081 SAF-RC-032

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: 118-F-7 Shallow Zone Verification

SEVERN TRENT STL®

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

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ANALYTICAL REPORT

REVISED

RC-032

Lot #: F6F090113
SDG #: J00081

Joan Kessner

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

SEVERN TRENT LABORATORIES, INC.

for
Melania Harris
Project Manager

July 13, 2006

Case Narrative
LOT NUMBER: **F6F090113**
SDG: J00081
Revised 7/13/06

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on June 8, 2006. This sample is associated with your RC-032 project.

This is a revised report. The method blank contamination qualifier for Mercury has been changed from a "J" to a "C".

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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.

Metals method 6010B:
The MS (MSD) recovery for aluminum and iron is outside the established QC limits. The said analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

The MS (MSD) recovery for silicon and antimony is outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery
Affected Samples:
F6F090113 (1): J12L49

EXECUTIVE SUMMARY - Detection Highlights

F6F090113

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
J12L49 06/06/06 12:45 001				
Mercury	0.031 B,C	0.035	mg/kg	SW846 7471A
Aluminum	6640 C,N	21.0	mg/kg	SW846 6010B
Arsenic	4.1	1.0	mg/kg	SW846 6010B
Barium	68.9	5.2	mg/kg	SW846 6010B
Beryllium	0.29 B	0.52	mg/kg	SW846 6010B
Boron	5.0 B,C	10.5	mg/kg	SW846 6010B
Calcium	5660 C	262	mg/kg	SW846 6010B
Cobalt	7.7	5.2	mg/kg	SW846 6010B
Chromium	9.8	1.0	mg/kg	SW846 6010B
Copper	11.2	2.6	mg/kg	SW846 6010B
Iron	16600 N	10.5	mg/kg	SW846 6010B
Potassium	1290	524	mg/kg	SW846 6010B
Magnesium	4210	105	mg/kg	SW846 6010B
Manganese	265	1.0	mg/kg	SW846 6010B
Sodium	139	105	mg/kg	SW846 6010B
Nickel	10	4.2	mg/kg	SW846 6010B
Lead	18.4	1.0	mg/kg	SW846 6010B
Antimony	0.37 B,N	1.0	mg/kg	SW846 6010B
Selenium	0.28 B	1.6	mg/kg	SW846 6010B
Silicon	593 C,N	42.0	mg/kg	SW846 6010B
Vanadium	37.7	1.0	mg/kg	SW846 6010B
Zinc	41.5 C	5.2	mg/kg	SW846 6010B
Percent Moisture	4.6	0.10	%	MCAWW 160.3 MOD

METHODS SUMMARY

F6F090113

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
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

F6F090113

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
H63PM	001	J12L49	06/06/06	12:45

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.

METALS

Washington Closure Hanford

Client Sample ID: J12L49

TOTAL Metals

Lot-Sample #...: F6F090113-001 Matrix.....: SOLID
Date Sampled...: 06/06/06 Date Received..: 06/08/06
% Moisture.....: 4.6

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6164095						
Mercury	0.031 B,C	**0.035**	**mg/kg**	**SW846 7471A**	**06/13-06/14/06**	**H63PM1AD**
		Dilution Factor: 1		MDL.....: 0.0070		
Prep Batch #...: 6167108						
Silver	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H63PM1AE
		Dilution Factor: 1		MDL.....: 0.20		
Aluminum	**6640 C,N**	**21.0**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H63PM1AF**
		Dilution Factor: 1		MDL.....: 6.5		
Arsenic	**4.1**	**1.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AG**
		Dilution Factor: 1		MDL.....: 0.29		
Barium	**68.9**	**5.2**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AH**
		Dilution Factor: 1		MDL.....: 0.52		
Beryllium	**0.29 B**	**0.52**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AJ**
		Dilution Factor: 1		MDL.....: 0.073		
Boron	**5.0 B,C**	**10.5**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H63PM1AK**
		Dilution Factor: 1		MDL.....: 1.6		
Calcium	**5660 C**	**262**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AL**
		Dilution Factor: 1		MDL.....: 8.9		
Cadmium	ND	0.52	mg/kg	SW846 6010B	06/16-06/20/06	H63PM1AM
		Dilution Factor: 1		MDL.....: 0.14		
Cobalt	**7.7**	**5.2**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AN**
		Dilution Factor: 1		MDL.....: 0.52		
Chromium	**9.8**	**1.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AP**
		Dilution Factor: 1		MDL.....: 0.37		
Copper	**11.2**	**2.6**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AQ**
		Dilution Factor: 1		MDL.....: 0.32		
Iron	**16600 N**	**10.5**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H63PM1AR**
		Dilution Factor: 1		MDL.....: 2.5		

(Continued on next page)

Washington Closure Hanford

Client Sample ID: J12L49

TOTAL Metals

Lot-Sample #...: F6F090113-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Potassium	**1290**	**524**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H63PM1AT**
		Dilution Factor: 1		MDL.....: 52.4		
Magnesium	**4210**	**105**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AU**
		Dilution Factor: 1		MDL.....: 12.7		
Manganese	**265**	**1.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1AV**
		Dilution Factor: 1		MDL.....: 0.10		
Molybdenum	ND	4.2	mg/kg	SW846 6010B	06/16-06/20/06	H63PM1AW
		Dilution Factor: 1		MDL.....: 1.2		
Sodium	**139**	**105**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H63PM1AX**
		Dilution Factor: 1		MDL.....: 10.5		
Nickel	**10**	**4.2**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1A0**
		Dilution Factor: 1		MDL.....: 0.79		
Lead	**18.4**	**1.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1A1**
		Dilution Factor: 1		MDL.....: 0.16		
Antimony	**0.37 B,N**	**1.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1A2**
		Dilution Factor: 1		MDL.....: 0.35		
Selenium	**0.28 B**	**1.6**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1A3**
		Dilution Factor: 1		MDL.....: 0.18		
Silicon	**593 C,N**	**42.0**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H63PM1A4**
		Dilution Factor: 1		MDL.....: 4.2		
Vanadium	**37.7**	**1.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1A5**
		Dilution Factor: 1		MDL.....: 0.71		
Zinc	**41.5 C**	**5.2**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H63PM1A6**
		Dilution Factor: 1		MDL.....: 1.5		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

C Method blank contamination. The associated method blank contains the target analyte at a reportable level.

N Spike sample recovery is outside control limits.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F6F090113 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F6F130000-095 Prep Batch #...: 6164095						
Mercury	**0.011 B**	**0.033**	**mg/kg**	**SW846 7471A**	**06/13-06/14/06**	**H68671AA**
		Dilution Factor: 1				
MB Lot-Sample #: F6F160000-108 Prep Batch #...: 6167108						
Aluminum	**7.5 B**	**20.0**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H7JLA1AC**
		Dilution Factor: 1				
Antimony	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AX
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AD
		Dilution Factor: 1				
Barium	ND	5.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AE
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AF
		Dilution Factor: 1				
Boron	**1.9 B**	**10.0**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H7JLA1AG**
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AJ
		Dilution Factor: 1				
Calcium	**19.2 B**	**250**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H7JLA1AH**
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AL
		Dilution Factor: 1				
Cobalt	ND	5.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AK
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AM
		Dilution Factor: 1				
Iron	ND	10.0	mg/kg	SW846 6010B	06/16-06/19/06	H7JLA1AN
		Dilution Factor: 1				
Lead	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AW
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F6F090113 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	ND	100	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AQ
		Dilution Factor: 1				
Manganese	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AR
		Dilution Factor: 1				
Molybdenum	ND	4.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AT
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AV
		Dilution Factor: 1				
Potassium	ND	500	mg/kg	SW846 6010B	06/16-06/19/06	H7JLA1AP
		Dilution Factor: 1				
Selenium	ND	1.5	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1A0
		Dilution Factor: 1				
Silicon	**5.1 B**	**40.0**	**mg/kg**	**SW846 6010B**	**06/16-06/19/06**	**H7JLA1A1**
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1AA
		Dilution Factor: 1				
Sodium	ND	100	mg/kg	SW846 6010B	06/16-06/19/06	H7JLA1AU
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6010B	06/16-06/20/06	H7JLA1A2
		Dilution Factor: 1				
Zinc	**2.5 B**	**5.0**	**mg/kg**	**SW846 6010B**	**06/16-06/20/06**	**H7JLA1A3**
		Dilution Factor: 1				

NOTE(S):

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

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6F090113 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F6F130000-095 **Prep Batch #...:** 6164095							
Mercury	16.9	16.8	mg/kg	99	SW846 7471A	06/13-06/14/06	H68671AC
			Dilution Factor: 20				
LCS Lot-Sample#: F6F160000-108 **Prep Batch #...:** 6167108							
Silver	130	81.4	mg/kg	63	SW846 6010B	06/16-06/20/06	H7JLA1A4
			Dilution Factor: 1				
Aluminum	6320	5930	mg/kg	94	SW846 6010B	06/16-06/19/06	H7JLA1A5
			Dilution Factor: 1				
Arsenic	161	173	mg/kg	107	SW846 6010B	06/16-06/20/06	H7JLA1A6
			Dilution Factor: 1				
Barium	252	264	mg/kg	105	SW846 6010B	06/16-06/20/06	H7JLA1A7
			Dilution Factor: 1				
Beryllium	94.4	99.1	mg/kg	105	SW846 6010B	06/16-06/20/06	H7JLA1A8
			Dilution Factor: 1				
Boron	97.4	95.7	mg/kg	98	SW846 6010B	06/16-06/19/06	H7JLA1A9
			Dilution Factor: 1				
Calcium	3320	3600	mg/kg	108	SW846 6010B	06/16-06/20/06	H7JLA1CA
			Dilution Factor: 1				
Cadmium	128	133	mg/kg	104	SW846 6010B	06/16-06/20/06	H7JLA1CC
			Dilution Factor: 1				
Cobalt	35.2	35.1	mg/kg	100	SW846 6010B	06/16-06/20/06	H7JLA1CD
			Dilution Factor: 1				
Chromium	69.5	69.6	mg/kg	100	SW846 6010B	06/16-06/20/06	H7JLA1CE
			Dilution Factor: 1				
Copper	148	148	mg/kg	100	SW846 6010B	06/16-06/20/06	H7JLA1CF
			Dilution Factor: 1				
Iron	11200	11100	mg/kg	99	SW846 6010B	06/16-06/19/06	H7JLA1CG
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6F090113 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Potassium	1920	1810	mg/kg	94	SW846 6010B	06/16-06/19/06	H7JLA1CH
			Dilution Factor: 1				
Magnesium	2040	2070	mg/kg	101	SW846 6010B	06/16-06/20/06	H7JLA1CJ
			Dilution Factor: 1				
Manganese	408	405	mg/kg	99	SW846 6010B	06/16-06/20/06	H7JLA1CK
			Dilution Factor: 1				
Molybdenum	84.1	86.3	mg/kg	103	SW846 6010B	06/16-06/20/06	H7JLA1CL
			Dilution Factor: 1				
Sodium	445	439	mg/kg	99	SW846 6010B	06/16-06/19/06	H7JLA1CM
			Dilution Factor: 1				
Nickel	147	150	mg/kg	102	SW846 6010B	06/16-06/20/06	H7JLA1CN
			Dilution Factor: 1				
Lead	142	147	mg/kg	103	SW846 6010B	06/16-06/20/06	H7JLA1CP
			Dilution Factor: 1				
Antimony	60.9	44.0	mg/kg	72	SW846 6010B	06/16-06/20/06	H7JLA1CQ
			Dilution Factor: 1				
Selenium	64.2	65.3	mg/kg	102	SW846 6010B	06/16-06/20/06	H7JLA1CR
			Dilution Factor: 1				
Silicon	754	607	mg/kg	80	SW846 6010B	06/16-06/19/06	H7JLA1CT
			Dilution Factor: 1				
Vanadium	97.3	96.4	mg/kg	99	SW846 6010B	06/16-06/20/06	H7JLA1CU
			Dilution Factor: 1				
Zinc	165	171	mg/kg	104	SW846 6010B	06/16-06/20/06	H7JLA1CV
			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 #...: F6F090113 **Matrix.....:** SOLID
Date Sampled...: 06/06/06 **Date Received..:** 06/08/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F6F090112-001 **Prep Batch #...:** 6164095									
								% Moisture.....: 4.3	
Mercury									
	0.040	0.174	0.223	mg/kg	105		SW846 7471A	06/13-06/14/06	H63PH1CN
	0.040	0.174	0.232	mg/kg	110	3.8	SW846 7471A	06/13-06/14/06	H63PH1CP
			Dilution Factor: 1						

NOTE(S):

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

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6F090113 **Matrix.....:** SOLID
Date Sampled...: 06/06/06 **Date Received..:** 06/08/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F6F090113-001 **Prep Batch #...:** 6164095									
								% Moisture.....: 4.6	
Mercury									
	0.031	0.175	0.232	mg/kg	115		SW846 7471A	06/13-06/14/06	H63PM1CN
	0.031	0.175	0.229	mg/kg	113	1.5	SW846 7471A	06/13-06/14/06	H63PM1CP
			Dilution Factor: 1						
MS Lot-Sample #: F6F090113-001 **Prep Batch #...:** 6167108									
								% Moisture.....: 4.6	
Aluminum									
	6640	105	7500 N	mg/kg	814		SW846 6010B	06/16-06/19/06	H63PM1CT
	6640	105	7630 N	mg/kg	938	1.7	SW846 6010B	06/16-06/19/06	H63PM1CU
			Dilution Factor: 1						
Antimony									
	0.37	26.2	12.7 N	mg/kg	47		SW846 6010B	06/16-06/20/06	H63PM1CC
	0.37	26.2	12.3 N	mg/kg	45	3.0	SW846 6010B	06/16-06/20/06	H63PM1CD
			Dilution Factor: 1						
Arsenic									
	4.1	105	113	mg/kg	104		SW846 6010B	06/16-06/20/06	H63PM1CV
	4.1	105	113	mg/kg	103	0.24	SW846 6010B	06/16-06/20/06	H63PM1CW
			Dilution Factor: 1						
Barium									
	68.9	105	174	mg/kg	100		SW846 6010B	06/16-06/20/06	H63PM1CX
	68.9	105	179	mg/kg	105	2.9	SW846 6010B	06/16-06/20/06	H63PM1C0
			Dilution Factor: 1						
Beryllium									
	0.29	2.62	3.03	mg/kg	104		SW846 6010B	06/16-06/20/06	H63PM1C1
	0.29	2.62	3.05	mg/kg	105	0.41	SW846 6010B	06/16-06/20/06	H63PM1C2
			Dilution Factor: 1						
Boron									
	5.0	105	110	mg/kg	100		SW846 6010B	06/16-06/19/06	H63PM1C3
	5.0	105	106	mg/kg	96	3.9	SW846 6010B	06/16-06/19/06	H63PM1C4
			Dilution Factor: 1						
Cadmium									
	ND	2.62	2.06	mg/kg	79		SW846 6010B	06/16-06/20/06	H63PM1C7
	ND	2.62	2.14	mg/kg	81	3.4	SW846 6010B	06/16-06/20/06	H63PM1C8
			Dilution Factor: 1						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F6F090113 **Matrix.....:** SOLID
Date Sampled...: 06/06/06 **Date Received..:** 06/08/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Calcium									
	5660	2620	8540	mg/kg	110		SW846 6010B	06/16-06/20/06	H63PM1C5
	5660	2620	8200	mg/kg	97	4.0	SW846 6010B	06/16-06/20/06	H63PM1C6
			Dilution Factor: 1						
Chromium									
	9.8	10.5	19.6	mg/kg	94		SW846 6010B	06/16-06/20/06	H63PM1DC
	9.8	10.5	19.7	mg/kg	95	0.25	SW846 6010B	06/16-06/20/06	H63PM1DD
			Dilution Factor: 1						
Cobalt									
	7.7	26.2	34.1	mg/kg	101		SW846 6010B	06/16-06/20/06	H63PM1C9
	7.7	26.2	33.4	mg/kg	98	1.9	SW846 6010B	06/16-06/20/06	H63PM1DA
			Dilution Factor: 1						
Copper									
	11.2	13.1	24.5	mg/kg	102		SW846 6010B	06/16-06/20/06	H63PM1DE
	11.2	13.1	23.7	mg/kg	95	3.5	SW846 6010B	06/16-06/20/06	H63PM1DF
			Dilution Factor: 1						
Iron									
	16600	52.4	17700 N	mg/kg	2190		SW846 6010B	06/16-06/19/06	H63PM1DG
	16600	52.4	16500 N	mg/kg	0.0	0.0	SW846 6010B	06/16-06/19/06	H63PM1DH
			Dilution Factor: 1						
Lead									
	18.4	26.2	42.1	mg/kg	91		SW846 6010B	06/16-06/20/06	H63PM1A9
	18.4	26.2	44.4	mg/kg	99	5.2	SW846 6010B	06/16-06/20/06	H63PM1CA
			Dilution Factor: 1						
Magnesium									
	4210	2620	7350	mg/kg	120		SW846 6010B	06/16-06/20/06	H63PM1DL
	4210	2620	6740	mg/kg	96	8.8	SW846 6010B	06/16-06/20/06	H63PM1DM
			Dilution Factor: 1						
Manganese									
	265	26.2	292	mg/kg	102		SW846 6010B	06/16-06/20/06	H63PM1DN
	265	26.2	287	mg/kg	82	1.8	SW846 6010B	06/16-06/20/06	H63PM1DP
			Dilution Factor: 1						
Molybdenum									
	ND	52.4	52.9	mg/kg	101		SW846 6010B	06/16-06/20/06	H63PM1DQ
	ND	52.4	51.7	mg/kg	99	2.4	SW846 6010B	06/16-06/20/06	H63PM1DR
			Dilution Factor: 1						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: P6F090113 **Matrix.....:** SOLID
Date Sampled...: 06/06/06 **Date Received..:** 06/08/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel									
	10	26.2	36.6	mg/kg	101		SW846 6010B	06/16-06/20/06	H63PM1A7
	10	26.2	36.3	mg/kg	100	0.65	SW846 6010B	06/16-06/20/06	H63PM1A8
			Dilution Factor: 1						
Potassium									
	1290	2620	3880	mg/kg	99		SW846 6010B	06/16-06/19/06	H63PM1DJ
	1290	2620	4110	mg/kg	107	5.6	SW846 6010B	06/16-06/19/06	H63PM1DK
			Dilution Factor: 1						
Selenium									
	0.28	105	101	mg/kg	96		SW846 6010B	06/16-06/20/06	H63PM1CE
	0.28	105	101	mg/kg	96	0.78	SW846 6010B	06/16-06/20/06	H63PM1CF
			Dilution Factor: 1						
Silicon									
	593	524	812 N	mg/kg	42		SW846 6010B	06/16-06/19/06	H63PM1CG
	593	524	740 N	mg/kg	28	9.3	SW846 6010B	06/16-06/19/06	H63PM1CH
			Dilution Factor: 1						
Silver									
	ND	2.62	1.99	mg/kg	76		SW846 6010B	06/16-06/20/06	H63PM1CQ
	ND	2.62	2.27	mg/kg	87	13	SW846 6010B	06/16-06/20/06	H63PM1CR
			Dilution Factor: 1						
Sodium									
	139	2620	3010	mg/kg	109		SW846 6010B	06/16-06/19/06	H63PM1DT
	139	2620	2960	mg/kg	108	1.5	SW846 6010B	06/16-06/19/06	H63PM1DU
			Dilution Factor: 1						
Vanadium									
	37.7	26.2	67.2	mg/kg	113		SW846 6010B	06/16-06/20/06	H63PM1CJ
	37.7	26.2	63.1	mg/kg	97	6.4	SW846 6010B	06/16-06/20/06	H63PM1CK
			Dilution Factor: 1						
Zinc									
	41.5	26.2	68.2	mg/kg	102		SW846 6010B	06/16-06/20/06	H63PM1CL
	41.5	26.2	68.7	mg/kg	104	0.70	SW846 6010B	06/16-06/20/06	H63PM1CM
			Dilution Factor: 1						

NOTE(S):

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

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

Washington Closure Hanford

Client Sample ID: J12L49

General Chemistry

Lot-Sample #...: F6F090113-001 **Work Order #...:** H63PM **Matrix.....:** SOLID
Date Sampled...: 06/06/06 **Date Received..:** 06/08/06
% Moisture.....: 4.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**4.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**06/13-06/14/06**	**6164225**

Dilution Factor: 1 MDL.....:

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6F090113 **Work Order #...:** H676H-SMP H676H-DUP **Matrix.....:** SOLID

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

% Moisture.....: 25

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: F6F120145-003		
	24.9	28.5	%	13	(0-30)	MCAWW 160.3 MOD	06/13-06/14/06	6164225

Dilution Factor: 1

SDG# J00081

J00081

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-032-041 | Page 1 of 1

Collector Coffman	**Company Contact** R.T. Coffman	**Telephone No.** 528-6409	**Project Coordinator** KESSNER, JH
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	**Sampling Location** 118-F-7 Shallow Zone Verification		**SAF No.** RC-032
Ice Chest No. AFS-04-035	**Field Logbook No.** EFL-1174-1	**COA** R118F72000	**Method of Shipment** Fed Ex
Shipped To Severn Trent Laboratories, ~~Richland~~ Earth City, MO TRE 6-7-06	**Offsite Property No.** A060065		**Bill of Lading/Air Bill No.** See OSPC

Price Code 8C **Data Turnaround** 15 DAYS **Air Quality** ☐

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~Cool 4 degrees C~~ TRE 6-7-06

Preservation	None	None	None									
Type of Container	G/P	P	P									
No. of Container(s)	1	1	1									
Volume	60mL	500mL	60mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Nickel-63; Strontium-89,90 -- Total Sr									
Sample No.	Matrix *	Sample Date	Sample Time									
J12L49	SOIL	6/6/06	1245	X	X	X						AAS

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RT Coffman / RT Coffman	1800 6/6/06	Refer #2C, 3728	1800 6/6/06
3728 #2C	6-7-06 1045	T Edmondson / TR Edmondson	6-7-06 1045
~~T Edmondson~~ / TR Edmondson	6-7-06 1500	Fed Ex	
Fed Ex		Gil Clarke	060806

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}

Rad sent to Richland - MK

Personnel not available to relinquish samples from 3728 Ref # 2C on 6 17 106

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=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)

REVISED

19 of 20

STL ST. LOUIS

TRENT STL St. Louis

-2815-

Lot #(s): 113

Condition Upon Receipt Form

Client: Hanford
Quote No: 43915
COC/RFA No: RC-032-046 + RC-032-041
Initiated By:
Date: 060806
Time: 0900

Shipping Information

Shipper Name: Fed Ex
Shipping # (s):*
1. TRK# 7927 6286 1799
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 were frisked after opening	14.	Y N	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: Mer Date: 6-8-06

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.

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 30 Pages

Report No.: 32616

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00081	RC-032	J12L49	J6F140265-1	H7DVT1AC	9H7DVT10	6166172
		J12L49	J6F140265-1	H7DVT1AD	9H7DVT10	6166173
		J12L49	J6F140265-1	H7DVT1AA	9H7DVT10	6166174

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 Closure Hanford
3190 George Washington Way
Richland, WA 99354

July 11, 2006

Attention: Joan Kessner

SAF Number	:	RC-032
Date SDG Closed	:	June 14, 2006
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00081
Data Deliverable	:	15 – Day / Summary

CASE NARRATIVE

I. Introduction

On June 14, 2006, one soil sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
J12L49	H7DVT	SOIL	6/14/06

II. Sample Receipt

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

III. Analytical Results/Methodology

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

Gas Proportional Counting
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

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Gas Proportional Counting
Total Strontium by method RICH-RC-5006:
The LCS, batch blank, sample and sample duplicate (J12L49) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017:
The LCS, batch blank, sample and sample duplicate (J12L49) results are within contractual requirements.

Liquid Scintillation Counter
Nickel-63 by method RICH-RC-5069:
The LCS, batch blank, sample and sample duplicate (J12L49) 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

Date: 11-Jul-06

STL Richland STLRL

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

Report No. : 32616 **SDG No:** J00081

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6166173 GAMMA_GS									
	J12L49								
	H7DVT1AD	AG-108M	5.77E-03 +- 1.31E-02	U	pCi/g		2.29E-02		
		CO-60	1.11E-02 +- 1.65E-02	U	pCi/g		3.04E-02	5.00E-02	
		CS-137	7.77E-02 +- 2.30E-02		pCi/g		2.91E-02	1.00E-01	
		EU-152	4.94E-02 +- 4.99E-02	U	pCi/g		7.77E-02	1.00E-01	
		EU-154	-9.49E-03 +- 5.44E-02	U	pCi/g		9.43E-02	1.00E-01	
		EU-155	1.60E-02 +- 5.41E-02	U	pCi/g		9.11E-02	1.00E-01	
	J12L49 DUP								
	H7DVT1AF	AG-108M	-3.57E-03 +- 1.07E-02	U	pCi/g		1.80E-02		
		CO-60	5.99E-03 +- 1.29E-02	U	pCi/g		2.37E-02	5.00E-02	
		CS-137	8.41E-02 +- 2.60E-02		pCi/g		2.15E-02	1.00E-01	
		EU-152	3.21E-02 +- 3.62E-02	U	pCi/g		6.28E-02	1.00E-01	
		EU-154	1.84E-02 +- 4.26E-02	U	pCi/g		7.65E-02	1.00E-01	
		EU-155	3.23E-02 +- 3.78E-02	U	pCi/g		6.68E-02	1.00E-01	
6166174 SRTOT_SEP_PRECIP_GPC									
	J12L49								
	H7DVT1AA	STRONTIUM	5.05E-02 +- 5.21E-02	U	pCi/g	88%	1.05E-01		
	J12L49 DUP								
	H7DVT1AG	STRONTIUM	5.26E-02 +- 5.32E-02	U	pCi/g	85%	1.04E-01		4.1
6166172 NI63_LSC									
	J12L49								
	H7DVT1AC	NI-63	-6.94E-01 +- 4.14E+00	U	pCi/g	93%	5.76E+00	3.00E+01	
	J12L49 DUP								
	H7DVT1AE	NI-63	-1.38E+00 +- 4.22E+00	U	pCi/g	91%	5.93E+00	3.00E+01	-66.1

No. of Results: 16

STL Richland **RPD - Relative Percent Difference.**

rptSTLRchSaSummary2 V4.15.0 A97 **U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.**

QC Results Summary
STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

Date: 11-Jul-06

Report No. : 32616 **SDG No.:** J00081

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
GAMMA_GS								
6166173 BLANK QC								
H7FM81AA	AG-108M	1.32E-03 +- 4.26E-03	U	pCi/g				7.66E-03
	CO-60	-3.02E-03 +- 5.21E-03	U	pCi/g				8.88E-03
	CS-137	-3.44E-04 +- 5.34E-03	U	pCi/g				9.38E-03
	EU-152	2.69E-03 +- 1.49E-02	U	pCi/g				2.65E-02
	EU-154	2.50E-02 +- 1.59E-02	U	pCi/g				3.45E-02
	EU-155	4.80E-03 +- 1.50E-02	U	pCi/g				2.63E-02
6166173 LCS								
H7FM81AC	CS-137	2.82E-01 +- 4.63E-02		pCi/g		107%	0.1	2.81E-02
	K-40	1.87E+01 +- 2.35E+00		pCi/g		96%	0.0	2.20E-01
	RA-226	1.06E+00 +- 1.51E-01		pCi/g		92%	-0.1	4.53E-02
	RA-228	1.90E+00 +- 2.84E-01		pCi/g		101%	0.0	8.51E-02
	U-238	1.09E+00 +- 1.44E-01		pCi/g		104%	0.0	4.65E-02
SRTOT_SEP_PRECIP_GPC								
6166174 BLANK QC								
H7FM91AA	STRONTIUM	-6.93E-03 +- 4.52E-02	U	pCi/g	91%			1.09E-01
6166174 LCS								
H7FM91AC	STRONTIUM	1.21E+00 +- 3.87E-01		pCi/g	88%	103%	0.0	9.93E-02
NI63_LSC								
6166172 BLANK QC								
H7FM51AA	NI-63	-2.37E+00 +- 4.21E+00	U	pCi/g	91%			5.98E+00
6166172 LCS								
H7FM51AC	NI-63	5.01E+02 +- 5.19E+01		pCi/g	93%	82%	-0.2	5.89E+00

No. of Results: 15

STL Richland
rptSTLRchQcSummary V4.15.0 A97

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.

STL RICHLAND

FORM I

SAMPLE RESULTS

Date: 11-Jul-06

Lab Name: STL Richland | **SDG:** J00081 | **Collection Date:** 6/6/2006 12:45:00 PM

Lot-Sample No.: J6F140265-1 | **Report No. :** 32616 | **Received Date:** 6/14/2006 10:00:00 AM

Client Sample ID: J12L49 | **COC No. :** RC-032-041 | **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: 6166172	NI63_LSC			**Work Order:** H7DVT1AC			**Report DB ID:** 9H7DVT10					
NI-63	***-6.94E-01***	U	2.4E+00	4.1E+00	5.76E+00	pCi/g	93%	*-0.12*	7/7/06 01:19 p		0.2547	LSC4
						2.80E+00	3.00E+01	*-0.34*			G	
Batch: 6166173	GAMMA_GS			**Work Order:** H7DVT1AD			**Report DB ID:** 9H7DVT10					
AG-108M	***5.77E-03***	U	1.3E-02	1.3E-02	2.29E-02	pCi/g		*0.25*	6/30/06 03:57 p		367.8	GER13$1
						1.15E-02		*0.88*			g	
CO-60	***1.11E-02***	U	1.6E-02	1.6E-02	3.04E-02	pCi/g		*0.37*	6/30/06 03:57 p		367.8	GER13$1
							5.00E-02	*(1.4)*			g	
CS-137	***7.77E-02***		2.3E-02	2.3E-02	2.91E-02	pCi/g		*(2.7)*	6/30/06 03:57 p		367.8	GER13$1
							1.00E-01	*(6.8)*			g	
EU-152	***4.94E-02***	U	5.0E-02	5.0E-02	7.77E-02	pCi/g		*0.64*	6/30/06 03:57 p		367.8	GER13$1
							1.00E-01	*(2.)*			g	
EU-154	***-9.49E-03***	U	5.4E-02	5.4E-02	9.43E-02	pCi/g		*-0.1*	6/30/06 03:57 p		367.8	GER13$1
							1.00E-01	*-0.35*			g	
EU-155	***1.60E-02***	U	5.4E-02	5.4E-02	9.11E-02	pCi/g		*0.18*	6/30/06 03:57 p		367.8	GER13$1
							1.00E-01	*0.59*			g	
Batch: 6166174	SRTOT_SEP_PRECIP_GPC			**Work Order:** H7DVT1AA			**Report DB ID:** 9H7DVT10					
STRONTIUM	***5.05E-02***	U	5.0E-02	5.2E-02	1.05E-01	pCi/g	88%	*0.48*	7/10/06 07:21 p		6.05	GPC32A
						4.87E-02		*(1.9)*			G	

No. of Results: 8 **Comments:**

STL Richland
rptSTLRchSample
V4.15.0 A97

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.

STL RICHLAND

FORM II

Date: 11-Jul-06

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	J00081	**Collection Date:**	6/6/2006 12:45:00 PM
Lot-Sample No.:	J6F140265-1	**Report No. :**	32616	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	J12L49 DUP	**COC No. :**	RC-032-041	**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: 6166172	NI63_LSC			**Work Order:** H7DVT1AE		**Report DB ID:** H7DVT1ER			**Orig Sa DB ID:** 9H7DVT10			
NI-63	-1.38E+00	U	2.4E+00	4.2E+00	5.93E+00	pCi/g	91%	-0.23	7/7/06 03:02 p		0.2531	LSC4
	-6.94E-01	U	**RPD**	**-66.1**		3.00E+01		-0.65			G	
Batch: 6166173	GAMMA_GS			**Work Order:** H7DVT1AF		**Report DB ID:** H7DVT1FR			**Orig Sa DB ID:** 9H7DVT10			
AG-108M	-3.57E-03	U	1.1E-02	1.1E-02	1.80E-02	pCi/g		-0.2	6/30/06 07:22 p		367.8	GER12$1
	5.77E-03	U	**RPD**	**849.3**				-0.67			g	
CO-60	5.99E-03	U	1.3E-02	1.3E-02	2.37E-02	pCi/g		0.25	6/30/06 07:22 p		367.8	GER12$1
	1.11E-02	U	**RPD**	**60.1**		5.00E-02		0.93			g	
CS-137	8.41E-02		2.6E-02	2.6E-02	2.15E-02	pCi/g		(3.9)	6/30/06 07:22 p		367.8	GER12$1
	7.77E-02		**RPD**	**8.0**		1.00E-01		(6.5)			g	
EU-152	3.21E-02	U	3.6E-02	3.6E-02	6.28E-02	pCi/g		0.51	6/30/06 07:22 p		367.8	GER12$1
	4.94E-02	U	**RPD**	**42.5**		1.00E-01		(1.8)			g	
EU-154	1.84E-02	U	4.3E-02	4.3E-02	7.65E-02	pCi/g		0.24	6/30/06 07:22 p		367.8	GER12$1
	-9.49E-03	U	**RPD**	**626.4**		1.00E-01		0.86			g	
EU-155	3.23E-02	U	3.8E-02	3.8E-02	6.68E-02	pCi/g		0.48	6/30/06 07:22 p		367.8	GER12$1
	1.60E-02	U	**RPD**	**67.1**		1.00E-01		(1.7)			g	
Batch: 6166174	SRTOT_SEP_PRECIP_GPC			**Work Order:** H7DVT1AG		**Report DB ID:** H7DVT1GR			**Orig Sa DB ID:** 9H7DVT10			
STRONTIUM	5.26E-02	U	5.0E-02	5.3E-02	1.04E-01	pCi/g	85%	0.51	7/10/06 07:21 p		6.01	GPC32C
	5.05E-02	U	**RPD**	**4.1**				(2.)			G	

No. of Results: 8 **Comments:**

STL Richland **RPD - Relative Percent Difference.**

rptSTLRchDupV4.1 5.0 A97 **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

BLANK RESULTS

Date: 11-Jul-06

Lab Name: STL Richland **SDG:** J00081

Matrix: SOIL **Report No. :** 32616

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: 6166172	NI63_LSC			**Work Order:**	H7FM51AA	**Report DB ID:**	H7FM51AB					
NI-63	-2.37E+00	U	2.4E+00	4.2E+00	5.98E+00	pCi/g	91%	-0.4	7/7/06 04:44 p		0.25	LSC4
					2.90E+00	3.00E+01		-(1.1)			G	
Batch: 6166173	GAMMA_GS			**Work Order:**	H7FM81AA	**Report DB ID:**	H7FM81AB					
AG-108M	1.32E-03	U	4.3E-03	4.3E-03	7.66E-03	pCi/g		0.17	6/30/06 08:15 p		859.27	GER7$1
					3.85E-03			0.62			g	
CO-60	-3.02E-03	U	5.2E-03	5.2E-03	8.88E-03	pCi/g		-0.34	6/30/06 08:15 p		859.27	GER7$1
						5.00E-02		-(1.2)			g	
CS-137	-3.44E-04	U	5.3E-03	5.3E-03	9.38E-03	pCi/g		-0.04	6/30/06 08:15 p		859.27	GER7$1
						1.00E-01		-0.13			g	
EU-152	2.69E-03	U	1.5E-02	1.5E-02	2.65E-02	pCi/g		0.1	6/30/06 08:15 p		859.27	GER7$1
						1.00E-01		0.36			g	
EU-154	2.50E-02	U	1.6E-02	1.6E-02	3.45E-02	pCi/g		0.73	6/30/06 08:15 p		859.27	GER7$1
						1.00E-01		(3.1)			g	
EU-155	4.80E-03	U	1.5E-02	1.5E-02	2.63E-02	pCi/g		0.18	6/30/06 08:15 p		859.27	GER7$1
						1.00E-01		0.64			g	
Batch: 6166174	SRTOT_SEP_PRECIP_GPC			**Work Order:**	H7FM91AA	**Report DB ID:**	H7FM91AB					
STRONTIUM	-6.93E-03	U	4.5E-02	4.5E-02	1.09E-01	pCi/g	91%	-0.06	7/10/06 07:21 p		6.0	GPC32D
					5.10E-02			-0.31			G	

No. of Results: 8 **Comments:**

STL Richland
rptSTLRchBlank
V4.15.0 A97

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: 11-Jul-06

Lab Name: STL Richland **SDG:** J00081

Matrix: SOIL **Report No. :** 32616

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: 6166172	NI63_LSC			**Work Order:** H7FM51AC			**Report DB ID:** H7FM51CS						
NI-63	5.01E+02		8.3E+00	5.2E+01	5.89E+00	pCi/g	93%	6.12E+02	2.1E+01	82%	7/7/06 06:26 p	0.25	LSC4
							Rec Limits:	70	130	-0.2		G	
Batch: 6166173	GAMMA_GS			**Work Order:** H7FM81AC			**Report DB ID:** H7FM81CS						
CS-137	2.82E-01		4.6E-02	4.6E-02	2.81E-02	pCi/g		2.65E-01	1.2E-02	107%	7/1/06 11:08 a	457.79	GER5$1
							Rec Limits:	70	130	0.1		g	
K-40	1.87E+01		2.4E+00	2.4E+00	2.20E-01	pCi/g		1.95E+01	1.9E+00	96%	7/1/06 11:08 a	457.79	GER5$1
							Rec Limits:	70	130	0.0		g	
RA-226	1.06E+00		1.5E-01	1.5E-01	4.53E-02	pCi/g		1.15E+00	5.2E-02	92%	7/1/06 11:08 a	457.79	GER5$1
							Rec Limits:	70	130	-0.1		g	
RA-228	1.90E+00		2.8E-01	2.8E-01	8.51E-02	pCi/g		1.87E+00	9.6E-02	101%	7/1/06 11:08 a	457.79	GER5$1
							Rec Limits:	70	130	0.0		g	
U-238	1.09E+00		1.4E-01	1.4E-01	4.65E-02	pCi/g		1.05E+00	5.4E-02	104%	7/1/06 11:08 a	457.79	GER5$1
							Rec Limits:	70	130	0.0		g	
Batch: 6166174	SRTOT_SEP_PRECIP_GPC			**Work Order:** H7FM91AC			**Report DB ID:** H7FM91CS						
STRONTIUM	1.21E+00		1.2E-01	3.9E-01	9.93E-02	pCi/g	88%	1.17E+00	8.3E-03	103%	7/10/06 07:21 p	6.0	GPC32B
							Rec Limits:	20	105	0.0		G	

No. of Results: 7 **Comments:**

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

rptSTLRchLcs
V4.15.0 A97

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/6/2006 1:22:22 PM

Lot No., Due Date: J6F140265; 07/05/2006

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 6166173; RGAMMA Gamma by GER

SDG, Matrix: J00081; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 7.6.06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6166173

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

Comments on any "No" response: _____

Second Level Review: Sherry L Adam Date: 7-6-06

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/11/2006 9:15:51 AM

Lot No., Due Date: J6F140265; 07/05/2006

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 6166174; RSRTOT SrTot by GPC

SDG, Matrix: J00081; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes ✓	No	N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes	No	N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 7-11-06

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6166174

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: _____ Date: 7/11/06

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/10/2006 12:23:19 PM

Lot No., Due Date: J6F140265; 07/05/2006

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 6166172; RNI63 Ni-63 by LSC

SDG, Matrix: J00081; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes ✓	No	N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes ✓	No	N/A
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

First Level Review Matt Landy **Date** 7-10-05

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6166172

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: _____ Date: 7/11/06

SW 6-14-06
F6K09113 J00081 JGF140265 Due 6/29/06 7-5-06 SAS 6/14/06

STL RICHLAND

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-032-041 | Page 1 of 1

Collector: Coffman	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 DAYS		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-7 Shallow Zone Verification		SAF No.: RC-032
Air Quality ☐			
Ice Chest No.: AFS-04-035	Field Logbook No.: EFL-1174-1	COA: R118F72000	Method of Shipment: Fed Ex
Shipped To: Severn Trent Incorporated, ~~Richland~~ Earth City, MO TRC 6-7-06	Offsite Property No.: A060065		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~Cool 4 degrees C~~ TRC 6-7-06

Preservation	None	None	None									
Type of Container	G/P	P	P									
No. of Container(s)	1	1	1									
Volume	60mL	500mL	60mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Nickel-63; Strontium-89,90 -- Total Sr									
Sample No.	Matrix *	Sample Date	Sample Time									
J12L49	SOIL	6/6/06	1245	X	X	X		H	7DVT			A4S

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RJ COFFMAN / RT Coffman	6/6/06 1800	Refer # 2C, 3728	6/6/06 1800
3728 # 2C	6-7-06 1045	TR Edmondson	6-7-06 1045
TR Edmondson	6-7-06 1500	Fed Ex	
Fed Ex		Jill Clarke	060806
Jill Clarke	061306 1700	S. Walch	6-14-06 10:00

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}

Personnel not available to relinquish samples from 3728
Ref # 2Con 6/7/06

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)

L18

Seger, Sandra

From: Kessner, Joan H [joan.kessner@wch-rcc.com]
Sent: Wednesday, June 14, 2006 11:00 AM
To: Seger, Sandra
Subject: RE: J12L48 & J12L49

Go with today's date since we sent the samples on a little road trip.

-----Original Message-----
From: Seger, Sandra [mailto:SSeger@stl-inc.com]
Sent: Wednesday, June 14, 2006 10:45 AM
To: Kessner, Joan H
Subject: FW: J12L48 & J12L49

We finally received J12L48 & J12L49 today. Is 6/8 or 6/14 the receive date we use to calculate the TAT?

-----Original Message-----
From: Seger, Sandra

Sent: Wednesday, June 14, 2006 10:29 AM
To: Harris, Melania
Subject: J12L48 & J12L49

Melania,

Which J0 numbers were assigned to these sample?

Thanks
Sandra

-----Original Message-----
From: Kessner, Joan H [mailto:joan.kessner@wch-rcc.com]
Sent: Monday, June 12, 2006 8:07 AM
To: Harris, Melania; Kessner, Joan H
Cc: Jordan, Erika; Seger, Sandra
Subject: RE: Scanned image from Sharp01

Melania--
The metals are for St Louis and the rad is for Richland.
Joan

-----Original Message-----
From: Harris, Melania [mailto:MHarris@stl-inc.com]
Sent: Friday, June 09, 2006 12:21 PM
To: Kessner, Joan H
Cc: Jordan, Erika; Seger, Sandra
Subject: FW: Scanned image from Sharp01

Joan,

Do you want us to run all of these analyses for the two COC's I believe this normally goes through Richland and we only do the metals, looks like from the FedEX form that they were shipped directly to STL St. Louis. Please let me know??

Thanks!

Melania

Melania Harris
Project Manager
Severn Trent Laboratories - St. Louis
mharris@stl-inc.com
314-298-8566 office
314-298-8757 fax

Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited.
If you have received this communication in error, please notify the sender immediately.

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 6-14-04 10:00

Client: WCH SDG #: JD0081 NA [ ] SAF #: RC-032 NA [ ]

Work Order Number: J6F140265 Chain of Custody # RC-032-041

Shipping Container ID: AFS-04-035 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: 2
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: S. Walsh Date: 6-14-04 10:00

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

BHI1

STL RICHLAND

6/30/2006 2:23:51 PM

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: 07/04/2006 J00081

Sep1 DT/Tm Tech:

Batch: 6166173 SOIL pCi/g

PM, Quote: HC , 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	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H7DVT-1-AD J6F140265-1-SAMP [redacted] 06/06/2006 12:45		367.80g,in AmtRec: 60ML,500ML #Containers: 2			~~SMA~~ S200	200 Scr:	G13 Alpha: 4.30E+01pCi/g	1917 Beta: 1.45E+01pCi/g	6/30/06	
2 H7DVT-1-AF-X J6F140265-1-DUP [redacted] 06/06/2006 12:45		367.80g,in AmtRec: 60ML,500ML #Containers: 2				200 Scr:	G12 Alpha: 4.30E+01pCi/g	2242 Beta: 1.45E+01pCi/g		
3 H7FM8-1-AA-B J6F150000-173-BLK [redacted] ~~06/06/2006~~ 12:45		859.27g,in 6-30-06 MH 6-30-06 MH AmtRec: #Containers: 1	cal827			200 Scr:	G7 Alpha:	2335 Beta:		
4 H7FM8-1-AC-C J6F150000-173-LCS [redacted] 06/06/2006 12:45		457.79g,in AmtRec: #Containers: 1	cal816 01/01/03,pd 01/01/02,r		MA ✓ PA 1-60	200 Scr:	G8 G5 Alpha:	2336 1428 7/1/06 Beta:		

Comments: not enough sample sent to fill MA geo. MH 6-30-06

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

H7DVT1AD-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:

H7FM81AA-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:

6/30/2006 2:23:53 PM

Sample Preparation/Analysis

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

Balance Id:1120421763

Pipet #: _____

AnalyDueDate: 07/04/2006

Sep1 DT/Tm Tech:

Batch: 6166173 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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:

```
Eu-154      RDL:1.00E-01  pCi/g  LCL:  UCL:  RPD:  Eu-155     RDL:1.00E-01  pCi/g  LCL:  UCL:  RPD:

H7FM81AC-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

H7DVT1AD-SAMP Calc Info:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
H7FM81AA-BLK:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
H7FM81AC-LCS:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
```

Approved By _____ Date: _____

7/6/2006 1:07:33 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/6/2005, 7/11/2006, Batch: '6166173', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting		Comments
6166173						
AC			CalcC	HansenM	6/26/2006 4:52:01 PM	
SC				wagarr	IsBatched 6/15/2006 8:55:14 AM	ICOC_RADCALC v4.8.24
SC				HansenM	InPrep 6/26/2006 4:52:01 PM	RICH-RC-5013 REVISION 5
SC				DAWKINSO	InCnt1 6/30/2006 4:05:56 PM	RICH-RD-0007 REVISION 5
SC				DAWKINSO	CalcC 7/1/2006 4:20:19 PM	RICH-RD-0007 REVISION 5
AC				DAWKINSO	6/30/2006 4:05:56 PM	
AC				DAWKINSO	7/1/2006 4:20:19 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 3

ICOCFractions v4.8.18

STL RICHLAND

7/3/2006 1:17:19 PM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford , Bechtel Hanford, Inc.

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

Pipet #: _____

AnalyDueDate: 07/04/2006 J00081

Sep1 DT/Tm Tech: 7-8-06 1:54 PE

Batch: 6166174 SOIL pCi/g

PM, Quote: HC , 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	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H7DVT-1-AA J6F140265-1-SAMP 06/06/2006 12:45	6.05g,in AmtRec: 60ML,500ML	SRTA15660 06/14/06,pd 11/09/05,r #Containers: 2		1.5"	87.9	50	32A Scr:	1946 Alpha: 4.30E+01pCi/g	7/10/06 DD Beta: 1.45E+01pCi/g	
2 H7DVT-1-AG-X J6F140265-1-DUP 06/06/2006 12:45	6.01g,in AmtRec: 60ML,500ML	SRTA15661 06/14/06,pd 11/09/05,r #Containers: 2			85.0		32C Scr:	Alpha: 4.30E+01pCi/g	Beta: 1.45E+01pCi/g	
3 H7FM9-1-AA-B J6F150000-174-BLK 06/06/2006 12:45	6.00g,in AmtRec:	SRTA15662 06/14/06,pd 11/09/05,r #Containers: 1			90.8		32D Scr:	Alpha:	Beta:	
4 H7FM9-1-AC-C J6F150000-174-LCS 06/06/2006 12:45	6.00g,in AmtRec:	STSB1110 07/03/06,pd 06/21/06,r #Containers: 1			88.1		32B Scr:	Alpha:	Beta:	

Comments:

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

H7DVT1AA-SAMP Constituent List:

Sr-90	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35

H7FM91AA-BLK:

Sr-90	RDL:1	pCi/g	LCL:	UCL:	RPD:

H7FM91AC-LCS:

Sr-90	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35

H7DVT1AA-SAMP Calc Info:

7/3/2006 1:17:20 PM

Sample Preparation/Analysis

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 07/04/2006

Sep1 DT/Tm Tech:

Batch: 6166174 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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:

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

H7FM91AA-BLK:

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

H7FM91AC-LCS:

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

Approved By _____ Date: _____

7/11/2006 9:13:01 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/11/2005, 7/16/2006, Batch: '6166174', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6166174						
AC		CalcC	HansenM	6/26/2006 4:52:11 PM		
SC			wagarr	IsBatched	6/15/2006 8:55:14 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep	6/26/2006 4:52:11 PM	RICH-RC-5013 REVISION 5
SC			HansenM	Prep1C	6/30/2006 2:22:49 PM	RICH-RC-5013 REVISION 5
SC			HansenM	Prep2C	7/5/2006 10:34:25 AM	RICH-RC-5013 REVISION 5
SC			FABREM	InSep1	7/6/2006 9:43:59 AM	RICH-RC-5006 REVISION 6
SC			ManisD	Sep1C	7/10/2006 4:05:50 PM	RICH-RC-5006 REV 6
SC			DAWKINSO	InCnt1	7/10/2006 5:21:00 PM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	7/10/2006 9:55:17 PM	RICH-RD-0003 REVISION 4
AC			HansenM	6/30/2006 2:22:49 PM		
AC			HansenM	7/5/2006 10:34:25		
AC			FABREM	7/6/2006 9:43:59 AM		
AC			ManisD	7/10/2006 4:05:50 PM		
AC			DAWKINSO	7/10/2006 5:21:00 PM		
AC			DAWKINSO	7/10/2006 9:55:17 PM		

AC: Accepting Entry; SC: Status Change

STL RICHLAND

7/3/2006 1:16:44 PM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

Pipet #: _____

AnalyDueDate: 07/04/2006 J00081 #5

Sep1 DT/Tm Tech:

Batch: 6166172 SOIL pCi/g

PM, Quote: HC , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

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 H7DVT-1-AC J6F140265-1-SAMP [redacted] 06/06/2006 12:45			0.2547g,in AmtRec: 60ML,500ML	0.2547g #Containers: 2	NITA2249 02/07/06	100		Scr:	Alpha: 4.30E+01pCi/g	Beta: 1.45E+01pCi/g
2 H7DVT-1-AE-X J6F140265-1-DUP [redacted] 06/06/2006 12:45			0.2531g,in AmtRec: 60ML,500ML	0.2531g #Containers: 2	NITA2253 07/03/06			Scr:	Alpha: 4.30E+01pCi/g	Beta: 1.45E+01pCi/g
3 H7FM5-1-AA-B J6F150000-172-BLK [redacted] 06/06/2006 12:45			0.25g,in AmtRec:	0.25g #Containers: 1	NITA2254 07/03/06			Scr:	Alpha:	Beta:
4 H7FM5-1-AC-C J6F150000-172-LCS [redacted] 06/06/2006 12:45			0.25g,in AmtRec:	0.25g #Containers: 1	NISA0698 07/03/06,pd 11/27/01,r			Scr:	Alpha:	Beta:
5 H7FM5-1-AD-BN J6F150000-172-IBLK [redacted] 06/06/2006 12:45			AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

H7DVT1AC-SAMP Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35

7/3/2006 1:16:46 PM

Sample Preparation/Analysis

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

Balance Id:
Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 07/04/2006

Batch: 6166172 pCi/g
SEQ Batch, Test: None

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:

H7FM51AA-BLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:
H7FM51AC-LCS:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
H7FM51AD-IBLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:
H7DVT1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7FM51AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7FM51AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7FM51AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

7/10/2006 12:22:36 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/10/2005, 7/15/2006, Batch: '6166172', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6166172						
AC		CalcC	HansenM	6/26/2006 4:52:06 PM		
SC			wagarr	IsBatched	6/15/2006 8:55:14 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep	6/26/2006 4:52:06 PM	RICH-RC-5013 REVISION 5
SC			HansenM	Prep1C	6/30/2006 2:22:36 PM	RICH-RC-5013 REVISION 5
SC			HansenM	Prep2C	7/5/2006 10:34:54 AM	RICH-RC-5013 REVISION 5
SC			ManisD	Sep1C	7/6/2006 5:51:55 PM	RICH-RC-5069 REV 5
SC			DAWKINSO	InCnt1	7/6/2006 6:40:51 PM	RICH-RD-0001 REVISION 3
SC			BlackCL	CalcC	7/10/2006 9:42:15 AM	RICH-RD-0001 REVISION 3
AC			**HansenM**	6/30/2006 2:22:36 PM		
AC			**HansenM**	7/5/2006 10:34:54		
AC			**ManisD**	7/6/2006 5:51:55 PM		
AC			**DAWKINSO**	7/6/2006 6:40:51 PM		
AC			**BlackCL**	7/10/2006 9:42:15		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18