0073793

SAF-RC-093
300-274 & 300-275 in Process & Verification
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow L6-06 KW 8/14/07
Initials/Date

Jeanette Duncan H4-21 KW 8/14/07
Initials/Date

COMMENTS:

SDG J00119 SAF-RC-093

Rad only X Chem only Rad & Chem

X Complete Partial

AMENDED DATA ATTACHED

Waste Site: 300-274

RECEIVED
SEP 0 4 2007
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

Analysis Provided By

STL Richland
2800 George Washington Way
Richland WA, 99354
(509)375-3131
Assigned Laboratory Code: STLR

RECEIVED
AUG 2007
amended-2

SDG Number: J00119

Data Package Contains 9 Pages

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
2620 Fermi Avenue
Richland, WA 99354

August 08, 2007

Attention: Joan Kessner

SAF Number	:	RC-093
Date SDG Closed	:	August 1, 2007
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00119
Data Deliverable	:	Quick Turn Metals with Be / Summary

CASE NARRATIVE

I. Introduction

On August 1, 2007 one soil was received at STL Richland (STLR) for ICP metals analysis. Upon receipt, the sample was assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID;

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
J15F12	J31KT	SOIL	08/01/06

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:

ICP Metals
ICP Metals by method SW-846 6010A

IV. Quality Control

SDG J00119 includes a minimum of one Laboratory Control Samples (LCS) and one method (reagent) blank. A duplicate sample, matrix spike sample and a matrix spike duplicate sample will be analyzed per 20 samples or per month, whichever is more frequent. Any exceptions have been noted in the "Comments" section.

Blanks and LCS are reported in mg/L units, other QC and sample results are reported in the same units.

V. Comments

ICP Metals

ICP Metals by method SW-846 6010A

One batch was analyzed for samples with the standard metal request list with beryllium analyzed in August 2007.

Batch 7218354:

The client requested pH on sample J15F12. Sample J15F12 was analyzed for pH in the following manner. 5 grams of sample was mixed for ½ hour with 5 mL of reagent water. The pH was determined by medium range pH strips. The result is pH=6.5

The LCS, batch blank, sample, sample duplicate, sample matrix spike, sample matrix spike duplicate, ICB, CCB, ICV and CCV are within contractual limits.

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

Sandra Seger
Project Manager

QC Sample ID	Sample Wt.	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc
	g	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lab Blank	1	<0.06	<0.03	<0.002	<0.035	<0.02	<0.005	<0.005	<0.05	<0.025	0.0062	<0.015	<0.04	<0.035	<0.0025	<0.05	0.041
Lab LCS	1	0.94	0.92	0.96	1.043	0.96	0.98	1.01	1.00	1.02	0.98	1.01	0.97	0.85	0.93	1.01	0.93
LCS % Recovery		94%	92%	96%	104%	96%	98%	101%	100%	102%	98%	101%	97%	85%	93%	101%	93%
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
J15F12	0.4998	<0.06	<0.03	84.9	0.18	<0.02	2.49	7.15	7.82	9.13	6.65	274.1	<0.04	<0.035	<0.0025	37.8	41.6
J15F12 DUP	0.5164	<0.06	<0.03	89.8	0.21	<0.02	2.73	9.18	8.49	10.196	7.93	297.4	<0.04	<0.035	<0.0025	42.1	49.2
J15F12 MS	0.5063	39	89	103.1	97.4	51.7	90	95.2	93.6	97.7	91.8	132.4	99.6	79.1	84.1	98.0	90.0
% Recovery		38%	89%	103%	97%	52%	90%	95%	94%	98%	92%	132%	100%	79%	84%	98%	90%
J15F12 MSD	0.502	40	92	110.1	100.7	54	93.4	104.5	97.2	104.7	95.6	147.3	104.3	82.2	87.4	105.6	93.3
% Recovery		40%	92%	110%	101%	54%	93%	104%	97%	105%	96%	147%	104%	82%	87%	106%	93%

J00119 J7H010255 Due 08·03·07 SKS 8/2/07

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-093-005	Page 1 of 1
Collector: R. Kerkow / A. Simmons / W. Sexsmith	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8K~~ 2C RK 8/1/07
Project Designation: 300-274 & 300-275 In Process & Verification	Sampling Location: 300-274		SAF No.: RC-093	Data Turnaround: ~~15~~ 3 Days RK 8/1/07
Ice Chest No.: DELTA-1	Field Logbook No.: EL-1395-12	COA: R302742600	Method of Shipment: Government Vehicle	
Shipped To: TEST AMERICA ~~Severn Trent Incorporated, Richland~~ RK 8/1/07	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	None									
Type of Container	G/P	G									
No. of Container(s)	1	1									
Volume	250mL	500g									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Metals by ICP (TCLP) - 1311/6010; Mercury (TCLP) - 1311/7470								TIE TO RCF	
Sample No. / Matrix * / Sample Date / Sample Time											
J15F12 / SOIL / 8-1-07 / 1045	X	X								J15767	274-2
J31KT											

DELETE RBK 8/1/07

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: Whitney Sexsmith	Date/Time: 1050 8/1/07	Received By/Stored In: RB KERKOW / RB Kerk	Date/Time: 1050 8/1/07
Relinquished By/Removed From: RB KERKOW / RB Kerk	Date/Time: 1245 8-1-07	Received By/Stored In: A. Simmons S. Sm.TH	Date/Time: 08·01·07 1245
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV) (Mercury); pH (Soil) - 9045

Matrix *: S=Soil, SE=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

WCH-EE-011

Radiological Counting Facility

Analysis Report for RCF18170

J15767 SAF NO. RC-093 FF2/300-274 SOIL SAMPLE

TIE TO J15F12

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF18170
Sample Description	: J15767 SAF NO. RC-093 FF2/300-274 SOIL SAMPLE
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.300E+01 grams
Facility	: Default
Sample Taken On	: 7/25/2007 1:45:00PM
Acquisition Started	: 7/25/2007 3:06:00PM
Procedure	: 80 gram pill box
Operator	: RCT
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	: 4/4/2007
Efficiency Calibration Description	: Efficiency calibration 80 gram pill box Bege
Sample Number	: 14034

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.970	1.71E+01	3.69E+00	
PB-212	0.706	7.16E-01	1.32E-01	
RA-226d	0.624	3.31E-01	1.19E-01	

Analysis Report for RCF18170

J15767 SAF NO. RC-093 FF2/300-274 SOIL SAMPLE

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity
d = identified by daughter product energy lines assumed to be in secular equilibrium
Errors quoted at 2.000 sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/25/2007 4:06:03PM
Peak Locate From Channel : 40
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
3 Pb-212	238.64	3.54E-02	15.41

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\GOZER\ApexRoot\Default\Library\RCF UNKNOWN.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	K-40	1460.83	*	10.67	1.71E+01	1.72E+00	1.72E+00
	CO-60	1173.24		99.90	1.16E-01	1.88E-01	2.82E-01
		1332.50		99.98	2.13E-02		1.88E-01
	NB-94	702.63		99.81	-8.81E-02	1.91E-01	1.91E-01
		871.10		99.89	6.98E-02		2.03E-01
	AG-108m	433.94		90.50	-6.12E-02	1.17E-01	1.17E-01
		614.28		89.80	5.68E-02		2.51E-01
		722.94		90.80	-1.37E-01		1.98E-01
	CS-137	661.66		85.21	3.25E-02	1.92E-01	1.92E-01
	EU-152	121.78		28.40	-6.71E-02	1.85E-01	1.85E-01
		344.29		26.60	-7.73E-01		3.48E-01
		964.11		14.50	2.27E+00		2.13E+00
		1408.00		20.80	2.81E-01		1.25E+00
	EU-154	123.10		40.50	-7.67E-03	1.33E-01	1.33E-01
		723.36		19.70	-1.10E-01		9.25E-01
		873.23		11.45	-2.08E-01		1.75E+00
		1004.78		17.90	9.49E-02		1.21E+00
		1274.54		35.50	3.01E-01		8.69E-01
	EU-155	86.54		34.00	5.30E-02	1.77E-01	1.77E-01

Analysis Report for RCF18170

J15767 SAF NO. RC-093 FF2/300-274 SOIL SAMPLE

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		105.31		20.60	7.32E-02		2.44E-01
+	PB-212	74.81	*	10.50	6.47E-01	2.65E-01	4.70E-01
		77.11	*	17.70	7.60E-01		2.65E-01
		87.19		6.27	-8.26E-01		9.28E-01
+	RA-226d	186.11		3.28	1.19E+00	2.36E-01	2.12E+00
		241.92		7.46	-7.72E-01		1.82E+00
		295.09	*	19.20	4.90E-01		4.33E-01
		351.87	*	37.10	2.66E-01		2.36E-01
		609.31	*	46.10	3.59E-01		3.05E-01
		1120.27		15.00	1.72E+00		2.21E+00
		1764.49		15.90	1.12E+00		2.02E+00
	TH-232d	238.58		43.60	5.53E-01	3.06E-01	3.06E-01
		338.42		12.40	3.45E-01		9.29E-01
		583.02		30.87	4.94E-01		6.57E-01
		911.16		29.00	2.54E-01		9.11E-01
		968.97		17.40	5.41E-01		1.74E+00
	U-235	143.79		10.50	3.94E-01	1.31E-01	5.36E-01
		163.38		4.70	-3.62E-01		1.22E+00
		185.74		53.00	3.90E-02		1.31E-01
		205.33		4.70	-8.71E-01		1.39E+00
	U-238d	63.29		3.80	1.49E+00	1.01E+00	1.53E+00
		92.56		5.41	-2.67E-01		1.01E+00
	AM-241	59.54		35.70	-8.44E-02	1.45E-01	1.45E-01
	CM-243	99.52		14.40	1.61E-01	2.22E-01	3.62E-01
		103.73		23.00	6.66E-02		2.22E-01
		116.93		8.32	1.28E-01		6.64E-01
		228.19		10.56	1.12E-01		6.77E-01
		277.60		14.00	-7.50E-02		6.20E-01
	CM-245	99.52		21.10	1.10E-01	1.52E-01	2.47E-01
		103.73		33.60	4.56E-02		1.52E-01
		116.93		12.20	8.72E-02		4.53E-01
		174.94		9.50	3.14E-01		6.46E-01

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction

Reviewed and Approved:

MARK J. KORNISH

(print/sign/date)

JUL 25 2007

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 08·01·07 12·45

Client: WCH SDG #: J00119 NA [ ] SAF #: RC-093 NA [ ]

Work Order Number: J7H010255 Chain of Custody # RC-093-005

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ____ tape
   - ____ custody seals
   - ____ hazard labels
   - 1 appropriate samples labels
9. Samples are:
   - 1 in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? Soil NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: S. Smith Date: 08·01·07

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, 9/03, Rev. 5