0078542

SAF-RC-087
618-7 Burial Ground - Soil
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 7/21/08 Initials/Date
Kathy Wendt	H4-21	KW 7/21/08 Initials/Date

COMMENTS:

SDG J00186 **SAF-RC-087**

Rad only X Chem only Rad & Chem

X Complete Partial

WASTE SITE: 618-7 Burial Ground Anomalous Waste

RECEIVED
JUL 3 1 2008
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
JUL 2008

Analysis Provided By

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

SDG Number:J00186

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

July 18, 2008

Attention: Joan Kessner

SAF Number	:	RC-087
Date SDG Closed	:	July 17, 2008
Number of Samples	:	Three (18)
Sample Type	:	Soil
SDG Number	:	J00186
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

On July 17, 2008 three soils were received at TestAmerica for ICP metals analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID;

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
J172B2	KRM32	SOIL	07/17/08
J172B4	KRM33	SOIL	07/17/08
J172B5	KRM36	SOIL	07/17/08

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:

ICP Metals
ICP Metals by method SW-846 6010A

IV. Quality Control

SDG J00186 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 in July 2008 for samples with the standard metal request list and add ons aluminum, beryllium, copper, iron, zinc and zirconium.

Batch 8063367:

Iron recovered high for both ICV and CCV. Suspect iron contamination in the system due to high level iron samples. Al and Fe recovered high in the MS and MSD. Suspect inhomogeniety in the samples. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results 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
Project Manager

TESTAMERICA

SDG Number: J00186
SAF Number:
Batch Number: 8199293

Sample Number	Client ID	Aliquant	Aluminum	Arsenic	Barium	Berylium	Cadmium	Copper	Chromium	Iron	Lead	Selenium	Silver	Zinc
		sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/sa	mg/s
J8G1700000-293-B		1.000	0.0041	-0.0037	0	0	0.0001	0.0001	0.0004	0.0376	0.0029	0.00325	-0.0001	0.00
J8G1700000-293-C		1.000	0.9768	0.9575	0.9892	1.002	0.925	1.003	0.9379	1.088	0.9482	0.82369	0.9402	0.92
LCS Recovery %			97.680%	95.750%	98.920%	100.200%	92.500%	100.300%	93.790%	108.800%	94.820%	82.369%	94.020%	92.52
		g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/k
J8G170114-001	J172B2'	0.5049	5609.03149	0.782333	103.0897	0.425827	0.732818	10.52684	5.951674	18577.936	3.040206	<MDL	<MDL	38.23
J8G170114-001-X	J172B2 DUP'	0.5017	5846.12318	<MDL	116.9025	19.84254	0.757425	11.11222	6.188958	20520.231	2.670919	<MDL	<MDL	40.27
J8G170114-002	J172B4'	0.5094	5958.97134	0.834315	91.98076	0.961916	0.853946	42.03965	17.91323	19699.647	4.799764	<MDL	<MDL	54.60
J8G170114-003	J172B5'	0.5051	2996.43635	1.138388	45.83251	0.118788	0.940408	27.5886	118.8873	19659.473	548.8022	<MDL	<MDL	56.24
J8G170114-001-S	J172B2'	0.4997	N/A	96.40784	206.624	98.77927	89.27356	110.8665	95.94757	N/A	93.98639	82.89774	87.74265	127.0
% Recovery				95.626	103.534	98.353	88.541	100.340	89.996		90.946	82.898	87.743	88.84
J8G170114-001-D	J172B2'	0.503	N/A	94.07555	209.3439	97.33598	87.23658	109.7416	95.13917	N/A	92.36581	81.75944	86.82903	126.1
% Recovery				93.293	106.254	96.910	86.504	99.215	89.187		89.326	81.759	86.829	87.90

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-209	Page 1 of 1
Collector: B Lawrence, E. Harries / R. KERKOW	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 2B
Project Designation: 618-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground Anomalous Waste		SAF No.: RC-087	Data Turnaround: 24 Hours
Ice Chest No.	Field Logbook No.: EL-1395-13	COA: RG61872600	Method of Shipment: Governmnet Vehicle	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

ALSO, CONTAINS SOME ZIRCALOY CHIPS. RK 7/16/08

Special Handling and/or Storage

None

Preservation	None	RK 7/16/08								
Type of Container	~~2~~ aG									
No. of Container(s)	1									
Volume	60mL									

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions.						RCF Sample		Th TRENCH B12
J172B2 KRM32	SOIL	7-16-08	0825	X						J 177J6		3765
J172B4 KRM33	SOIL	7-16-08	0830	X						J 177J7		3764
J172B5 KRM36	SOIL	7-16-08	0900	X						J 177J8		PLASTIC PANEL

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TRANSSHIPPED FROM RC-088-049	0630 7/17/08	RB KERKOW / RB Kerk	0630 7/17/08
RB KERKOW / RB Kerk	0715 7/17/08	RJ LANE TAL	0715 71708

SPECIAL INSTRUCTIONS

None

(1) Metals by ICP - 6010 - Quick Turn (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Metals by ICP - 6010 - Quick Turn (Add On) (Aluminum, Beryllium, Copper, Iron, Zinc, Zirconium)

J8G170114
J00186
DUE 71808

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

WCH-EE-011

5

Radiological Counting Facility

Analysis Report for RCF20141

J177J6 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF20141
Sample Description	: J177J6 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.200E+01 grams
Facility	: Default
Sample Taken On	: 7/16/2008 8:25:00AM
Acquisition Started	: 7/16/2008 12:41:53PM
Procedure	: 80 gram pill box
Operator	: KSE
Detector Name	: BEGE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.2 seconds
Dead Time	: 0.01 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 3/27/2008
Efficiency Calibration Used Done On	: 4/1/2008
Efficiency Calibration Description	: 80g Pill box 4-1-2008
Sample Number	: 20840

J172B2

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	1.000	1.40E+01	3.02E+00	
TH-232d	0.682	5.07E-01	1.59E-01	
U-235	0.547	2.33E-01	1.34E-01	

Analysis Report for RCF20141

J177J6 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

? = 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 : 7/16/2008 1:42:01PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
3	351.94 Pb-214	2.26E-02	16.78

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

NP = No Peak
UK = Unknown

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	1.40E+01	1.58E+00	1.58E+00
	CO-60	1173.24		99.90	-8.80E-02	2.24E-01	2.24E-01
		1332.50		99.98	-9.31E-02		2.68E-01
	NB-94	702.63		99.81	3.20E-02	1.40E-01	1.40E-01
		871.10		99.89	1.04E-01		1.85E-01
	AG-108m	433.94		90.50	-1.13E-01	1.01E-01	1.01E-01
		614.28		89.80	-4.62E-02		1.83E-01
		722.94		90.80	1.57E-02		1.79E-01
	~~CS-137~~	~~661.66~~		~~85.21~~	~~7.46E-02~~	~~1.57E-01~~	~~1.57E-01~~
	EU-152	40.12		38.40	-3.80E-02	1.15E-01	1.15E-01
		45.38		11.10	1.26E-01		3.32E-01
		121.78		28.40	-4.61E-02		1.51E-01
		244.69		7.51	-7.04E-01		1.06E+00
		344.29		26.60	-2.22E-02		3.31E-01
		411.12		2.23	3.62E-01		3.97E+00
		443.89		2.80	1.94E+00		3.94E+00
		778.92		12.98	2.97E-02		1.21E+00
		867.38		4.21	-2.87E+00		4.29E+00
		964.11		14.50	9.49E-02		1.53E+00

Analysis Report for RCF20141

J177J6 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1085.89		9.94	3.96E-02		2.09E+00
		1089.71		1.71	5.14E+00		1.30E+01
		1112.07		13.60	-1.00E+00		1.75E+00
		1212.93		1.40	-1.39E+01		1.70E+01
		1299.16		1.63	-4.35E+00		1.04E+01
		1408.00		20.80	-7.03E-01		1.09E+00
	EU-154	123.10		40.50	5.12E-02	1.24E-01	1.24E-01
		723.36		19.70	-2.30E-01		8.12E-01
		873.23		11.45	2.97E-01		1.53E+00
		1004.78		17.90	6.47E-02		1.04E+00
		1274.54		35.50	8.73E-03		6.62E-01
	EU-155	86.54		34.00	9.54E-02	1.63E-01	1.63E-01
		105.31		20.60	1.55E-01		2.03E-01
	PB-212	74.81		10.50	6.12E-01	3.60E-01	5.33E-01
		77.11		17.70	5.58E-01		3.60E-01
		87.19		6.27	3.80E-01		8.51E-01
	RA-226d	186.11		3.28	-2.05E-01	3.90E-01	2.90E+00
		241.92		7.46	9.95E-01		1.25E+00
		295.09		19.20	1.98E-01		5.16E-01
		351.87		37.10	5.35E-01		3.90E-01
		609.31		46.10	2.16E-01		4.32E-01
		1120.27		15.00	9.10E-01		1.82E+00
		1764.49		15.90	5.87E-01		1.99E+00
+	TH-232d	238.58	*	43.60	5.65E-01	2.39E-01	2.39E-01
		338.42		12.40	8.51E-01		9.64E-01
		583.02	*	30.87	4.65E-01		3.47E-01
		911.16	*	29.00	4.53E-01		6.04E-01
		968.97		17.40	8.67E-01		1.22E+00
+	U-235	143.79		10.50	-1.23E-01	1.40E-01	6.02E-01
		163.38		4.70	-2.90E-01		1.29E+00
		185.74	*	53.00	2.33E-01		1.40E-01
		205.33		4.70	-6.38E-01		1.16E+00
	U-238d	63.29		3.80	1.01E+00	1.21E+00	1.24E+00
		92.56		5.41	1.58E+00		1.21E+00
	AM-241	59.54		35.70	2.86E-02	8.55E-02	8.55E-02
	CM-243	99.52		14.40	-4.19E-03	1.71E-01	3.04E-01
		103.73		23.00	-1.37E-01		1.71E-01
		116.93		8.32	-4.27E-02		5.06E-01
		228.19		10.56	3.20E-01		6.28E-01
		277.60		14.00	4.23E-01		6.02E-01
	CM-245	99.52		21.10	-2.86E-03	1.17E-01	2.07E-01
		103.73		33.60	-9.38E-02		1.17E-01
		116.93		12.20	-2.91E-02		3.45E-01
		174.94		9.50	-1.11E-01		6.40E-01

Analysis Report for RCF20141

J177J6 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

+ = 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: EDWARD S. WALLACE

JUL 16 2008 Edward S Wallace
(print/sign/date)

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-088-049	Page 1 of 1
Collector: B. Lawrence / E. Harries	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code
Project Designation: 618-7 Burial Ground - Other Liquids	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088	Data Turnaround: 24 Hours
Ice Chest No.	Field Logbook No.: EL-1395-12	COA: RG61878500	Method of Shipment: Government Vehicle	
Shipped To: Radiological Counting Facility	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination, potentially pyroforic

Special Handling and/or Storage

None

Preservation	None											
Type of Container	G/P											
No. of Container(s)	1											
Volume	~~125~~mL 60 JRD 7-16-08											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											
Sample No.	Matrix *	Sample Date	Sample Time		RCF							B-12#
J177J6	OTHER LIQUID	7-16-08	0825	X	20141	62g						3765
J177J7	OTHER LIQUID	7-16-08	0830	X	20142	71g						3764
J177J8	OTHER LIQUID	7-16-08	0900	X	20143	44g						NA
~~J177J9~~	~~OTHER LIQUID~~	JRD 7-16-08										

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	1145 7-16-08	JRDeBrigne	1145 7-16-08
JRDeBrigne JRDeBrigne	7-16-08 1220	E Limmerman	7-1608 1220 RCF

SPECIAL INSTRUCTIONS

COPY

Matrix *: S=Soil, Sb=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

RCF 20141

Radiological Counting Facility

Analysis Report for RCF20142

J177J7 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF20142
Sample Description	: J177J7 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.100E+01 grams
Facility	: Default
Sample Taken On	: 7/16/2008 8:30:00AM
Acquisition Started	: 7/16/2008 12:42:00PM
Procedure	: 80 gram pill box
Operator	: KSE
Detector Name	: PGTWHITE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.8 seconds
Dead Time	: 0.02 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/31/2008
Efficiency Calibration Used Done On	: 2/5/2008
Efficiency Calibration Description	: 80g Pill box 2/5/2008
Sample Number	: 20841

J172B4

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.997	1.34E+01	3.74E+00	
PB-212		0.707	5.58E-01	2.33E-01	
RA-226d		0.403	4.11E-01	1.64E-01	
TH-232d		0.679	5.52E-01	1.60E-01	
U-235		0.999	7.70E+00	1.15E+00	
U-238d	@	1.000	9.70E+01	1.01E+01	

Analysis Report for RCF20142

J177J7 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

? = 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 : 7/16/2008 1:42:12PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	1	53.26		7.75E-02	20.45
	5	84.31	Th-231	1.05E-01	16.00
M	6	89.94	Ac-228	6.42E-02	10.74
	8	98.49	Pa-234	6.01E-02	21.64
M	9	105.38	NP	3.73E-02	12.93
m	10	109.25	Th-227	6.47E-02	8.59
m	11	112.81	NP	9.32E-02	6.80
	20	766.81	NP	1.27E-02	28.25
	22	1001.16	Pa-234m	4.06E-02	9.95

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

NP = No Peak
UK = Unknown

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	1.34E+01	2.00E+00	2.00E+00
CO-60	1173.24	99.90	1.73E-01	2.04E-01	2.30E-01
	1332.50	99.98	2.91E-02		2.04E-01
NB-94	702.63	99.81	4.62E-02	1.91E-01	2.02E-01
	871.10	99.89	-7.17E-02		1.91E-01
AG-108m	433.94	90.50	-2.17E-02	1.47E-01	1.47E-01
	614.28	89.80	-4.65E-02		1.97E-01
	722.94	90.80	-4.65E-02		1.96E-01
CS-137	661.66	85.21	-1.10E-01	1.81E-01	1.81E-01
EU-152	40.12	38.40	-5.37E-04	4.44E-01	4.48E-01

Analysis Report for RCF20142

J177J7 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		45.38		11.10	3.09E-01		1.51E+00
		121.78		28.40	4.32E-01		4.54E-01
		244.69		7.51	-3.69E-01		1.47E+00
		344.29		26.60	-3.35E-01		4.44E-01
		411.12		2.23	-4.14E-01		5.48E+00
		443.89		2.80	2.81E-01		4.67E+00
		778.92		12.98	-1.02E+00		1.38E+00
		867.38		4.21	-1.80E+00		4.66E+00
		964.11		14.50	-7.32E-02		1.59E+00
		1085.89		9.94	1.61E+00		2.20E+00
		1089.71		1.71	-6.61E+00		1.15E+01
		1112.07		13.60	1.77E-01		1.63E+00
		1212.93		1.40	4.69E-01		1.78E+01
		1299.16		1.63	2.56E+00		1.25E+01
		1408.00		20.80	8.40E-01		1.00E+00
	EU-154	123.10		40.50	6.97E-02	3.16E-01	3.16E-01
		723.36		19.70	-2.14E-01		9.02E-01
		873.23		11.45	2.96E-01		1.72E+00
		1004.78		17.90	-1.00E+00		2.23E+00
		1274.54		35.50	-9.72E-02		6.16E-01
	EU-155	86.54		34.00	1.81E-01	5.97E-01	5.97E-01
		105.31		20.60	7.25E-02		6.55E-01
+	PB-212	74.81	*	10.50	7.35E-01	7.05E-01	1.30E+00
		77.11	*	17.70	4.96E-01		7.05E-01
		87.19		6.27	9.79E-01		3.30E+00
+	RA-226d	186.11	*	3.28	1.33E+02	3.11E-01	4.39E+00
		241.92		7.46	1.64E-01		1.99E+00
		295.09		19.20	3.74E-01		6.08E-01
		351.87	*	37.10	5.31E-01		3.11E-01
		609.31	*	46.10	3.34E-01		3.17E-01
		1120.27		15.00	1.16E-01		1.61E+00
		1764.49		15.90	9.08E-01		1.32E+00
+	TH-232d	238.58	*	43.60	4.73E-01	2.56E-01	2.56E-01
		338.42		12.40	9.68E-02		9.83E-01
		583.02	*	30.87	6.25E-01		4.39E-01
		911.16	*	29.00	6.40E-01		4.40E-01
		968.97		17.40	1.03E+00		1.27E+00
+	U-235	143.79	*	10.50	7.82E+00	2.71E-01	1.03E+00
		163.38	*	4.70	8.12E+00		2.79E+00
		185.74	*	53.00	8.24E+00		2.71E-01
		205.33	*	4.70	6.50E+00		2.43E+00
+	U-238d	63.29	*	3.80	9.70E+01	2.76E+00	5.28E+00
		92.56	*	5.41	8.62E+01		2.76E+00
	AM-241	59.54		35.70	2.36E-01	4.95E-01	4.95E-01
	CM-243	99.52		14.40	-2.00E-01	5.80E-01	1.07E+00
		103.73		23.00	-1.19E-01		5.80E-01
		116.93		8.32	-2.06E+00		1.56E+00
		228.19		10.56	-4.97E-02		8.98E-01

Analysis Report for RCF20142

J177J7 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
CM-245	277.60	14.00	9.18E-01	3.97E-01	8.24E-01
	99.52	21.10	-1.37E-01		7.28E-01
	103.73	33.60	-8.17E-02		3.97E-01
	116.93	12.20	-1.40E+00		1.06E+00
	174.94	9.50	4.48E-01		1.14E+00

+ = 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: EDWARD S. WALLACE

JUL 16 2008 Edward S Wallace
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-049 | Page 1 of 1

Collector
B. Lawrence / E. Harries

Company Contact
Joan Kessner

Telephone No.
509-375-4688

Project Coordinator
KESSNER, JH

Price Code

Data Turnaround
24 Hours

Project Designation
618-7 Burial Ground - Other Liquids

Sampling Location
618-7 Burial Ground (drums)

SAF No.
RC-088

Ice Chest No.

Field Logbook No.
EL-1395-12

COA
RG61878500

Method of Shipment
Government Vehicle

Shipped To
Radiological Counting Facility

Offsite Property No.

Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination, potentially pyroforic

Special Handling and/or Storage

None

Preservation	None												
Type of Container	G/P												
No. of Container(s)	1												
Volume	~~125~~mL 60 JED 7-16-08												
SAMPLE ANALYSIS	RCF GEA Shipping Screen												
Sample No.	Matrix *	Sample Date	Sample Time		RCF								B-12#
J177J6	OTHER LIQUID	7-16-08	0825	X	20141	62g							3765
J177J7	OTHER LIQUID	7-16-08	0830	X	20142	71g							3764
J177J8	OTHER LIQUID	7-16-08	0900	X	20143	94g							NA
~~J177J9~~	~~OTHER LIQUID~~	JED 7-16-08											

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	1145 7-16-08	JRDeDivigne	1145 7-16-08
JRDeDivigne JRDeDivigne	7-16-08	Lim Kenan	1220 7-16-08 RCF

SPECIAL INSTRUCTIONS

COPY

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

RCF 20142

Radiological Counting Facility

Analysis Report for RCF20143

J177J8 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF20143
Sample Description	: J177J8 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL
Sample Type	: 80 gram pill box
Unit	:
Sample Point	J172 B5
Sample Size	: 9.400E+01 grams
Facility	: Default
Sample Taken On	: 7/16/2008 9:00:00AM
Acquisition Started	: 7/16/2008 12:42:07PM
Procedure	: 80 gram pill box
Operator	: KSE
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3633.0 seconds
Dead Time	: 0.91 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/10/2008
Efficiency Calibration Used Done On	: 1/11/2008
Efficiency Calibration Description	: 80g Pill Box 71385A-238 1/10/2008
Sample Number	: 20842

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40		0.980	9.73E+00	2.39E+00	
X	EU-155		0.971			
	PB-212		1.000	1.51E+01	8.12E-01	
	RA-226d		0.992	2.25E+01	1.25E+00	
	TH-232d		0.996	5.94E+00	4.76E-01	
	U-235		0.789	1.59E+00	6.02E-01	
	U-238d	@	1.000	1.45E+01	3.44E+00	

Analysis Report for RCF20143

J177J8 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

? = 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 : 7/16/2008 1:42:43PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	1	46.41	Pb-210	8.37E-02	17.62
m	5	81.03		6.12E-02	12.82
m	6	83.92		1.56E-01	6.07
m	8	89.89		1.95E-01	5.09
	10	105.06	U-235	2.18E-02	57.10
	11	129.18	Ac-228	4.36E-02	39.10
	13	153.95	NP	6.50E-02	30.73
	15	209.24	Ac-228	5.90E-02	18.22
	18	256.03	Th-227	3.30E-02	37.53
	19	270.27	Ac-228	6.13E-02	22.24
m	21	300.20	NP	5.21E-02	10.67
	22	328.14	NP	3.70E-02	31.12
	25	409.78	NP	2.32E-02	32.92
	26	463.21	NP	3.94E-02	23.16
	27	510.81	Annihilation Photon	7.25E-02	13.06
	30	665.83	NP	1.39E-02	43.00
	31	727.42	Bi-212	4.46E-02	13.80
	32	768.44	Bi-214	6.89E-02	11.69
M	33	785.80	NP	9.27E-03	57.83
m	34	794.86	Ac-228	1.09E-02	57.66
	35	806.56	Bi-214	1.25E-02	39.88
	36	860.76	NP	3.10E-02	19.40
	38	934.17	Bi-214	4.50E-02	14.11
M	39	964.75	Ac-228	2.63E-02	12.28
	42	1155.41	Bi-214	2.44E-02	19.67
	43	1238.36	Bi-214	7.34E-02	8.90
	44	1281.70	NP	1.64E-02	27.82
M	45	1378.07	Bi-214	4.91E-02	7.86
m	46	1385.58	NP	1.18E-02	18.79
M	47	1401.92	~~Bi-214~~ NP	1.49E-02 EW 7-16-08	15.54
m	48	1408.52	Bi-214	2.51E-02	11.31
	50	1509.71	NP	1.38E-02	31.67
	51	1662.15	Bi-214	9.01E-03	30.56
	52	1730.12	NP	3.53E-02	10.60
	54	1847.84	Bi-214	2.19E-02	13.77

Analysis Report for RCF20143

J177J8 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

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

NP = No Peak
UK = Unknown

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	9.73E+00	3.00E+00	3.00E+00
	CO-60	1173.24		99.90	1.34E-01	3.72E-01	3.81E-01
		1332.50		99.98	-1.72E-01		3.72E-01
	NB-94	702.63		99.81	1.94E-01	3.04E-01	3.04E-01
		871.10		99.89	-1.93E-02		3.55E-01
	AG-108m	433.94		90.50	-3.53E-02	2.70E-01	2.70E-01
		614.28		89.80	-6.84E-02		9.32E-01
		722.94		90.80	3.96E-02		4.09E-01
	CS-137	661.66		85.21	-9.00E-02	3.72E-01	3.72E-01
	EU-152	40.12		38.40	3.50E-02	4.03E-01	4.03E-01
		45.38		11.10	2.39E+00		1.58E+00
		121.78		28.40	-5.81E-01		6.11E-01
		244.69		7.51	6.37E-01		4.12E+00
		344.29		26.60	-6.83E-01		1.02E+00
		411.12		2.23	1.81E-01		1.18E+01
		443.89		2.80	2.78E+00		8.52E+00
		778.92		12.98	-2.36E+00		2.45E+00
		867.38		4.21	2.08E-01		9.36E+00
		964.11		14.50	-9.48E-02		3.65E+00
		1085.89		9.94	-1.65E+00		3.39E+00
		1089.71		1.71	6.51E+00		2.02E+01
		1112.07		13.60	-3.92E+00		2.98E+00
		1212.93		1.40	8.16E+00		2.71E+01
		1299.16		1.63	-6.60E+00		2.27E+01
		1408.00		20.80	-1.64E-01		2.49E+00
	EU-154	123.10		40.50	-3.76E-01	4.31E-01	4.31E-01
		723.36		19.70	5.44E-02		1.88E+00
		873.23		11.45	1.85E+00		3.13E+00
		1004.78		17.90	1.76E+00		2.11E+00
		1274.54		35.50	-3.07E-01		1.14E+00
	EU-155	86.54	*	34.00	2.79E+00	3.49E-01	3.49E-01
		105.31	*	20.60	2.91E-01		5.45E-01
+	PB-212	74.81	*	10.50	1.50E+01	7.34E-01	1.22E+00
		77.11	*	17.70	1.52E+01		7.34E-01
		87.19	*	6.27	1.51E+01		1.89E+00
+	RA-226d	186.11	*	3.28	4.58E+01	5.52E-01	6.98E+00

Analysis Report for RCF20143

J177J8 SAF:RC-088 FF2 / 618-7 BURIAL GROUND (DRUM) SOIL

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		241.92	*	7.46	2.50E+01		1.73E+00
		295.09	*	19.20	2.26E+01		6.69E-01
		351.87	*	37.10	2.31E+01		6.32E-01
		609.31	*	46.10	2.16E+01		5.52E-01
		1120.27	*	15.00	2.38E+01		2.04E+00
		1764.49	*	15.90	2.47E+01		1.68E+00
+	TH-232d	238.58	*	43.60	6.92E+00	3.33E-01	3.33E-01
		338.42	*	12.40	5.12E+00		1.66E+00
		583.02	*	30.87	5.65E+00		7.22E-01
		911.16	*	29.00	6.38E+00		9.87E-01
		968.97	*	17.40	5.99E+00		1.30E+00
+	U-235	143.79	*	10.50	1.89E+00	4.32E-01	1.68E+00
		163.38		4.70	-2.49E+00		4.48E+00
		185.74	*	53.00	2.83E+00		4.32E-01
		205.33		4.70	-1.40E+00		4.91E+00
+	U-238d	63.29	*	3.80	1.45E+01	2.09E+00	5.24E+00
		92.56	*	5.41	1.96E+01		2.09E+00
	AM-241	59.54		35.70	-1.62E-01	5.81E-01	5.81E-01
	CM-243	99.52		14.40	-1.85E+00	7.76E-01	1.24E+00
		103.73		23.00	-4.58E-01		7.76E-01
		116.93		8.32	9.64E-01		2.15E+00
		228.19		10.56	-7.11E-01		2.00E+00
		277.60		14.00	9.05E-01		1.65E+00
	CM-245	99.52		21.10	-1.27E+00	5.31E-01	8.47E-01
		103.73		33.60	-3.14E-01		5.31E-01
		116.93		12.20	6.58E-01		1.46E+00
		174.94		9.50	-2.03E+00		2.22E+00

+ = 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: EDWARD S. WALLACE

JUL 16 2008

(print/sign/date)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-088-049	Page 1 of 1
Collector B. Lawrence / E. Harries	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code	Data Turnaround **24 Hours**
Project Designation 618-7 Burial Ground - Other Liquids	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088		
Ice Chest No.	Field Logbook No. EI -1395-12	COA RG61878500	Method of Shipment Government Vehicle		
Shipped To Radiological Counting Facility	Offsite Property No.		Bill of Lading/Air Bill No.		

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination, potentially pyroforic

Special Handling and/or Storage

None

Preservation	None											
Type of Container	G/P											
No. of Container(s)	1											
Volume	~~125mL~~ 60 JRD 7-16-08											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											
Sample No.	Matrix *	Sample Date	Sample Time		RCF							B-12#
J177J6	OTHER LIQUID	7-16-08	0825	X	20141	62g						3765
J177J7	OTHER LIQUID	7-16-08	0830	X	20142	71g						3764
J177J8	OTHER LIQUID	7-16-08	0900	X	20143	94g						NA
~~J177J9~~	~~OTHER LIQUID~~	JRD 7-16-08										

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	1145 7-16-08	JRDeBrigne	1145 7-16-08
JRDeBrigne JRDeBrigne	7-16-08	Lim Nelson	7-1608 1220 RCF

SPECIAL INSTRUCTIONS

COPY

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

RCF 20143

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-088-049	Page 1 of 1
Collector: B. Lawrence / E. Harries	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 2A
Project Designation: 618-7 Burial Ground - Other Liquids	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088	Data Turnaround: 24 Hours
Ice Chest No.	Field Logbook No.: EL-1395-12	COA: RG61878500	Method of Shipment: ~~Government Vehicle~~ HAND DELIVERED 7/16/08	
Shipped To: Radiological Counting Facility	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination, potentially pyroforic

Special Handling and/or Storage

None

Preservation	None											
Type of Container	G/P											
No. of Container(s)	1											
Volume	~~125mL~~ 60 JRD 7-16-08											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											
Sample No.	Matrix *	Sample Date	Sample Time		RCF							B-12#
J177J6	OTHER LIQUID	7-16-08	0825	X	20141	62g						3765
J177J7	OTHER LIQUID	7-16-08	0830	X	20142	71g						3764
J177J8	OTHER LIQUID	7-16-08	0900	X	20143	44g						NA
~~J177J9~~	~~OTHER LIQUID~~	JRD 7-16-08										

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	1145 7-16-08	JRDeBrigne	1145 7-16-08
JRDeBrigne JRDeBrigne	7-16-08	Lim Nettram	1220 RCF 7-16-08 1220
Mike Rook / [illegible]	7-16-08 / 1505	RB KERKOW / RB Kerkow	1505 7-16-08
RB KERKOW / RB Kerkow	0630 7/17/08	TRANSSHIPPED TO TARL	0630 7/17/08

SPECIAL INSTRUCTIONS

COPY

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: SAMPLES WERE TRANSSHIPPED TO T.A.R.L. on CHAIN OF CUSTODY RC-087-209	Disposed By: RB KERKOW / RB Kerkow	Date/Time: 0630 7/17/08

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 71708 0715 GM Screen Result 0.1K

Client: WCH SDG #: J001186 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8G170114 Chain of Custody # RC-087-209

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? NA [ ] 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 Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ___ Broken
   - ___ Leaking
   - ___ Have Air Bubbles
   - (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] SOIL pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added _____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 71708

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____