0078426

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

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 7/10/08 Initials/Date
Kathy Wendt	H4-21	KW 7/10/08 Initials/Date

RECEIVED
JUL 17 2008
EDMC

COMMENTS:

SDG J00183 **SAF-RC-087**

Rad only X Chem only Rad & Chem

X Complete Partial

WASTE SITE: 618-7 Burial Ground - Floor

Analytical Data Package Prepared For

Washington Closure Hanford

Analysis Provided By

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

RECEIVED
JUL 2008

SDG Number:J00183

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

July 10, 2008

Attention: Joan Kessner

SAF Number	:	RC-087
Date SDG Closed	:	June 30, 2008
Number of Samples	:	Four (4)
Sample Type	:	Soil
SDG Number	:	J00183
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

On June 26, 2008 four 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
J172L0	KQLTK	SOIL	06/26/08
J172L1	KQLTL	SOIL	06/26/08
J172L2	KQLTM	SOIL	06/26/08
J172L4	KQLT0	SOIL	06/26/08

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 J00183 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 June 2008 for samples with the standard metal request list and add ons aluminum, beryllium, copper, iron, zinc and zirconium.

Batch 8178258:

Iron recovered high for both the ICV and CCV. Suspect iron contamination in the system due to high level iron samples. The cause is being investigated. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB, ICV, CCV and CCB 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: J00183
SAF Number: RC-087
Batch Number: 8178258

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/sa
J8F260000-258-B		1.000	-0.0149	-0.0034	0	0	0	0.0003	0.0005	0.7362	0.0015	0.00301	-0.0004	0.0139
J8F260000-258-C		1.000	0.9426	0.9506	0.987	1.027	0.941	0.9975	0.9454	1.079	0.9555	0.82288	0.9282	0.9536
LCS Recovery %			94.260%	95.060%	98.700%	102.700%	94.100%	99.750%	94.540%	107.900%	95.550%	82.288%	92.820%	95.360%
		g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
J8F260127-001	J172L0	0.5076	6250	0.906225	78.89086	0.275808	1.300236	42.41529	10.29354	22527.581	5.644208	<MDL	<MDL	44.5134
J8F260127-001-X	J172L0-DUP	0.5059	6090.13639	<MDL	72.48468	0.276735	1.274956	14.95355	7.155564	22889.899	3.221981	<MDL	<MDL	37.88298
J8F260127-002	J172L1	0.5021	6120.29476	<MDL	130.7508	0.238996	1.513643	37.79128	9.320852	22724.557	6.841267	<MDL	<MDL	53.58494
J8F260127-003	J172L2	0.508	5875	<MDL	70.14764	0.354331	1.633858	47.37205	9.84252	22824.803	5.216535	<MDL	<MDL	54.76378
J8F260127-004	J172L4	0.5355	14052.2876	<MDL	838.7488	0.252101	1.858077	32.1662	9.943978	24743.231	57.33894	15.4155	<MDL	56.90009
J8F260127-001-S	J172L0-MS	0.4952	N/A	96.21365	172.1527	101.878	91.97294	117.0234	97.61712	N/A	96.28433	84.1458	88.09572	130.3514
% Recovery				96.214	93.262	101.602	90.673	74.608	87.324		90.640	84.146	88.096	85.838
J8F260127-001-D	J172L0-MSD	0.5068	N/A	91.66338	192.4822	97.99724	88.61484	111.6811	94.06077	N/A	93.10379	79.77309	84.36267	129.2423
% Recovery				91.663	113.591	97.721	87.315	69.266	83.767		87.460	79.773	84.363	84.729

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-225	Page 1 of 1
Collector: B Lawrence, E. Harries	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 - Floor		SAF No.: RC-087	Data Turnaround: 24 Hours
Ice Chest No.: JEEP # 1	Field Logbook No.: EL-1395-13	COA: RG61872600	Method of Shipment: GOVERNMENT 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

Special Handling and/or Storage

None

Preservation	None										
Type of Container	aG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
J172L0 KQLTK	SOIL	6/24/08	0640	X							J172J0	E-010	~~E-011B~~ 1
J172L1 KQLTL	SOIL	6/24/08	0650	X							J172J1	E-011B	~~D-011B~~ 2
J172L2 KQLTM	SOIL	6/24/08	0700	X							J172J2	E-012B	~~D-012B~~ 3
~~J172L3~~	~~SOIL~~	RK 6/24/08											

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	6-24-08 0715	JR DeBuigne JRD	6-24-08 0715
JR DeBuigne JRD	6-24-08 0945	1060 1A	6-24-08 0945
1060 1A	6-26-08 0730	JR DeBuigne JRD	6-26-08 0730
JR DeBuigne JRD	6-26-08 0755	LANE TAL	62608 0755

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}

J8F260127
J00183
DUE 62708

JRE 6-26-08

KW

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

TESTAMERICA

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-227

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 - Soil
Sampling Location	618-7 Burial Ground - Floor
SAF No.	RC-087
Ice Chest No.	JEEP # 1
Field Logbook No.	EL-1395-13
COA	RG61872600
Method of Shipment	Govt 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

Special Handling and/or Storage

None

Preservation	None
Type of Container	aG
No. of Container(s)	1
Volume	60mL
SAMPLE ANALYSIS	See item (1) in Special Instructions.

Sample No.	Matrix *	Sample Date	Sample Time	
J172L4 KQMH0	SOIL	6/25/08	1025	✓
~~J172L5~~	SOIL			
~~J172L6~~	SOIL			
~~J172L7~~	SOIL			
~~J172L8~~ BH 6/25/08	SOIL			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
BLawrence B	1130 6-25-08	BHUDSON BHudson	6/25/08 1130
BHUDSON BHudson	6/25/08 1255	1060 #1B	6/25/08 1255
1060 1B	0930 6-26-08	JRDeBuigne JRDeBuigne	0930 6-26-08
JRDeBuigne JRDeBuigne	1000 6-26-08	WLANE TAL	1000 62608
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

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}

J8F260127
J00183
DUE 62708

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

Analysis Report for RCF19974

J172J4 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19974
Sample Description	: J172J4 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.800E+01 grams
Facility	: Default
Sample Taken On	: 6/25/2008 10:25:00AM
Acquisition Started	: 6/25/2008 12:56:29PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3642.3 seconds
Dead Time	: 1.16 %
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	: 50g Pill Box 1-10-2008
Sample Number	: 20267

J172L4

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.991	1.24E+01	2.73E+00	
PB-212		0.710	5.10E-01	1.40E-01	
RA-226d		0.670	3.86E-01	1.66E-01	
TH-232d		0.428	5.73E-01	1.66E-01	
U-235		0.547	4.22E-01	1.55E-01	
U-238d	@	1.000	5.61E+00	1.56E+00	

Analysis Report for RCF19974

J172J4 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

? = 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 : 6/25/2008 1:57:19PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.		Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.55 Tl-208	8.09E-03	35.30
m	5	90.16 Pb-212/214	1.17E-02	23.02

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	1.24E+01	2.69E+00	2.69E+00
	CO-60	1173.24		99.90	1.97E-01	2.43E-01	2.64E-01
		~~1332.50~~		~~99.98~~	~~6.69E-02~~		~~2.43E-01~~
	NB-94	702.63		99.81	7.34E-02	2.08E-01	2.27E-01
		871.10		99.89	2.95E-02		2.08E-01
	AG-108m	433.94		90.50	-5.34E-02	1.84E-01	1.84E-01
		614.28		89.80	-1.89E-02		2.87E-01
		722.94		90.80	-1.50E-01		2.13E-01
	CS-137	661.66		85.21	4.45E-02	2.33E-01	2.33E-01
	EU-152	40.12		38.40	-8.59E-02	2.91E-01	2.91E-01
		45.38		11.10	2.99E-01		9.47E-01
		121.78		28.40	-1.39E-01		3.08E-01
		244.69		7.51	-1.65E+00		1.63E+00
		344.29		26.60	-3.17E-01		5.22E-01
		411.12		2.23	-3.43E+00		6.19E+00
		443.89		2.80	2.80E+00		5.61E+00
		778.92		12.98	-9.31E-01		1.31E+00

Analysis Report for RCF19974

J172J4 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		867.38		4.21	1.75E+00		5.40E+00
		964.11		14.50	7.94E-01		1.83E+00
		1085.89		9.94	-9.65E-01		2.14E+00
		1089.71		1.71	-1.22E-01		1.25E+01
		1112.07		13.60	-5.33E-01		1.90E+00
		1212.93		1.40	2.94E+00		2.02E+01
		1299.16		1.63	-5.25E+00		1.32E+01
		1408.00		20.80	4.14E-01		1.09E+00
	EU-154	123.10		40.50	-9.87E-02	2.16E-01	2.16E-01
		723.36		19.70	-7.47E-01		9.64E-01
		873.23		11.45	-1.34E-01		1.78E+00
		1004.78		17.90	-1.08E-02		1.33E+00
		1274.54		35.50	1.23E-01		6.41E-01
	EU-155	86.54		34.00	-5.71E-02	3.14E-01	3.14E-01
		105.31		20.60	-1.91E-01		4.36E-01
+	PB-212	74.81	*	10.50	3.67E-01	3.25E-01	6.12E-01
		77.11	*	17.70	5.77E-01		3.25E-01
		87.19		6.27	-1.23E+01		1.74E+00
+	RA-226d	186.11	*	3.28	7.20E+00	3.58E-01	3.72E+00
		241.92		7.46	-5.59E-01		2.21E+00
		295.09	*	19.20	5.45E-01		5.52E-01
		351.87	*	37.10	3.00E-01		3.58E-01
		609.31	*	46.10	4.34E-01		5.36E-01
		1120.27		15.00	3.91E-01		1.80E+00
		1764.49		15.90	1.08E+00		1.61E+00
+	TH-232d	238.58	*	43.60	5.97E-01	2.67E-01	2.67E-01
		338.42		12.40	1.12E+00		1.29E+00
		583.02	*	30.87	4.88E-01		5.47E-01
		911.16		29.00	6.70E-01		8.70E-01
		968.97		17.40	1.43E+00		1.66E+00
+	U-235	143.79		10.50	3.41E-01	2.30E-01	9.77E-01
		163.38		4.70	1.10E+00		2.24E+00
		185.74	*	53.00	4.46E-01		2.30E-01
		205.33		4.70	5.79E-01		2.48E+00
+	U-238d	63.29	*	3.80	5.61E+00	1.15E+00	2.21E+00
		92.56	*	5.41	5.27E+00		1.15E+00
	AM-241	59.54		35.70	-6.37E-02	3.13E-01	3.13E-01
	CM-243	99.52		14.40	-2.55E-01	3.86E-01	6.53E-01
		103.73		23.00	-4.30E-01		3.86E-01
		116.93		8.32	2.48E-01		1.10E+00
		228.19		10.56	-1.62E-01		1.06E+00
		277.60		14.00	-5.63E-01		8.84E-01
	CM-245	99.52		21.10	-1.74E-01	2.64E-01	4.45E-01
		103.73		33.60	-2.95E-01		2.64E-01
		116.93		12.20	1.69E-01		7.51E-01
		174.94		9.50	6.26E-01		1.07E+00

J172J4 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

+ = 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:

John Stephens 6-26-08
(print/sign/date)

TESTAMERICA

11

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-222

Page 1 of 1

Collector B Lawrence, E. Harries	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Project Designation 618-7 Burial Ground - Soil	**Sampling Location** 618-7 Burial Ground - Floor		**SAF No.** RC-087
Ice Chest No.	**Field Logbook No.** EL-1395-13	**COA** RG61877600	**Method of Shipment**
Shipped To Radiological Counting Facility	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Price Code

Data Turnaround 24 Hours

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

SAMPLE ANALYSIS

				Preservation	None								
				Type of Container	Snap Vial								
				No. of Container(s)	1								
				Volume	80g								
					RCF GEA Shipping Screen		RCF						
Sample No.	**Matrix ***	**Sample Date**	**Sample Time**										
J172J4	SOIL	6/25/08	[illegible]		X		14474						
~~J172J6~~	SOIL												
~~J172J6~~	SOIL												
~~J172J7~~	SOIL												
~~J172J8~~ BH 6/25/08	SOIL												

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	1130 6-25-08	B Hudson	6/25/08 1130
B Hudson	6/25/08 1235	K. Eliason	6-25-08 1235

SPECIAL INSTRUCTIONS

None

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

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-220 | Page 1 of 1

Collector: B Lawrence, E. Harries

Project Designation: 618-7 Burial Ground - Soil

Ice Chest No.:

Shipped To: Radiological Counting Facility

Company Contact: Joan Kessner

Telephone No.: 509-375-4688

Sampling Location: 618-7 Burial Ground - Floor

Field Logbook No.: EL-1395-13

COA: RG61872600

Offsite Property No.: NA

Project Coordinator: KESSNER, JH

SAF No.: RC-087

Price Code: 2A

Data Turnaround: 24 Hours

Method of Shipment: GOVERNMENT VEHICLE

Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None
Type of Container	Snap Vial
No. of Container(s)	1
Volume	80g

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	RCF GEA Shipping Screen		RCF							LOCATION	
J172J0	SOIL	6/24/08	0640	x		19956						JRD 6-24-08		
J172J1	SOIL	6/24/08	0650	x		19957						F-010	~~E-011B~~	1
J172J2	SOIL	6/24/08	0700	x		19958						E-011B	~~D-011B~~	2
~~J172J3~~	~~SOIL~~	RK 6/24/08										E-012B	~~D-012B~~	3

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
B Lawrence	0715 6-24-08	JRD Bruigne JR D. Bruigne	0715 6-24-08
JRD Bruigne JR D. Bruigne	1030 6-24-08	K. Eliason / Kevin	6-24-08 1030

SPECIAL INSTRUCTIONS

None

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	Disposed By	Date/Time

VCH-EE-011

Analysis Report for RCF19956

J172J0 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19956
Sample Description	: J172J0 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.600E+01 grams
Facility	: Default
Sample Taken On	: 6/24/2008 6:40:00AM
Acquisition Started	: 6/24/2008 11:04:37AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3643.8 seconds
Dead Time	: 1.20 %
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	: 20198

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.995	9.61E+00	2.26E+00	
PB-212	0.707	8.50E-01	1.59E-01	
RA-226d	0.619	2.74E-01	1.30E-01	
TH-232d	0.997	4.27E-01	1.35E-01	
U-238d	0.336	8.67E-01	4.74E-01	

Analysis Report for RCF19956

J172J0 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

? = 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 : 6/24/2008 12:05:24PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
8	510.57 U238 d line	6.03E-03	64.20

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	9.61E+00	2.15E+00	2.15E+00
	CO-60	1173.24		99.90	1.21E-01	1.91E-01	2.44E-01
		1332.50		99.98	-5.77E-02		1.91E-01
	NB-94	702.63		99.81	1.11E-01	1.84E-01	1.84E-01
		871.10		99.89	2.95E-03		1.98E-01
	AG-108m	433.94		90.50	2.32E-02	1.45E-01	1.45E-01
		614.28		89.80	-1.30E-01		2.26E-01
		722.94		90.80	1.02E-01		2.13E-01
	CS-137	661.66		85.21	1.04E-02	1.78E-01	1.78E-01
	EU-152	40.12		38.40	5.59E-02	2.11E-01	2.11E-01
		45.38		11.10	8.01E-01		7.54E-01
		121.78		28.40	6.99E-02		2.83E-01
		244.69		7.51	-7.18E-01		1.51E+00
		344.29		26.60	-9.96E-02		4.78E-01
		411.12		2.23	-2.53E+00		5.79E+00
		443.89		2.80	-2.49E+00		4.50E+00
		778.92		12.98	1.26E+00		1.38E+00
		867.38		4.21	4.61E-01		4.87E+00
		964.11		14.50	7.32E-01		1.78E+00

Analysis Report for RCF19956

J172J0 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1085.89		9.94	-8.64E-02		2.06E+00
		1089.71		1.71	4.46E+00		1.18E+01
		1112.07		13.60	-1.75E+00		1.61E+00
		1212.93		1.40	-1.47E+00		1.65E+01
		1299.16		1.63	-5.06E-01		1.42E+01
		1408.00		20.80	5.30E-01		9.37E-01
	EU-154	123.10		40.50	1.21E-02	1.98E-01	1.98E-01
		723.36		19.70	6.96E-01		9.91E-01
		873.23		11.45	4.58E-01		1.79E+00
		1004.78		17.90	3.98E-02		1.24E+00
		1274.54		35.50	-6.66E-02		6.52E-01
	EU-155	86.54		34.00	-5.52E-02	2.87E-01	2.87E-01
		105.31		20.60	-3.63E-01		3.54E-01
+	PB-212	74.81	*	10.50	8.06E-01	3.15E-01	6.02E-01
		77.11	*	17.70	8.70E-01		3.15E-01
		87.19		6.27	-3.49E-02		1.56E+00
+	RA-226d	186.11		3.28	1.34E+00	2.84E-01	3.25E+00
		241.92		7.46	6.99E-01		2.08E+00
		295.09	*	19.20	4.23E-01		4.80E-01
		351.87	*	37.10	3.38E-01		2.98E-01
		609.31	*	46.10	1.96E-01		2.84E-01
		1120.27		15.00	-6.30E-01		1.74E+00
		1764.49		15.90	4.83E-01		1.54E+00
+	TH-232d	238.58	*	43.60	4.23E-01	2.65E-01	2.65E-01
		338.42	*	12.40	4.99E-01		6.62E-01
		583.02	*	30.87	2.46E-01		3.40E-01
		911.16	*	29.00	7.16E-01		4.32E-01
		968.97	*	17.40	6.51E-01		6.76E-01
	U-235	143.79		10.50	-2.57E-01	2.01E-01	8.17E-01
		163.38		4.70	1.35E+00		2.07E+00
		185.74		53.00	8.26E-02		2.01E-01
		205.33		4.70	1.45E+00		2.19E+00
+	U-238d	63.29		3.80	1.88E+00	1.15E+00	2.40E+00
		92.56	*	5.41	8.67E-01		1.15E+00
	AM-241	59.54		35.70	-1.84E-01	2.35E-01	2.35E-01
	CM-243	99.52		14.40	-6.81E-02	3.26E-01	5.26E-01
		103.73		23.00	-9.28E-02		3.26E-01
		116.93		8.32	-8.59E-01		9.01E-01
		228.19		10.56	8.48E-01		9.93E-01
		277.60		14.00	-5.39E-01		7.52E-01
	CM-245	99.52		21.10	-4.65E-02	2.23E-01	3.59E-01
		103.73		33.60	-6.35E-02		2.23E-01
		116.93		12.20	-5.86E-01		6.14E-01
		174.94		9.50	-4.28E-01		1.00E+00

Analysis Report for RCF19956

J172J0 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

+ = 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 J Traversa / [signature] / 6-25-08
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-220 | Page 1 of 1

Collector
B Lawrence, E. Harries

Project Designation
618-7 Burial Ground - Soil

Ice Chest No.

Shipped To
Radiological Counting Facility

Company Contact
Joan Kessner

Telephone No.
509-375-4688

Sampling Location
618-7 Burial Ground - Floor

Field Logbook No.
EL-1395-13

COA
RG61872600

Offsite Property No.
NA

Project Coordinator
KESSNER, JH

SAF No.
RC-087

Price Code
2A

Data Turnaround
24 Hours

Method of Shipment
GOVERNMENT VEHICLE

Bill of Lading/Air Bill No.
NA

POSSIBLE SAMPLE HAZARDS/REMARKS
Potential Radiological and Beryllium contamination

Special Handling and/or Storage
None

Preservation	None
Type of Container	Snap Vial
No. of Container(s)	1
Volume	80g

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	RCF GEA Shipping Screen		RCF								LOCATION	
J172J0	SOIL	6/24/08	0640	x		19956							JRD 6-24-08		
J172J1	SOIL	6/24/08	0650	x		19957							F-010	~~E-011B~~	1
J172J2	SOIL	6/24/08	0700	x		19958							E-011B	~~D-011B~~	2
~~J172J3~~	~~SOIL~~	RK 6/24/08											E-012B	~~D-012B~~	3

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Blawrence	0715 6-24-08	JRD Bvigne JRD	0715 6-24-08
JRD Bvigne JRD	1030 6-24-08	K. Eliason / Kwin	6-24-08 1030

Sign/Print Names

SPECIAL INSTRUCTIONS
None

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	Disposed By	Date/Time

CH-EE-011

Analysis Report for RCF19958

J172J2 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19958
Sample Description	: J172J2 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.500E+01 grams
Facility	: Default
Sample Taken On	: 6/24/2008 7:00:00AM
Acquisition Started	: 6/24/2008 12:17:14PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3634.1 seconds
Dead Time	: 0.94 %
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	: 50g Pill Box 1-10-2008
Sample Number	: 20201

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.989	1.43E+01	2.95E+00	
PB-212		0.709	7.29E-01	1.61E-01	
RA-226d		0.670	4.87E-01	1.39E-01	
TH-232d		0.677	5.23E-01	1.50E-01	
U-235		0.547	4.07E-01	1.66E-01	
U-238d	@	1.000	5.58E+00	1.41E+00	

Analysis Report for RCF19958

J172J2 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

? = 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 : 6/24/2008 1:17:53PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
12	1126.78 U 238 d Line	3.15E-03	42.26

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	1.43E+01	2.77E+00	2.77E+00
	CO-60	1173.24		99.90	-3.77E-02	2.39E-01	2.93E-01
		1332.50		99.98	2.66E-02		2.39E-01
	NB-94	702.63		99.81	8.89E-02	2.08E-01	2.21E-01
		871.10		99.89	-6.73E-03		2.08E-01
	AG-108m	433.94		90.50	-6.22E-02	1.69E-01	1.69E-01
		614.28		89.80	-1.79E-01		2.91E-01
		722.94		90.80	5.66E-02		2.41E-01
	CS-137	661.66		85.21	1.08E-01	2.36E-01	2.36E-01
	EU-152	40.12		38.40	-1.53E-01	3.11E-01	3.11E-01
		45.38		11.10	2.79E-01		9.71E-01
		121.78		28.40	-9.01E-02		3.43E-01
		244.69		7.51	-1.33E+00		1.76E+00
		344.29		26.60	-6.14E-01		5.40E-01
		411.12		2.23	-9.04E-01		7.12E+00
		443.89		2.80	2.39E+00		5.88E+00
		778.92		12.98	-3.23E-01		1.46E+00

Analysis Report for RCF19958

J172J2 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		867.38		4.21	2.23E+00		5.06E+00
		964.11		14.50	1.41E+00		1.99E+00
		1085.89		9.94	3.82E-01		2.38E+00
		1089.71		1.71	-3.64E+00		1.36E+01
		1112.07		13.60	4.94E-01		1.97E+00
		1212.93		1.40	6.06E+00		2.31E+01
		1299.16		1.63	-5.67E+00		1.71E+01
		1408.00		20.80	-2.86E-01		1.15E+00
	EU-154	123.10		40.50	1.12E-01	2.48E-01	2.48E-01
		723.36		19.70	1.92E-01		1.12E+00
		873.23		11.45	8.94E-01		1.92E+00
		1004.78		17.90	4.89E-01		1.60E+00
		1274.54		35.50	-4.64E-01		7.33E-01
	EU-155	86.54		34.00	-1.33E-01	3.37E-01	3.37E-01
		105.31		20.60	-2.36E-01		4.39E-01
+	PB-212	74.81	*	10.50	6.51E-01	3.82E-01	6.83E-01
		77.11	*	17.70	7.62E-01		3.82E-01
		87.19		6.27	-3.34E-01		1.87E+00
+	RA-226d	186.11	*	3.28	7.06E+00	2.69E-01	4.04E+00
		241.92		7.46	-9.16E-01		2.52E+00
		295.09	*	19.20	3.32E-01		5.73E-01
		351.87	*	37.10	5.61E-01		2.69E-01
		609.31	*	46.10	4.60E-01		3.13E-01
		1120.27		15.00	-6.70E-01		2.03E+00
		1764.49		15.90	6.25E-01		2.10E+00
+	TH-232d	238.58	*	43.60	4.98E-01	2.78E-01	2.78E-01
		338.42		12.40	-3.46E-02		1.18E+00
		583.02	*	30.87	5.51E-01		4.92E-01
		911.16	*	29.00	5.79E-01		5.02E-01
		968.97		17.40	2.63E-01		1.68E+00
+	U-235	143.79		10.50	5.97E-01	2.50E-01	1.06E+00
		163.38		4.70	2.69E+00		2.55E+00
		185.74	*	53.00	4.37E-01		2.50E-01
		205.33		4.70	7.56E-01		2.61E+00
+	U-238d	63.29	*	3.80	5.58E+00	1.82E+00	1.89E+00
		92.56	*	5.41	5.66E+00		1.82E+00
	AM-241	59.54		35.70	1.59E-02	3.14E-01	3.14E-01
	CM-243	99.52		14.40	1.34E-01	4.05E-01	6.82E-01
		103.73		23.00	1.20E-02		4.05E-01
		116.93		8.32	9.82E-03		1.15E+00
		228.19		10.56	8.28E-01		1.21E+00
		277.60		14.00	-3.94E-01		9.51E-01
	CM-245	99.52		21.10	9.15E-02	2.77E-01	4.65E-01
		103.73		33.60	8.21E-03		2.77E-01
		116.93		12.20	6.70E-03		7.82E-01
		174.94		9.50	1.44E-01		1.15E+00

Analysis Report for RCF19958

J172J2 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

+ = 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 J Travers / [signature] / 6-25-08
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-220 | Page 1 of 1

Collector	B Lawrence, E. Harries
Project Designation	618-7 Burial Ground - Soil
Ice Chest No.	
Shipped To	Radiological Counting Facility
Company Contact	Joan Kessner
Telephone No.	509-375-4688
Sampling Location	618-7 Burial Ground - Floor
Field Logbook No.	EL 1395-13
COA	RG61872600
Offsite Property No.	NA
Project Coordinator	KESSNER, JH
SAF No.	RC-087
Price Code	2A
Data Turnaround	24 Hours
Method of Shipment	GOVERNMENT VEHICLE
Bill of Lading/Air Bill No.	NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None
Type of Container	Snap Vial
No. of Container(s)	1
Volume	80g

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	RCF GEA Shipping Screen	RCF								
J172J0	SOIL	6/24/08	0640	x	19956								
J172J1	SOIL	6/24/08	0650	x	19957								
J172J2	SOIL	6/24/08	0700	x	19958								
~~J172J3~~	~~SOIL~~	~~6/24/08~~											

	JRD 6-24-08	
F-010	~~E-011B~~	1
E-011B	~~D-011B~~	2
E-012B	~~D-012B~~	3

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Lawrence	0715 6-24-08	JRD Bwigne JR D. Bwigne	0715 6-24-08
JRD Bwigne JR D. Bwigne	1030 6-24-08	K. Eliason / Kwier	6-24-08 1030

Sign/Print Names

SPECIAL INSTRUCTIONS

None

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	Disposed By	Date/Time

'CH-EE-011

Analysis Report for RCF19957

J172J1 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19957
Sample Description	: J172J1 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.100E+01 grams
Facility	: Default
Sample Taken On	: 6/24/2008 6:50:00AM
Acquisition Started	: 6/24/2008 11:04:45AM
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	: 0.01 %
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	: 20199

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.07E+01	2.66E+00	
RA-226d		0.415	3.88E-01	1.40E-01	
TH-232d		0.438	5.19E-01	1.75E-01	
U-235		0.546	2.93E-01	1.65E-01	
U-238d	@	0.997	4.36E+00	1.32E+00	

Analysis Report for RCF19957

J172J1 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

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

UNIDENTIFIED PEAKS

Peak Locate Performed on : 6/24/2008 12:04:56PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty

All peaks were identified.

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	1.07E+01	1.79E+00	1.79E+00
	CO-60	1173.24		99.90	-3.49E-02	1.67E-01	2.33E-01
		1332.50		99.98	1.48E-02		1.67E-01
	NB-94	702.63		99.81	1.14E-02	1.37E-01	1.37E-01
		871.10		99.89	1.19E-02		1.56E-01
	AG-108m	433.94		90.50	-6.57E-02	9.79E-02	9.79E-02
		614.28		89.80	-1.45E-01		1.71E-01
		722.94		90.80	2.95E-03		1.73E-01
	CS-137	661.66		85.21	-4.72E-02	1.73E-01	1.73E-01
	EU-152	40.12		38.40	1.29E-01	1.38E-01	1.38E-01
		45.38		11.10	-7.07E-03		3.32E-01
		121.78		28.40	-2.78E-02		1.59E-01
		244.69		7.51	3.49E-01		1.03E+00
		344.29		26.60	-8.19E-02		3.13E-01
		411.12		2.23	2.94E+00		4.98E+00
		443.89		2.80	-2.80E+00		3.46E+00
		778.92		12.98	-2.33E-01		1.08E+00
		867.38		4.21	2.39E+00		4.03E+00
		964.11		14.50	7.66E-01		1.64E+00
		1085.89		9.94	-1.20E+00		1.92E+00

Analysis Report for RCF19957

J172J1 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1089.71		1.71	-2.53E-02		1.15E+01
		1112.07		13.60	-1.02E+00		1.60E+00
		1212.93		1.40	3.86E+00		1.92E+01
		1299.16		1.63	2.74E+00		1.06E+01
		1408.00		20.80	6.07E-01		1.19E+00
	EU-154	123.10		40.50	4.48E-02	1.30E-01	1.30E-01
		723.36		19.70	2.41E-01		8.25E-01
		873.23		11.45	-9.78E-01		1.25E+00
		1004.78		17.90	4.98E-01		1.40E+00
		1274.54		35.50	-1.66E-01		7.58E-01
	EU-155	86.54		34.00	-1.59E-01	1.61E-01	1.61E-01
		105.31		20.60	5.06E-02		2.05E-01
	PB-212	74.81		10.50	6.34E-01	3.76E-01	5.51E-01
		77.11		17.70	6.32E-01		3.76E-01
		87.19		6.27	9.37E-01		9.09E-01
+	RA-226d	186.11	*	3.28	5.13E+00	2.36E-01	2.32E+00
		241.92		7.46	6.24E-01		1.20E+00
		295.09		19.20	6.61E-01		6.11E-01
		351.87	*	37.10	4.41E-01		3.08E-01
		609.31	*	46.10	3.55E-01		2.36E-01
		1120.27		15.00	9.24E-01		1.71E+00
		1764.49		15.90	2.64E-01		2.02E+00
+	TH-232d	238.58	*	43.60	4.69E-01	2.68E-01	2.68E-01
		338.42		12.40	6.04E-01		8.66E-01
		583.02	*	30.87	5.90E-01		3.53E-01
		911.16		29.00	1.27E-01		8.19E-01
		968.97		17.40	5.40E-01		1.28E+00
+	U-235	143.79		10.50	1.34E-01	1.43E-01	6.28E-01
		163.38		4.70	6.42E-02		1.40E+00
		185.74	*	53.00	3.17E-01		1.43E-01
		205.33		4.70	-9.73E-01		1.37E+00
+	U-238d	63.29	*	3.80	4.36E+00	1.23E+00	1.81E+00
		92.56	*	5.41	3.54E+00		1.23E+00
	AM-241	59.54		35.70	-6.61E-02	8.69E-02	8.69E-02
	CM-243	99.52		14.40	1.43E-01	1.81E-01	3.07E-01
		103.73		23.00	-2.25E-02		1.81E-01
		116.93		8.32	3.09E-01		5.43E-01
		228.19		10.56	-2.16E-01		6.56E-01
		277.60		14.00	-6.51E-01		6.02E-01
	CM-245	99.52		21.10	9.74E-02	1.24E-01	2.09E-01
		103.73		33.60	-1.54E-02		1.24E-01
		116.93		12.20	2.10E-01		3.70E-01
		174.94		9.50	2.21E-01		7.08E-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

Analysis Report for RCF19957

J172J1 SAF-RC-087 FF2/618-7 BURIAL GROUND FLOOR

Reviewed and Approved:

Edward J Travers / [signature] / 6-25-08

(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19971

J172J3 SAF:RC-087 FF2/618-7 BURIAL GROUND FLOOR

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19971
Sample Description	: J172J3 SAF:RC-087 FF2/618-7 BURIAL GROUND FLOOR
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.600E+01 grams
Facility	: Default
Sample Taken On	: 6/25/2008 6:30:00AM
Acquisition Started	: 6/25/2008 7:55:29AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.7 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	: 20257

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.994	1.01E+01	3.19E+00	
PB-212		0.707	6.85E-01	2.14E-01	
RA-226d		0.771	5.72E-01	1.51E-01	
TH-232d		0.998	6.55E-01	1.63E-01	
U-235		0.999	2.40E+00	4.82E-01	
U-238d	@	0.999	3.97E+01	4.82E+00	

Analysis Report for RCF19971

J172J3 SAF:RC-087 FF2/618-7 BURIAL GROUND FLOOR

? = 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 : 6/25/2008 8:55:34AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
	4	84.12 - Th231	2.03E-02	56.94
M	5	89.89 - U235	2.24E-02	19.27
	7	98.50 - U238d	3.86E-02	22.56
	8	112.82 - U238d	1.50E-02	58.20
	21	1001.22 - U238d	1.69E-02	17.28

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	1.01E+01	2.46E+00	2.46E+00
	CO-60	1173.24		99.90	4.29E-02	2.07E-01	2.31E-01
		1332.50		99.98	-1.13E-02		2.07E-01
	NB-94	702.63		99.81	2.63E-05	1.70E-01	1.70E-01
		871.10		99.89	-2.09E-02		1.84E-01
	AG-108m	433.94		90.50	6.49E-03	1.36E-01	1.36E-01
		614.28		89.80	2.44E-02		2.16E-01
		722.94		90.80	4.07E-02		2.03E-01
	CS-137	661.66		85.21	-6.36E-02	1.85E-01	1.85E-01
	EU-152	40.12		38.40	-1.15E-01	3.20E-01	3.69E-01
		45.38		11.10	3.83E-01		1.19E+00
		121.78		28.40	-1.49E-01		3.20E-01
		244.69		7.51	-1.23E+00		1.32E+00
		344.29		26.60	1.37E-01		4.26E-01

Analysis Report for RCF19971

J172J3 SAF:RC-087 FF2/618-7 BURIAL GROUND FLOOR

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		411.12		2.23	1.63E-01		5.08E+00
		443.89		2.80	-4.92E-01		4.43E+00
		778.92		12.98	3.38E-02		1.33E+00
		867.38		4.21	-2.07E+00		4.15E+00
		964.11		14.50	-7.69E-02		1.67E+00
		1085.89		9.94	-1.69E+00		2.06E+00
		1089.71		1.71	3.90E+00		1.41E+01
		1112.07		13.60	-1.55E+00		1.72E+00
		1212.93		1.40	-2.82E-01		1.68E+01
		1299.16		1.63	3.90E+00		1.32E+01
		1408.00		20.80	-5.81E-01		9.76E-01
	EU-154	123.10		40.50	-6.09E-03	2.24E-01	2.24E-01
		723.36		19.70	1.88E-01		9.37E-01
		873.23		11.45	5.70E-01		1.64E+00
		1004.78		17.90	-5.49E-01		1.84E+00
		1274.54		35.50	-1.99E-01		6.54E-01
	EU-155	86.54		34.00	9.76E-02	4.28E-01	4.28E-01
		105.31		20.60	-2.51E-01		4.83E-01
+	PB-212	74.81	*	10.50	7.30E-01	5.50E-01	9.08E-01
		77.11	*	17.70	6.66E-01		5.50E-01
		87.19		6.27	5.29E-01		2.36E+00
+	RA-226d	186.11	*	3.28	4.15E+01	2.77E-01	3.70E+00
		241.92		7.46	2.60E-01		2.02E+00
		295.09	*	19.20	7.18E-01		4.49E-01
		351.87	*	37.10	4.68E-01		3.21E-01
		609.31	*	46.10	5.80E-01		2.77E-01
		1120.27		15.00	8.93E-01		1.70E+00
		1764.49	*	15.90	1.02E+00		9.45E-01
+	TH-232d	238.58	*	43.60	5.25E-01	2.84E-01	2.84E-01
		338.42	*	12.40	5.49E-01		7.25E-01
		583.02	*	30.87	7.78E-01		4.38E-01
		911.16	*	29.00	7.95E-01		6.06E-01
		968.97	*	17.40	8.78E-01		8.41E-01
+	U-235	143.79	*	10.50	2.04E+00	2.29E-01	9.82E-01
		163.38	*	4.70	3.50E+00		1.84E+00
		185.74	*	53.00	2.57E+00		2.29E-01
		205.33	*	4.70	2.08E+00		2.22E+00
+	U-238d	63.29	*	3.80	3.97E+01	2.05E+00	3.65E+00
		92.56	*	5.41	3.65E+01		2.05E+00
	AM-241	59.54		35.70	-1.77E-01	3.32E-01	3.32E-01
	CM-243	99.52		14.40	-5.77E-02	4.27E-01	8.11E-01
		103.73		23.00	-1.44E-01		4.27E-01
		116.93		8.32	-4.24E-01		1.16E+00
		228.19		10.56	-1.94E-01		9.29E-01
		277.60		14.00	3.88E-01		6.92E-01
	CM-245	99.52		21.10	-3.94E-02	2.92E-01	5.53E-01
		103.73		33.60	-9.89E-02		2.92E-01
		116.93		12.20	-2.89E-01		7.89E-01

Analysis Report for RCF19971

J172J3 SAF:RC-087 FF2/618-7 BURIAL GROUND FLOOR

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	174.94	9.50	-7.24E-01		9.34E-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:

John Stephens 6-25-08
(print/sign/date)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 6 26 08 0755 GM Screen Result 0.1K

Client: WCH SDG #: J00183 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8F260127 Chain of Custody # RC-087-225

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

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 34
7. Sample holding times exceeded? QW 6/26/08 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: RJR Date: 6 26 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____