0077895

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

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 5/19/08 Initials/Date
Kathy Wendt	H4-21	KW 5/19/08 Initials/Date

COMMENTS:

SDG J00170 **SAF-RC-087**

Rad only X Chem only Rad & Chem

X Complete Partial

WASTE SITE: 618-7 Burial Ground/Stockpiles

RECEIVED
JUN 11 2008
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
MAY 2008

Analysis Provided By

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

SDG Number: J00170

TestAmerica

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

May 14, 2008

Attention: Joan Kessner

SAF Number	:	RC-087
Date SDG Closed	:	April 30, 2008
Number of Samples	:	Fourteen (14)
Sample Type	:	Soil
SDG Number	:	J00170
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

Between April 23, 2008 and April 29, 2008 fourteen soil samples 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
J16MD4	KLVNR	SOIL	4/23/08
J16MD5	KLVNT	SOIL	4/23/08
J16MC9	KLVNX	SOIL	4/23/08
J16MD0	KLVN0	SOIL	4/23/08
J16MD1	KLVN3	SOIL	4/23/08
J16MD2	KLVN7	SOIL	4/23/08
J16MD3	KLVPA	SOIL	4/23/08
J16MD6	KL67K	SOIL	4/29/08
J16MD7	KL67M	SOIL	4/29/08
J16MD8	KL67N	SOIL	4/29/08
J16MD9	KL67P	SOIL	4/29/08
J16MF0	KL67R	SOIL	4/29/08
J16MF1	KL67V	SOIL	4/29/08
J16MF2	KL671	SOIL	4/29/08

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-846 601

IV. Quality Control

SDG J00170 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
Two batches were analyzed in April 2008 for samples with the standard metal request list with add ons aluminum, beryllium, copper, iron, zinc and zirconium.

Batch 8114551:
Due instrument failure the batched had to be reanalyzed. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

Batch 8120272:
Iron in both the ICV and CCV recovered high. Suspect iron contamination in the system due to high level iron samples. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB 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

SDG Number: J00170
SAF Number: RC-087
Batch Number: 8114551

AMENDED DATA

Corrected Sample ID
SKS 4/29/08

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
KLWLC1AA-BLK		1.000	0.036	0.000	0.000	0.000	0.0001	0.001	-0.011	-0.059	0.0023	0.003	0.001	0.004
KLWLC1AJ-LCS		1.000	0.955	0.945	0.973	1.066	0.9643	0.981	0.957	1.026	0.9611	0.931	0.945	0.995
LCS Recovery %			95.470%	94.490%	97.250%	106.600%	96.430%	98.100%	95.690%	102.600%	96.110%	93.080%	94.490%	99.460%
		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
KLVN01AA	J16MD0	0.5445	5702.479	1.194	70.193	0.247934	3.627181	35.519	15.253	27621.671	21.04683	<MDL	<MDL	87.668
KLVN01A1-DUP	J16MD0-DUP	0.5198	5618.507	0.779	66.266	0.240	5.059638	26.712	15.189	21296.653	21.6718	<MDL	<MDL	85.812
KLVN31AA	J16MD1	0.5258	6829.593	0.827	87.486	0.209	3.413846	75.827	56.153	32065.424	31.19057	<MDL	<MDL	192.944
KLVN71AA	J16MD2	0.4909	6259.931	1.110	68.751	0.234	3.289876	55.052	15.034	23212.467	19.57629	<MDL	<MDL	182.216
KLVPA1AA	J16MD3	0.5469	5130.737	6.701	164.655	0.229	6.737978	80.225	38.206	64609.618	26.86963	<MDL	<MDL	161.638
KLVNR1AA	J16MD4	0.5182	11810.112	1.525	67.252	0.289	2.605172	145.986	25.232	22414.126	521.8063	<MDL	<MDL	186.800
KLVNT1AA	J16MD5	0.5173	8739.610	1.131	67.794	0.213	3.585927	68.394	26.049	33868.162	285.1344	<MDL	<MDL	287.261
KLVNX1AA	J16MC9	0.5234	6894.345	1.586	67.998	0.220	2.588842	141.765	21.953	24016.049	112.5334	<MDL	<MDL	160.011
KLVN01AJ-MS	J16MD0-MS	0.5358	N/A	90.575	181.224	97.144	88.68981	184.770	115.808	N/A	171.7992	80.795	82.671	167.133
% Recovery				89.381	111.031	96.897	85.063	149.252	100.556		150.752	80.795	82.671	79.466
KLVN01AK-MSD	J16MD0-MSD	0.4987	N/A	99.108	207.840	104.472	94.86665	138.059	110.387	N/A	114.7985	87.769	89.964	176.258
% Recovery				97.914	137.648	104.224	91.239	102.540	95.134		93.752	87.769	89.964	88.591

SDG Number: J00170
SAF Number: RC-087
Batch Number: 8120272

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
J8D290000-272-B		1.000	0.000	-0.006	0.000	0.000	0.0002	0.000	-0.001	0.004	0.0111	0.000	0.000	0.004
J8D290000-272-C		1.000	0.954	0.958	1.001	1.009	0.9263	1.015	0.938	1.090	0.9458	0.797	0.933	0.912
LCS Recovery %			95.430%	95.810%	100.100%	100.900%	92.630%	101.500%	93.770%	109.000%	94.580%	79.717%	93.320%	91.220%
		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
J8D290131-005	J16MF0'	0.5445	4963.269	<MDL	54.582	0.146924	2.865014	13.168	7.594	21193.756	13.43434	<MDL	<MDL	59.146
J8D290131-005-X	J16MF0 DUP'	0.5198	5092.343	<MDL	56.560	0.144	3.116583	13.255	8.003	22903.040	59.52289	<MDL	<MDL	64.265
J8D290131-006	J16MF1'	0.5258	11553.823	<MDL	74.515	0.209	4.003423	59.129	14.426	26588.056	106.8847	<MDL	<MDL	93.115
J8D290131-007	J16MF2'	0.4909	7356.895	<MDL	80.882	0.224	3.707476	25.321	12.141	27266.246	12.11041	<MDL	<MDL	90.273
J8D290131-001	J16MD6'	0.5469	4428.598	<MDL	61.446	0.137	2.505028	8.941	5.120	18412.873	3.254708	<MDL	<MDL	30.591
J8D290131-002	J16MD7'	0.5182	5809.533	<MDL	67.860	0.174	3.348128	17.455	16.393	24343.883	6.522578	<MDL	<MDL	50.984
J8D290131-003	J16MD8'	0.5173	6053.547	<MDL	73.806	0.222	3.798569	42.702	10.613	23661.318	10.51614	<MDL	<MDL	118.017
J8D290131-004	J16MD9'	0.5234	5449.943	<MDL	75.019	0.134	3.1047	16.431	10.546	22420.711	11.89339	<MDL	<MDL	60.021
J8D290131-005-S	J16MF0'	0.5358	N/A	86.683	157.055	90.043	83.83725	107.689	88.513	N/A	145.95	69.621	79.731	136.432
% Recovery				86.683	102.473	89.896	80.972	94.521	80.918		132.516	69.621	79.731	77.285
J8D290131-005-D	J16MF0'	0.4987	N/A	92.541	178.865	96.822	90.41508	114.598	95.779	N/A	100.9625	74.381	85.853	150.090
% Recovery				92.541	124.283	96.675	87.550	101.430	88.185		87.528	74.381	85.853	90.944

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-109

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/Stockpiles		**SAF No.** RC-087
Ice Chest No. ERC-97-079	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle
Shipped To TestAmerica Incorporated, Richland	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Price Code 2B

Data Turnaround 24 Hours

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

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

Sample No.	Matrix *	Sample Date	Sample Time										
~~J16MD3~~	~~SOIL~~												
J16MD4 KLVNR	SOIL	4-22-08	0750	X									
J16MD5 KLVNT	SOIL	4-22-08	0800	X									

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E Harries / E. Harries	0850 4/22/08	R Coffman / R Coffman	0850 4/22/08
R Coffman / R Coffman	0930 4/22/08	REFER # 1A, 1060 3LDG	0930 4/22/08
1060/1A 4/23/08	1030	MStankovich 4/23/08	1030
WCH MStankovich 4/23/08	1320	RC LWLANE TAL 42308	1320

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}

J8D230281
J00170
DUE 42408

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-108 | 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/Stockpiles		**SAF No.** RC-087
Ice Chest No. ERC-97-079	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle
Shipped To TestAmerica Incorporated, Richland	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Price Code 2B

Data Turnaround 24 Hours

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None										
Type of Container	~~P~~ AG	RK 4-21-08									
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.							TIE TU			

Sample No.	Matrix *	Sample Date	Sample Time										
J16MC9 KLVNX	SOIL	4-21-08	0820	X									
J16MD0 KLVNO	SOIL	4-21-08	0830	X							J16M89		
J16MD1 KLVN3	SOIL	4-21-08	0840	X							J16M90		
J16MD2 KLVN7	SOIL	4-21-08	0850	X							J16M91		
J16MD3 KLVPA	SOIL	4-21-08	0900	X							J16M92		
											J16M93		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	0922 4/21/08	RB Kerkin / RB Kerkin	0922 4/21/08
RB Kerkin / RB Kerkin	1140 4/21/08	REF IB (1060)	1140 4/21/08
1060/IB 4/23/08	1030	M Stankovich	1030 4/23/08
M Stankovich WCH	4/23/08 1320	WLANE TAL	1322 4/23/08

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}

J8D230281
J00170
DUE 42408

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

Radiological Counting Facility

Analysis Report for RCF19485

J16M89 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19485
Sample Description	: J16M89 SAF:RC-087 FF2/618-7 Burial ground Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.600E+01 grams
Facility	: Default
Sample Taken On	: 4/21/2008 8:20:00AM
Acquisition Started	: 4/21/2008 1:09:53PM
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	: 18765

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.997	9.04E+00	2.99E+00	
PB-212		0.707	8.06E-01	1.60E-01	
TH-232d		0.851	5.02E-01	1.52E-01	
U-235		0.549	1.12E-01	1.05E-01	
U-238d	@	1.000	1.37E+00	1.54E+00	

Analysis Report for RCF19485

J16M89 SAF:RC-087 FF2/618-7 Burial ground 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 : 4/21/2008 2:09:58PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
7	295.19	Pb-214	7.60E-03	45.98
9	351.89	Pb-214	1.13E-02	36.74

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	9.04E+00	2.53E+00	2.53E+00
	CO-60	1173.24		99.90	-7.40E-02	1.90E-01	2.13E-01
		1332.50		99.98	-8.07E-03		1.90E-01
	NB-94	702.63		99.81	9.92E-02	1.58E-01	1.84E-01
		871.10		99.89	-8.98E-02		1.58E-01
	AG-108m	433.94		90.50	-7.97E-02	1.16E-01	1.16E-01
		614.28		89.80	-5.62E-02		1.89E-01
		722.94		90.80	-6.75E-03		1.83E-01
	CS-137	661.66		85.21	8.08E-02	1.78E-01	1.78E-01
	EU-152	40.12		38.40	9.43E-02	2.33E-01	2.45E-01
		45.38		11.10	4.44E-01		8.20E-01
		121.78		28.40	2.51E-02		2.33E-01
		244.69		7.51	1.14E-01		1.28E+00
		344.29		26.60	-8.65E-02		3.70E-01
		411.12		2.23	-7.38E-01		4.66E+00
		443.89		2.80	-1.61E+00		3.90E+00
		778.92		12.98	-1.85E-01		1.34E+00
		867.38		4.21	-4.83E+00		3.84E+00

Analysis Report for RCF19485

J16M89 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	6.07E-01		1.42E+00
		1085.89		9.94	-6.99E-02		1.88E+00
		1089.71		1.71	-3.20E+00		1.13E+01
		1112.07		13.60	-8.66E-01		1.64E+00
		1212.93		1.40	1.92E+00		1.78E+01
		1299.16		1.63	3.49E-01		1.17E+01
		1408.00		20.80	1.69E-01		8.35E-01
	EU-154	123.10		40.50	2.92E-02	1.64E-01	1.64E-01
		723.36		19.70	-3.11E-02		8.43E-01
		873.23		11.45	-5.27E-01		1.44E+00
		1004.78		17.90	-1.16E-01		1.16E+00
		1274.54		35.50	1.06E-01		6.81E-01
	EU-155	86.54		34.00	1.61E-01	2.64E-01	2.64E-01
		105.31		20.60	3.18E-01		3.29E-01
+	PB-212	74.81	*	10.50	6.33E-01	3.86E-01	6.29E-01
		77.11	*	17.70	9.16E-01		3.86E-01
		87.19		6.27	1.77E+00		1.47E+00
	RA-226d	186.11		3.28	1.17E+00	3.60E-01	2.83E+00
		241.92		7.46	2.70E-01		1.87E+00
		295.09		19.20	4.81E-01		5.79E-01
		351.87		37.10	4.46E-01		3.60E-01
		609.31		46.10	2.53E-01		4.25E-01
		1120.27		15.00	1.21E-01		1.62E+00
		1764.49		15.90	1.11E+00		1.39E+00
+	TH-232d	238.58	*	43.60	4.47E-01	2.87E-01	2.87E-01
		338.42	*	12.40	6.49E-01		7.64E-01
		583.02	*	30.87	3.99E-01		3.82E-01
		911.16	*	29.00	8.21E-01		5.19E-01
		968.97		17.40	3.20E-02		1.12E+00
+	U-235	143.79		10.50	1.26E-02	1.63E-01	6.98E-01
		163.38		4.70	1.54E-01		1.48E+00
		185.74	*	53.00	1.12E-01		1.63E-01
		205.33		4.70	-1.31E+00		1.58E+00
+	U-238d	63.29	*	3.80	1.37E+00	1.43E+00	2.52E+00
		92.56	*	5.41	2.04E+00		1.43E+00
	AM-241	59.54		35.70	8.59E-02	2.01E-01	2.01E-01
	CM-243	99.52		14.40	4.86E-02	2.89E-01	4.65E-01
		103.73		23.00	-7.42E-03		2.89E-01
		116.93		8.32	-2.84E-01		7.46E-01
		228.19		10.56	-5.58E-01		8.04E-01
		277.60		14.00	1.82E-01		6.59E-01
	CM-245	99.52		21.10	3.32E-02	1.98E-01	3.17E-01
		103.73		33.60	-5.08E-03		1.98E-01
		116.93		12.20	-1.94E-01		5.09E-01
		174.94		9.50	1.91E-01		7.93E-01

Analysis Report for RCF19485

J16M89 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

+ = 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

APR 22 2008 (print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-098

Collector B Lawrence, E. Harries	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688
Project Designation 618-7 Burial Ground - Soil	**Sampling Location** 618-7 Burial Ground/Stockpiles	
Ice Chest No.	**Field Logbook No.** EL-1395-12	**COA** RG61872600
Shipped To Radiological Counting Facility	**Offsite Property No.** NA	

Project Coordinator KESSNER, JH

SAF No. RC-087

Price Code

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

SAMPLE ANALYSIS

Preservation	None											
Type of Container	P											
No. of Container(s)	1											
Volume	60mL											
	RCF GEA Shipping Screen			RCF								
Sample No. / Matrix * / Sample Date / Sample Time												
J16M89 / SOIL / 4-21-08 / 0820	X		19485									
J16M90 / SOIL / 4-21-08 / 0830	X		19486									J001
J16M91 / SOIL / 4-21-08 / 0840	X		19487									J002
J16M92 / SOIL / 4-21-08 / 0850	X		19488									J003
J16M93 / SOIL / 4-21-08 / 0900	X		19489									J004
												J005

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/21/08 0922	RB Kerkow / RB Kerkow	4/21/08 0922
RB Kerkow / RB Kerkow	4/21/08 0940	RCF M. Kelrook / M. Kelrook	4-21-08 0940

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
Ve=Vegetation
X=Other

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

WCH-EE-011

RCF 19485

Radiological Counting Facility

Analysis Report for RCF19486

J16M90 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19486
Sample Description	: J16M90 SAF:RC-087 FF2/618-7 Burial ground Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.200E+01 grams
Facility	: Default
Sample Taken On	: 4/21/2008 8:30:00AM
Acquisition Started	: 4/21/2008 2:11:59PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml 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	: 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	: 18767

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.58E+01	3.77E+00	
CS-137		0.999	1.50E-01	1.36E-01	
TH-232d		0.826	6.20E-01	2.10E-01	
U-235		0.901	1.68E+00	2.62E-01	
U-238d	@	1.000	1.91E+01	3.06E+00	

Analysis Report for RCF19486

J16M90 SAF:RC-087 FF2/618-7 Burial ground 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 : 4/21/2008 3:12:06PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
2	77.24	Pb-212	1.87E-02	46.10
8	351.87	Pb-214	1.06E-02	35.66

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	1.58E+01	4.15E+00	4.15E+00
	CO-60	1173.24		99.90	-5.01E-02	3.17E-01	3.17E-01
		1332.50		99.98	-9.28E-02		3.18E-01
	NB-94	702.63		99.81	-3.16E-02	2.44E-01	2.44E-01
		871.10		99.89	1.64E-01		3.16E-01
	AG-108m	433.94		90.50	-1.37E-01	2.09E-01	2.09E-01
		614.28		89.80	-4.02E-01		2.94E-01
		722.94		90.80	8.41E-02		2.72E-01
+	CS-137	661.66	*	85.21	1.50E-01	2.13E-01	2.13E-01
	EU-152	40.12		38.40	3.83E-02	3.72E-01	3.76E-01
		45.38		11.10	1.26E+00		1.27E+00
		121.78		28.40	-1.22E-01		3.72E-01
		244.69		7.51	1.31E+00		2.31E+00
		344.29		26.60	-2.78E-01		6.68E-01
		411.12		2.23	-3.79E+00		8.89E+00
		443.89		2.80	6.74E+00		8.38E+00
		778.92		12.98	4.35E-01		1.88E+00
		867.38		4.21	-4.95E+00		7.46E+00

Analysis Report for RCF19486

J16M90 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	-6.84E-01		2.58E+00
		1085.89		9.94	-3.47E-01		3.29E+00
		1089.71		1.71	1.60E+00		2.11E+01
		1112.07		13.60	-1.93E-01		2.29E+00
		1212.93		1.40	-1.62E+00		2.41E+01
		1299.16		1.63	-6.99E-01		1.82E+01
		1408.00		20.80	-2.84E-01		1.50E+00
	EU-154	123.10		40.50	-3.29E-02	2.62E-01	2.62E-01
		723.36		19.70	3.88E-01		1.26E+00
		873.23		11.45	-9.13E-01		2.57E+00
		1004.78		17.90	1.48E+00		2.09E+00
		1274.54		35.50	-2.86E-01		8.04E-01
	EU-155	86.54		34.00	-3.15E-01	4.52E-01	4.52E-01
		105.31		20.60	-2.37E-01		5.39E-01
	PB-212	74.81		10.50	1.88E-01	9.76E-01	1.41E+00
		77.11		17.70	9.77E-01		9.76E-01
		87.19		6.27	-6.84E-01		2.53E+00
	RA-226d	186.11		3.28	3.16E+01	6.43E-01	8.41E+00
		241.92		7.46	1.97E+00		3.20E+00
		295.09		19.20	1.15E+00		1.06E+00
		351.87		37.10	7.52E-01		6.43E-01
		609.31		46.10	7.51E-01		7.06E-01
		1120.27		15.00	2.55E+00		2.58E+00
		1764.49		15.90	1.51E+00		2.40E+00
+	TH-232d	238.58	*	43.60	5.60E-01	4.26E-01	4.26E-01
		338.42		12.40	7.06E-01		1.58E+00
		583.02	*	30.87	6.55E-01		6.83E-01
		911.16	*	29.00	7.19E-01		9.67E-01
		968.97	*	17.40	7.70E-01		1.04E+00
+	U-235	143.79	*	10.50	6.92E-01	3.26E-01	1.25E+00
		163.38	*	4.70	2.57E+00		2.48E+00
		185.74	*	53.00	1.78E+00		3.26E-01
		205.33		4.70	-1.22E+00		3.14E+00
+	U-238d	63.29	*	3.80	1.91E+01	2.85E+00	3.70E+00
		92.56	*	5.41	1.79E+01		2.85E+00
	AM-241	59.54		35.70	-2.63E-02	3.30E-01	3.30E-01
	CM-243	99.52		14.40	6.02E-01	4.79E-01	8.20E-01
		103.73		23.00	-1.51E-01		4.79E-01
		116.93		8.32	-6.31E-01		1.41E+00
		228.19		10.56	-3.94E-01		1.41E+00
		277.60		14.00	4.72E-01		1.16E+00
	CM-245	99.52		21.10	4.11E-01	3.28E-01	5.60E-01
		103.73		33.60	-1.03E-01		3.28E-01
		116.93		12.20	-4.30E-01		9.60E-01
		174.94		9.50	3.17E-01		1.47E+00

Analysis Report for RCF19486

J16M90 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

+ = 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

APR 22 2008 Edward S Wallace
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-098 | 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/Stockpiles
Field Logbook No.	EL-1395-12
COA	RG61872600
Offsite Property No.	NA
Project Coordinator	KESSNER, JH
SAF No.	RC-087
Price Code	
Data Turnaroun	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	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	RCF GEA Shipping Screen			RCF							

Sample No.	Matrix *	Sample Date	Sample Time										
J16M89	SOIL	4-21-08	0820	X		19485							J001
J16M90	SOIL	4-21-08	0830	X		19486							J002
J16M91	SOIL	4-21-08	0840	X		19487							J003
J16M92	SOIL	4-21-08	0850	X		19488							J004
J16M93	SOIL	4-21-08	0900	X		19489							J005

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/21/08 0922	RB Kerkow / RB Kerkow	4/21/08 0922
RB Kerkow / RB Kerkow	4/21/08 0940	RCF / Mike Rook / Mike Rook	4-21-08 0940

Sign/Print Names

SPECIAL INSTRUCTIONS

None

COPY

Matrix *

SS=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

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

WCH-EE-011

RCF 19486

Radiological Counting Facility

Analysis Report for RCF19487

J16M91 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19487
Sample Description	: J16M91 SAF:RC-087 FF2/618-7 Burial ground Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.300E+01 grams
Facility	: Default
Sample Taken On	: 4/21/2008 8:40:00AM
Acquisition Started	: 4/22/2008 8:04:22AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml 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	: 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	: 18789

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40		0.997	1.66E+01	3.83E+00	
	CS-137		1.000	3.13E+00	3.83E-01	
X	EU-155		0.375			
	PB-212		1.000	2.62E+00	3.36E-01	
	TH-232d		0.997	3.18E+00	3.00E-01	
	U-235		0.999	3.41E+00	3.43E-01	
	U-238d	@	0.999	3.31E+01	4.09E+00	

Analysis Report for RCF19487

J16M91 SAF:RC-087 FF2/618-7 Burial ground 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 : 4/22/2008 9:04:30AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.22	Th-231	4.23E-02	11.60
m	6	89.94	Th-231	3.47E-02	12.18
m	13	241.12	No Peak	1.62E-02	17.19
	15	352.13	Pb-214	1.31E-02	30.89
	16	463.15	No Peak	1.10E-02	33.41

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	1.66E+01	4.18E+00	4.18E+00
	CO-60	1173.24		99.90	-5.78E-02	3.31E-01	3.41E-01
		1332.50		99.98	-1.53E-01		3.31E-01
	NB-94	702.63		99.81	-6.41E-02	2.95E-01	3.10E-01
		871.10		99.89	-1.61E-01		2.95E-01
	AG-108m	433.94		90.50	2.33E-03	2.67E-01	2.67E-01
		614.28		89.80	-1.42E-01		3.42E-01
		722.94		90.80	-1.25E-01		3.71E-01
+	CS-137	661.66	*	85.21	3.13E+00	3.16E-01	3.16E-01
	EU-152	40.12		38.40	-2.29E-01	4.58E-01	4.58E-01
		45.38		11.10	1.35E+00		1.52E+00
		121.78		28.40	1.54E-02		4.88E-01
		244.69		7.51	8.17E-01		2.74E+00
		344.29		26.60	-2.70E-01		7.92E-01

Analysis Report for RCF19487

J16M91 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		411.12		2.23	7.00E+00		1.06E+01
		443.89		2.80	2.79E+00		9.14E+00
		778.92		12.98	-1.44E+00		2.09E+00
		867.38		4.21	-3.50E+00		7.46E+00
		964.11		14.50	6.73E-01		3.67E+00
		1085.89		9.94	-2.84E+00		3.48E+00
		1089.71		1.71	-1.80E+01		1.98E+01
		1112.07		13.60	2.63E-01		2.35E+00
		1212.93		1.40	6.71E+00		2.61E+01
		1299.16		1.63	-5.00E+00		2.02E+01
		1408.00		20.80	-2.22E-01		1.51E+00
	EU-154	123.10		40.50	2.05E-02	3.47E-01	3.47E-01
		723.36		19.70	-5.77E-01		1.71E+00
		873.23		11.45	-8.86E-01		2.52E+00
		1004.78		17.90	1.58E+00		2.33E+00
		1274.54		35.50	2.78E-01		9.90E-01
	EU-155	86.54	*	34.00	4.68E-01	4.37E-01	4.37E-01
		105.31		20.60	-9.08E-01		7.05E-01
+	PB-212	74.81	*	10.50	2.33E+00	7.87E-01	1.39E+00
		77.11	*	17.70	2.82E+00		7.87E-01
		87.19	*	6.27	2.54E+00		2.37E+00
	RA-226d	186.11		3.28	5.66E+01	7.22E-01	1.11E+01
		241.92		7.46	3.85E-01		5.15E+00
		295.09		19.20	3.51E-01		1.14E+00
		351.87		37.10	6.96E-01		7.22E-01
		609.31		46.10	3.98E-01		7.23E-01
		1120.27		15.00	1.45E+00		2.58E+00
		1764.49		15.90	1.59E+00		2.77E+00
+	TH-232d	238.58	*	43.60	3.35E+00	3.84E-01	3.84E-01
		338.42	*	12.40	4.08E+00		1.62E+00
		583.02	*	30.87	2.92E+00		8.82E-01
		911.16	*	29.00	2.41E+00		1.05E+00
		968.97	*	17.40	3.21E+00		2.09E+00
+	U-235	143.79	*	10.50	2.97E+00	3.47E-01	1.48E+00
		163.38	*	4.70	5.48E+00		3.50E+00
		185.74	*	53.00	3.42E+00		3.47E-01
		205.33	*	4.70	3.09E+00		3.54E+00
+	U-238d	63.29	*	3.80	3.31E+01	2.85E+00	4.52E+00
		92.56	*	5.41	3.06E+01		2.85E+00
	AM-241	59.54		35.70	2.48E-01	4.26E-01	4.26E-01
	CM-243	99.52		14.40	9.55E-01	6.27E-01	1.15E+00
		103.73		23.00	-7.26E-01		6.27E-01
		116.93		8.32	-1.84E+00		1.64E+00
		228.19		10.56	1.06E+00		1.76E+00
		277.60		14.00	-2.97E-01		1.43E+00
	CM-245	99.52		21.10	6.52E-01	4.29E-01	7.84E-01
		103.73		33.60	-4.97E-01		4.29E-01
		116.93		12.20	-1.25E+00		1.12E+00

Analysis Report for RCF19487

J16M91 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	174.94	9.50	1.75E-01		1.86E+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 APR 22 2008 Edward S Wallace
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-098

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/Stockpiles		**SAF No.** RC-087
Ice Chest No.	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle
Shipped To Radiological Counting Facility	**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

SAMPLE ANALYSIS

			Preservation	None									
			Type of Container	P									
			No. of Container(s)	1									
			Volume	60mL									
				RCF GEA Shipping Screen									
						RCF							
Sample No.	**Matrix ***	**Sample Date**	**Sample Time**										
J16M89	SOIL	4-21-08	0820	X		19485							
J16M90	SOIL	4-21-08	0830	X		19486							J001
J16M91	SOIL	4-21-08	0840	X		19487							J002
J16M92	SOIL	4-21-08	0850	X		19488							J003
J16M93	SOIL	4-21-08	0900	X		19489							J004
													J005

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/21/08 0922	RB Kerkow / RB Kerkow	4/21/08 0922
RB Kerkow / RB Kerkow	4/21/08 0940	RCF / Mike Rook / Mike Rook	4-21-08 0940

Sign/Print Names

SPECIAL INSTRUCTIONS

None

COPY

Matrix *

SS=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
W/=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 19487

Radiological Counting Facility

Analysis Report for RCF19488

J16M92 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19488
Sample Description	: J16M92 SAF:RC-087 FF2/618-7 Burial ground Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.500E+01 grams
Facility	: Default
Sample Taken On	: 4/21/2008 8:50:00AM
Acquisition Started	: 4/22/2008 8:04:29AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3644.8 seconds
Dead Time	: 1.23 %
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	: 18790

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40		1.000	1.51E+01	2.83E+00	
X	EU-155		0.353			
	PB-212		0.999	1.00E+00	1.73E-01	
	RA-226d		0.677	4.63E-01	1.44E-01	
	TH-232d		0.998	5.96E-01	1.72E-01	
	U-235		0.795	6.22E-01	1.86E-01	
	U-238d	@	0.999	7.89E+00	1.72E+00	

Analysis Report for RCF19488

J16M92 SAF:RC-087 FF2/618-7 Burial ground 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 : 4/22/2008 9:05:18AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
14	727.14 Bi-212	3.61E-03	53.16

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	1.51E+01	2.42E+00	2.42E+00
	CO-60	1173.24		99.90	-5.48E-02	2.45E-01	2.60E-01
		1332.50		99.98	1.39E-01		2.45E-01
	NB-94	702.63		99.81	4.90E-03	1.75E-01	1.75E-01
		871.10		99.89	-9.91E-02		1.81E-01
	AG-108m	433.94		90.50	-7.06E-02	1.47E-01	1.47E-01
		614.28		89.80	-4.81E-02		2.64E-01
		722.94		90.80	3.99E-02		2.10E-01
	CS-137	661.66		85.21	7.90E-03	2.10E-01	2.10E-01
	EU-152	40.12		38.40	2.16E-01	2.57E-01	2.57E-01
		45.38		11.10	4.13E-03		8.84E-01
		121.78		28.40	-6.16E-02		3.17E-01
		244.69		7.51	-2.35E+00		1.57E+00
		344.29		26.60	-5.20E-04		5.11E-01
		411.12		2.23	3.16E+00		5.63E+00
		443.89		2.80	-1.03E-01		4.88E+00
		778.92		12.98	2.80E-02		1.38E+00

Analysis Report for RCF19488

J16M92 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		867.38		4.21	5.74E+00		5.23E+00
		964.11		14.50	3.44E-03		1.91E+00
		1085.89		9.94	-1.47E+00		2.42E+00
		1089.71		1.71	4.99E+00		1.41E+01
		1112.07		13.60	-2.27E+00		1.66E+00
		1212.93		1.40	-1.45E-01		1.85E+01
		1299.16		1.63	1.46E+00		1.34E+01
		1408.00		20.80	-4.30E-01		1.03E+00
	EU-154	123.10		40.50	-7.21E-02	2.23E-01	2.23E-01
		723.36		19.70	7.17E-01		9.84E-01
		873.23		11.45	-1.43E+00		1.48E+00
		1004.78		17.90	4.38E-01		1.33E+00
		1274.54		35.50	1.98E-01		6.73E-01
	EU-155	86.54	*	34.00	1.21E-01	2.06E-01	2.06E-01
		105.31		20.60	-1.19E-01		4.43E-01
+	PB-212	74.81	*	10.50	1.15E+00	3.79E-01	6.60E-01
		77.11	*	17.70	1.02E+00		3.79E-01
		87.19	*	6.27	6.55E-01		1.12E+00
+	RA-226d	186.11	*	3.28	1.11E+01	2.49E-01	2.64E+00
		241.92		7.46	-9.33E-01		2.25E+00
		295.09	*	19.20	5.58E-01		4.82E-01
		351.87	*	37.10	3.44E-01		2.49E-01
		609.31	*	46.10	5.84E-01		3.26E-01
		1120.27		15.00	1.22E+00		1.82E+00
		1764.49		15.90	1.17E+00		1.68E+00
+	TH-232d	238.58	*	43.60	5.61E-01	3.70E-01	3.70E-01
		338.42	*	12.40	4.27E-01		7.13E-01
		583.02	*	30.87	7.36E-01		4.38E-01
		911.16	*	29.00	5.34E-01		5.01E-01
		968.97	*	17.40	6.84E-01		1.02E+00
+	U-235	143.79	*	10.50	4.52E-01	1.63E-01	6.94E-01
		163.38		4.70	2.33E+00		2.42E+00
		185.74	*	53.00	6.90E-01		1.63E-01
		205.33		4.70	2.23E+00		2.46E+00
+	U-238d	63.29	*	3.80	7.89E+00	1.31E+00	2.28E+00
		92.56	*	5.41	9.09E+00		1.31E+00
	AM-241	59.54		35.70	-1.60E+00	3.82E-01	3.82E-01
	CM-243	99.52		14.40	-3.39E-01	3.82E-01	6.34E-01
		103.73		23.00	-6.62E-01		3.82E-01
		116.93		8.32	-5.30E-01		1.14E+00
		228.19		10.56	-1.67E-02		1.05E+00
		277.60		14.00	-5.81E-01		8.22E-01
	CM-245	99.52		21.10	-2.31E-01	2.62E-01	4.32E-01
		103.73		33.60	-4.53E-01		2.62E-01
		116.93		12.20	-3.61E-01		7.75E-01
		174.94		9.50	-5.59E-01		1.08E+00

Analysis Report for RCF19488

J16M92 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

+ = 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

APR 22 2008 Edward S. Wallace
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-098

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/Stockpiles
SAF No.	RC-087
Ice Chest No.	
Field Logbook No.	EL-1395-12
COA	RG61872600
Method of Shipment	Government Vehicle
Shipped To	Radiological Counting Facility
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

SAMPLE ANALYSIS

Preservation				None									
Type of Container				P									
No. of Container(s)				1									
Volume				60mL									
				RCF GEA Shipping Screen		RCF							
Sample No.	Matrix *	Sample Date	Sample Time										
J16M89	SOIL	4-21-08	0820	X		19485							J001
J16M90	SOIL	4-21-08	0830	X		19486							J002
J16M91	SOIL	4-21-08	0940	X		19487							J003
J16M92	SOIL	4-21-08	0850	X		19488							J004
J16M93	SOIL	4-21-08	0900	X		19489							J005

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/21/08 0922	RB Kerkow / RB Kerkow	4/21/08 0922
RB Kerkow / RB Kerkow	4/21/08 0940	RCF / Mike Rook / Mike Rook	4-21-08 0940

Sign/Print Names

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

RCF 19488

Radiological Counting Facility

Analysis Report for RCF19489

J16M93 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19489
Sample Description	: J16M93 SAF:RC-087 FF2/618-7 Burial ground Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 8.100E+01 grams
Facility	: Default
Sample Taken On	: 4/21/2008 9:00:00AM
Acquisition Started	: 4/22/2008 9:06:47AM
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	: 18796

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.993	1.33E+01	3.62E+00	
PB-212		0.707	8.44E-01	1.64E-01	
RA-226d		0.675	3.47E-01	1.30E-01	
TH-232d		0.998	7.56E-01	1.56E-01	
U-235		0.550	4.25E-01	1.66E-01	
U-238d	@	1.000	1.27E+01	2.08E+00	

Analysis Report for RCF19489

J16M93 SAF:RC-087 FF2/618-7 Burial ground 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 : 4/22/2008 10:06:56AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
5	98.53 Pa-234	1.19E-02	56.27
11	510.87 Annihilation	6.83E-03	58.04
14	794.89 Ac-228 photon	3.73E-03	56.62

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	1.33E+01	1.82E+00	1.82E+00
	CO-60	1173.24		99.90	2.62E-02	1.88E-01	1.93E-01
		1332.50		99.98	1.00E-01		1.88E-01
	NB-94	702.63		99.81	-2.38E-02	1.42E-01	1.42E-01
		871.10		99.89	-2.03E-03		1.55E-01
	AG-108m	433.94		90.50	-1.58E-02	1.19E-01	1.19E-01
		614.28		89.80	-9.87E-02		1.74E-01
		722.94		90.80	-1.21E-01		1.68E-01
	CS-137	661.66		85.21	1.55E-01	1.85E-01	1.85E-01
	EU-152	40.12		38.40	1.41E-01	2.24E-01	2.48E-01
		45.38		11.10	6.33E-01		8.06E-01
		121.78		28.40	1.79E-02		2.24E-01
		244.69		7.51	-1.96E-01		1.12E+00
		344.29		26.60	7.05E-02		3.20E-01
		411.12		2.23	9.13E-01		4.58E+00
		443.89		2.80	3.35E-01		3.84E+00

Analysis Report for RCF19489

J16M93 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		778.92		12.98	-2.64E-01		1.12E+00
		867.38		4.21	-2.54E+00		3.73E+00
		964.11		14.50	-1.09E+00		1.43E+00
		1085.89		9.94	6.14E-01		1.74E+00
		1089.71		1.71	-2.62E+00		9.78E+00
		1112.07		13.60	-6.90E-01		1.32E+00
		1212.93		1.40	-4.95E+00		1.37E+01
		1299.16		1.63	2.87E+00		1.11E+01
		1408.00		20.80	-1.58E-01		6.14E-01
	EU-154	123.10		40.50	9.49E-03	1.58E-01	1.58E-01
		723.36		19.70	-5.59E-01		7.74E-01
		873.23		11.45	8.96E-01		1.41E+00
		1004.78		17.90	5.21E-01		1.12E+00
		1274.54		35.50	3.05E-01		5.10E-01
	EU-155	86.54		34.00	8.36E-02	2.79E-01	2.79E-01
		105.31		20.60	-1.21E-01		3.21E-01
+	PB-212	74.81	*	10.50	7.78E-01	3.78E-01	6.40E-01
		77.11	*	17.70	8.80E-01		3.78E-01
		87.19		6.27	1.62E+00		1.54E+00
+	RA-226d	186.11	*	3.28	7.22E+00	2.66E-01	2.53E+00
		241.92		7.46	5.20E-01		1.87E+00
		295.09	*	19.20	4.61E-01		4.17E-01
		351.87	*	37.10	3.83E-01		2.66E-01
		609.31	*	46.10	2.68E-01		3.06E-01
		1120.27		15.00	1.78E-02		1.43E+00
		1764.49		15.90	1.32E+00		1.48E+00
+	TH-232d	238.58	*	43.60	6.78E-01	2.38E-01	2.38E-01
		338.42	*	12.40	6.47E-01		6.48E-01
		583.02	*	30.87	8.45E-01		3.73E-01
		911.16	*	29.00	7.62E-01		4.98E-01
		968.97	*	17.40	8.94E-01		6.78E-01
+	U-235	143.79		10.50	3.34E-01	1.56E-01	7.11E-01
		163.38		4.70	1.25E-01		1.37E+00
		185.74	*	53.00	4.47E-01		1.56E-01
		205.33		4.70	-9.32E-01		1.59E+00
+	U-238d	63.29	*	3.80	1.27E+01	1.73E+00	2.18E+00
		92.56	*	5.41	9.06E+00		1.73E+00
	AM-241	59.54		35.70	6.72E-02	2.18E-01	2.18E-01
	CM-243	99.52		14.40	3.78E-01	2.90E-01	5.07E-01
		103.73		23.00	1.64E-02		2.90E-01
		116.93		8.32	-1.16E+00		7.05E-01
		228.19		10.56	1.66E-01		7.34E-01
		277.60		14.00	1.41E-01		6.03E-01
	CM-245	99.52		21.10	2.58E-01	1.99E-01	3.46E-01
		103.73		33.60	1.12E-02		1.99E-01
		116.93		12.20	-7.93E-01		4.81E-01
		174.94		9.50	2.05E-01		7.13E-01

Analysis Report for RCF19489

J16M93 SAF:RC-087 FF2/618-7 Burial ground Soil Sample

+ = 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

APR 22 2008 Edward S. Wallace
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-098 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/Stockpiles	**SAF No.** RC-087
Ice Chest No.	**Field Logbook No.** EL-1395-12 / **COA** RG61872600	**Method of Shipment** Government Vehicle
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

Preservation	None										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	RCF GEA Shipping Screen			RCF							
Sample No. / Matrix * / Sample Date / Sample Time											
J16M89 / SOIL / 4-21-08 / 0820	X		19485								
J16M90 / SOIL / 4-21-08 / 0830	X		19486								J001
J16M91 / SOIL / 4-21-08 / 0840	X		19487								J002
J16M92 / SOIL / 4-21-08 / 0850	X		19488								J003
J16M93 / SOIL / 4-21-08 / 0900	X		19489								J004
											J005

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/21/08 0922	RB Kerkow / RB Kerkow	4/21/08 0922
RB Kerkow / RB Kerkow	4/21/08 0940	RCF Mike Rockhold / [illegible]	4-21-08 0940

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

RCF-19489

Radiological Counting Facility

Analysis Report for RCF19504

J16M94 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19504
Sample Description	: J16M94 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 4.200E+01 grams
Facility	: Default
Sample Taken On	: 4/22/2008 7:50:00AM
Acquisition Started	: 4/22/2008 1:25:28PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml 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	: 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	: 18807

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.998	1.84E+01	4.59E+00	
PB-212		0.707	1.70E+00	3.80E-01	
TH-232d		0.849	1.13E+00	2.93E-01	
U-235		1.000	6.44E+00	5.39E-01	
U-238d	@	1.000	8.05E+01	7.67E+00	

Analysis Report for RCF19504

J16M94 SAF:RC-087 FF2/618-7 STOCKPILE 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 : 4/22/2008 2:25:35PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	2	72.75	Th-231	2.20E-02	20.44
	5	84.32	Th-231	3.15E-02	37.96
M	6	89.85	Th-231	2.47E-02	18.90
	8	98.42	Pa-234	4.67E-02	21.74
	15	351.94	Pa-234	1.22E-02	34.97
	18	1001.14	Pa234m	2.19E-02	14.57

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	1.84E+01	5.17E+00	5.17E+00
	CO-60	1173.24		99.90	-6.88E-02	4.47E-01	4.47E-01
		1332.50		99.98	3.23E-01		4.55E-01
	NB-94	702.63		99.81	-9.52E-02	3.39E-01	3.44E-01
		871.10		99.89	-2.87E-01		3.39E-01
	AG-108m	433.94		90.50	-1.31E-02	2.84E-01	2.84E-01
		614.28		89.80	-3.69E-01		3.89E-01
		722.94		90.80	7.55E-02		4.24E-01
	CS-137	661.66		85.21	-8.45E-03	3.96E-01	3.96E-01
	EU-152	40.12		38.40	-5.67E-01	6.47E-01	6.64E-01
		45.38		11.10	1.88E+00		2.29E+00
		121.78		28.40	3.13E-01		6.47E-01
		244.69		7.51	1.31E+00		3.28E+00
		344.29		26.60	-2.30E-01		9.72E-01
		411.12		2.23	1.45E+00		1.13E+01

Analysis Report for RCF19504

J16M94 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		443.89		2.80	-1.51E+00		9.96E+00
		778.92		12.98	1.45E+00		2.71E+00
		867.38		4.21	-5.47E-01		9.24E+00
		964.11		14.50	1.15E+00		3.25E+00
		1085.89		9.94	-3.80E+00		4.34E+00
		1089.71		1.71	3.60E-01		2.62E+01
		1112.07		13.60	5.10E-01		2.88E+00
		1212.93		1.40	-1.17E+01		3.25E+01
		1299.16		1.63	5.05E+00		2.89E+01
		1408.00		20.80	1.01E+00		2.03E+00
	EU-154	123.10		40.50	2.04E-01	4.50E-01	4.50E-01
		723.36		19.70	3.48E-01		1.96E+00
		873.23		11.45	-9.32E-01		3.11E+00
		1004.78		17.90	-2.38E+00		3.73E+00
		1274.54		35.50	1.39E-01		1.15E+00
	EU-155	86.54		34.00	2.81E-01	8.52E-01	8.52E-01
		105.31		20.60	-1.10E+00		9.66E-01
+	PB-212	74.81	*	10.50	4.28E+00	1.15E+00	1.98E+00
		77.11	*	17.70	1.16E+00		1.15E+00
		87.19		6.27	1.52E+00		4.77E+00
	RA-226d	186.11		3.28	1.10E+02	8.03E-01	1.65E+01
		241.92		7.46	4.14E-01		4.55E+00
		295.09		19.20	3.15E-01		1.30E+00
		351.87		37.10	5.99E-01		8.03E-01
		609.31		46.10	7.35E-01		8.94E-01
		1120.27		15.00	-2.96E-01		2.74E+00
		1764.49		15.90	8.91E-01		2.97E+00
+	TH-232d	238.58	*	43.60	1.14E+00	5.94E-01	5.94E-01
		338.42	*	12.40	1.39E+00		1.81E+00
		583.02	*	30.87	1.05E+00		8.05E-01
		911.16	*	29.00	1.14E+00		1.22E+00
		968.97		17.40	2.72E+00		2.96E+00
+	U-235	143.79	*	10.50	6.36E+00	4.78E-01	1.86E+00
		163.38	*	4.70	7.76E+00		5.83E+00
		185.74	*	53.00	6.52E+00		4.78E-01
		205.33	*	4.70	3.28E+00		5.63E+00
+	U-238d	63.29	*	3.80	8.05E+01	4.15E+00	7.31E+00
		92.56	*	5.41	8.08E+01		4.15E+00
	AM-241	59.54		35.70	5.83E-02	6.49E-01	6.49E-01
	CM-243	99.52		14.40	-8.98E-02	8.52E-01	1.73E+00
		103.73		23.00	3.68E-01		8.52E-01
		116.93		8.32	-4.20E+00		2.32E+00
		228.19		10.56	1.45E+00		2.10E+00
		277.60		14.00	1.06E+00		1.70E+00
	CM-245	99.52		21.10	-6.13E-02	5.83E-01	1.18E+00
		103.73		33.60	2.52E-01		5.83E-01
		116.93		12.20	-2.86E+00		1.58E+00
		174.94		9.50	1.38E-01		2.19E+00

Analysis Report for RCF19504

J16M94 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE

+ = 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

APR 22 2008 Edward S Wallace

(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-099

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/Stockpiles		**SAF No.** RC-087
Ice Chest No.	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle
Shipped To Radiological Counting Facility	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Price Code 2A

Data Turnaround 24 Hours

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None
Type of Container	P
No. of Container(s)	1
Volume	~~60mL~~ 80g
SAMPLE ANALYSIS	RCF QEA Shipping Screen

Sample No.	Matrix *	Sample Date	Sample Time										
~~J16M90~~	~~SOIL~~												
J16M94	SOIL	4/22/08	0750	X			Ref 19504						
J16M95	SOIL	4/22/08	0800	X			19505					Seq #	J006
												" #	J-007

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Eric Harries / E. Harries	0850 4/22/08	RT Coffman / RT Coffman	0850 4/22/08
RT Coffman / RT Coffman	1050 4/22/08	Ref P. Miller / [illegible]	1050 4-22-08

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

RCF 19504

Radiological Counting Facility

Analysis Report for RCF19505

J16M95 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19505
Sample Description	: J16M95 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.400E+01 grams
Facility	: Default
Sample Taken On	: 4/22/2008 8:00:00AM
Acquisition Started	: 4/22/2008 1:25:35PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3644.8 seconds
Dead Time	: 1.23 %
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	: 18808

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.09E+01	2.48E+00	
PB-212		0.706	1.17E+00	2.66E-01	
RA-226d		0.500	3.88E-01	1.58E-01	
TH-232d		0.996	7.55E-01	2.04E-01	
U-235		1.000	4.77E+00	6.20E-01	
U-238d	@	1.000	5.97E+01	5.45E+00	

Analysis Report for RCF19505

J16M95 SAF:RC-087 FF2/618-7 STOCKPILE 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 : 4/22/2008 2:26:23PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.13	No Peak	7.08E-02	10.36
m	5	89.95	Th-231	6.19E-02	10.48
m	7	98.37	Ra-231	8.11E-02	7.97
m	8	105.40	Ac-228	2.03E-02	22.08
m	9	108.87	U-235 Possible	2.51E-02	18.28
m	10	112.74	Uranium Prog	7.86E-02 Sum Peaks	11.03
m	15	209.19	No Peak	7.36E-03	34.68
	17	258.14	No Peak	1.18E-02	45.96
	22	766.14	Th-227	1.17E-02	25.83
	25	1001.10	Pa-234m	4.03E-02	9.41

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	1.09E+01	2.40E+00	2.40E+00
	CO-60	1173.24		99.90	-1.77E-01	2.31E-01	2.48E-01
		1332.50		99.98	-7.12E-02		2.31E-01
	NB-94	702.63		99.81	3.65E-02	2.13E-01	2.34E-01
		871.10		99.89	-1.31E-01		2.13E-01
	AG-108m	433.94		90.50	-4.71E-02	1.83E-01	1.83E-01
		614.28		89.80	-1.82E-02		2.70E-01
		722.94		90.80	6.25E-02		2.57E-01
	CS-137	661.66		85.21	1.95E-02	2.30E-01	2.30E-01

Analysis Report for RCF19505

J16M95 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-152	40.12		38.40	-8.16E-02	3.70E-01	3.70E-01
		45.38		11.10	-1.22E+00		1.39E+00
		121.78		28.40	-1.21E-01		5.12E-01
		244.69		7.51	-9.89E-01		1.96E+00
		344.29		26.60	-9.36E-02		5.86E-01
		411.12		2.23	-6.68E-01		6.93E+00
		443.89		2.80	-1.81E+00		6.01E+00
		778.92		12.98	-1.73E+00		1.62E+00
		867.38		4.21	-7.76E-01		5.57E+00
		964.11		14.50	-1.27E+00		1.87E+00
		1085.89		9.94	-7.56E-01		2.52E+00
		1089.71		1.71	3.35E-02		1.44E+01
		1112.07		13.60	-2.36E+00		1.41E+00
		1212.93		1.40	-4.90E+00		2.14E+01
		1299.16		1.63	1.43E+01		1.56E+01
		1408.00		20.80	-1.42E-01		8.45E-01
	EU-154	123.10		40.50	-1.09E-01	3.62E-01	3.62E-01
		723.36		19.70	4.67E-01		1.18E+00
		873.23		11.45	-1.86E+00		1.88E+00
		1004.78		17.90	-1.30E+00		2.57E+00
		1274.54		35.50	1.39E-01		6.94E-01
	EU-155	86.54		34.00	-1.13E+01	7.04E-01	7.04E-01
		105.31		20.60	-1.71E+00		8.15E-01
+	PB-212	74.81	*	10.50	1.49E+00	6.94E-01	1.19E+00
		77.11	*	17.70	1.05E+00		6.94E-01
		87.19		6.27	-1.53E+02		3.95E+00
+	RA-226d	186.11	*	3.28	8.39E+01	3.24E-01	3.64E+00
		241.92		7.46	-9.93E-01		2.57E+00
		295.09		19.20	-8.23E-01		7.95E-01
		351.87	*	37.10	2.88E-01		3.44E-01
		609.31	*	46.10	4.25E-01		3.24E-01
		1120.27		15.00	-7.02E-01		1.62E+00
		1764.49	*	15.90	8.74E-01		9.69E-01
+	TH-232d	238.58	*	43.60	8.87E-01	3.10E-01	3.10E-01
		338.42	*	12.40	8.23E-01		1.06E+00
		583.02	*	30.87	6.52E-01		5.33E-01
		911.16	*	29.00	8.33E-01		5.06E-01
		968.97	*	17.40	5.44E-01		1.04E+00
+	U-235	143.79	*	10.50	4.38E+00	2.25E-01	1.04E+00
		163.38	*	4.70	6.35E+00		3.19E+00
		185.74	*	53.00	5.19E+00		2.25E-01
		205.33	*	4.70	4.67E+00		1.92E+00
+	U-238d	63.29	*	3.80	5.97E+01	2.25E+00	5.46E+00
		92.56	*	5.41	6.62E+01		2.25E+00
	AM-241	59.54		35.70	-2.46E-01	8.11E-01	8.11E-01
	CM-243	99.52		14.40	-1.22E+01	7.24E-01	1.37E+00
		103.73		23.00	-4.24E+00		7.24E-01
		116.93		8.32	2.29E-02		2.01E+00

Analysis Report for RCF19505

J16M95 SAF:RC-087 FF2/618-7 STOCKPILE SOIL SAMPLE

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	228.19	10.56	9.77E-02		1.36E+00
	277.60	14.00	-3.20E-01		9.81E-01
CM-245	99.52	21.10	-8.34E+00	4.96E-01	9.34E-01
	103.73	33.60	-2.90E+00		4.96E-01
	116.93	12.20	1.56E-02		1.37E+00
	174.94	9.50	-1.65E-01		1.61E+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 APR 22 2008 Edward S Wallace
(print/sign/date)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-099	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; Data Turnaround: 24 Hours
Project Designation: 618-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground/Stockpiles	SAF No.: RC-087	
Ice Chest No.	Field Logbook No.: EL-1395-12; COA: RG61872600	Method of Shipment: Government Vehicle	
Shipped To: Radiological Counting Facility	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	P										
No. of Container(s)	1										
Volume	~~60mL~~ 80g										
SAMPLE ANALYSIS	RCF GEA Shipping Screen										

Sample No.	Matrix *	Sample Date	Sample Time										
~~J16M90~~	~~SOIL~~												
J16M94	SOIL	4/22/08	0750	X			RCF 19501						
J16M95	SOIL	4/22/08	0800	X			RCF 19505						

pk 4/22/08

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Eric Harries / E. Harries	0850 4/22/08	RS Coffman / RS Coffman	0850 4/22/08
JL Coffman / RS Coffman	1050 4/22/08	RCF / P. Miller / P. Miller	1050 4-22-08

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

RCF 19505

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 42308 1320 GM Screen Result 0.1K

Client: WCH SDG #: J00170 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D230281 Chain of Custody # _____

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: 7
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: _____ Date: 42308

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, Rev. 7, 1/08

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-110	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	**Data Turnaround** 24 Hours		
Project Designation 618-7 Burial Ground - Soil	**Sampling Location** 618-7 Burial Ground/Stockpiles		**SAF No.** RC-087
Ice Chest No. ERC-097-079	**Field Logbook No.** EL-1395-12	**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	P											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											

Sample No.	Matrix *	Sample Date	Sample Time										
✓ J16MD6 KL67K	SOIL	4.25.08	0850	X									K-1
✓ J16MD7 KL67M	SOIL	4.25.08	0900	X									K-2
✓ J16MD8 KL67N	SOIL	4.25.08	0910	X									K-3

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Eric Harries / E. Harries	1630 4/25/08	R. Fahlberg R. Fahlberg	1030 4.25.08
R. Fahlberg R. Fahlberg	1100 4.25.08	1060 Shipping 1-A	1100 4-25-08
1060/1A 4/29/08	0810	MSTankouch 4/29/08	0810
MSTankouch 4/29/08	0820	R. W. LANE TAL 42908	0820

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}

J8D290131
J00170
DUE 43008

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-087-111	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	**Data Turnaround** 24 Hours		
Project Designation 618-7 Burial Ground - Soil	**Sampling Location** 618-7 Burial Ground/Stockpiles		**SAF No.** RC-087
Ice Chest No. ERC-97-079	**Field Logbook No.** EL-1395-12	**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	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.		Matrix *	Sample Date	Sample Time										
✓ J16MD9	KL67P	SOIL	4·25·08	0920	X									K-4
✓ J16MF0	KL67R	SOIL	4·25·08	0930	X									K-5
✓ J16MF1	KL67V	SOIL	4·25·08	0940	X									K-6
✓ J16MF2	KL67T	SOIL	4·25·08	0950	X									K-7

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: E. Harries / E. Harries — Date/Time: 4/25/08 1030	Received By/Stored In: R Fahlberg / R Fahlberg 4·25·08 — Date/Time: 1030	None
Relinquished By/Removed From: R. Fahlberg / R. Fahlberg 4·25·08 — Date/Time: 1100	Received By/Stored In: 1060 Shpng 1-A 4·25·08 — Date/Time: 1100	(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}
Relinquished By/Removed From: 1060/1A 4/29/08 — Date/Time: 0810	Received By/Stored In: MStankovich 4/29/08 — Date/Time: 0810	J8D290131
Relinquished By/Removed From: WCH / MStankovich 4/29/08 — Date/Time: 0830	Received By/Stored In: LILANE TAL 42908 — Date/Time: 0830	J00170
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:	DUE 43008
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:	Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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 RCF19547

J16M96 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19547
Sample Description	: J16M96 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 4.700E+01 grams
Facility	: Default
Sample Taken On	: 4/25/2008 8:50:00AM
Acquisition Started	: 4/28/2008 9:34:20AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml 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	: 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	: 18892

J16MD6

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.999	1.86E+01	3.97E+00	
PB-212	0.709	6.47E-01	2.14E-01	

Analysis Report for RCF19547

J16M96 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 10:34:27AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
3	238.63 Pb-212	2.12E-02	27.07
4	351.77 Pb-214	1.15E-02	32.67

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	1.86E+01	3.72E+00	3.72E+00
	CO-60	1173.24		99.90	1.27E-01	3.21E-01	3.57E-01
		1332.50		99.98	-3.98E-01		3.21E-01
	NB-94	702.63		99.81	2.26E-01	2.83E-01	3.12E-01
		871.10		99.89	-1.39E-01		2.83E-01
	AG-108m	433.94		90.50	-3.24E-02	2.31E-01	2.31E-01
		614.28		89.80	6.96E-02		3.35E-01
		722.94		90.80	2.45E-01		3.52E-01
	CS-137	661.66		85.21	-8.52E-03	3.21E-01	3.21E-01
	EU-152	40.12		38.40	2.53E-02	3.63E-01	3.63E-01
		45.38		11.10	4.46E-01		1.16E+00
		121.78		28.40	1.56E-01		3.90E-01
		244.69		7.51	1.62E+00		2.60E+00
		344.29		26.60	-1.65E-01		7.26E-01
		411.12		2.23	2.93E+00		9.78E+00
		443.89		2.80	6.32E+00		8.31E+00
		778.92		12.98	1.08E+00		2.38E+00
		867.38		4.21	-4.13E+00		6.89E+00

Analysis Report for RCF19547

J16M96 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	-6.80E-01		2.62E+00
		1085.89		9.94	-2.64E+00		3.34E+00
		1089.71		1.71	7.77E+00		2.13E+01
		1112.07		13.60	-8.02E-01		2.97E+00
		1212.93		1.40	-2.66E+01		2.49E+01
		1299.16		1.63	4.28E+00		2.36E+01
		1408.00		20.80	4.48E-01		1.82E+00
	EU-154	123.10		40.50	-2.20E-01	2.57E-01	2.57E-01
		723.36		19.70	1.13E+00		1.63E+00
		873.23		11.45	7.35E-01		2.82E+00
		1004.78		17.90	-5.21E-01		1.83E+00
		1274.54		35.50	-9.10E-02		9.72E-01
	EU-155	86.54		34.00	9.51E-03	3.79E-01	3.79E-01
		105.31		20.60	2.09E-01		5.35E-01
+	PB-212	74.81	*	10.50	6.52E-01	5.90E-01	1.01E+00
		77.11	*	17.70	6.44E-01		5.90E-01
		87.19		6.27	7.73E-01		2.06E+00
	RA-226d	186.11		3.28	5.76E+00	6.59E-01	5.40E+00
		241.92		7.46	2.31E+00		3.57E+00
		295.09		19.20	2.81E-01		1.09E+00
		351.87		37.10	8.44E-01		6.59E-01
		609.31		46.10	8.75E-01		7.64E-01
		1120.27		15.00	3.10E-01		2.79E+00
		1764.49		15.90	2.44E-01		2.78E+00
	TH-232d	238.58		43.60	7.71E-01	5.78E-01	5.78E-01
		338.42		12.40	7.94E-01		1.75E+00
		583.02		30.87	7.31E-01		9.28E-01
		911.16		29.00	1.07E+00		1.35E+00
		968.97		17.40	2.55E+00		2.37E+00
	U-235	143.79		10.50	3.22E-02	3.34E-01	1.14E+00
		163.38		4.70	-5.40E-01		2.84E+00
		185.74		53.00	3.56E-01		3.34E-01
		205.33		4.70	-5.95E-01		3.42E+00
	U-238d	63.29		3.80	2.10E+00	2.75E+00	3.05E+00
		92.56		5.41	4.74E+00		2.75E+00
	AM-241	59.54		35.70	1.18E-01	2.85E-01	2.85E-01
	CM-243	99.52		14.40	-2.03E-01	4.56E-01	7.15E-01
		103.73		23.00	-1.58E-01		4.56E-01
		116.93		8.32	-7.76E-01		1.27E+00
		228.19		10.56	-3.73E-01		1.53E+00
		277.60		14.00	-6.37E-01		1.27E+00
	CM-245	99.52		21.10	-1.39E-01	3.12E-01	4.88E-01
		103.73		33.60	-1.08E-01		3.12E-01
		116.93		12.20	-5.29E-01		8.66E-01
		174.94		9.50	1.51E-01		1.58E+00

Analysis Report for RCF19547

J16M96 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

+ = 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. WALLAC

APR 28 2008 Edward S Wallace
(print/sign/date)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-100	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 - Soil	Sampling Location: 618-7 Burial Ground/Stockpiles		SAF No.: RC-087	Data Turnaround: 24 Hours
Ice Chest No.: ERC-97-079	Field Logbook No.: EL-1395-12	COA: RG61872600	Method of Shipment: Government Vehicle	
Shipped To: Radiological Counting Facility	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	P											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											
Sample No. / Matrix * / Sample Date / Sample Time		RCF										
J16M96 / SOIL / 4·25·08 / 0850	X	19547										K-1
J16M97 / SOIL / 4·25·08 / 0900	X	19548										K-2
J16M98 / SOIL / 4·25·08 / 0910	X	19549										K-3

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/25/08 1030	R. Fahlberg R. Fahlberg	1030 4·25·08
R. Fahlberg R. Fahlberg	1100 4·25·08	1060 Shpng	1100 4·25·08
1060/1A	4/28/08 0800	mstankovich	0800 4/28/08
mstankovich	0840 4/28/08	RCF R. Eliason /	0840 4-28-08

SPECIAL INSTRUCTIONS

None

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab

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; Ve=Vegetation; X=Other

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

WCH-EE-011

RCF A547

Radiological Counting Facility

Analysis Report for RCF19548

J16M97 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19548
Sample Description	: J16M97 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.200E+01 grams
Facility	: Default
Sample Taken On	: 4/25/2008 9:00:00AM
Acquisition Started	: 4/28/2008 9:34:28AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3644.7 seconds
Dead Time	: 1.23 %
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	: 18893

J16M97

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.53E+01	2.83E+00	
PB-212		0.710	7.61E-01	1.51E-01	
RA-226d		0.672	3.78E-01	1.32E-01	
TH-232d		0.853	8.32E-01	1.51E-01	
U-235		0.548	3.10E-01	1.32E-01	
U-238d	@	1.000	3.93E+00	1.14E+00	

Analysis Report for RCF19548

J16M97 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 10:35:16AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
10	510.94 Annihilation photon	9.86E-03	39.12

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	1.53E+01	2.49E+00	2.49E+00
CO-60	1173.24		99.90	5.68E-02	2.27E-01	2.73E-01
	1332.50		99.98	-9.90E-03		2.27E-01
NB-94	702.63		99.81	-7.06E-02	1.82E-01	1.97E-01
	871.10		99.89	1.27E-02		1.82E-01
AG-108m	433.94		90.50	7.66E-02	1.91E-01	1.91E-01
	614.28		89.80	-1.61E-01		2.81E-01
	722.94		90.80	-6.08E-02		2.21E-01
CS-137	661.66		85.21	2.27E-01	2.45E-01	2.45E-01
EU-152	40.12		38.40	-5.68E-02	2.82E-01	2.82E-01
	45.38		11.10	2.45E-01		9.08E-01
	121.78		28.40	-1.12E-01		2.93E-01
	244.69		7.51	-3.76E+00		1.65E+00
	344.29		26.60	-5.86E-01		5.27E-01
	411.12		2.23	-9.98E-01		6.46E+00
	443.89		2.80	-4.94E+00		5.53E+00
	778.92		12.98	-3.85E-01		1.45E+00

Analysis Report for RCF19548

J16M97 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		867.38		4.21	-7.79E-01		4.49E+00
		964.11		14.50	1.76E+00		1.93E+00
		1085.89		9.94	-2.08E+00		2.25E+00
		1089.71		1.71	5.95E+00		1.45E+01
		1112.07		13.60	-2.22E+00		1.70E+00
		1212.93		1.40	4.18E-01		1.92E+01
		1299.16		1.63	-4.93E-01		1.75E+01
		1408.00		20.80	7.27E-01		1.17E+00
	EU-154	123.10		40.50	-8.83E-02	2.12E-01	2.12E-01
		723.36		19.70	-4.79E-01		1.02E+00
		873.23		11.45	-8.08E-01		1.55E+00
		1004.78		17.90	-5.41E-01		1.27E+00
		1274.54		35.50	-1.28E-01		7.30E-01
	EU-155	86.54		34.00	8.46E-02	3.18E-01	3.18E-01
		105.31		20.60	3.32E-01		4.31E-01
+	PB-212	74.81	*	10.50	6.85E-01	3.26E-01	5.43E-01
		77.11	*	17.70	8.00E-01		3.26E-01
		87.19		6.27	4.48E-01		1.72E+00
+	RA-226d	186.11	*	3.28	5.39E+00	2.63E-01	3.20E+00
		241.92		7.46	-9.82E-01		2.50E+00
		295.09	*	19.20	2.64E-01		5.50E-01
		351.87	*	37.10	4.88E-01		2.63E-01
		609.31	*	46.10	2.84E-01		3.38E-01
		1120.27		15.00	5.21E-01		1.78E+00
		1764.49		15.90	9.43E-01		1.78E+00
+	TH-232d	238.58	*	43.60	9.46E-01	2.65E-01	2.65E-01
		338.42	*	12.40	7.83E-01		8.16E-01
		583.02	*	30.87	7.08E-01		4.53E-01
		911.16	*	29.00	6.10E-01		5.93E-01
		968.97		17.40	1.20E+00		1.68E+00
+	U-235	143.79		10.50	6.67E-01	1.98E-01	9.89E-01
		163.38		4.70	8.74E-01		2.21E+00
		185.74	*	53.00	3.34E-01		1.98E-01
		205.33		4.70	1.44E+00		2.59E+00
+	U-238d	63.29	*	3.80	3.93E+00	1.56E+00	1.56E+00
		92.56	*	5.41	3.42E+00		2.13E+00
	AM-241	59.54		35.70	-7.43E-02	2.95E-01	2.95E-01
	CM-243	99.52		14.40	-5.51E-02	3.81E-01	6.25E-01
		103.73		23.00	-4.26E-01		3.81E-01
		116.93		8.32	-2.20E-01		1.03E+00
		228.19		10.56	8.96E-01		1.11E+00
		277.60		14.00	-5.94E-01		8.70E-01
	CM-245	99.52		21.10	-3.76E-02	2.61E-01	4.26E-01
		103.73		33.60	-2.91E-01		2.61E-01
		116.93		12.20	-1.50E-01		7.06E-01
		174.94		9.50	8.32E-01		1.11E+00

Analysis Report for RCF19548

J16M97 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

+ = 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 APR 28 2008 (print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-100

Collector B Lawrence, E. Harries	**Company Contact** Joan Kessner	**Telephone No.** 509-372-3688
Project Designation 518-7 Burial Ground - Soil	**Sampling Location** 518-7 Burial Ground Soil Samples	
Ice Chest No. ERC-97-079	**Field Logbook No** EL-1395-12	**COA** BG51922400
Shipped To Radiological Counting Facility	**Offsite Property No.** NA	

Project Coordinator KESSNER, JH

Price Code 2.A

Data Turnaround 24 Hours

SAF No. RC-087

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

SAMPLE ANALYSIS

			Preservation	None									
			Type of Container	P									
			No. of Container(s)	1									
			Volume	60mL									
				RCF Support Areas									
Sample No	Matrix *	Sample Date	Sample Time		RCF								
J16M96	SOIL	4-25-08	0850	X	19547								K-1
J16M97	SOIL	4-25-08	0900	X	19548								K-2
J16M98	SOIL	4-25-08	0910	X	19549								K-3

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E Harries / E Harries	4/25/08 0800	R. Fahlberg R. Fahlberg	1030 4-25-08
R. Fahlberg R. Fahlberg	4-25-08 1100	1060 Shipping	1-9 RCF 4-25-08
1060/1A	4/28/08 0800	M Stankovich	4/28/08 0800
M Stankovich	4/28/08 0840	R. Eliason /	RCF 4-28-08 0840
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

Sampler unable to remove samples from container storage. Shipper removed samples from storage and for final custody of samples for shipment to lab.

Matrix*

S-Soil
SE-Sediment
SG-Sludge
SL-Sludge
W-Water
Oil-Oil
A-Air
DS-Drum Solids
DL-Drum Liquids
Tissue
WI-Wipe
Liquid
Vegetation
Not other

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

WCH-EE-011

RCF 19548

Radiological Counting Facility

Analysis Report for RCF19549

J16M98 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19549
Sample Description	: J16M98 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.500E+01 grams
Facility	: Default
Sample Taken On	: 4/25/2008 9:10:00AM
Acquisition Started	: 4/28/2008 10:35:29AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml 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	: 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	: 18896

J16M98

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.97E+01	3.83E+00	
PB-212		0.708	8.60E-01	2.17E-01	
RA-226d		0.671	4.38E-01	2.01E-01	
TH-232d		0.417	6.19E-01	2.42E-01	
U-235		0.540	1.04E+00	2.34E-01	
U-238d	@	0.999	8.25E+00	2.40E+00	

Analysis Report for RCF19549

J16M98 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 11:35:41AM
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	1.97E+01	3.65E+00	3.65E+00
	CO-60	1173.24		99.90	1.65E-01	3.25E-01	3.82E-01
		1332.50		99.98	-3.34E-02		3.25E-01
	NB-94	702.63		99.81	-6.59E-02	2.49E-01	2.49E-01
		871.10		99.89	1.13E-01		2.72E-01
	AG-108m	433.94		90.50	-3.82E-02	2.11E-01	2.11E-01
		614.28		89.80	-8.48E-02		2.88E-01
		722.94		90.80	1.49E-01		3.03E-01
	CS-137	661.66		85.21	2.19E-01	2.93E-01	2.93E-01
	EU-152	40.12		38.40	-8.65E-02	3.46E-01	3.55E-01
		45.38		11.10	-8.62E-02		1.07E+00
		121.78		28.40	1.96E-02		3.46E-01
		244.69		7.51	-1.20E+00		2.21E+00
		344.29		26.60	-3.40E-01		6.13E-01
		411.12		2.23	-3.32E+00		7.49E+00
		443.89		2.80	3.13E+00		6.88E+00
		778.92		12.98	-2.19E+00		1.73E+00
		867.38		4.21	-8.39E+00		6.43E+00

Analysis Report for RCF19549

J16M98 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	-3.19E-01		2.11E+00
		1085.89		9.94	1.70E+00		3.28E+00
		1089.71		1.71	-4.20E+00		1.79E+01
		1112.07		13.60	-8.92E-01		2.56E+00
		1212.93		1.40	-2.05E+00		2.48E+01
		1299.16		1.63	5.14E+00		1.98E+01
		1408.00		20.80	5.34E-01		1.35E+00
	EU-154	123.10		40.50	3.13E-02	2.43E-01	2.43E-01
		723.36		19.70	6.90E-01		1.40E+00
		873.23		11.45	4.69E-01		2.30E+00
		1004.78		17.90	7.20E-01		1.59E+00
		1274.54		35.50	6.36E-02		9.10E-01
	EU-155	86.54		34.00	-1.16E-01	4.07E-01	4.07E-01
		105.31		20.60	2.31E-02		4.95E-01
+	PB-212	74.81	*	10.50	7.23E-01	5.84E-01	1.04E+00
		77.11	*	17.70	9.27E-01		5.84E-01
		87.19		6.27	4.96E-01		2.25E+00
+	RA-226d	186.11	*	3.28	1.72E+01	4.91E-01	4.94E+00
		241.92		7.46	-2.76E-01		3.07E+00
		295.09	*	19.20	5.51E-01		7.19E-01
		351.87	*	37.10	2.75E-01		5.01E-01
		609.31	*	46.10	5.64E-01		4.91E-01
		1120.27		15.00	-1.08E+00		2.53E+00
		1764.49		15.90	1.10E+00		2.48E+00
+	TH-232d	238.58	*	43.60	5.04E-01	4.59E-01	4.59E-01
		338.42		12.40	8.20E-01		1.54E+00
		583.02	*	30.87	8.64E-01		6.12E-01
		911.16		29.00	8.40E-01		1.16E+00
		968.97		17.40	1.77E+00		2.06E+00
+	U-235	143.79		10.50	2.79E-01	3.06E-01	1.17E+00
		163.38		4.70	-1.23E+00		2.76E+00
		185.74	*	53.00	1.07E+00		3.06E-01
		205.33		4.70	-1.83E+00		3.11E+00
+	U-238d	63.29	*	3.80	8.25E+00	2.70E+00	3.45E+00
		92.56	*	5.41	8.62E+00		2.70E+00
	AM-241	59.54		35.70	5.82E-02	2.90E-01	2.90E-01
	CM-243	99.52		14.40	2.84E-01	4.42E-01	7.20E-01
		103.73		23.00	1.13E-01		4.42E-01
		116.93		8.32	-1.52E+00		1.12E+00
		228.19		10.56	7.79E-01		1.36E+00
		277.60		14.00	-1.48E-01		1.01E+00
	CM-245	99.52		21.10	1.94E-01	3.02E-01	4.91E-01
		103.73		33.60	7.72E-02		3.02E-01
		116.93		12.20	-1.04E+00		7.62E-01
		174.94		9.50	-7.28E-01		1.39E+00

Analysis Report for RCF19549

J16M98 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

+ = 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

APR 28 2008

Edward S Wallace
(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-100

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/Stockpiles		**SAF No.** RC-087
Ice Chest No. ERC-97-029	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle
Shipped To Radiological Counting Facility	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Price Code 2A

Data Turnaround 24 Hours

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None											
Type of Container	P											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											

Sample No.	Matrix *	Sample Date	Sample Time		RCF								
J16M96	SOIL	4-25-08	0850	X	19547								K-1
J16M97	SOIL	4-25-08	0900	X	19548								K-2
J16M98	SOIL	4-25-08	0910	X	19549								K-3

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E Harries / E. Harries	4/25/08 1030	R. Fahlberg R. Fahlberg	1030 4-25-08
R. Fahlberg R. Fahlberg	1100 4-25-08	1060 Shipping 1-A	1100 4-25-08
1060/1A	4/28/08 0800	MCK mstankovich	0800 4/28/08
MCK mstankovich	0840 4/28/08	RCF K. Eliason /	0840 4-28-08

SPECIAL INSTRUCTIONS

None

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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
Va=Vegetation
X=Other

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

WCH-EE-011

RCF19 549

Radiological Counting Facility

Analysis Report for RCF19550

J16M99 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19550
Sample Description	: J16M99 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 1.000E+00 units
Facility	: Default
Sample Taken On	: 4/28/2008 10:40:29AM
Acquisition Started	: 4/28/2008 10:40:42AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3644.4 seconds
Dead Time	: 1.22 %
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	: 18898

J16MD9

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/units)	Wt mean Activity Uncertainty	Comments
	K-40		1.000	7.72E+02	1.57E+02	
X	EU-155		0.370			
	PB-212		1.000	8.71E+01	1.32E+01	
	RA-226d		0.678	2.76E+01	9.22E+00	
	TH-232d		0.997	5.87E+01	1.27E+01	
	U-235		0.795	2.34E+01	1.03E+01	
	U-238d	@	1.000	1.23E+03	1.70E+02	

Analysis Report for RCF19550

J16M99 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 11:41:31AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.		Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.20 No Peak	1.24E-02	31.03
m	7	98.38 No Peak	1.78E-02	18.29
	8	112.83 No Peak	2.61E-02	28.29
	15	510.77 Annihilation	1.25E-02	34.54
	20	1000.82 photon Pa-234m	7.74E-03	28.83

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/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
+	K-40	1460.83	*	10.67	7.72E+02	1.26E+02	1.26E+02
	CO-60	1173.24		99.90	-8.81E+00	1.54E+01	1.57E+01
		1332.50		99.98	3.33E+00		1.54E+01
	NB-94	702.63		99.81	3.02E+00	1.23E+01	1.23E+01
		871.10		99.89	1.50E+00		1.49E+01
	AG-108m	433.94		90.50	3.46E-01	1.09E+01	1.09E+01
		614.28		89.80	-3.89E+00		1.63E+01
		722.94		90.80	-5.42E+00		1.46E+01
	CS-137	661.66		85.21	1.06E+01	1.60E+01	1.60E+01
	EU-152	40.12		38.40	6.85E+00	1.81E+01	1.81E+01
		45.38		11.10	1.44E+00		6.38E+01
		121.78		28.40	-1.06E+00		2.19E+01
		244.69		7.51	-1.71E+02		1.16E+02
		344.29		26.60	-8.94E-01		3.51E+01

Analysis Report for RCF19550

J10M99 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
		431.37		7.07	1.22E+00		[illegible]
		443.89		2.80	-1.20E+02		3.44E+02
		[illegible]		32.99	5.33E+01		2.52E+01
		867.38		4.21	-2.21E+02		3.62E+02
		963.13		14.60	-3.13E+01		1.38E+02
		1085.89		9.94	6.32E+01		1.54E+02
		1089.71		1.71	4.29E+01		9.40E+02
		1112.07		13.60	-2.56E+02		1.18E+02
		1212.93		1.40	-7.47E+01		1.11E+03
		1299.16		1.63	1.09E+02		8.70E+02
		1408.00		20.80	2.71E+01		8.02E+01
	EU-154	123.10		40.50	-1.20E+01	1.54E+01	1.54E+01
		723.36		19.70	8.76E+00		6.81E+01
		873.23		11.45	-8.92E+01		1.22E+02
		1004.78		17.90	2.49E+01		9.99E+01
		1274.54		35.50	-1.02E+00		4.15E+01
	EU-155	86.54	*	34.00	1.23E+01	1.57E+01	1.57E+01
		105.31		20.60	-1.78E+01		2.90E+01
+	PB-212	74.81	*	10.50	1.07E+02	2.95E+01	4.97E+01
		77.11	*	17.70	8.45E+01		2.95E+01
		87.19	*	6.27	6.65E+01		8.54E+01
+	RA-226d	186.11	*	3.28	3.92E+02	1.65E+01	2.38E+02
		241.92		7.46	-4.17E+01		1.73E+02
		295.09	*	19.20	3.40E+01		2.87E+01
		351.87	*	37.10	2.65E+01		1.65E+01
		609.31	*	46.10	2.66E+01		1.99E+01
		1120.27		15.00	9.71E+01		1.28E+02
		1764.49		15.90	1.90E+01		1.04E+02
+	TH-232d	238.58	*	43.60	6.08E+01	1.80E+01	1.80E+01
		338.42	*	12.40	9.02E+01		5.82E+01
		583.02	*	30.87	6.13E+01		2.81E+01
		911.16	*	29.00	5.11E+01		2.88E+01
		968.97	*	17.40	4.98E+01		6.04E+01
+	U-235	143.79	*	10.50	2.82E+01	1.48E+01	4.26E+01
		163.38		4.70	8.34E+01		1.53E+02
		185.74	*	53.00	2.43E+01		1.48E+01
		205.33		4.70	-2.97E+01		1.65E+02
+	U-238d	63.29	*	3.80	1.23E+03	8.96E+01	2.01E+02
		92.56	*	5.41	1.08E+03		8.96E+01
	AM-241	59.54		35.70	-1.79E+00	3.13E+01	3.13E+01
	CM-243	99.52		14.40	-1.00E+00	2.66E+01	4.78E+01
		103.73		23.00	-4.31E+00		2.66E+01
		116.93		8.32	1.68E+01		8.03E+01
		228.19		10.56	-6.37E+01		6.78E+01
		277.60		14.00	-2.07E+01		5.86E+01
	CM-245	99.52		21.10	-6.85E-01	1.82E+01	3.26E+01
		103.73		33.60	-2.95E+00		1.82E+01
		116.93		12.20	1.14E+01		5.48E+01

Analysis Report for RCF19550

J16M99 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
	174.94	9.50	4.81E+00		7.50E+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:

EDWARD S. WALLACE

APR 28 2008

Edward S. Wallace

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-101

Collector B Lawrence, E. Harries	Chemical Contact Sam Kenner	Project Coordinator K SENES, H
Project Designation 618-7 Burial Ground - Soil	Sampling Location 618-7 Burial Ground (Caisson)	Sub F. No. RC-087
Ice Chest No. ERC-24-077	Field Logbook No. [illegible]	Method of Shipment Government Vehicle
Shipped To Radiological Counting Facility	Offsite Property No. NA	Bill of Lading/Air Bill No. NA

Price Code: 2A

Data Turnaround: **24 Hours**

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

SAMPLE ANALYSIS

Sample No.	Matrix	Sample Date	Sample Time	Preservation: None	Type of Container: P	No. of Container(s): 1	Volume: 500 mL	RCF-CEV Shipping Number								
J16M99	SOIL	4-25-08	0920	X				RCE 19550								
J16MB0	SOIL	4-25-08	0930	X				19551								K 51
J16MB1	SOIL	4-25-08	0940	X				19552								K 52
J16MB2	SOIL	4-25-08	0950	X				19553								K 53
																K 54

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries/E. Harries	4-25-08 0930	R. Fahlberg R.F.	4-25-08 0930
R. Fahlberg R. Fahlberg	4-25-08 1100	1060 Spa	4-25-08 1100
1060/1A	4/28/08 0800	[illegible]	4/28/08 0800
[illegible]	4/28/08 0800	[illegible]	4/28/08 0800

Sign/Print Names

SPECIAL INSTRUCTIONS

None

Samples available for one year. Samples not consumed in sample analysis will be disposed of. Samples will be stored in accordance with WCH-EE-011 Chain of Custody/Sample Analysis Request.

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

WCH-EE-011

RCF 19550

Radiological Counting Facility

Analysis Report for RCF19551

J16MB0 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19551
Sample Description	: J16MB0 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 50 gram pill box
Unit	:
Sample Point	J16mF0
Sample Size	: 5.400E+01 grams
Facility	: Default
Sample Taken On	: 4/25/2008 9:30:00AM
Acquisition Started	: 4/28/2008 11:48:08AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3649.0 seconds
Dead Time	: 1.34 %
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	: 18900

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.51E+01	3.03E+00	
PB-212		0.709	6.87E-01	1.58E-01	
RA-226d		0.403	5.05E-01	1.75E-01	
TH-232d		0.681	7.07E-01	1.66E-01	
U-235		0.547	2.18E-01	1.23E-01	
U-238d	@	0.999	3.72E+00	1.65E+00	

Analysis Report for RCF19551

J16MB0 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 12:49:00PM
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\AnexRoot\DefaultLibrary\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	1.51E+01	2.77E+00	2.77E+00
	CO-60	1173.24		99.90	1.04E-02	[illegible]	[illegible]
		1332.50		99.98	-3.88E-02		2.55E-01
	NB-94	702.63		99.81	-5.50E-02	[illegible]	[illegible]
		871.10		99.89	5.50E-02		2.70E-01
	AG-108m	433.94		90.50	1.41E-02	[illegible]	[illegible]
		614.28		89.80	3.38E-02		2.91E-01
		722.94		90.80	-1.01E-02		[illegible]
	CS-137	661.66		85.21	-8.16E-03	2.11E-01	2.11E-01
	EU-152	40.12		38.40	1.13E-01	[illegible]	[illegible]
		45.38		11.10	7.19E-01		9.71E-01
		121.78		28.40	2.13E-01		[illegible]
		244.69		7.51	-2.49E+00		1.94E+00
		344.28		26.60	1.08E-01		[illegible]
		411.12		2.23	-1.70E+00		7.26E+00
		443.89		2.80	1.34E+00		[illegible]
		778.92		12.98	-3.27E-01		1.51E+00
		867.38		4.21	-6.48E-01		[illegible]

Analysis Report for RCF19551

J16MB0 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	964.11		14.50	1.63E+00		2.06E+00
	1085.89		9.94	-5.07E-01		2.50E+00
	1089.71		1.71	-9.20E+00		1.39E+01
	1112.07		13.60	-3.07E+00		1.75E+00
	1212.93		1.40	7.76E+00		1.97E+01
	1299.16		1.63	2.18E+00		1.75E+01
	1408.00		20.80	-8.72E-01		1.23E+00
EU-154	123.10		40.50	4.63E-02	2.51E-01	2.51E-01
	723.36		19.70	-3.41E-01		1.13E+00
	873.23		11.45	-6.40E-03		2.28E+00
	1004.78		17.90	5.83E-01		1.33E+00
	1274.54		35.50	-7.33E-03		7.33E-01
EU-155	86.54		34.00	1.17E-01	3.35E-01	3.35E-01
	105.31		20.60	-3.20E-02		4.53E-01
PB-212	74.81	*	10.50	7.48E-01	3.85E-01	6.81E-01
	77.11	*	17.70	6.64E-01		3.85E-01
	87.19		6.27	1.29E+00		1.85E+00
RA-226d	186.11	*	3.28	4.02E+00	3.59E-01	3.01E+00
	241.92		7.46	-1.12E+00		2.58E+00
	295.09		19.20	8.16E-01		8.44E-01
	351.87	*	37.10	7.52E-01		3.59E-01
	609.31	*	46.10	3.00E-01		3.70E-01
	1120.27		15.00	-6.50E-01		1.81E+00
	1764.49		15.90	1.13E+00		1.90E+00
TH-232d	238.58	*	43.60	7.75E-01	3.03E-01	3.03E-01
	338.42		12.40	6.45E-01		1.42E+00
	583.02	*	30.87	7.31E-01		4.48E-01
	911.16	*	29.00	4.21E-01		6.63E-01
	968.97		17.40	1.06E+00		1.62E+00
U-235	143.79		10.50	2.41E-01	1.86E-01	1.10E+00
	163.38		4.70	4.02E-01		2.29E+00
	185.74	*	53.00	2.49E-01		1.86E-01
	205.33		4.70	-8.59E-01		2.61E+00
U-238d	63.29	*	3.80	3.72E+00	1.73E+00	2.53E+00
	92.56	*	5.41	3.02E+00		1.73E+00
AM-241	59.54		35.70	-7.42E-02	2.88E-01	2.88E-01
CM-243	99.52		14.40	-2.99E-01	4.03E-01	6.47E-01
	103.73		23.00	-1.63E-01		4.03E-01
	116.93		8.32	-6.35E-01		1.21E+00
	228.19		10.56	7.84E-01		1.20E+00
	277.60		14.00	-8.37E-01		9.65E-01
CM-245	99.52		21.10	-2.04E-01	2.76E-01	4.42E-01
	103.73		33.60	-1.12E-01		2.76E-01
	116.93		12.20	-4.26E-01		8.27E-01
	174.94		9.50	-4.76E-01		1.21E+00

Analysis Report for RCF19551

J16MB0 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

+ = 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

APR 28 2008 Edward S Wallace

(print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087.101

Collector: B Lawrence, E. Harries

Company Contact: Joan Kessler

Telephone No.: [illegible]

Project Coordinator: [illegible]

Price Code: 2A

Data Turnaround: 24 Hours

Project Designation: 618-7 Burial Ground Soil

Sampling Location: 618-7 Burial Ground [illegible]

SAF No.: [illegible]

Ice Chest No.: 77 ERC-249-079

Field Logbook No.: EL 1395-12

COA: [illegible]

Shipped To: Radiological Counting Facility

Offsite Property No.: NA

Method of Shipment: [illegible]

Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and heavy metal contamination

Special Handling and/or Storage

None

SAMPLE ANALYSIS

Preservation	None													
Type of Container	P													
No. of Container(s)	1													
Volume	8 oz.													
	RCRA Metals Screen													
Sample No.	Matrix*	Sample Date	Sample Time											
J16M99	SOIL	4-25-08	0920	X	KCC 19550									
J16MB0	SOIL	4-25-08	0930	X	19551									K1
J16MB1	SOIL	4-25-08	0940	X	19552									K5
J16MB2	SOIL	4-25-08	0950	X	19553									K6
														K7

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries/B. Lawrence	4/25/08 0930	R. Fahlberg R. Fahlberg	4-25-08 1030
R. Fahlberg R. Fahlberg	4-25-08 1100	1060 Spog	4-25-08 1100
1060/1A	4/28/08 0800	[illegible]	[illegible]
[illegible]	4/28/08 0900	[illegible]	[illegible]
		[illegible]	4-28-08 0900

Sign/Print Names

SPECIAL INSTRUCTIONS

None

Matrix*

[illegible]

Hazardous waste [illegible] shall be [illegible] [illegible] samples [illegible]

LABORATORY SECTION

Received By: Date/Time

FINAL SAMPLE DISPOSITION

Disposal Method: Disposed By: Date/Time

WDF-ET-001

NCF 9551

Radiological Counting Facility

Analysis Report for RCF19552

J16MB1 SAF:RC 087 FF2/618 7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	RCF19552
Sample Description	: J16MB1 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.900E+01 grams
Facility	. Default
Sample Taker On	: 4/25/2008 9:40:00AM
Acquisition Started	. 4/28/2008 11:48:15AM
Procedure	: 50 gram pill box
Operator	. RCT
Detector Name	: PGTWHITE
Geometry	. 50 ml 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	. 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	. 18901

~~J16 MB~~

J16mF1

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.996	1.97E+01	3.68E+00	
PB-212	0.708	8.47E-01	2.50E-01	
TH-232d	0.849	9.46E-01	2.42E-01	
U-235	0.902	2.40E+00	2.67E-01	
U-238d	1.000	2.94E+01	3.83E+00	

Analysis Report for RCF19552

J10MB1 SAF.RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 12:48:23PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	9	300.35	No Peak	4.59E-03	38.69
	11	351.95	Pb-214	2.15E-02	23.12
	13	766.68	No Peak	3.25E-03	66.48
	15	1000.98	Pa-234m	1.23E-02	21.19

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	1.97E+01	3.42E+00	3.42E+00
CO-60	1173.24		99.90	8.77E-02	2.07E-01	2.15E-01
	1332.50		99.98	1.46E-01		3.03E-01
NB-94	702.63		99.91	1.76E-01	2.78E-01	3.05E-01
	871.10		99.89	1.45E-01		2.78E-01
AG-108m	433.94		90.50	4.02E-02	2.06E-01	2.06E-01
	614.28		89.80	-5.13E-03		2.87E-01
	722.94		90.90	2.54E-01		3.12E-01
CS-137	661.66		85.21	-1.29E-01	2.74E-01	2.74E-01
EU-152	40.12		38.40	3.97E-01	3.32E-01	3.32E-01
	45.38		11.10	1.84E-01		1.31E+00
	121.78		28.40	4.12E-02		4.06E-01
	244.69		7.51	1.43E+00		2.12E+00
	344.29		26.60	5.18E-01		6.43E-01
	411.12		2.23	-2.82E+00		7.74E+00
	443.89		2.90	2.57E-01		6.46E-01

Analysis Report for RCF19552

J16MB1 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	778.92		12.98	-6.67E-01		1.91E+00
	867.38		4.21	-1.04E+00		6.82E+00
	964.11		14.50	1.87E-01		2.28E+00
	1085.89		9.94	-1.52E+00		2.90E+00
	1089.71		1.71	6.99E+00		1.96E+01
	1112.07		13.60	-1.72E+00		2.56E+00
	1212.93		1.40	-1.42E+01		2.40E+01
	1299.16		1.63	-1.10E+01		2.00E+01
	1408.00		20.80	-7.08E-01		1.15E+00
EU-154	123.10		40.50	6.92E-02	2.84E-01	2.84E-01
	723.36		19.70	1.17E+00		1.44E+00
	873.23		11.45	1.56E+00		2.14E+00
	1004.78		17.90	-5.85E-01		2.11E+00
	1274.54		35.50	4.04E-01		8.63E-01
EU-155	86.54		34.00	9.50E-02	5.20E-01	5.20E-01
	105.31		20.60	1.82E-01		6.02E-01
PB-212	74.81	*	10.50	1.12E+00	7.03E-01	1.14E+00
	77.11	*	17.70	7.51E-01		7.03E-01
	87.19		6.27	-9.76E-01		2.83E+00
RA-226d	186.11		3.28	4.09E+01	6.47E-01	9.03E+00
	241.92		7.46	8.09E-01		3.34E+00
	295.09		19.20	5.34E-02		9.99E-01
	351.87		37.10	1.08E+00		6.68E-01
	609.31		46.10	3.73E-01		6.47E-01
	1120.27		15.00	1.16E+00		2.49E+00
	1764.49		15.90	1.21E+00		2.69E+00
TH-232d	238.58	*	43.60	8.40E-01	5.29E-01	5.29E-01
	338.42	*	12.40	1.44E+00		1.39E+00
	583.02	*	30.87	8.82E-01		6.65E-01
	911.16	*	29.00	1.17E+00		8.94E-01
	968.97		17.40	2.33E+00		2.04E+00
U-235	143.79	*	10.50	1.49E+00	2.54E-01	1.25E+00
	163.38	*	4.70	2.71E+00		2.54E+00
	185.74	*	53.00	2.50E+00		2.54E-01
	205.33		4.70	-1.36E+00		3.38E+00
U-238d	63.29	*	3.80	2.94E+01	3.32E+00	4.48E+00
	92.56	*	5.41	3.14E+01		3.32E+00
AM-241	59.54		35.70	1.05E-01	3.88E-01	3.88E-01
AM-243	99.52		14.40	-3.03E-01	5.39E-01	9.10E-01
	103.73		23.00	2.91E-01		5.39E-01
	116.93		8.32	-2.61E+00		1.40E+00
	228.19		10.56	-8.62E-01		1.35E+00
	277.60		14.00	1.89E-01		1.12E+00
CM-245	99.52		21.10	-2.07E-01	3.69E-01	6.21E-01
	103.73		33.60	1.99E-01		3.69E-01
	116.93		12.20	-1.78E+00		9.55E-01
	174.94		9.50	-5.30E-01		1.39E+00

Analysis Report for RCF19552

J16MB1 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

+ = 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

APR 28 2008

Edward S Wallace
(print/signature)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-082-202

Price Code: 2A

Data Turnaround: **24 Hours**

Collector: E Lawrence E Haines

Company Contact: Jack Kessler

Telephone No.:

Project Coordinator: [illegible]

Project Designation: 618-7 Burial Ground Soil

Sampling Location: 618-7 Burial Ground Site [illegible]

SAF No.: [illegible]

Ice Chest No.: 17 RC-99-079

Field Logbook No.: EL [illegible]

TOA: [illegible]

Method of Shipment: [illegible]

Shipped To: Radiological Counting Facility

Offsite Property No.: N/A

Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None											
Type of Container	P											
No. of Container(s)	1											
Volume	500 mL											
SAMPLE ANALYSIS	RCF Sample Number											
Sample No. / Matrix / Sample Date / Sample Time		RCF										
J16M99 / SOIL / 4-25-08 / 0920	K	19550										
J16MB0 / SOIL / 4-25-08 / 0930	K	19551										K-1
J16MB1 / SOIL / 4-25-08 / 0940	K	19552										K-5
J16MB2 / SOIL / 4-25-08 / 0950	K	19553										K-6
												K-7

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Haines/E. Lawrence	4/25/08 1030	R Fahlberg	4-25-08 1030
R. Fahlberg R. Fahlberg	4-25-08 1100	1060 Spec I-4	4-25-08 1100
1060/1A	4/28/08 0900	[illegible]	4/28/08 0900
[illegible]	4/28/08 0840	[illegible]	4-28-08 0840

Sign/Print Names

SPECIAL INSTRUCTIONS

LABORATORY SECTION	Received By:
FINAL SAMPLE DISPOSITION	Sample Method

VICH EE-[illegible]

RCF 19552

Radiological Counting Facility

Analysis Report for RCF19553

J16MB2 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19553
Sample Description	: J16MB2 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 1.000E+00 units
Facility	: Default
Sample Taken On	: 4/28/2008 10:36:54AM
Acquisition Started	: 4/28/2008 12:58:38PM
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	: 18903

J16MF2

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/units)	Wt mean Activity Uncertainty	Comments
K-40		0.997	5.46E+02	1.87E+02	
RA-226d		0.675	1.56E+01	8.07E+00	
TH-232d		0.430	3.35E+01	1.26E+01	
U-235		0.649	1.82E+01	9.85E+00	
U-238d	@	1.000	4.68E+02	1.19E+02	

Analysis Report for RCF19553

J16MB2 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

? = 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 : 4/28/2008 1:58:43PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.		Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
m	2	77.08	Pb-212 2.28E-02	19.57

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/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
+	K-40	1460.83	*	10.67	5.46E+02	1.68E+02	1.68E+02
	CO-60	1173.24		99.90	2.02E+00	1.39E+01	1.43E+01
		1332.50		99.98	2.19E+00		1.29E+01
	NB-94	702.63		99.81	1.79E+00	1.04E+01	1.04E+01
		871.10	*	99.89	-4.96E+00		1.13E+01
	AG-108m	433.94		90.50	-2.69E-01	9.65E+00	9.69E+00
		614.28		89.80	4.83E-01		1.19E+01
		722.94		90.80	1.71E+00		1.43E+01
	CS-137	661.66		85.21	3.54E-01	1.04E+01	1.04E+01
	EU-152	40.12		38.40	7.30E-01	1.62E+01	1.64E+01
		45.38		11.10	3.18E+01		5.53E+01
		121.78		28.40	-3.91E+00		1.62E+01
		244.69		7.51	8.14E+00		8.73E+01
		344.29		26.60	-9.32E+00		3.69E+01
		411.12		2.23	-2.68E+02		2.96E+02
		443.89		2.80	5.27E+01		2.94E+02
		778.92		12.98	-4.25E+01		8.15E+01
		867.38		4.21	-1.43E+02		3.91E+02
		964.11		14.50	4.03E+01		1.05E+02

Analysis Report for RCF19553

J16MB2 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
		1085.89		9.94	2.02E+00		1.50E+02
		1089.71		1.71	2.39E+02		8.84E+02
		1112.07		13.60	-1.70E+02		9.11E+01
		1212.93		1.40	1.40E+02		1.14E+03
		1299.16		1.63	8.40E+01		7.38E+02
		1408.00		20.80	-2.79E+01		5.16E+01
	EU-154	123.10		40.50	6.75E+00	1.15E+01	1.15E+01
		723.36		19.70	7.89E+00		6.57E+01
		873.23		11.45	-3.65E+01		9.78E+01
		1004.78		17.90	3.21E+01		8.31E+01
		1274.54		35.50	-3.34E+00		4.13E+01
	EU-155	86.54		34.00	2.85E+00	1.93E+01	1.93E+01
		105.31		20.60	-9.73E+00		2.19E+01
	PB-212	74.81		10.50	-1.01E+02	4.44E+01	6.09E+01
		77.11		17.70	9.50E+00		4.44E+01
		87.19		6.27	1.18E+02		1.06E+02
+	RA-226d	186.11	*	3.28	2.92E+02	1.78E+01	2.15E+02
		241.92		7.46	2.24E+01		1.31E+02
		295.09	*	19.20	3.28E+01		3.14E+01
		351.87	*	37.10	1.02E+01		2.05E+01
		609.31	*	46.10	1.56E+01		1.78E+01
		1120.27		15.00	8.97E+00		9.75E+01
		1764.49		15.90	6.53E+01		8.71E+01
+	TH-232d	238.58	*	43.60	3.92E+01	1.78E+01	1.78E+01
		338.42		12.40	3.93E+01		6.18E+01
		583.02	*	30.87	2.70E+01		2.75E+01
		911.16		29.00	6.78E+01		5.84E+01
		968.97		17.40	4.82E+01		9.22E+01
+	U-235	143.79		10.50	-3.63E+01	1.33E+01	4.86E+01
		163.38		4.70	-4.10E+01		1.01E+02
		185.74	*	53.00	1.80E+01		1.33E+01
		205.33	*	4.70	8.58E+01		1.16E+02
+	U-238d	63.29	*	3.80	4.68E+02	1.26E+02	1.57E+02
		92.56	*	5.41	3.65E+02		1.26E+02
	AM-241	59.54		35.70	9.35E+00	1.46E+01	1.46E+01
	CM-243	99.52		14.40	8.56E+00	2.01E+01	3.53E+01
		103.73		23.00	5.90E+00		2.01E+01
		116.93		8.32	-3.05E+01		5.46E+01
		228.19		10.56	-2.33E+01		5.24E+01
		277.60		14.00	-9.56E+00		3.99E+01
	CM-245	99.52		21.10	5.84E+00	1.37E+01	2.41E+01
		103.73		33.60	4.04E+00		1.37E+01
		116.93		12.20	-2.08E+01		3.72E+01
		174.94		9.50	-2.23E+01		5.22E+01

Analysis Report for RCF19553

J16MB2 SAF:RC-087 FF2/618-7 Burial Ground/Stockpiles

+ = 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

APR 28 2008 (print/sign/date)

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-101

Page 1 of 1

Collector	B Lawrence, E Harries
Project Designation	618-7 Burial Ground - Soil
Ice Chest No.	77 GRC-99-074
Shipped To	Radiological Counting Facility
Company Contact	Joan Kessler
Telephone No.	509-373-4688
Sampling Location	618-7 Burial Ground/Stockpiles
Field Logbook No.	RL-095-12
SOA	[illegible]
Offsite Property No.	NA
Project Coordinator	RESSNER, 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	P											
No. of Container(s)	1											
Volume	60 ml.											
SAMPLE ANALYSIS	RCF UPA Screening Screen											
Sample No. / Matrix / Sample Date / Sample Time												
J16M99 / SOIL / 4-25-08 / 0920	X	RCF 19550										
J16MB0 / SOIL / 4-25-08 / 0930	X	19551										K4
J16MB1 / SOIL / 4-25-08 / 0940	X	19552										K5
J16MB2 / SOIL / 4-25-08 / 0950	X	19553										K6
												K7

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries/E. Harries	4-25-08 1030	R. Fahlberg R. Fahlberg	1030 4-25-08
R. Fahlberg R. Fahlberg	4-25-08 1100	1060 Spalg	1100 4-25-08
1060/1A	4/28/08 0800	M Stankovich	4/28/08 0800
M Stankovich	4/28/08 0840	K Nelson/K Nelson	4-25-08 0540

SPECIAL INSTRUCTIONS

None

Sample unavailable to receive samples from controlled storage. Shipper removed samples from storage location having custody of samples for shipment to lab

Matrix

LABORATORY SECTION — Received By: Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method: Disposed By: Date/Time

WCH-EE-011

RCF 19553

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 42908 0830 GM Screen Result 0.1K

Client: WCH SDG #: J00170 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D290131 Chain of Custody # RC-087-110,-111

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: 7
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: RP Date: 42908

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, Rev. 7, 1/08