0077901

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

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 6/2/08 Initials/Date
Kathy Wendt	H4-21	KW 6/2/08 Initials/Date

COMMENTS:

SDG J00173 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
JUN 2008

Analysis Provided By

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

SDG Number:J00173

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

June 2, 2008

Attention: Joan Kessner

SAF Number	:	RC-087
Date SDG Closed	:	May 30, 2008
Number of Samples	:	Three (3)
Sample Type	:	Soil
SDG Number	:	J00173
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

On May 28, 2008 three 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
J16VV5	KNX4E	SOIL	5/28/08
J16VV6	KNX4L	SOIL	5/28/08
J16VV7	KNX4N	SOIL	5/28/08

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 J00173 includes a minimum of one Laboratory Control Samples (LCS) and one method (reagent) blank. A duplicate sample, matrix spike sample and a matrix spike duplicate sample will be analyzed per 20 samples or per month, whichever is more frequent. Any exceptions have been noted in the "Comments" section.

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

V. Comments

ICP Metals

ICP Metals by method SW-846 6010A

One batch were analyzed in May 2008 for samples with the standard metal request list with add ons aluminum, beryllium, copper, iron, zinc and zirconium.

Batch 8149182:

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

TESTAMERICA

SDG Number: J00173
SAF Number: RC-087
Batch Number: 8149182

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
J8E280000-182-B		1.000	0.0027	-0.004	0.0001	-0.0001	-0.0001	0.0007	0.0008	0.0368	0.0023	0.00593	0.0004	0.0117
J8E280000-182-C		1.000	1.022	0.9477	0.9913	1.026	0.9427	1.016	0.9486	1.11	0.9619	0.80872	0.9251	0.9557
LCS Recovery %			102.200%	94.770%	99.130%	102.600%	94.270%	101.600%	94.860%	111.000%	96.190%	80.872%	92.510%	95.570%
		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
J8E280122-001	J16VV5	0.5043	6100.5354	<MDL	71.24727	0.158636	3.261947	46.05394	21.34642	25798.136	9.399167	<MDL	<MDL	72.09003
J8E280122-001-X	J16VV5-DUP	0.4999	6086.21724	<MDL	75.95519	0.15003	2.85057	60.55211	19.23385	22524.505	12.5225	<MDL	<MDL	73.28466
J8E280122-002	J16VV6	0.4922	7681.83665	<MDL	72.70419	0.172694	7.78139	107.6798	37.08858	23374.644	32.76107	<MDL	<MDL	133.7871
J8E280122-003	J16VV7	0.5073	10615.0207	<MDL	73.23083	0.305539	29.99212	145.0818	38.79361	24058.742	26.15809	<MDL	<MDL	171.6933
J8E280122-001-S	J16VV5-MS	0.4958	N/A	94.41307	166.2969	100.8471	93.90883	169.7257	106.8979	N/A	106.7971	78.52662	88.25131	174.0621
% Recovery				94.413	95.050	100.688	90.647	123.672	85.552		97.398	78.527	88.251	101.972
J8E280122-001-D	J16VV5-MSD	0.5001	N/A	95.36093	168.8662	100.4799	93.70126	115.046	101.5797	N/A	102.7794	78.82424	88.73225	159.6681
% Recovery				95.361	97.619	100.321	90.439	68.992	80.233		93.380	78.824	88.732	87.578

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-145	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.	Field Logbook No. EL-1395-13	COA RG61872600	Method of Shipment GOVERNMENT VEHICLE
Shipped To TestAmerica Incorporated, Richland	Offsite Property No.		Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

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

Sample No.	Matrix *	Sample Date	Sample Time										
J16VV5 KNX4E	SOIL	5-22-08	1250	X							J16VP5		B-008
J16VV6 KNX4L	SOIL	5-22-08	1300	X							J16VP6		B-009
J16VV7 KNX4N	SOIL	5-22-08	1310	X							J16VP7		B-010

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1350	Received By/Stored In	Date/Time 1350
E Harries / E. Harries	5/22/08	RTCOFFMAN / RTCoffman	5/22/08
Relinquished By/Removed From	Date/Time 1430	Received By/Stored In	Date/Time 1430
RTCOFFMAN / RTCoffman	5/22/08	JRDeSvigne JRDeSvigne	5-22-08
Relinquished By/Removed From	Date/Time 0800	Received By/Stored In	Date/Time 0800
JRDeSvigne JRDeSvigne	5-28-08	WLANE	TAL 52808
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

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}

J8E280122
J00173
DUE 52908

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

5

Radiological Counting Facility

Analysis Report for RCF19714

J16VP7 SAF:RC-087 FF2/618-7 BURIAL GROUND/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19714
Sample Description	: J16VP7 SAF:RC-087 FF2/618-7 BURIAL GROUND/STOCKPILES
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.200E+01 grams
Facility	: Default
Sample Taken On	: 5/22/2008 1:10:00PM
Acquisition Started	: 5/22/2008 3:29:17PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: BEGE
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.3 seconds
Dead Time	: 0.01 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 3/27/2008
Efficiency Calibration Used Done On	: 3/31/2008
Efficiency Calibration Description	: 50 ml Pill Box 3-31-2008
Sample Number	: 19437

J16VV7

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.01E+01	2.87E+00	
TH-232d		0.456	4.00E-01	1.36E-01	
U-235		0.903	2.02E+00	1.98E-01	
U-238d	@	0.999	3.01E+01	2.83E+00	

Analysis Report for RCF19714

J16VP7 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 : 5/22/2008 4:29:21PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
2	74.94	Pb-212	2.16E-02	38.58
4	98.47	Pa-234	1.51E-02	44.28
9	352.05	Pb-214	1.57E-02	21.16
11	1000.93	Pa-234m	3.92E-03	38.84

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

NP = No Peak
UK = Unknown

NUCLIDE MDA REPORT

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

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	K-40	1460.83	*	10.67	1.01E+01	2.88E+00	2.88E+00
	CO-60	1173.24		99.90	7.83E-02	2.50E-01	2.77E-01
		1332.50		99.98	-1.00E-02		2.50E-01
	NB-94	702.63		99.81	7.85E-02	1.90E-01	1.90E-01
		871.10		99.89	-6.70E-02		2.20E-01
	AG-108m	433.94		90.50	1.28E-02	1.56E-01	1.56E-01
		614.28		89.80	-3.14E-01		2.21E-01
		722.94		90.80	-9.34E-03		2.16E-01
	CS-137	661.66		85.21	3.44E-02	2.33E-01	2.33E-01
	EU-152	40.12		38.40	3.42E-02	1.60E-01	1.60E-01
		45.38		11.10	-5.34E-02		4.35E-01
		121.78		28.40	7.30E-03		1.84E-01
		244.69		7.51	-6.60E-01		9.79E-01
		344.29		26.60	1.60E-01		3.77E-01
		411.12		2.23	-4.98E+00		4.79E+00
		443.89		2.80	3.56E-01		4.33E+00

Analysis Report for RCF19714

J16VP7 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	-4.39E-01		1.34E+00
		867.38		4.21	4.57E-01		6.07E+00
		964.11		14.50	8.47E-01		1.91E+00
		1085.89		9.94	-1.03E+00		2.67E+00
		1089.71		1.71	3.72E+00		1.56E+01
		1112.07		13.60	-3.00E-02		1.78E+00
		1212.93		1.40	-6.30E+00		2.14E+01
		1299.16		1.63	2.55E+00		1.66E+01
		1408.00		20.80	5.28E-02		1.12E+00
	EU-154	123.10		40.50	-8.11E-02	1.21E-01	1.21E-01
		723.36		19.70	3.87E-01		1.04E+00
		873.23		11.45	-6.76E-01		1.77E+00
		1004.78		17.90	-1.27E-01		1.57E+00
		1274.54		35.50	-1.95E-01		6.98E-01
	EU-155	86.54		34.00	-3.55E-01	2.23E-01	2.23E-01
		105.31		20.60	3.78E-02		2.81E-01
	PB-212	74.81		10.50	7.27E-01	4.53E-01	7.16E-01
		77.11		17.70	5.62E-01		4.53E-01
		87.19		6.27	-4.31E-01		1.14E+00
	RA-226d	186.11		3.28	3.48E+01	3.86E-01	6.63E+00
		241.92		7.46	1.10E+00		1.25E+00
		295.09		19.20	5.14E-01		6.12E-01
		351.87		37.10	4.19E-01		3.86E-01
		609.31		46.10	4.61E-01		5.00E-01
		1120.27		15.00	0.00E+00		1.79E+00
		1764.49		15.90	6.95E-01		1.63E+00
+	TH-232d	238.58	*	43.60	3.84E-01	2.15E-01	2.15E-01
		338.42		12.40	9.45E-01		1.00E+00
		583.02	*	30.87	4.65E-01		4.51E-01
		911.16		29.00	4.18E-01		9.57E-01
		968.97		17.40	8.35E-01		1.60E+00
+	U-235	143.79	*	10.50	1.45E+00	1.73E-01	6.00E-01
		163.38	*	4.70	2.13E+00		1.62E+00
		185.74	*	53.00	2.16E+00		1.73E-01
		205.33		4.70	1.62E+00		1.91E+00
+	U-238d	63.29	*	3.80	3.01E+01	2.26E+00	2.26E+00
		92.56	*	5.41	2.36E+01		2.28E+00
	AM-241	59.54		35.70	8.75E-03	1.48E-01	1.48E-01
	CM-243	99.52		14.40	4.61E-03	2.42E-01	4.59E-01
		103.73		23.00	-7.62E-02		2.42E-01
		116.93		8.32	-2.50E-01		5.70E-01
		228.19		10.56	1.42E-01		7.23E-01
		277.60		14.00	9.24E-02		6.75E-01
	CM-245	99.52		21.10	3.15E-03	1.65E-01	3.13E-01
		103.73		33.60	-5.22E-02		1.65E-01
		116.93		12.20	-1.71E-01		3.89E-01
		174.94		9.50	1.10E-01		7.89E-01

Analysis Report for RCF19714

J16VP7 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**

MAY 27 2008 Edward S Wallace

(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19713

J16VP6 SAF:RC-087 FF2/618-7 BURIAL GROUND/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19713
Sample Description	: J16VP6 SAF:RC-087 FF2/618-7 BURIAL GROUND/STOCKPILES
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.400E+01 grams
Facility	: Default
Sample Taken On	: 5/22/2008 1:00:00PM
Acquisition Started	: 5/22/2008 3:28:38PM
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	: 19436

J16VV6

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.998	1.32E+01	3.74E+00	
RA-226d		0.406	5.62E-01	2.37E-01	
U-235		0.901	2.19E+00	2.96E-01	
U-238d	@	0.999	3.03E+01	3.75E+00	

Analysis Report for RCF19713

J16VP6 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 : 5/22/2008 4:28:46PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	2	77.23	Pb-212	2.30E-02	40.96
M	3	90.01	No Peak	1.45E-02	24.57
	8	238.70	Pb-212	2.34E-02	23.69

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	1.32E+01	4.64E+00	4.64E+00
	CO-60	1173.24		99.90	5.68E-03	3.06E-01	3.56E-01
		1332.50		99.98	-8.89E-02		3.06E-01
	NB-94	702.63		99.81	-5.15E-03	2.61E-01	2.61E-01
		871.10		99.89	-7.06E-02		2.67E-01
	AG-108m	433.94		90.50	1.58E-01	2.40E-01	2.40E-01
		614.28		89.80	1.12E-01		3.10E-01
		722.94		90.80	2.05E-02		3.34E-01
	CS-137	661.66		85.21	-3.78E-02	2.87E-01	2.87E-01
	EU-152	40.12		38.40	-2.71E-01	3.92E-01	4.45E-01
		45.38		11.10	1.10E+00		1.41E+00
		121.78		28.40	1.71E-02		3.92E-01
		244.69		7.51	1.67E+00		2.19E+00
		344.29		26.60	-5.22E-01		6.43E-01
		411.12		2.23	9.03E-01		9.16E+00
		443.89		2.80	4.98E+00		7.95E+00
		778.92		12.98	7.36E-01		2.07E+00

Analysis Report for RCF19713

J16VP6 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	-2.59E-01		6.69E+00
		964.11		14.50	7.83E-01		2.49E+00
		1085.89		9.94	1.09E+00		3.34E+00
		1089.71		1.71	-1.30E+01		1.72E+01
		1112.07		13.60	-1.65E+00		2.34E+00
		1212.93		1.40	-4.80E+00		2.62E+01
		1299.16		1.63	1.24E+00		1.84E+01
		1408.00		20.80	-1.53E-01		1.41E+00
	EU-154	123.10		40.50	-5.09E-02	2.72E-01	2.72E-01
		723.36		19.70	9.45E-02		1.54E+00
		873.23		11.45	-1.56E+00		2.22E+00
		1004.78		17.90	2.08E+00		2.11E+00
		1274.54		35.50	2.30E-01		9.72E-01
	EU-155	86.54		34.00	6.55E-01	4.83E-01	4.83E-01
		105.31		20.60	-2.50E-01		5.88E-01
	PB-212	74.81		10.50	-5.88E-01	1.02E+00	1.41E+00
		77.11		17.70	1.53E+00		1.02E+00
		87.19		6.27	1.66E+00		2.70E+00
+	RA-226d	186.11	*	3.28	3.74E+01	4.39E-01	5.82E+00
		241.92		7.46	6.51E-01		2.93E+00
		295.09		19.20	2.95E-01		9.02E-01
		351.87	*	37.10	7.26E-01		4.39E-01
		609.31	*	46.10	3.07E-01		6.17E-01
		1120.27		15.00	6.07E-01		2.33E+00
		1764.49		15.90	8.79E-01		2.37E+00
	TH-232d	238.58		43.60	7.33E-01	5.05E-01	5.05E-01
		338.42		12.40	9.92E-01		1.66E+00
		583.02		30.87	8.52E-02		8.39E-01
		911.16		29.00	5.68E-01		1.17E+00
		968.97		17.40	1.15E+00		2.08E+00
+	U-235	143.79	*	10.50	1.56E+00	3.60E-01	1.24E+00
		163.38	*	4.70	2.80E+00		3.83E+00
		185.74	*	53.00	2.32E+00		3.60E-01
		205.33		4.70	-1.84E-01		3.42E+00
+	U-238d	63.29	*	3.80	3.03E+01	2.52E+00	4.06E+00
		92.56	*	5.41	2.67E+01		2.52E+00
	AM-241	59.54		35.70	-4.46E-02	3.68E-01	3.68E-01
	CM-243	99.52		14.40	-1.61E-01	5.36E-01	8.88E-01
		103.73		23.00	3.51E-01		5.36E-01
		116.93		8.32	-1.78E+00		1.38E+00
		228.19		10.56	6.99E-01		1.47E+00
		277.60		14.00	-1.43E-01		1.20E+00
	CM-245	99.52		21.10	-1.10E-01	3.67E-01	6.06E-01
		103.73		33.60	2.40E-01		3.67E-01
		116.93		12.20	-1.22E+00		9.41E-01
		174.94		9.50	-4.56E-01		1.45E+00

Analysis Report for RCF19713

J16VP6 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

MAY 27 2008 Edward S Wallace

(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19712

J16VP5 SAF:RC-087 FF2/618-7 BURIAL GROUND/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19712
Sample Description	: J16VP5 SAF:RC-087 FF2/618-7 BURIAL GROUND/STOCKPILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.300E+01 grams
Facility	: Default
Sample Taken On	: 5/22/2008 12:50:00PM
Acquisition Started	: 5/22/2008 3:27:33PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3671.6 seconds
Dead Time	: 1.95 %
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	: 19435

J16VV5

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40		0.991	1.12E+01	2.36E+00	
X	EU-155		0.356			
	PB-212		0.999	7.11E-01	1.36E-01	
	RA-226d		0.786	3.69E-01	1.23E-01	
	TH-232d		0.855	4.21E-01	1.48E-01	
	U-235		0.796	5.05E-01	1.69E-01	
	U-238d	@	1.000	6.10E+00	1.59E+00	

Analysis Report for RCF19712

J16VP5 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 : 5/22/2008 4:28:57PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.		Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.41	Th-232	1.14E-02	30.18

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	1.12E+01	2.22E+00	2.22E+00
	CO-60	1173.24		99.90	-7.46E-02	2.10E-01	2.15E-01
		1332.50		99.98	-1.25E-01		2.10E-01
	NB-94	702.63		99.81	8.99E-02	1.74E-01	1.78E-01
		871.10		99.89	6.44E-02		1.74E-01
	AG-108m	433.94		90.50	4.43E-02	1.38E-01	1.38E-01
		614.28		89.80	-5.76E-02		2.15E-01
		722.94		90.80	-1.68E-02		1.74E-01
	CS-137	661.66		85.21	-7.33E-02	1.51E-01	1.51E-01
	EU-152	40.12		38.40	-1.08E-01	1.97E-01	1.97E-01
		45.38		11.10	5.21E-02		7.53E-01
		121.78		28.40	4.17E-03		2.86E-01
		244.69		7.51	-6.22E-01		1.42E+00
		344.29		26.60	1.62E-01		4.81E-01
		411.12		2.23	8.68E-01		5.39E+00
		443.89		2.80	-2.75E-01		4.04E+00
		778.92		12.98	-9.32E-01		1.13E+00

Analysis Report for RCF19712

J16VP5 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	6.79E-01		4.23E+00
		964.11		14.50	9.40E-01		1.69E+00
		1085.89		9.94	-4.41E-01		1.98E+00
		1089.71		1.71	-3.65E+00		1.10E+01
		1112.07		13.60	2.24E-01		1.50E+00
		1212.93		1.40	3.62E+00		1.60E+01
		1299.16		1.63	3.30E-01		1.33E+01
		1408.00		20.80	5.14E-01		9.82E-01
	EU-154	123.10		40.50	8.93E-02	2.03E-01	2.03E-01
		723.36		19.70	8.59E-02		8.00E-01
		873.23		11.45	-4.22E-01		1.48E+00
		1004.78		17.90	5.24E-01		1.26E+00
		1274.54		35.50	-1.22E-02		6.54E-01
	EU-155	86.54	*	34.00	1.11E-01	1.91E-01	1.91E-01
		105.31		20.60	-1.07E-01		3.71E-01
+	PB-212	74.81	*	10.50	6.59E-01	2.97E-01	5.83E-01
		77.11	*	17.70	7.63E-01		2.97E-01
		87.19	*	6.27	5.99E-01		1.04E+00
+	RA-226d	186.11	*	3.28	8.99E+00	2.57E-01	2.99E+00
		241.92		7.46	-3.29E-01		1.96E+00
		295.09	*	19.20	4.94E-01		4.04E-01
		351.87	*	37.10	2.49E-01		2.92E-01
		609.31	*	46.10	3.77E-01		2.57E-01
		1120.27	*	15.00	9.69E-01		8.76E-01
		1764.49		15.90	4.41E-01		1.39E+00
-	TH-232d	238.58	*	43.60	6.16E-01	2.65E-01	2.65E-01
		338.42	*	12.40	5.43E-01		7.60E-01
		583.02	*	30.87	2.90E-01		3.13E-01
		911.16	*	29.00	4.98E-01		4.87E-01
		968.97		17.40	1.90E+00		1.53E+00
+	U-235	143.79	*	10.50	3.63E-01	1.85E-01	6.81E-01
		163.38		4.70	1.18E+00		2.02E+00
		185.74	*	53.00	5.56E-01		1.85E-01
		205.33		4.70	5.56E-01		2.15E+00
+	U-238d	63.29	*	3.80	6.10E+00	1.09E+00	2.25E+00
		92.56	*	5.41	5.95E+00		1.09E+00
	AM-241	59.54		35.70	-1.37E-01	3.04E-01	3.04E-01
	CM-243	99.52		14.40	-2.29E-01	3.29E-01	5.59E-01
		103.73		23.00	-2.63E-01		3.29E-01
		116.93		8.32	3.92E-01		9.96E-01
		228.19		10.56	-1.88E-01		9.14E-01
		277.60		14.00	-1.57E-01		7.44E-01
	CM-245	99.52		21.10	-1.56E-01	2.26E-01	3.81E-01
		103.73		33.60	-1.80E-01		2.26E-01
		116.93		12.20	2.68E-01		6.79E-01
		174.94		9.50	-2.53E-01		9.21E-01

Analysis Report for RCF19712

J16VP5 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

MAY 27 2008 Edward S Wallace
(print/sign/date)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 52808 0800 GM Screen Result 0.1 K

Client: WCH SDG #: J00173 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8E280122 Chain of Custody # RC-087-145

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ___ Tape
   - ✓ Custody Seals
   - ___ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ___ Broken
   - ___ Leaking
   - ___ Have Air Bubbles
   - (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] (Soil) pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added _____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: RJ Date: 52808

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____