0077903

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

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 5/29/08 Initials/Date
Kathy Wendt	H4-21	KW 5/29/08 Initials/Date

COMMENTS:

SDG J00166 **SAF-RC-087**

Rad only Chem only X 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

Radiochemical Analysis By

TestAmerica

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: TARLIH

Data Package Contains 60 *Pages*

Report No.: 39136

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00166A	RC-087	J16DX8	J8D090287-1	KK1CE1AE	9KK1CE10	8101290
		J16DX8	J8D090287-1	KK1CE1AD	9KK1CE10	8101295
		J16DX8	J8D090287-1	KK1CE2AC	9KK1CE20	8115217
		J16DX8	J8D090287-1	KK1CE1AK	9KK1CE10	8128241

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

May 29, 2008

Attention: Joan Kessner

SAF Number	:	RC-087
Date SDG Closed	:	April 9, 2008
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00166A
Data Deliverable	:	15 – Day / Summary

CASE NARRATIVE

I. Introduction

On April 9, 2008 TestAmerica received a request to analyze additional analyses on sample JADX8. The original receipt date was April 3, 2008 and the analysis was quick turn metals by ICP-6010. The sample was reassigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
JADX8	KK1CE (KKNG6)	SOIL	4/09/08

I. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010
Uranium 234, 235 and 238 by method RICH-RC-5039
Americium 241 by method RICH-RC-5072
Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017
Laser Induced Phosphorimetry
Total Uranium by method RICH-RC-5058

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Plutonium-238, -239/240 by method RICH-RC-5010:

Due to insufficient sample volume, the plutonium aliquots were taken from the gamma fraction after the preliminary gamma results were emailed. Significant amounts of uranium were noted in the sample (J16DX8) and sample duplicate (J16DX8 DUP) spectra. The preliminary results were reported on April 24, 2008. Except as noted, the LCS, batch blank, sample and sample duplicate (J16DX8) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5039:

Due to insufficient sample volume, the uranium aliquot was taken from the gamma fraction after the preliminary gamma results were emailed. Analysis by isotopic method was unsuccessful due to elevated levels of uranium. Isotopic ratios appear to be consistent with natural enrichment levels of U-235. The client was informed on April 30, 2008.

Americium 241 by method RICH-RC-5072:

Due to insufficient sample volume, the americium aliquots were taken from the gamma fraction after the preliminary gamma results were emailed. High amounts of uranium caused interference in the first analysis. The samples were prepared for a reanalysis. The samples were run through two Uteva cartridges to remove uranium form the samples. The preliminary results were reported on April 29, 2008. Except as noted, the LCS, batch blank, sample and sample duplicate (J16DX8) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec by method RICH-RC-5017:

There was insufficient volume for a duplicate. Sample J16DX8 was recounted on a different detector for the duplicate (J16DX8 DUP). The MDAs were not met due the combination of not enough sample for the normal 600 gram minimum aliquots and high counts of Uranium causing elevated backgrounds. The dead time was also slightly elevated at 6.7% due to the high Uranium level. The preliminary gamma results were emailed on April 17, 2008. Except as noted, the LCS, batch blank, samples and sample duplicate (J16DX8) results are within contractual requirements.

Washington Closure Hanford
May 29, 2008

Total Uranium

Total Uranium by method RICH-RC-5058:

On May 1, 2008 the client requested total uranium. Due to the high amounts of uranium in this sample, a one gram aliquot was taken, leached and diluted to 100 ml. 1 ml of this dilution was then taken and again diluted by 100 ml. 1 ml was again taken and diluted to 100 ml of which 0.1 ml was analyzed. These repeated dilutions may have introduced greater error into the calculation. The preliminary results were sent on May 19, 2008. Except as noted, the LCS, batch blank, samples, sample duplicate (J16DX8), and sample matrix spike (J16DX8) results are within contractual requirements.

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

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**TestAmerica Richland's SOP No.**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/?n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 29-May-08

TestAmerica TARLIH

Ordered by Method, Batch No., Client Sample ID.

Report No. : 39136

SDG No: J00166A

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8128241 RICHRC5015									
J16DX8									
	KK1CE1AK	TOTAL-URANIUM	1800.0 +- 2.07		ug/g		0.255	1.0	
J16DX8 DUP									
	KK1CE1AM	TOTAL-URANIUM	1700.0 +- 1.98		ug/g		0.255	1.0	
8101295 RICHRC5010									
J16DX8									
	KK1CE1AD	PU-238	0.0000 +- 0.0217	U	pCi/g	60%	0.0511	1.0	
		PU239/40	0.028 +- 0.0377	U	pCi/g	60%	0.0602	1.0	
J16DX8 DUP									
	KK1CE1AJ	PU-238	0.024 +- 0.0341	U	pCi/g	53%	0.0568	1.0	200.0
		PU239/40	0.0095 +- 0.0242	U	pCi/g	53%	0.0567	1.0	98.0
8115217 RICHRC5080									
J16DX8									
	KK1CE2AC	AM-241	0.14 +- 0.105		pCi/g	81%	0.0932	1.0	
J16DX8 DUP									
	KK1CE2AG	AM-241	0.019 +- 0.0397	U	pCi/g	81%	0.093	1.0	150.1
8101290 RICHRC5017									
J16DX8									
	KK1CE1AE	CO-60	0.11 +- 0.155	U	pCi/g		0.259	0.05	
		CS-137	-0.570 +- 0.386	U	pCi/g		0.6	0.1	
		EU-152	2.0 +- 1.24	U	pCi/g		1.7	0.1	
		EU-154	-0.330 +- 0.468	U	pCi/g		0.77	0.1	
		EU-155	110.0 +- 13.5	U	pCi/g		3.29	0.1	
J16DX8 DUP									
	KK1CE1AF	CO-60	-0.023 +- 0.185	U	pCi/g		0.307	0.05	
		CS-137	-0.420 +- 0.523	U	pCi/g		0.657	0.1	
		EU-152	-0.500 +- 1.20	U	pCi/g		1.69	0.1	
		EU-154	0.43 +- 0.558	U	pCi/g		0.929	0.1	
		EU-155	140.0 +- 16.7	U	pCi/g		2.92	0.1	

No. of Results: 18

TestAmerica

rptSTLRchSaSummary2 V5.1.6
A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

QC Results Summary

TestAmerica TARLIH

Ordered by Method, Batch No, QC Type,.

Date: 29-May-08

Report No. : 39136

SDG No.: J00166A

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
RICHRC5015								
8128241 BLANK QC, KMN3F1AA	TOTAL-URANIUM	0.049 +- 0.00506	U	ug/g				0.263
8128241 LCS, KMN3F1AC	TOTAL-URANIUM	11.0 +- 1.23		ug/g		104%	0.0	0.263
8128241 MATRIX SPIKE, J16DX8 KK1CE1AL	TOTAL-URANIUM	2600.0 +- 3.08		ug/g		26667%	266.0	0.255
RICHRC5010								
8101295 BLANK QC, KK3CR1AA	PU-238	-0.0026 +- 0.0134	U	pCi/g	99%			0.0363
	PU239/40	-0.0013 +- 0.0143	U	pCi/g	99%			0.0502
8101295 LCS, KK3CR1AC	PU239/40	7.2 +- 1.22		pCi/g	91%	98%	0.0	0.0345
RICHRC5080								
8115217 BLANK QC, KLW8A1AA	AM-241	0.095 +- 0.0757		pCi/g	95%			0.067
8115217 LCS, KLW8A1AC	AM-241	17.0 +- 2.65		pCi/g	104%	88%	-0.1	0.077
RICHRC5017								
8101290 BLANK QC, KK3CE1AA	CO-60	0.015 +- 0.0339	U	pCi/g				0.0609
	CS-137	-0.014 +- 0.0300	U	pCi/g				0.0498
	EU-152	-0.019 +- 0.0781	U	pCi/g				0.13
	EU-154	0.049 +- 0.0891	U	pCi/g				0.162
	EU-155	0.011 +- 0.0533	U	pCi/g				0.0893
8101290 LCS, KK3CE1AC	CS-137	7.7 +- 1.02		pCi/g		96%	0.0	0.0691

No. of Results: 14

TestAmerica

rptSTLRchQcSummary V5.1.6 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM I

SAMPLE RESULTS

Date: 29-May-08

Lab Name:	TestAmerica	SDG:	J00166A	Collection Date:	3/28/2008 9:15:00 AM
Lot-Sample No.:	J8D090287-1	Report No. :	39136	Received Date:	4/9/2008 12:00:00 PM
Client Sample ID:	J16DX8	COC No. :	RC-087-059	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8101290	RICHRC5017			Work Order:	KK1CE1AE		Report DB ID:	9KK1CE10				
CO-60	***0.11***	U	0.16	0.16	0.259	pCi/g	0.05	*0.43* *(1.4)*	4/15/08 10:50 a		42.1 g	GER7$1
CS-137	***-0.570***	U	0.39	0.39	0.6	pCi/g	0.1	*-0.94* *-(2.9)*	4/15/08 10:50 a		42.1 g	GER7$1
EU-152	***2.0***	U	1.2	1.2	1.7	pCi/g	0.1	*(1.2)* *(3.2)*	4/15/08 10:50 a		42.1 g	GER7$1
EU-154	***-0.330***	U	0.47	0.47	0.77	pCi/g	0.1	*-0.42* *-(1.4)*	4/15/08 10:50 a		42.1 g	GER7$1
EU-155	***110.0***	U	14.0	14.0	3.29	pCi/g	0.1	*(34.2)* *(16.6)*	4/15/08 10:50 a		42.1 g	GER7$1
Batch: 8101295	RICHRC5010			Work Order:	KK1CE1AD		Report DB ID:	9KK1CE10				
PU-238	***0.0000***	U	0.0000	0.022	0.0511	pCi/g 0.0111	60% 1.0	*0.* *0.*	4/23/08 12:25 p		1.01 G	ALP37
PU239/40	***0.028***	U	0.037	0.038	0.0602	pCi/g 0.0157	60% 1.0	*0.46* *(1.5)*	4/23/08 12:25 p		1.01 G	ALP37
Batch: 8115217	RICHRC5080			Work Order:	KK1CE2AC		Report DB ID:	9KK1CE20				
AM-241	***0.14***		0.10	0.10	0.0932	pCi/g 0.0203	81% 1.0	*(1.5)* *(2.6)*	4/28/08 03:48 p		0.5 G	ALP123
Batch: 8128241	RICHRC5015			Work Order:	KK1CE1AK		Report DB ID:	9KK1CE10				
TOTAL-URANIUM	***1800.0***		0.0000	2.1	0.255	ug/g 0.0902	1.0	*(6872.6)* *(1692.3)*	5/12/08 12:24 p		0.00103 ML	KPAW3

TestAmerica
rptSTLRchSample
V5.1.6 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM I

SAMPLE RESULTS

Date: 29-May-08

Lab Name:	TestAmerica	SDG:	J00166A	Collection Date:	3/28/2008 9:15:00 AM
Lot-Sample No.:	J8D090287-1	Report No. :	39136	Received Date:	4/9/2008 12:00:00 PM
Client Sample ID:	J16DX8	COC No. :	RC-087-059	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 9 Comments:

TestAmerica
rptSTLRchSample
V5.1.6 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

Date: 29-May-08

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	J00166A	Collection Date:	3/28/2008 9:15:00 AM
Lot-Sample No.:	J8D090287-1	Report No. :	39136	Received Date:	4/9/2008 12:00:00 PM
Client Sample ID:	J16DX8 DUP	COC No. :	RC-087-059	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8101290	RICHRC5017			Work Order: KK1CE1AF		Report DB ID: KK1CE1FR			Orig Sa DB ID: 9KK1CE10			
CO-60	-0.023	U	0.19	0.19	0.307	pCi/g		-0.08	4/16/08 08:10 a		42.1	GER6$1
	0.112	U	RPD	305.7		0.05		-0.25			g	
CS-137	-0.420	U	0.52	0.52	0.657	pCi/g		-0.64	4/16/08 08:10 a		42.1	GER6$1
	-0.566	U	RPD	-30.0		0.1		-(1.6)			g	
EU-152	-0.500	U	1.2	1.2	1.69	pCi/g		-0.3	4/16/08 08:10 a		42.1	GER6$1
	1.97	U	RPD	336.2		0.1		-0.83			g	
EU-154	0.43	U	0.56	0.56	0.929	pCi/g		0.46	4/16/08 08:10 a		42.1	GER6$1
	-0.327	U	RPD	1498.8		0.1		(1.5)			g	
EU-155	140.0	U	17.0	17.0	2.92	pCi/g		(48.)	4/16/08 08:10 a		42.1	GER6$1
	112.0	U	RPD	22.3		0.1		(16.8)			g	
Batch: 8101295	RICHRC5010			Work Order: KK1CE1AJ		Report DB ID: KK1CE1JR			Orig Sa DB ID: 9KK1CE10			
PU-238	0.024	U	0.034	0.034	0.0568	pCi/g	53%	0.42	4/23/08 12:26 p		1.02	ALP38
	0.0	U	RPD	200.0		1.0		(1.4)			G	
PU239/40	0.0095	U	0.024	0.024	0.0567	pCi/g	53%	0.17	4/23/08 12:26 p		1.02	ALP38
	0.0277	U	RPD	98.0		1.0		0.78			G	
									Alpha Spec Result Sum = 3.3E-02			
Batch: 8115217	RICHRC5080			Work Order: KK1CE2AG		Report DB ID: KK1CE2GR			Orig Sa DB ID: 9KK1CE20			
AM-241	0.019	U	0.040	0.040	0.093	pCi/g	81%	0.21	4/28/08 03:49 p		0.5	ALP124
	0.136		RPD	150.1		1.0		0.98			G	
									Alpha Spec Result Sum = 5.3E-02			

TestAmerica
rptSTLRchDupV5.1
.6 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

Date: 29-May-08

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	J00166A	Collection Date:	3/28/2008 9:15:00 AM
Lot-Sample No.:	J8D090287-1	Report No. :	39136	Received Date:	4/9/2008 12:00:00 PM
Client Sample ID:	J16DX8 DUP	COC No. :	RC-087-059	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8128241	RICHRC5015			Work Order: KK1CE1AM		Report DB ID: KK1CE1MR			Orig Sa DB ID: 9KK1CE10			
TOTAL-URANIUM	1700.0		0.0000	2.0	0.255	ug/g		(6553.8)	5/12/08 12:32 p		0.00103	KPAW3
	1750.0		RPD 4.7			1.0		(1688.)			ML	

No. of Results: 9 Comments:

TestAmerica RPD - Relative Percent Difference.
rptSTLRchDupV5.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
.6 A2002

TESTAMERICA

FORM II

BLANK RESULTS

Date: 29-May-08

Lab Name: TestAmerica

Matrix: SOIL

SDG: J00166A

Report No. : 39136

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8101295	RICHRC5010			**Work Order:**	KK3CR1AA		**Report DB ID:**	KK3CR1AX				
PU-238	-0.0026	U	0.013	0.013	0.0363	pCi/g	99%	-0.07	4/23/08 12:26 p		1.02	ALP39
					0.00946	1.0		-0.38			G	
PU239/40	-0.0013	U	0.014	0.014	0.0502	pCi/g	99%	-0.03	4/23/08 12:26 p		1.02	ALP39
					0.0164	1.0		-0.18			G	
Batch: 8128241	RICHRC5015			**Work Order:**	KMN3F1AA		**Report DB ID:**	KMN3F1AB				
TOTAL-URANIUM	0.049	U	0.0000	0.0051	0.263	ug/g		0.19	5/12/08 12:12 p		0.001	KPAW3
					0.0929	1.0		(19.5)			ML	
Batch: 8115217	RICHRC5080			**Work Order:**	KLW8A1AA		**Report DB ID:**	KLW8A1AB				
AM-241	0.095		0.074	0.076	0.067	pCi/g	95%	(1.4)	4/28/08 03:49 p		0.5	ALP125
					0.0146	1.0		(2.5)			G	
Batch: 8101290	RICHRC5017			**Work Order:**	KK3CE1AA		**Report DB ID:**	KK3CE1AB				
CO-60	0.015	U	0.034	0.034	0.0609	pCi/g		0.25	4/15/08 10:51 a		25.0	GER8$1
						0.05		0.91			g	
CS-137	-0.014	U	0.030	0.030	0.0498	pCi/g		-0.29	4/15/08 10:51 a		25.0	GER8$1
						0.1		-0.97			g	
EU-152	-0.019	U	0.078	0.078	0.13	pCi/g		-0.15	4/15/08 10:51 a		25.0	GER8$1
						0.1		-0.5			g	
EU-154	0.049	U	0.089	0.089	0.162	pCi/g		0.3	4/15/08 10:51 a		25.0	GER8$1
						0.1		(1.1)			g	
EU-155	0.011	U	0.053	0.053	0.0893	pCi/g		0.13	4/15/08 10:51 a		25.0	GER8$1
						0.1		0.42			g	

TestAmerica
rptSTLRchBlank
V5.1.6 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

BLANK RESULTS

Date: 29-May-08

Lab Name: TestAmerica

Matrix: SOIL

SDG: J00166A

Report No. : 39136

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 9 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchBlank
V5.1.6 A2002

TESTAMERICA

FORM II

LCS RESULTS

Date: 29-May-08

Lab Name: TestAmerica

Matrix: SOIL

SDG: J00166A

Report No. : 39136

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 8101295	RICHRC5010			Work Order:	KK3CR1AC		Report DB ID:	KK3CR1CM					
PU239/40	7.2		0.45	1.2	0.0345	pCi/g	91%	7.3	0.25	98%	4/23/08 12:26 p	1.0	ALP40
							Rec Limits:	70	130	0.0		G	
Batch: 8128241	RICHRC5015			Work Order:	KMN3F1AC		Report DB ID:	KMN3F1CS					
TOTAL-URANIUM	11.0		0.0000	1.2	0.263	ug/g		10.0	0.31	104%	5/12/08 12:19 p	0.001	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 8115217	RICHRC5080			Work Order:	KLW8A1AC		Report DB ID:	KLW8A1CS					
AM-241	17.0		1.0	2.6	0.077	pCi/g	104%	19.0	0.28	88%	4/28/08 03:49 p	0.5	ALP128
							Rec Limits:	70	130	-0.1		G	
Batch: 8101290	RICHRC5017			Work Order:	KK3CE1AC		Report DB ID:	KK3CE1CS					
CS-137	7.7		1.0	1.0	0.0691	pCi/g		8.0	19.0	96%	4/15/08 10:52 a	25.0	GER6$1
							Rec Limits:	70	130	0.0		g	

No. of Results: 4 Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V5.1.6 A2002

TESTAMERICA

FORM II

MATRIX SPIKE RESULTS

Date: 29-May-08

Lab Name: TestAmerica **SDG:** J00166A

Lot-Sample No.: J8D090287-1, J16DX8 **Report No. :** 39136 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Exp-ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 8128241	Work Order:	KK1CE1AL		Report DB ID:	KK1CE1LW		Orig Sa DB ID:	9KK1CE10					
TOTAL-URANIUM	2600.0		0.0000	3.1	0.255	ug/g		!6666.59%	9.8	0.3	5/12/08 12:29 p	0.00103	RICHRC5015
	1750.0											ML	KPAW3

Number of Results: 1

Comments:

TestAmerica
rptSTLRchMs
V5.1.6 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/24/2008 10:31:35 AM

Lot No., Due Date: J8D090287; 04/24/2008
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 8101295; RPUISO Pulso by ALP
SDG, Matrix: J00166A; SOIL

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?	✓		
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?			✓
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
Please see NCM # 10-12181

First Level Review [signature] **Date** 4-24-8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8101295

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	√		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	√		
3. Are the correct isotopes reported?	√		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	√		
2. Does the blank result meet the Contract criteria?	√		
3. Is the blank result < the Contract Detection Limit?	√		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			√
5. Is the LCS recovery within contract acceptance criteria?	√		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	√		
7. Do the MS/MSD results and yields meet acceptance criteria?			√
8. Do the duplicate sample results and yields meet acceptance criteria?	√		
C. Other 1. Are all Non-conformances included and noted?	√		
2. Are all required forms filled out?	√		
3. Was the correct methodology used?	√		
4. Was transcription checked?	√		
5. Were all calculations checked at a minimum frequency?	√		
6. Were units checked?	√		

Comments on any "No" response: See Nar

Second Level Review: Erika [illegible] Date: 4/24/08

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-12181
NCM Initiated By: John Norton
Date Opened: 04/24/2008
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Pulso by ALP
Lot #'s (Sample #'s): J8D090287 (1), J8D100000 (295),
QC Batches: 8101295,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
John Norton	04/24/2008	Significant amounts of uranium noted in these spectra.

Corrective Action

Name	Date	Corrective Action
John Norton	04/24/2008	NA.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/24/2008

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

4/29/2008 8:38:36 AM

Lot No., Due Date: J8D090287; 04/24/2008
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 8115217; RAMISO AmIso by ALP
SDG, Matrix: J00166A; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓ Yes	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓ Yes	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	✓ Yes	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓ Yes	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓ Yes	No	N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes	✓ No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes	✓ No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	✓ N/A
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes	✓ No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes	✓ No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓ Yes	No	N/A
4.2 Were analysis volumes entered correctly?	✓ Yes	No	N/A
4.3 Were Yields entered correctly?	Yes	No	✓ N/A
4.4 Were spectra reviewed/meet contractual requirements?	✓ Yes	No	N/A
4.5 Were raw counts reviewed for anomalies?	✓ Yes	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	✓ Yes	No	N/A
5.2 Are all required forms filled out?	✓ Yes	No	N/A
5.3 Was the correct methodology used?	✓ Yes	No	N/A
5.4 Was transcription checked?	✓ Yes	No	N/A
5.5 Were all calculations checked at a minimum frequency?	✓ Yes	No	N/A
5.6 Are worksheet entries complete and correct?	✓ Yes	No	N/A

6.0 Comments on any No response:
NCM 10-12220

First Level Review Tiza Antonson **Date** 4/29/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8115217

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Non-conformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie G. Date: 4/29/08

Clouseau Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-12220**
NCM Initiated By: Lisa Antonson
Date Opened: 04/29/2008
Date Closed:

Classification: **Anomaly**
Status: **QAREVIEW**
Production Area: Environmental - Sep
Tests: AmIso by ALP
Lot #'s (Sample #'s): J8D090287 (1), J8D240000 (217),
QC Batches: 8115217,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/29/2008	In the original batch, 8101292, high amounts of Uranium caused interferance. A rerun was prepared, and the samples were run through two Uteva cartridges to remove Uranium from the sample. Samples have good results.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/29/2008	The samples were rerun, removing excess Uranium.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/29/2008

TestAmerica

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/17/2008 1:52:47 PM

Lot No., Due Date: J8D090287; 04/16/2008

Client, Site: 127642; S00N063A00 HANFORD

QC Batch No., Method Test: 8101290; RGAMMA Gamma by GER

SDG, Matrix: J00166A; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?		✓	
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
NCM 10-12139

First Level Review Lisa Anderson Date 4/17/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8101290

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?		✓	
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?		✓	
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?		✓	
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?		✓	
C. Other			
1. Are all Non-conformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See Ncm

Second Level Review: Erika Ford Date: 4/17/08

Clouseau
Nonconformance Memo

TestAmerica

NCM #:	10-12139	Classification:	**Anomaly**
NCM Initiated By:	Lisa Antonson	Status:	**QAREVIEW**
Date Opened:	04/17/2008	Production Area:	Environmental - Prep
Date Closed:		Tests:	Gamma by GER
		Lot #'s (Sample #'s):	J8D090287 (1), J8D100000 (290),
		QC Batches:	8101290,
Nonconformance:	Other (describe in detail)		
Subcategory:	Other (explanation required)		

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/17/2008	The MDAs where not met in this batch due to a combination of not enough sample for the normal 600 g minimum, and high counts in Uranium causing elevated backgroud. The dead time also is slightly elevated at 6.7% due to high U content.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/17/2008	NA

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/17/2008

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/13/2008 2:55:39 PM

Lot No., Due Date: J8D090287; 04/24/2008

Client, Site: 127642; S00N063A00 HANFORD

QC Batch No., Method Test: 8128241; RUNAT UNat by KPA

SDG, Matrix: J00166A; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	✓		
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?	✓		
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?			✓
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
Please see NCM # 10-12323

First Level Review [signature] **Date** 5-13-8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 812 8241

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?		✓	
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?	OA 05-14-08		✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?	✓		
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Non-conformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: Sample diluted to 0.1 ml
High Uranium suspected.
C-NCM / Blue Sheet
Fv.- Details!

Second Level Review: [signature] Date: 05-14-08

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-12323
NCM Initiated By: John Norton
Date Opened: 05/13/2008
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: UNat by KPA
Lot #'s (Sample #'s): J8D090287 (1), J8E070000 (241),
QC Batches: 8128241,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
John Norton	05/13/2008	Due to the relatively high amounts of uranium believed to be in this sample a one gram aliquot was taken, leached and diluted to 100 ml, one ml of this dilution was then taken and again diluted by 100 ml, 1 ml was again taken and diluted to 100 ml of which 0.1 ml was analyzed (see blue sheet).

Corrective Action

Name	Date	Corrective Action
John Norton	05/13/2008	These repeated dilutions may have introduced greater error into the calculation that is usual.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 5/13/2008

TESTAMERICA

29

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-059	Page 1 of 1

Collector: B Lawrence, E. Harries	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: 24 Hours		
Project Designation: 618-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground/Stockpiles		SAF No.: RC-087
Ice Chest No.: ERC-99-051	Field Logbook No.: EL-1395-12	COA: RG61872600	Method of Shipment: Government Vehicle
Shipped To: TestAmerica Incorporated, Richland	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	aG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.								TIE + BKF		

Sample No.	Matrix *	Sample Date	Sample Time										
J16DX8 KKNG6	SOIL	3-28-08	0915	X								J16DW8	AN-01
J16DX9 KKNG7	SOIL	3-28-08	0925	X								J16DW9	AN-02

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: B Lawrence	3-28-08 1100	RB Kerkow / RB Kerk	3-28-08 1100
Relinquished By/Removed From: RB Kerkow / RB Kerk	3-28-08 1230	Received By/Stored In: REF 1 B (RBK)	3-28-08 1230
Relinquished By/Removed From: 1060 BATELLE 1B	4/3/08 0900	Received By/Stored In: DAVID ST. JOHN	4/3/08 0900
Relinquished By/Removed From: DAVID ST. JOHN	4/3/08 1030	Received By/Stored In: LJ LANE TALR	4308 1030
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}

J8D030231
J00166
DUE 4-4-08
J1DX8 - Client Requested gamma, U,ISO, Pu,ISO & Am241 on 4/9/08

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

7day TAT on gamma (count gamma) then analyze U,ISO, Pu,ISO & Am241 (15 day TAT FROM STARTED OF analysis. SKS 4/9/08

J8D090287 ~~J00168~~ SKS 4/16/08
J00166A

WCH-EE-011

Radiological Counting Facility

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19364
Sample Description	: J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 4.800E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 9:15:00AM
Acquisition Started	: 3/31/2008 11:31:15AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3716.2 seconds
Dead Time	: 3.13 %
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	: 18288

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.991	1.97E+02	1.83E+01	
U-235		0.981	2.70E+03	8.44E+01	
U-238d	@	0.986	2.43E+04	1.42E+03	

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground 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 : 3/31/2008 12:33:14PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	1	52.88	NP	3.28E+00	5.93
	3	83.70	NP	2.08E+01	1.37
m	5	94.21	Th-234	1.32E+02	0.18
m	6	97.98	NP	1.47E+02	0.14
M	7	110.60	~~Th-234~~ Pa-234	5.12E+01	0.48
m	8	112.36	Th-234	3.43E+01	0.71
m	9	114.25	NP	2.86E+01	0.68
	10	120.37	NP	2.63E-01	60.48
	11	130.96	NP	1.65E+00	15.95
	15	194.56	NP	1.41E+00	9.24
M	16	201.62	NP	1.90E+00	2.89
M	18	221.07	NP	2.30E-01	18.19
m	19	226.59	NP	7.55E-01	6.82
	20	257.77	NP	4.37E+00	2.25
	21	387.32	NP	2.18E-01	29.11
	22	568.87	NP	6.39E-01	9.33
	23	690.59	NP	2.92E-01	17.57
M	24	701.36	NP	2.19E-01	9.52
m	25	705.58	NP	2.56E-01	8.75
	26	733.17	NP	2.95E-01	16.36
	27	742.56	NP	2.91E+00	2.09
	28	766.13	NP	1.01E+01	0.77
	29	786.07	Bi-214	1.36E+00	4.17
	30	805.60	Bi-214	3.41E-01	12.95
M	31	824.65	NP	1.57E-01	9.99
m	32	831.37	NP	1.47E-01	10.48
	33	851.13	NP	1.59E-01	22.05
M	34	880.40	NP	4.22E-01	4.37
m	35	883.04	NP	5.57E-01	3.29
m	36	886.97	NP	1.90E-01	7.14
M	37	921.48	NP	2.70E-01	6.11
m	38	925.97	NP	8.05E-01	2.44
	39	945.67	NP	9.09E-01	3.44
	40	1000.70	Pa-234M	2.28E+01	0.39
	41	1043.73	NP	7.98E-02	23.52
	42	1124.69	NP	1.20E-01	14.97
	43	1193.34	NP	3.16E-01	5.98
	44	1236.93	NP	1.42E-01	11.64
	45	1393.41	NP	7.93E-02	15.58
	46	1413.72	NP	2.55E-02	38.32
	47	1433.82	NP	1.95E-01	6.78

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	49	1510.08	NP	2.47E-01	5.56
	50	1527.09	NP	4.35E-02	23.97
	51	1553.76	NP	1.07E-01	11.30
	52	1737.74	NP	3.84E-01	3.19
	53	1765.62	NP	1.10E-01	8.25
M	54	1809.38	NP	5.77E-02	6.88
m	55	1820.25	NP	1.25E-02	18.57
	56	1831.45	NP	2.84E-01	3.79
M	57	1867.95	NP	1.61E-01	3.92
m	58	1875.50	NP	1.45E-01	4.11
	59	1893.95	NP	4.22E-02	11.36
	60	1911.41	NP	9.37E-02	6.55
	61	1937.33	NP	5.78E-02	7.91

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+02	2.11E+01	2.11E+01
	CO-60	1173.24		99.90	1.75E-01	2.10E+00	2.48E+00
		1332.50		99.98	6.03E-01		2.10E+00
	NB-94	702.63		99.81	-4.07E-01	4.00E+00	4.82E+00
		871.10		99.89	-6.27E+00		4.00E+00
	AG-108m	433.94		90.50	3.23E+00	4.32E+00	4.32E+00
		614.28		89.80	2.55E+00		4.64E+00
		722.94		90.80	-2.11E+00		4.96E+00
	CS-137	661.66		85.21	-3.37E+00	4.94E+00	4.94E+00
	EU-152	40.12		38.40	-9.17E+00	9.83E+00	1.03E+01
		45.38		11.10	-6.27E+01		3.13E+01
		121.78		28.40	-1.13E+00		1.18E+01
		244.69		7.51	-6.50E+01		4.89E+01
		344.29		26.60	9.54E+00		1.39E+01
		411.12		2.23	-1.95E+00		1.65E+02
		443.89		2.80	-4.08E+01		1.40E+02
		778.92		12.98	-3.57E+01		3.94E+01
		867.38		4.21	2.37E+00		9.44E+01
		964.11		14.50	9.88E+00		2.20E+01
		1085.89		9.94	4.20E+00		2.79E+01

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1089.71		1.71	-5.53E+01		1.61E+02
		1112.07		13.60	-2.94E+00		1.91E+01
		1212.93		1.40	-1.54E+02		1.77E+02
		1299.16		1.63	-1.46E+02		1.33E+02
		1408.00		20.80	-5.20E+00		9.83E+00
	EU-154	123.10		40.50	-5.11E-01	6.29E+00	8.21E+00
		723.36		19.70	-9.71E+00		2.29E+01
		873.23		11.45	-4.96E+01		3.51E+01
		1004.78		17.90	-4.02E+02		8.72E+01
		1274.54		35.50	1.04E-02		6.29E+00
	EU-155	86.54		34.00	-4.16E+02	1.77E+01	1.77E+01
		105.31		20.60	-7.03E+02		2.42E+01
	PB-212	74.81		10.50	7.34E+01	2.88E+01	4.02E+01
		77.11		17.70	-2.59E+02		2.88E+01
		87.19		6.27	-2.25E+03		9.76E+01
	RA-226d	186.11		3.28	-4.08E+01	9.00E+00	3.56E+02
		241.92		7.46	-6.93E+00		4.93E+01
		295.09		19.20	1.78E+01		1.88E+01
		351.87		37.10	-5.96E+00		9.90E+00
		609.31		46.10	3.18E+00		9.00E+00
		1120.27		15.00	2.10E+00		1.85E+01
		1764.49		15.90	6.76E+01		1.49E+01
	TH-232d	238.58		43.60	7.03E+00	8.47E+00	8.47E+00
		338.42		12.40	1.09E+01		2.97E+01
		583.02		30.87	1.97E+00		1.35E+01
		911.16		29.00	-8.06E+00		1.18E+01
		968.97		17.40	-4.58E+00		1.83E+01
+	U-235	143.79	*	10.50	1.97E+03	1.28E+01	4.07E+01
		163.38	*	4.70	2.78E+03		9.79E+01
		185.74	*	53.00	3.10E+03		1.28E+01
		205.33	*	4.70	3.47E+03		9.21E+01
+	U-238d	63.29	*	3.80	2.43E+04	9.84E+01	1.47E+02
		92.56	*	5.41	4.28E+04		9.84E+01
	AM-241	59.54		35.70	-1.68E+02	1.10E+01	1.10E+01
	CM-243	99.52		14.40	-6.02E+01	2.23E+01	5.88E+01
		103.73		23.00	-7.83E+02		2.23E+01
		116.93		8.32	-2.53E+01		5.46E+01
		228.19		10.56	-7.34E+00		3.58E+01
		277.60		14.00	4.45E+01		2.62E+01
	CM-245	99.52		21.10	-4.11E+01	1.53E+01	4.01E+01
		103.73		33.60	-5.36E+02		1.53E+01
		116.93		12.20	-1.73E+01		3.72E+01
		174.94		9.50	5.76E+00		4.16E+01

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

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

Reviewed and Approved: Edward S. Wallace, Edward S Wallace 4-02-08
(print/sign/date)

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19365
Sample Description	: J16DW9 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 4.300E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 9:25:00AM
Acquisition Started	: 3/31/2008 11:31:07AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3662.9 seconds
Dead Time	: 1.72 %
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	: 18287

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.993	1.54E+01	3.45E+00	
PB-212		0.709	8.25E-01	1.84E-01	
RA-226d		0.671	3.19E-01	1.65E-01	
TH-232d		0.850	6.67E-01	1.86E-01	
U-235		0.547	6.08E-01	1.73E-01	
U-238d	@	1.000	8.52E+00	2.02E+00	

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground 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 : 3/31/2008 12:32:24PM
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	1.54E+01	3.26E+00	3.26E+00
	CO-60	1173.24		99.90	-6.34E-02	3.47E-01	3.47E-01
		1332.50		99.98	3.75E-02		3.60E-01
	NB-94	702.63		99.81	7.05E-02	2.58E-01	2.58E-01
		871.10		99.89	1.41E-02		2.63E-01
	AG-108m	433.94		90.50	1.28E-01	2.28E-01	2.28E-01
		614.28		89.80	-1.16E-01		3.23E-01
		722.94		90.80	1.29E-01		2.82E-01
	CS-137	661.66		85.21	3.89E-02	3.02E-01	3.02E-01
	EU-152	40.12		38.40	7.17E-03	3.96E-01	3.96E-01
		45.38		11.10	3.69E-01		1.26E+00
		121.78		28.40	1.98E-01		4.43E-01
		244.69		7.51	-2.24E+00		2.30E+00
		344.29		26.60	-2.47E-01		7.72E-01
		411.12		2.23	3.66E+00		9.37E+00
		443.89		2.80	-4.69E+00		6.69E+00
		778.92		12.98	1.69E-01		1.93E+00
		867.38		4.21	4.44E+00		7.05E+00

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	-1.96E-01		2.38E+00
		1085.89		9.94	-1.35E+00		3.24E+00
		1089.71		1.71	-4.04E+00		1.97E+01
		1112.07		13.60	-1.25E+00		2.56E+00
		1212.93		1.40	-1.72E+01		2.31E+01
		1299.16		1.63	1.26E+01		2.33E+01
		1408.00		20.80	8.27E-02		1.62E+00
	EU-154	123.10		40.50	3.69E-02	3.07E-01	3.07E-01
		723.36		19.70	3.13E-01		1.29E+00
		873.23		11.45	-1.14E+00		2.36E+00
		1004.78		17.90	1.55E+00		1.81E+00
		1274.54		35.50	4.97E-01		1.02E+00
	EU-155	86.54		34.00	-5.02E-02	4.17E-01	4.17E-01
		105.31		20.60	2.65E-01		6.12E-01
+	PB-212	74.81	*	10.50	1.17E+00	4.12E-01	7.22E-01
		77.11	*	17.70	7.21E-01		4.12E-01
		87.19		6.27	6.20E-02		2.35E+00
+	RA-226d	186.11	*	3.28	1.01E+01	3.68E-01	3.82E+00
		241.92		7.46	-9.30E-01		3.00E+00
		295.09	*	19.20	5.92E-01		6.49E-01
		351.87	*	37.10	3.03E-01		3.68E-01
		609.31	*	46.10	2.24E-01		4.52E-01
		1120.27		15.00	9.26E-01		2.51E+00
		1764.49		15.90	1.11E+00		2.38E+00
+	TH-232d	238.58	*	43.60	5.99E-01	3.54E-01	3.54E-01
		338.42	*	12.40	5.99E-01		9.72E-01
		583.02	*	30.87	8.64E-01		5.68E-01
		911.16	*	29.00	7.32E-01		8.91E-01
		968.97		17.40	1.63E+00		1.97E+00
+	U-235	143.79		10.50	9.67E-01	2.37E-01	1.34E+00
		163.38		4.70	5.41E-02		2.95E+00
		185.74	*	53.00	6.28E-01		2.37E-01
		205.33		4.70	6.04E-02		3.52E+00
+	U-238d	63.29	*	3.80	8.52E+00	2.10E+00	2.72E+00
		92.56	*	5.41	1.05E+01		2.10E+00
	AM-241	59.54		35.70	-7.91E-02	4.35E-01	4.35E-01
	CM-243	99.52		14.40	-6.09E-01	5.40E-01	8.73E-01
		103.73		23.00	-4.32E-01		5.40E-01
		116.93		8.32	-1.89E-01		1.52E+00
		228.19		10.56	-8.73E-02		1.51E+00
		277.60		14.00	-1.06E+00		1.15E+00
	CM-245	99.52		21.10	-4.16E-01	3.70E-01	5.95E-01
		103.73		33.60	-2.96E-01		3.70E-01
		116.93		12.20	-1.29E-01		1.03E+00
		174.94		9.50	7.00E-01		1.49E+00

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground 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 Edward S. Wallace 4-02-08
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19362
Sample Description	: J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.600E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 10:05:00AM
Acquisition Started	: 3/31/2008 10:21:24AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3662.3 seconds
Dead Time	: 1.70 %
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	: 18283

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.989	1.26E+01	2.56E+00	
CS-137		0.990	5.17E-01	1.42E-01	
PB-212		0.707	1.15E+00	2.32E-01	
RA-226d		0.786	3.96E-01	1.43E-01	
TH-232d		0.751	6.04E-01	1.89E-01	
U-235		0.999	2.92E+00	4.68E-01	
U-238d	@	1.000	5.61E+01	4.74E+00	

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/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 : 3/31/2008 11:22:29AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.05 NP	6.23E-02	9.71
m	5	89.94 NP	3.91E-02	13.29
m	7	98.34 NP	4.27E-02	10.87
	8	112.73 NP	4.41E-02	20.15
	21	1000.59 Pa-234m	2.00E-02	15.11

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	1.26E+01	2.25E+00	2.25E+00
	CO-60	1173.24		99.90	-2.45E-02	1.96E-01	2.59E-01
		1332.50		99.98	-1.00E-01		1.96E-01
	NB-94	702.63		99.81	1.32E-01	2.09E-01	2.09E-01
		871.10		99.89	1.37E-01		2.22E-01
	AG-108m	433.94		90.50	7.27E-02	1.70E-01	1.70E-01
		614.28		89.80	-2.75E-01		2.59E-01
		722.94		90.80	6.49E-02		2.21E-01
+	CS-137	661.66	*	85.21	5.17E-01	1.65E-01	1.65E-01
	EU-152	40.12		38.40	7.23E-02	3.39E-01	3.39E-01
		45.38		11.10	-1.24E-01		1.23E+00
		121.78		28.40	1.68E-01		4.18E-01
		244.69		7.51	-2.12E+00		1.72E+00
		344.29		26.60	3.21E-01		5.91E-01

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		411.12		2.23	2.59E+00		6.95E+00
		443.89		2.80	-6.41E-01		5.54E+00
		778.92		12.98	-6.42E-01		1.31E+00
		867.38		4.21	-2.91E-01		5.41E+00
		964.11		14.50	-3.82E-01		1.96E+00
		1085.89		9.94	-3.39E-01		2.52E+00
		1089.71		1.71	1.54E+00		1.44E+01
		1112.07		13.60	-2.31E+00		1.91E+00
		1212.93		1.40	1.41E+00		1.87E+01
		1299.16		1.63	5.64E+00		1.42E+01
		1408.00		20.80	4.41E-01		8.51E-01
	EU-154	123.10		40.50	2.87E-01	2.96E-01	2.96E-01
		723.36		19.70	2.92E-01		1.02E+00
		873.23		11.45	1.02E+00		1.94E+00
		1004.78		17.90	3.21E+00		1.99E+00
		1274.54		35.50	-1.02E-01		6.84E-01
	EU-155	86.54		34.00	-8.75E+00	5.73E-01	5.73E-01
		105.31		20.60	-4.12E-01		6.23E-01
+	PB-212	74.81	*	10.50	1.48E+00	5.78E-01	9.91E-01
		77.11	*	17.70	1.03E+00		5.78E-01
		87.19		6.27	-1.16E+02		3.26E+00
+	RA-226d	186.11	*	3.28	5.35E+01	3.17E-01	3.59E+00
		241.92		7.46	-3.96E-01		2.33E+00
		295.09	*	19.20	5.83E-01		4.82E-01
		351.87	*	37.10	3.08E-01		3.28E-01
		609.31	*	46.10	3.69E-01		3.17E-01
		1120.27	*	15.00	7.87E-01		9.38E-01
		1764.49		15.90	9.85E-02		1.12E+00
+	TH-232d	238.58	*	43.60	6.43E-01	2.16E-01	2.16E-01
		338.42	*	12.40	5.79E-01		8.81E-01
		583.02	*	30.87	5.39E-01		3.96E-01
		911.16		29.00	4.58E-01		9.05E-01
		968.97	*	17.40	8.12E-01		9.56E-01
+	U-235	143.79	*	10.50	2.86E+00	2.22E-01	9.08E-01
		163.38	*	4.70	3.94E+00		2.58E+00
		185.74	*	53.00	3.31E+00		2.22E-01
		205.33	*	4.70	1.35E+00		2.21E+00
+	U-238d	63.29	*	3.80	5.61E+01	1.71E+00	3.94E+00
		92.56	*	5.41	5.14E+01		1.71E+00
	AM-241	59.54		35.70	-1.99E-01	7.25E-01	7.25E-01
	CM-243	99.52		14.40	-5.68E-01	5.46E-01	9.95E-01
		103.73		23.00	-1.30E+00		5.46E-01
		116.93		8.32	-7.67E-01		1.64E+00
		228.19		10.56	4.11E-02		1.16E+00
		277.60		14.00	1.46E-01		8.95E-01
	CM-245	99.52		21.10	-3.88E-01	3.74E-01	6.79E-01
		103.73		33.60	-8.87E-01		3.74E-01
		116.93		12.20	-5.23E-01		1.12E+00

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	174.94	9.50	3.62E-01		1.35E+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, Edward S Wallace 4-02-08
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19363
Sample Description	: J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.400E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 10:10:00AM
Acquisition Started	: 3/31/2008 10:21:33AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.8 seconds
Dead Time	: 0.02 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/31/2008
Efficiency Calibration Used Done On	: 2/5/2008
Efficiency Calibration Description	: 80g Pill box 2/5/2008
Sample Number	: 18284

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.29E+01	3.63E+00	
CS-137		0.998	6.92E-01	1.73E-01	
PB-212		0.707	1.02E+00	2.24E-01	
RA-226d		0.404	2.97E-01	1.51E-01	
TH-232d		0.996	4.59E-01	1.42E-01	
U-235		0.999	3.29E+00	5.85E-01	
U-238d	@	1.000	4.35E+01	5.24E+00	

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/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 : 3/31/2008 11:21:43AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	4	84.37	Th-231	7.33E-02	18.72
M	5	89.95	Ac-228	3.38E-02	17.31
	7	98.45	Pa-234	3.75E-02	31.93
M	8	109.39	NP	1.26E-02	35.06
m	9	112.61	NP	5.65E-02	11.05
	20	766.63	NP	1.24E-02	26.69
	23	1001.17	Pa-234m	1.78E-02	18.66

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	1.29E+01	2.04E+00	2.04E+00
	CO-60	1173.24		99.90	-3.80E-02	1.70E-01	2.01E-01
		1332.50		99.98	-2.58E-02		1.70E-01
	NB-94	702.63		99.81	1.11E-01	1.59E-01	1.79E-01
		871.10		99.89	-3.47E-02		1.59E-01
	AG-108m	433.94		90.50	-8.21E-03	1.39E-01	1.39E-01
		614.28		89.80	5.82E-02		1.83E-01
		722.94		90.80	4.28E-02		2.03E-01
+	CS-137	661.66	*	85.21	6.92E-01	2.03E-01	2.03E-01
	EU-152	40.12		38.40	-2.01E-01	3.49E-01	3.49E-01
		45.38		11.10	-4.89E-01		1.20E+00
		121.78		28.40	2.77E-01		3.69E-01

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		244.69		7.51	3.10E-01		1.39E+00
		344.29		26.60	-6.96E-02		4.06E-01
		411.12		2.23	-9.82E-02		5.16E+00
		443.89		2.80	-2.26E+00		4.29E+00
		778.92		12.98	-1.43E+00		1.24E+00
		867.38		4.21	-1.44E+00		3.71E+00
		964.11		14.50	-9.50E-01		1.65E+00
		1085.89		9.94	1.11E+00		2.11E+00
		1089.71		1.71	1.01E-01		1.13E+01
		1112.07		13.60	-3.86E-01		1.53E+00
		1212.93		1.40	-1.99E-01		1.53E+01
		1299.16		1.63	4.90E+00		1.27E+01
		1408.00		20.80	1.42E-01		8.52E-01
	EU-154	123.10		40.50	1.46E-03	2.54E-01	2.54E-01
		723.36		19.70	1.97E-01		9.39E-01
		873.23		11.45	-6.27E-01		1.36E+00
		1004.78		17.90	-1.17E-02		1.68E+00
		1274.54		35.50	-5.78E-02		5.49E-01
	EU-155	86.54		34.00	-1.54E-02	4.89E-01	4.89E-01
		105.31		20.60	1.81E-01		5.32E-01
+	PB-212	74.81	*	10.50	1.26E+00	6.84E-01	1.14E+00
		77.11	*	17.70	9.24E-01		6.84E-01
		87.19		6.27	-8.33E-02		2.70E+00
+	RA-226d	186.11	*	3.28	5.28E+01	3.16E-01	3.25E+00
		241.92		7.46	7.83E-01		1.99E+00
		295.09		19.20	2.39E-01		5.57E-01
		351.87	*	37.10	2.75E-01		3.16E-01
		609.31	*	46.10	3.19E-01		3.24E-01
		1120.27		15.00	7.37E-01		1.53E+00
		1764.49		15.90	1.03E+00		1.43E+00
+	TH-232d	238.58	*	43.60	4.41E-01	2.83E-01	2.83E-01
		338.42	*	12.40	4.26E-01		8.74E-01
		583.02	*	30.87	4.39E-01		3.53E-01
		911.16	*	29.00	4.44E-01		5.83E-01
		968.97	*	17.40	7.09E-01		8.04E-01
+	U-235	143.79	*	10.50	3.08E+00	2.01E-01	9.77E-01
		163.38	*	4.70	3.37E+00		2.40E+00
		185.74	*	53.00	3.27E+00		2.01E-01
		205.33	*	4.70	4.13E+00		1.96E+00
+	U-238d	63.29	*	3.80	4.35E+01	2.41E+00	4.23E+00
		92.56	*	5.41	4.46E+01		2.41E+00
	AM-241	59.54		35.70	-3.69E-02	3.89E-01	3.89E-01
	CM-243	99.52		14.40	-6.07E-02	4.70E-01	9.28E-01
		103.73		23.00	-1.46E-01		4.70E-01
		116.93		8.32	-9.29E-01		1.34E+00
		228.19		10.56	-4.29E-01		8.74E-01
		277.60		14.00	-4.97E-02		7.01E-01
	CM-245	99.52		21.10	-4.14E-02	3.22E-01	6.33E-01

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	103.73	33.60	-1.00E-01		3.22E-01
	116.93	12.20	-6.34E-01		9.11E-01
	174.94	9.50	-1.21E-01		9.79E-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, Edward S Wallace 4-02-08
(print/sign/date)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4 3 08 1030 GM Screen Result 0.1K

Client: WCH SDG #: J00166 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D030231 Chain of Custody # RC-087-059,-060

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: 4
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: 4 3 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

TESTAMERICA

4/20/2008 7:31:06 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 04/15/2008

Sample Preparation/Analysis

6A Pu PrpRC5013/RC5019, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

RC5086 & RC5084

Balance Id:1120373922

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

PRIORITY

Prep Tech: ,Barcotl

Batch: 8101295 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KK1CE-1-AD J8D090287-1-SAMP 03/28/2008 09:15		1.01g,in AmtRec: 60G	PUTC11098 03/21/08,pd 06/07/04,r #Containers: 1	200		Scr:	Alpha:	Beta:
2 KK1CE-1-AJ-X J8D090287-1-DUP 03/28/2008 09:15		1.02g,in AmtRec: 60G	PUTC11099 03/21/08,pd 06/07/04,r #Containers: 1			Scr:	Alpha:	Beta:
3 KK3CR-1-AA-BX J8D100000-295-MBLK 03/28/2008 09:15		1.02g,in AmtRec:	PUTC11100 03/21/08,pd 06/07/04,r #Containers: 1			Scr:	Alpha:	Beta:
4 KK3CR-1-AC-CM J8D100000-295-MLCS 03/28/2008 09:15		1.00g,in AmtRec:	PUSK0723 04/18/08,pd 06/07/04,r #Containers: 1			Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

KK1CE1AD-SAMP Constituent List:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

KK3CR1AA-MBLK:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

KK3CR1AC-MLCS:

PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

4/20/2008 7:31:06 AM

Sample Preparation/Analysis

6A Pu PrpRC5013/RC5019, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,Barcotl

AnalyDueDate: 04/15/2008

Batch: 8101295 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
KK1CE1AD-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
KK3CR1AA-MBLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
KK3CR1AC-MLCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

4/24/2008 10:30:22 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/25/2007, 4/29/2008, Batch: '8101295', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8101295						
AC		Rev1C	WoodT	4/20/2008 7:30:33		
SC			antonsonl	IsBatched	4/10/2008 4:05:44 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	4/20/2008 7:30:33 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	4/20/2008 8:14:18 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InSep1	4/22/2008 8:31:38 AM	RICHRC 5086 REV 3
SC			NortonJ	Sep1C	4/22/2008 10:33:29 AM	RICHRC 5086 REV3
SC			NortonJ	InSep2	4/22/2008 10:34:08 AM	RICHRC 5087 REV1
SC			NortonJ	Sep2C	4/23/2008 7:37:57 AM	RICHRC 5087 REV1
SC			NortonJ	InEd	4/23/2008 7:39:45 AM	RICHRC 5039 REV 5
SC			BlackCL	InCnt1	4/23/2008 10:30:18 AM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	4/23/2008 6:21:17 PM	RICH-RD-0008 REVISION 4
SC			nortonj	Rev1C	4/24/2008 10:30:16 AM	RICH-RC-0002 REV 8
AC			WoodT	4/20/2008 8:14:18		
AC			WoodT	4/22/2008 8:31:38		
AC			NortonJ	4/22/2008 10:33:29		
AC			NortonJ	4/22/2008 10:34:08		
AC			NortonJ	4/23/2008 7:37:57		
AC			NortonJ	4/23/2008 7:39:45		
AC			BlackCL	4/23/2008 10:30:18		
AC			DAWKINSO	4/23/2008 6:21:17 PM		
AC			nortonj	4/24/2008 10:30:16		

AC: Accepting Entry, SC: Status Change

TAL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 10

ICOCFractions v4.8.33

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

RE-ANALYSIS REQUEST

DUE DATE 4-15

CUSTOMER WHC

ANALAYSIS AM 150

MATRIX SOIL

LOT NUMBER J8D090287

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 810 1292

NEW BATCH NUMBER 811 5217

LAB SAMPLE ID	CLIENT ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) KKICE INC	127642	U150 INTERFERENCE
2) KKICE INGX		
3) BX		
4) CM		
5)		RUN ~~1.0g~~ 0.5g
6)		
7)		USE 2 UTEVAS IN 5072
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		
LAB QC ID		Assigned with new batch.

RC-048, 12/07, Rev 8

TESTAMERICA

4/25/2008 6:56:14 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 04/15/2008

Sample Preparation/Analysis

8E Am PrpRC5013/RC5019, SepRC5080(5003)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

PRIORITY

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: WoodT

Batch: 8115217 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None All Tests: 8101290 AXTA, 8101292 8ESX, 8101293 7SSR, 8101295 6ASO, 8115217 8ESX,

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KK1CE-2-AC J8D090287-1-SAMP 03/28/2008 09:15		0.50g,in AmtRec: 60G	AMTD0077 04/18/08,pd 06/01/01,r #Containers: 1	200		Scr:	Alpha:	Beta:
2 KK1CE-2-AG-X J8D090287-1-DUP 03/28/2008 09:15		0.50g,in AmtRec: 60G	AMTD0078 04/24/08,pd 06/01/01,r #Containers: 1			Scr:	Alpha:	Beta:
3 KLW8A-1-AA-B J8D240000-217-BLK 03/28/2008 09:15		0.50g,in AmtRec:	AMTD0079 04/24/08,pd 06/01/01,r #Containers: 1			Scr:	Alpha:	Beta:
4 KLW8A-1-AC-C J8D240000-217-LCS 03/28/2008 09:15		0.50g,in AmtRec:	AMSJ0242 04/18/08,pd 06/01/01,r #Containers: 1			Scr:	Alpha:	Beta:

Comments: - samples run through double UTEVA cartridges to trap Uranium. Samples then run through TRU cartridge per procedure. 4/25/08 APA

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

KK1CE2AC-SAMP Constituent List:

Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

KLW8A1AA-BLK:

Am-241	RDL:1	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

KLW8A1AC-LCS:

Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

TESTAMERICA

4/25/2008 6:56:25 AM

Sample Preparation/Analysis

8E Am PrpRC5013/RC5019, SepRC5080(5003)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,WoodT

PRIORITY

AnalyDueDate: 04/15/2008

Batch: 8115217 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
KK1CE2AC-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
KLW8A1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
KLW8A1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

4/29/2008 8:26:56 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/30/2007, 5/4/2008, Batch: '8115217', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8115217						
AC		Rev1C	WoodT	4/24/2008 7:01:25 PM		
SC			nortonj	IsBatched	4/24/2008 9:29:32 AM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	4/24/2008 7:01:25 PM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	4/25/2008 6:55:47 AM	RICH-RC-5013 REVISION 7
SC			AshworthA	Sep1C	4/25/2008 1:00:35 PM	RICH-RC-5072 REV6
SC			AshworthA	Sep2C	4/28/2008 1:48:38 PM	RICH-RC-5003 REVISION 6
SC			ClarkR	InCnt1	4/28/2008 1:52:18 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	4/28/2008 9:10:12 PM	RICH-RD-0008 REVISION 4
SC			antonsonl	Rev1C	4/29/2008 8:26:39 AM	RICH-RC-0002 REV 8
AC			WoodT	4/25/2008 6:55:47		
AC			AshworthA	4/25/2008 1:00:35 PM		
AC			AshworthA	4/28/2008 1:48:38 PM		
AC			ClarkR	4/28/2008 1:52:18 PM		
AC			DAWKINSO	4/28/2008 9:10:12 PM		
AC			antonsonl	4/29/2008 8:26:39		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt:7

ICOCFractions v4.8.33

WCH

4/14/2008 11:19:37 AM

Sample Preparation/Analysis

Balance Id:1120421763

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 04/15/2008

Sep1 DT/Tm Tech:

Batch: 8101290 SOIL pCi/g PM, Qu[redacted] SS , 27[redacted]

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8101290 AXTA, 8101292 8ESX, 8101293 7SSR, 8101295 [redacted]O.

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KK1CE-1-AE J8D090287-1-SAMP 03/28/2008 09:15		42.10g,in AmtRec: 60G #Containers: 1			25	1000	67	0330	4/14/08 JK	
2 KK1CE-1-AF-X J8D090287-1-DUP 03/28/2008 09:15	Not enough sample 4/14/08 JN	AmtRec: 60G #Containers: 1					~~66~~ 4/14/08 66	0050	4/14/08	
3 KK3CE-1-AA-B J8D100000-290-BLK 03/28/2008 09:15		25.00g,in AmtRec: #Containers: 1			25		68	0331	4/14/08 JK	
4 KK3CE-1-AC-C J8D100000-290-LCS 03/28/2008 09:15		25.00g,in AmtRec: #Containers: 1	GSE1235 11/27/07,pd 06/08/05,r				66	0332	4/14/08 JK	

Scr: Alpha: Beta:

Comments: Not enough sample for a chip. Please recount on a separate detector. JN 4/14/08

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

KK1CE1AE-SAMP Constituent List:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

KK3CE1AA-BLK:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

TESTAMERICA

55

TESTAMERICA

4/14/2008 11:19:40 AM

Sample Preparation/Analysis

Balance Id:na

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 04/15/2008

Sep1 DT/Tm Tech:

Batch: 8101290 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
 Eu-154      RDL:1.00E-01   pCi/g   LCL:      UCL:      RPD:      Eu-155      RDL:1.00E-01   pCi/g   LCL:      UCL:      RPD:

KK3CE1AC-LCS:
 Cs-137      RDL:0.1        pCi/g   LCL:70    UCL:130   RPD:35    Cs-137DA    RDL:0.1        pCi/g   LCL:70    UCL:130   RPD:35
 K-40        RDL:--         pCi/g   LCL:70    UCL:130   RPD:35    Ra-226      RDL:0.1        pCi/g   LCL:70    UCL:130   RPD:35
 RA-228      RDL:0.2        pCi/g   LCL:70    UCL:130   RPD:35    RA-228DA    RDL:0.2        pCi/g   LCL:70    UCL:130   RPD:35
 U-238       RDL:           pCi/g   LCL:70    UCL:130   RPD:35

KK1CE1AE-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
KK3CE1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
KK3CE1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

4/17/2008 1:51:02 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/18/2007, 4/22/2008, Batch: '8101290', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8101290						
AC		Rev1C	WoodT	4/14/2008 10:52:16		
SC			antonsonl	IsBatched	4/10/2008 4:05:44 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	4/14/2008 10:52:16 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	4/14/2008 11:19:58 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	4/14/2008 11:20:09 AM	RICH-RC-5017 REVISION 6
SC			WoodT	Prep2C	4/14/2008 11:20:22 AM	RICH-RC-5017 REVISION 6
SC			BlackCL	InCnt1	4/14/2008 11:57:25 AM	RICH-RD-0007 REVISION 6
SC			BlackCL	CalcC	4/17/2008 6:10:18 AM	RICH-RD-0007 REVISION 6
SC			antonsonl	Rev1C	4/17/2008 1:50:53 PM	RICH-RC-0002 REV 8
AC			WoodT	4/14/2008 11:19:58		
AC			WoodT	4/14/2008 11:20:09		
AC			WoodT	4/14/2008 11:20:22		
AC			BlackCL	4/14/2008 11:57:25		
AC			BlackCL	4/17/2008 6:10:18		
AC			antonsonl	4/17/2008 1:50:53 PM		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 7

ICOCFractions v4.8.33

TESTAMERICA

5/12/2008 11:49:40 AM

Sample Preparation/Analysis

Balance Id:11

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

7Z Unat Laser PrpRC5013/RC5019, SepRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

Sep1 DT/Tm Tech:

AnalyDueDate: 04/15/2008

Batch: 8128241 SOIL ug/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KK1CE-1-AK J8D090287-1-SAMP 03/28/2008 09:15	1.03g	1.03g,in AmtRec: 60G	#Containers: 1			Scr:	Alpha:	Beta:
2 KK1CE-1-AL-S J8D090287-1-MS 03/28/2008 09:15	1.03g	1.04g,in AmtRec: 60G	UNSI1014 05/12/08,pd 08/01/57,r #Containers: 1			Scr:	Alpha:	Beta:
3 KK1CE-1-AM-X J8D090287-1-DUP 03/28/2008 09:15	1.03g	1.03g,in AmtRec: 60G	#Containers: 1			Scr:	Alpha:	Beta:
4 KMN3F-1-AA-B J8E070000-241-BLK 03/28/2008 09:15		1.00g,in AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 KMN3F-1-AC-C J8E070000-241-LCS 03/28/2008 09:15		1.00g,in AmtRec:	UNSI1015 05/12/08,pd 08/01/57,r #Containers: 1			Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

KK1CE1AK-SAMP Constituent List:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35

TESTAMERICA

5/12/2008 11:49:43 AM

Sample Preparation/Analysis

7Z Unat_Laser PrpRC5013/RC5019, SepRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:11
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,WoodT

AnalyDueDate: 04/15/2008

Batch: 8128241 ug/g
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

KK1CE1AL-MS Constituent List:

KMN3F1AA-BLK:
Uranium RDL:1 ug/g LCL: UCL: RPD:
KMN3F1AC-LCS:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35

KK1CE1AK-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KK1CE1AL-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMN3F1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMN3F1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

5/13/2008 2:39:10 PM

ICOC Fraction Transfer/Status Report

ByDate: 5/14/2007, 5/18/2008, Batch: '8128241', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8128241						
AC		Rev1C	NelsonT	5/12/2008 12:28:45		
SC			wagarr	IsBatched	5/7/2008 10:31:49 AM	ICOC_RADCALC v4.8.32
SC			NelsonT	Cnt1C	5/12/2008 12:28:45 PM	RICH-RC-5058 REV 7
SC			nortonj	Rev1C	5/13/2008 2:38:50 PM	RICH-RC-0002 REV 8
AC			nortonj	5/13/2008 2:38:50 PM		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 2

ICOCFractions v4.8.33

Analytical Data Package Prepared For

Washington Closure Hanford

Analysis Provided By

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

RECEIVED
APR 2008

SDG Number: J00166

Data Package Contains 109 Pages

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

April 23, 2008

Attention: Joan Kessner

SAF Number	:	RC-087
Date SDG Closed	:	April 9, 2008
Number of Samples	:	Twenty (20)
Sample Type	:	Soil
SDG Number	:	J00166
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

Between April 3, 2008 and April 9, 2006 twenty 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
J16DX8	KKNG6	SOIL	04/03/08
J16DX9	KKNG7	SOIL	04/03/08
J16DY0	KKNG8	SOIL	04/03/08
J16DY1	KKNHE	SOIL	04/03/08
J16J24	KKT7H	SOIL	04/07/08
J16J25	KKT7K	SOIL	04/07/08
J16J53	KKT7M	SOIL	04/07/08
J16J54	KKT7Q	SOIL	04/07/08
J16J55	KKT7R	SOIL	04/07/08
J16J56	KKT7T	SOIL	04/07/08
J16J57	KKT7V	SOIL	04/07/08
J16J58	KKT7W	SOIL	04/07/08
J16J59	KKT71	SOIL	04/07/08
J16J60	KKT73	SOIL	04/07/08
J16J61	KKT75	SOIL	04/07/08
J16J62	KKWA9	SOIL	04/08/08
J16J65	KKW83	SOIL	04/09/08
J16J66	KKW88	SOIL	04/09/08
J16J63	J16J43	SOIL	04/09/08
J160C2	J16J43	SOIL	04/09/08

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 J00166 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
Five 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 8094390:
Iron in both the ICV and CCV recovered high. Suspect cause of iron contamination is high levels of iron in the samples. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB and CCB results are within contractual limits.

Batch 8098413:
Iron in both the ICV and CCV recovered high. Suspect cause of iron contamination is high levels of iron in the samples. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB and CCB results are within contractual limits.

Batch 8099224:
Iron in both the ICV and CCV recovered high. Suspect cause of iron contamination is high levels of iron in the samples. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB and CCB results are within contractual limits.

Batch 8099501:
Iron in both the ICV and CCV recovered high. Suspect cause of iron contamination is high levels of iron in the samples. Except as noted, the LCS, batch blank, sample, sample duplicate, MS, MSD, ICB and CCB results are within contractual limits.

Washington Closure Hanford
April 23, 2008

Batch 8100381:
Iron in both the ICV and CCV recovered high. Suspect cause of iron contamination is high levels of iron in the 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: J00166
SAF Number: RC-087
Batch Number: 8094390

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
KKN7G1AA-B		1.000	-0.001	-0.001	0.000	0.000	0	-0.001	-0.002	0.007	0.004	0.004	0.000	0.006
KKN7G1AJ-C		1.000	0.968	0.992	0.974	1.045	0.9679	0.991	0.947	1.099	0.9654	0.939	0.948	0.993
LCS Recovery %			96.840%	99.150%	97.420%	104.500%	96.790%	99.100%	94.690%	109.900%	96.540%	93.877%	94.810%	99.270%
		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
KKNG61AA	J16DX8	0.05165	82.914	<MDL	<MDL	<MDL	<MDL	43.998	357.406	2075.508	226.4279	<MDL	55.866	<MDL
KKNG61AR-DUP	J16DX8-DUP	0.5031	553.767	<MDL	5.476	<MDL	<MDL	39.257	343.272	3600.676	195.7861	<MDL	43.232	1.968
KKNG71AA	J16DX9	0.5123	5990.630	1.240	49.766	0.166	1.776303	11.234	11.077	15850.088	107.0662	<MDL	<MDL	51.298
KKNG81AA	J16DY0	0.4934	9244.021	<MDL	72.163	0.122	5.472233	71.311	118.970	31566.680	86.57276	<MDL	<MDL	233.583
KKNHE1AA	J16DY1	0.5122	5657.946	1.835	64.818	0.166	2.069504	21.544	18.245	16321.749	8.112066	<MDL	<MDL	61.470
KKNG61AJ-MS	J16DX8-MS	0.5001	N/A	92.931	86.663	100.312	67.27654	130.574	462.507	N/A	292.4415	83.808	75.095	83.313
% Recovery				92.931	86.663	100.312	67.277	86.576	105.102		66.014	83.808	19.229	83.313
KKNG61AK-MSD	J16DX8-MSD	0.5135	N/A	91.373	87.907	99.528	66.23174	127.848	506.134	N/A	294.3525	80.994	64.206	84.869
% Recovery				91.373	87.907	99.528	66.232	83.850	148.729		67.925	80.994	8.340	84.869

TESTAMERICA

SDG Number: J00166
SAF Number: RC-087
Batch Number: 8098413

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
KKVCG1AA-B		1.000	0.011	0.000	0.001	0.000	0.0002	0.000	0.001	0.071	0.0046	0.005	0.000	0.012
KKVCG1AJ-LCS		1.000	0.957	0.996	0.962	1.069	0.9683	0.977	0.934	1.108	0.9596	0.935	0.948	0.983
LCS Recovery %			95.650%	99.590%	96.190%	106.900%	96.830%	97.730%	93.440%	110.800%	95.960%	93.472%	94.820%	98.310%
		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
KKT7H1AA	J16J24	0.5034	5944.577	0.814	70.342	0.208582	2.274533	11.6905	8.581645	19288.836	4.578864	<MDL	<MDL	44.72586
KKT7H1A1-DUP	J16J24-DUP	0.4943	5188.145	<MDL	76.37063	0.192191	1.911794	10.04451	8.436172	16113.696	3.783128	<MDL	<MDL	33.73457
KKT7K1AA	J16J25	0.4949	5872.904	2.839	78.905	0.212	2.263083	11.639	8.608	18720.954	5.82946	<MDL	<MDL	42.322
KKT7M1AA	J16J53	0.4946	5595.431	<MDL	67.206	0.192	2.527295	11.373	7.683	20976.547	5.367974	<MDL	<MDL	41.053
KKT7Q1AA	J16J54	0.5124	8617.291	0.849	70.550	0.195	2.48829	11.495	10.597	20355.191	35.87041	<MDL	<MDL	48.614
KKT7R1AA	J16J55	0.5127	6685.196	0.312	295.592	<MDL	2.447825	14.492	9.840	19923.932	22.17671	<MDL	<MDL	46.733
KKT7T1AA	J16J56	0.4952	6533.724	0.828	154.685	0.202	2.736268	18.669	13.479	21153.069	39.18619	<MDL	<MDL	93.710
KKT7V1AA	J16J57	0.4969	8192.795	0.553	70.869	<MDL	3.069028	49.366	23.194	19722.278	32.16945	<MDL	<MDL	795.935
KKT7W1AA	J16J58	0.5113	5920.203	0.958	98.866	0.196	2.288285	18.795	10.913	18511.637	6.190104	<MDL	<MDL	60.278
KKT711AA	J16J59	0.5018	5666.600	0.508	68.683	0.209	2.510961	12.874	7.652	20077.720	11.11997	<MDL	<MDL	49.472
KKT731AA	J16J60	0.5108	5730.227	2.418	67.668	0.206	2.437353	12.412	7.381	19508.614	12.01057	<MDL	<MDL	57.753
KKT751AA	J16J61	0.4958	5759.379	0.837	64.996	0.212	2.490924	19.877	7.483	20149.254	5.486083	<MDL	<MDL	49.697
KKT7H1AJ-MS	J16J24-MS	0.5152	N/A	97.632	173.4278	103.8432	93.53649	156.347	96.23447	N/A	95.64247	88.23564	89.61568	134.1227
% Recovery				96.818	103.086	103.635	91.262	144.657	87.653		91.064	88.236	89.616	89.397
KKT7H1AK-MSD	J16J24-MSD	0.5084	N/A	97.895	207.7105	104.8387	94.48269	107.7891	96.18411	N/A	96.42014	88.75295	90.62746	132.9662
% Recovery				97.081	137.369	104.630	92.208	96.099	87.602		91.841	88.753	90.627	88.240

TESTAMERICA

SDG Number: J00166
SAF Number: RC-087
Batch Number: 8099224

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
KKWDV1AA-BLK		1.000	-0.0043	0.0008	0.0002	0	0	0.0007	0	0.0217	0.0014	0.00303	0.0004	0.0026
KKWDV1AJ-LCS		1.000	0.9579	1.006	0.9805	1.078	0.9792	0.9912	0.9472	1.126	0.9794	0.94518	0.9556	0.991
LCS Recovery %			95.790%	100.600%	98.050%	107.800%	97.920%	99.120%	94.720%	112.600%	97.940%	94.518%	95.560%	99.100%
		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
KKWA91AA	J16J62	0.4955	8365.28759	<MDL	67.30575	0.161453	2.310797	11.89707	7.547931	22058.527	786.2765	<MDL	<MDL	45.76186
KKWA91AR-DUP	J16J62-DUP	0.5323	11666.3536	<MDL	63.55439	0.159684	2.310727	12.38963	9.477738	20993.8	1042.645	<MDL	<MDL	53.11854
KKWA91AJ-MS	J16J62-MS	0.5429	N/A	90.33892	144.9622	96.70289	87.47467	102.3209	93.01897	N/A	N/A	82.08049	84.01179	129.7661
% Recovery				90.339	77.656	96.541	85.164	90.424	85.471			83.808	84.012	83.313
KKWA91A1-MSD	J16J62-MSD	0.4855	N/A	101.8023	156.1277	109.3718	99.17611	112.3584	100.309	N/A	N/A	94.41298	94.71679	140.0618
% Recovery				101.802	88.822	109.210	96.865	100.461	92.761			94.413	94.717	140.062

TESTAMERICA

SDG Number: J00166
SAF Number: RC-087
Batch Number: 8099501

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
KKXJG1AA-BLK		1.000	-0.010	-0.001	0.000	0.000	0.0001	0.002	0.000	0.010	0.002	0.002	0.000	0.012
KKXJG1AJ-LCS		1.000	0.979	1.024	1.007	1.104	0.9991	1.019	0.972	1.144	0.9939	0.957	0.978	1.010
LCS Recovery %			97.880%	102.400%	100.700%	110.400%	99.910%	101.900%	97.150%	114.400%	99.390%	95.710%	97.750%	101.000%
		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
KKW831AA	J16J65	0.5001	5765.84683	0.79984	63.74725	0.19996	2.309538	17.45651	8.788242	20305.939	9.44811	<MDL	<MDL	50.44991
KKW831A1-DUP	J16J65-DUP	0.5128	4966.84867	<MDL	50.74103	0.185257	1.638066	13.97231	6.922777	16887.676	377.5351	<MDL	<MDL	39.64509
KKW881AA	J16J66	0.498	5767.06827	<MDL	67.67068	0.210843	1.977912	14.93976	7.670683	20341.365	7.439759	<MDL	<MDL	42.07831
KKW831AJ-MS	J16J65-MS	0.4907	N/A	103.4237	166.2931	110.1488	99.44977	117.4852	101.8341	N/A	182.8001	93.57245	95.41471	152.4353
% Recovery				102.624	102.546	109.949	97.140	100.029	93.046		173.352	93.572	95.415	101.985
KKW831AR-MSD	J16J65-MSD	0.513	N/A	96.47173	161.0136	102.6316	93.0117	110.4288	94.25926	N/A	99.12281	87.70858	89.20078	142.3002
% Recovery				95.672	97.266	102.432	90.702	92.972	85.471		89.675	87.709	89.201	91.850

TESTAMERICA

SDG Number: J00166
SAF Number: RC-087
Batch Number: 8100381

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
KK1E11AA-BLK		1.000	-0.0036	-0.001	0.0003	0	0.0002	0.0016	0	0.0122	0.0022	0.0046	0.0008	0.0032
KK1E11AJ-LCS		1.000	0.9745	1.028	0.9885	1.106	1.005	1.004	0.965	1.136	0.999	0.96855	0.9619	1.024
LCS Recovery %			97.450%	102.800%	98.850%	110.600%	100.500%	100.400%	96.500%	113.600%	99.900%	96.855%	96.190%	102.400%
		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
KK0CW1AA	J16J63	0.5172	5739.55916	1.102088	77.1075	0.203016	2.213844	1659.899	6.892885	20504.64	126.0634	<MDL	<MDL	117.0727
KK0CW1A1-DUP	J16J63-DUP	0.492	6179.87805	<MDL	63.41463	0.203252	2.743902	13.68902	9.461382	25477.642	4.847561	<MDL	<MDL	55.64024
KK0C21AA	J16J64	0.4964	5976.0274	<MDL	78.27357	0.20145	2.628928	15.16922	9.206285	23892.023	7.453666	<MDL	<MDL	49.34529
KK0CW1AJ-MS	J16J63-MS	0.4966	N/A	101.9936	165.3242	108.236	98.31857	120.7209	98.91261	N/A	99.88925	93.40314	92.11639	149.8188
% Recovery				100.891	88.217	108.033	96.105	-1539.179	92.020		-26.174	93.403	92.116	32.746
KK0CW1AR-MSD	J16J63-MSD	0.5052	N/A	99.86144	158.4521	106.6904	96.70428	111.342	98.07997	N/A	98.50554	92.07641	90.192	145.9818
% Recovery				98.759	81.345	106.487	94.490	-1548.557	91.187		-27.558	92.076	90.192	28.909

TESTAMERICA

10

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-059	Page 1 of 1

Collector B Lawrence, E. Harries	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code**	**Data Turnaround** 24 Hours
Project Designation 618-7 Burial Ground - Soil	**Sampling Location** 618-7 Burial Ground/Stockpiles		**SAF No.** RC-087		
Ice Chest No. ERC-99-051	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle		
Shipped To TestAmerica Incorporated, Richland	**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	aG											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.								TIE TO RCF			
Sample No.	Matrix *	Sample Date	Sample Time									
J16DX8 KKNG6	SOIL	3-28-08	0915	X							J16DW8	AN-01
J16DX9 KKNG7	SOIL	3-28-08	0925	X							J16DW9	AN-02

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: B Lawrence	3-28-08 1100	Received By/Stored In: RB Kerkow / RB Kerkow	3-28-08 1100
Relinquished By/Removed From: RB Kerkow / RB Kerkow	3-28-08 1230	Received By/Stored In: REF 1B (RBK)	3-28-08 1230
Relinquished By/Removed From: 1060 BATELLE 1B	4/3/08 0900	Received By/Stored In: DAVID ST. JOHN	4/3/08 0900
Relinquished By/Removed From: DAVID ST. JOHN	4/3/08 1030	Received By/Stored In: LJ LANE TALR 4308	1030
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)

J8D030231
J001166
DUE 4-4-08

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

TESTAMERICA

11

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-060	Page 1 of 1

Collector B Lawrence, E. Harries	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code	Data Turnaround 24 Hours
Project Designation 618-7 Burial Ground - Soil	Sampling Location 618-7 Burial Ground/Stockpiles		SAF No. RC-087		
Ice Chest No. ERC-99-051	Field Logbook No. EL-1395-12	COA RG61872600	Method of Shipment Government Vehicle		
Shipped To TestAmerica Incorporated, Richland	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	aG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.							HETO RCF			

Sample No.	Matrix *	Sample Date	Sample Time										
J16DY0 KKNG8	SOIL	3-28-08	1005	X						J16DK0		E006	10
J16DY1 KKNHE	SOIL	3-28-08	1010	X						J16DK1		E007	11

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From B LAWRENCE	1100 3-28-08	Received By/Stored In RB KERKW / RB Kirk	1100 3-28-08
Relinquished By/Removed From RB KERKW / RB Kirk	1230 3-28-08	Received By/Stored In REF IB (ROC)	3-28-08 1230
Relinquished By/Removed From 1060 BATELLE IB	4/3/08 0900	Received By/Stored In DAVID STUDAN	4/3/08 0900
Relinquished By/Removed From DAVID STUDAN	4/3/08 1030	Received By/Stored In RJ LILANE TALK 4308	1030
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}

J8D030231
J00166
DUE 4 4 08

Matrix *

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

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

WCH-EE-011

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19364
Sample Description	: J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 4.800E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 9:15:00AM
Acquisition Started	: 3/31/2008 11:31:15AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3716.2 seconds
Dead Time	: 3.13 %
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 : 18288

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.991	1.97E+02	1.83E+01	
U-235		0.981	2.70E+03	8.44E+01	
U-238d	@	0.986	2.43E+04	1.42E+03	

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground 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 : 3/31/2008 12:33:14PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	1	52.88	NP	3.28E+00	5.93
	3	83.70	NP	2.08E+01	1.37
m	5	94.21	Th-234	1.32E+02	0.18
m	6	97.98	NP	1.47E+02	0.14
M	7	110.60	~~Th-234~~ Pa-234	5.12E+01	0.48
m	8	112.36	Th-234	3.43E+01	0.71
m	9	114.25	NP	2.86E+01	0.68
	10	120.37	NP	2.63E-01	60.48
	11	130.96	NP	1.65E+00	15.95
	15	194.56	NP	1.41E+00	9.24
M	16	201.62	NP	1.90E+00	2.89
M	18	221.07	NP	2.30E-01	18.19
m	19	226.59	NP	7.55E-01	6.82
	20	257.77	NP	4.37E+00	2.25
	21	387.32	NP	2.18E-01	29.11
	22	568.87	NP	6.39E-01	9.33
	23	690.59	NP	2.92E-01	17.57
M	24	701.36	NP	2.19E-01	9.52
m	25	705.58	NP	2.56E-01	8.75
	26	733.17	NP	2.95E-01	16.36
	27	742.56	NP	2.91E+00	2.09
	28	766.13	NP	1.01E+01	0.77
	29	786.07	Bi-214	1.36E+00	4.17
	30	805.60	Bi-214	3.41E-01	12.95
M	31	824.65	NP	1.57E-01	9.99
m	32	831.37	NP	1.47E-01	10.48
	33	851.13	NP	1.59E-01	22.05
M	34	880.40	NP	4.22E-01	4.37
m	35	883.04	NP	5.57E-01	3.29
m	36	886.97	NP	1.90E-01	7.14
M	37	921.48	NP	2.70E-01	6.11
m	38	925.97	NP	8.05E-01	2.44
	39	945.67	NP	9.09E-01	3.44
	40	1000.70	Pa-234M	2.28E+01	0.39
	41	1043.73	NP	7.98E-02	23.52
	42	1124.69	NP	1.20E-01	14.97
	43	1193.34	NP	3.16E-01	5.98
	44	1236.93	NP	1.42E-01	11.64
	45	1393.41	NP	7.93E-02	15.58
	46	1413.72	NP	2.55E-02	38.32
	47	1433.82	NP	1.95E-01	6.78

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	49	1510.08	NP	2.47E-01	5.56
	50	1527.09	NP	4.35E-02	23.97
	51	1553.76	NP	1.07E-01	11.30
	52	1737.74	NP	3.84E-01	3.19
	53	1765.62	NP	1.10E-01	8.25
M	54	1809.38	NP	5.77E-02	6.88
m	55	1820.25	NP	1.25E-02	18.57
	56	1831.45	NP	2.84E-01	3.79
M	57	1867.95	NP	1.61E-01	3.92
m	58	1875.50	NP	1.45E-01	4.11
	59	1893.95	NP	4.22E-02	11.36
	60	1911.41	NP	9.37E-02	6.55
	61	1937.33	NP	5.78E-02	7.91

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+02	2.11E+01	2.11E+01
	CO-60	1173.24		99.90	1.75E-01	2.10E+00	2.48E+00
		1332.50		99.98	6.03E-01		2.10E+00
	NB-94	702.63		99.81	-4.07E-01	4.00E+00	4.82E+00
		871.10		99.89	-6.27E+00		4.00E+00
	AG-108m	433.94		90.50	3.23E+00	4.32E+00	4.32E+00
		614.28		89.80	2.55E+00		4.64E+00
		722.94		90.80	-2.11E+00		4.96E+00
	CS-137	661.66		85.21	-3.37E+00	4.94E+00	4.94E+00
	EU-152	40.12		38.40	-9.17E+00	9.83E+00	1.03E+01
		45.38		11.10	-6.27E+01		3.13E+01
		121.78		28.40	-1.13E+00		1.18E+01
		244.69		7.51	-6.50E+01		4.89E+01
		344.29		26.60	9.54E+00		1.39E+01
		411.12		2.23	-1.95E+00		1.65E+02
		443.89		2.80	-4.08E+01		1.40E+02
		778.92		12.98	-3.57E+01		3.94E+01
		867.38		4.21	2.37E+00		9.44E+01
		964.11		14.50	9.88E+00		2.20E+01
		1085.89		9.94	4.20E+00		2.79E+01

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1089.71		1.71	-5.53E+01		1.61E+02
		1112.07		13.60	-2.94E+00		1.91E+01
		1212.93		1.40	-1.54E+02		1.77E+02
		1299.16		1.63	-1.46E+02		1.33E+02
		1408.00		20.80	-5.20E+00		9.83E+00
	EU-154	123.10		40.50	-5.11E-01	6.29E+00	8.21E+00
		723.36		19.70	-9.71E+00		2.29E+01
		873.23		11.45	-4.96E+01		3.51E+01
		1004.78		17.90	-4.02E+02		8.72E+01
		1274.54		35.50	1.04E-02		6.29E+00
	EU-155	86.54		34.00	-4.16E+02	1.77E+01	1.77E+01
		105.31		20.60	-7.03E+02		2.42E+01
	PB-212	74.81		10.50	7.34E+01	2.88E+01	4.02E+01
		77.11		17.70	-2.59E+02		2.88E+01
		87.19		6.27	-2.25E+03		9.76E+01
	RA-226d	186.11		3.28	-4.08E+01	9.00E+00	3.56E+02
		241.92		7.46	-6.93E+00		4.93E+01
		295.09		19.20	1.78E+01		1.88E+01
		351.87		37.10	-5.96E+00		9.90E+00
		609.31		46.10	3.18E+00		9.00E+00
		1120.27		15.00	2.10E+00		1.85E+01
		1764.49		15.90	6.76E+01		1.49E+01
	TH-232d	238.58		43.60	7.03E+00	8.47E+00	8.47E+00
		338.42		12.40	1.09E+01		2.97E+01
		583.02		30.87	1.97E+00		1.35E+01
		911.16		29.00	-8.06E+00		1.18E+01
		968.97		17.40	-4.58E+00		1.83E+01
+	U-235	143.79	*	10.50	1.97E+03	1.28E+01	4.07E+01
		163.38	*	4.70	2.78E+03		9.79E+01
		185.74	*	53.00	3.10E+03		1.28E+01
		205.33	*	4.70	3.47E+03		9.21E+01
+	U-238d	63.29	*	3.80	2.43E+04	9.84E+01	1.47E+02
		92.56	*	5.41	4.28E+04		9.84E+01
	AM-241	59.54		35.70	-1.68E+02	1.10E+01	1.10E+01
	CM-243	99.52		14.40	-6.02E+01	2.23E+01	5.88E+01
		103.73		23.00	-7.83E+02		2.23E+01
		116.93		8.32	-2.53E+01		5.46E+01
		228.19		10.56	-7.34E+00		3.58E+01
		277.60		14.00	4.45E+01		2.62E+01
	CM-245	99.52		21.10	-4.11E+01	1.53E+01	4.01E+01
		103.73		33.60	-5.36E+02		1.53E+01
		116.93		12.20	-1.73E+01		3.72E+01
		174.94		9.50	5.76E+00		4.16E+01

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

Analysis Report for RCF19364

J16DW8 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

Reviewed and Approved: Edward S. Wallace, Edward S Wallace 4-02-08
(print/sign/date)

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19365
Sample Description	: J16DW9 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 4.300E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 9:25:00AM
Acquisition Started	: 3/31/2008 11:31:07AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3662.9 seconds
Dead Time	: 1.72 %
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	: 18287

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.993	1.54E+01	3.45E+00	
PB-212		0.709	8.25E-01	1.84E-01	
RA-226d		0.671	3.19E-01	1.65E-01	
TH-232d		0.850	6.67E-01	1.86E-01	
U-235		0.547	6.08E-01	1.73E-01	
U-238d	@	1.000	8.52E+00	2.02E+00	

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground 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 : 3/31/2008 12:32:24PM
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	1.54E+01	3.26E+00	3.26E+00
	CO-60	1173.24		99.90	-6.34E-02	3.47E-01	3.47E-01
		1332.50		99.98	3.75E-02		3.60E-01
	NB-94	702.63		99.81	7.05E-02	2.58E-01	2.58E-01
		871.10		99.89	1.41E-02		2.63E-01
	AG-108m	433.94		90.50	1.28E-01	2.28E-01	2.28E-01
		614.28		89.80	-1.16E-01		3.23E-01
		722.94		90.80	1.29E-01		2.82E-01
	CS-137	661.66		85.21	3.89E-02	3.02E-01	3.02E-01
	EU-152	40.12		38.40	7.17E-03	3.96E-01	3.96E-01
		45.38		11.10	3.69E-01		1.26E+00
		121.78		28.40	1.98E-01		4.43E-01
		244.69		7.51	-2.24E+00		2.30E+00
		344.29		26.60	-2.47E-01		7.72E-01
		411.12		2.23	3.66E+00		9.37E+00
		443.89		2.80	-4.69E+00		6.69E+00
		778.92		12.98	1.69E-01		1.93E+00
		867.38		4.21	4.44E+00		7.05E+00

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	-1.96E-01		2.38E+00
		1085.89		9.94	-1.35E+00		3.24E+00
		1089.71		1.71	-4.04E+00		1.97E+01
		1112.07		13.60	-1.25E+00		2.56E+00
		1212.93		1.40	-1.72E+01		2.31E+01
		1299.16		1.63	1.26E+01		2.33E+01
		1408.00		20.80	8.27E-02		1.62E+00
	EU-154	123.10		40.50	3.69E-02	3.07E-01	3.07E-01
		723.36		19.70	3.13E-01		1.29E+00
		873.23		11.45	-1.14E+00		2.36E+00
		1004.78		17.90	1.55E+00		1.81E+00
		1274.54		35.50	4.97E-01		1.02E+00
	EU-155	86.54		34.00	-5.02E-02	4.17E-01	4.17E-01
		105.31		20.60	2.65E-01		6.12E-01
+	PB-212	74.81	*	10.50	1.17E+00	4.12E-01	7.22E-01
		77.11	*	17.70	7.21E-01		4.12E-01
		87.19		6.27	6.20E-02		2.35E+00
+	RA-226d	186.11	*	3.28	1.01E+01	3.68E-01	3.82E+00
		241.92		7.46	-9.30E-01		3.00E+00
		295.09	*	19.20	5.92E-01		6.49E-01
		351.87	*	37.10	3.03E-01		3.68E-01
		609.31	*	46.10	2.24E-01		4.52E-01
		1120.27		15.00	9.26E-01		2.51E+00
		1764.49		15.90	1.11E+00		2.38E+00
+	TH-232d	238.58	*	43.60	5.99E-01	3.54E-01	3.54E-01
		338.42	*	12.40	5.99E-01		9.72E-01
		583.02	*	30.87	8.64E-01		5.68E-01
		911.16	*	29.00	7.32E-01		8.91E-01
		968.97		17.40	1.63E+00		1.97E+00
+	U-235	143.79		10.50	9.67E-01	2.37E-01	1.34E+00
		163.38		4.70	5.41E-02		2.95E+00
		185.74	*	53.00	6.28E-01		2.37E-01
		205.33		4.70	6.04E-02		3.52E+00
+	U-238d	63.29	*	3.80	8.52E+00	2.10E+00	2.72E+00
		92.56	*	5.41	1.05E+01		2.10E+00
	AM-241	59.54		35.70	-7.91E-02	4.35E-01	4.35E-01
	CM-243	99.52		14.40	-6.09E-01	5.40E-01	8.73E-01
		103.73		23.00	-4.32E-01		5.40E-01
		116.93		8.32	-1.89E-01		1.52E+00
		228.19		10.56	-8.73E-02		1.51E+00
		277.60		14.00	-1.06E+00		1.15E+00
	CM-245	99.52		21.10	-4.16E-01	3.70E-01	5.95E-01
		103.73		33.60	-2.96E-01		3.70E-01
		116.93		12.20	-1.29E-01		1.03E+00
		174.94		9.50	7.00E-01		1.49E+00

Analysis Report for RCF19365

J16DW9 SAF:RC-087 FF2/618-7 Burial Ground 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, Edward S. Wallace 4-02-08
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19362
J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19362
Sample Description	: J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.600E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 10:05:00AM
Acquisition Started	: 3/31/2008 10:21:24AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3662.3 seconds
Dead Time	: 1.70 %
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	: 18283

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.989	1.26E+01	2.56E+00	
CS-137		0.990	5.17E-01	1.42E-01	
PB-212		0.707	1.15E+00	2.32E-01	
RA-226d		0.786	3.96E-01	1.43E-01	
TH-232d		0.751	6.04E-01	1.89E-01	
U-235		0.999	2.92E+00	4.68E-01	
U-238d	@	1.000	5.61E+01	4.74E+00	

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/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 : 3/31/2008 11:22:29AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.05	NP	6.23E-02	9.71
m	5	89.94	NP	3.91E-02	13.29
m	7	98.34	NP	4.27E-02	10.87
	8	112.73	NP	4.41E-02	20.15
	21	1000.59	Pa-234m	2.00E-02	15.11

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	1.26E+01	2.25E+00	2.25E+00
	CO-60	1173.24		99.90	-2.45E-02	1.96E-01	2.59E-01
		1332.50		99.98	-1.00E-01		1.96E-01
	NB-94	702.63		99.81	1.32E-01	2.09E-01	2.09E-01
		871.10		99.89	1.37E-01		2.22E-01
	AG-108m	433.94		90.50	7.27E-02	1.70E-01	1.70E-01
		614.28		89.80	-2.75E-01		2.59E-01
		722.94		90.80	6.49E-02		2.21E-01
+	CS-137	661.66	*	85.21	5.17E-01	1.65E-01	1.65E-01
	EU-152	40.12		38.40	7.23E-02	3.39E-01	3.39E-01
		45.38		11.10	-1.24E-01		1.23E+00
		121.78		28.40	1.68E-01		4.18E-01
		244.69		7.51	-2.12E+00		1.72E+00
		344.29		26.60	3.21E-01		5.91E-01

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		411.12		2.23	2.59E+00		6.95E+00
		443.89		2.80	-6.41E-01		5.54E+00
		778.92		12.98	-6.42E-01		1.31E+00
		867.38		4.21	-2.91E-01		5.41E+00
		964.11		14.50	-3.82E-01		1.96E+00
		1085.89		9.94	-3.39E-01		2.52E+00
		1089.71		1.71	1.54E+00		1.44E+01
		1112.07		13.60	-2.31E+00		1.91E+00
		1212.93		1.40	1.41E+00		1.87E+01
		1299.16		1.63	5.64E+00		1.42E+01
		1408.00		20.80	4.41E-01		8.51E-01
	EU-154	123.10		40.50	2.87E-01	2.96E-01	2.96E-01
		723.36		19.70	2.92E-01		1.02E+00
		873.23		11.45	1.02E+00		1.94E+00
		1004.78		17.90	3.21E+00		1.99E+00
		1274.54		35.50	-1.02E-01		6.84E-01
	EU-155	86.54		34.00	-8.75E+00	5.73E-01	5.73E-01
		105.31		20.60	-4.12E-01		6.23E-01
+	PB-212	74.81	*	10.50	1.48E+00	5.78E-01	9.91E-01
		77.11	*	17.70	1.03E+00		5.78E-01
		87.19		6.27	-1.16E+02		3.26E+00
+	RA-226d	186.11	*	3.28	5.35E+01	3.17E-01	3.59E+00
		241.92		7.46	-3.96E-01		2.33E+00
		295.09	*	19.20	5.83E-01		4.82E-01
		351.87	*	37.10	3.08E-01		3.28E-01
		609.31	*	46.10	3.69E-01		3.17E-01
		1120.27	*	15.00	7.87E-01		9.38E-01
		1764.49		15.90	9.85E-02		1.12E+00
+	TH-232d	238.58	*	43.60	6.43E-01	2.16E-01	2.16E-01
		338.42	*	12.40	5.79E-01		8.81E-01
		583.02	*	30.87	5.39E-01		3.96E-01
		911.16		29.00	4.58E-01		9.05E-01
		968.97	*	17.40	8.12E-01		9.56E-01
+	U-235	143.79	*	10.50	2.86E+00	2.22E-01	9.08E-01
		163.38	*	4.70	3.94E+00		2.58E+00
		185.74	*	53.00	3.31E+00		2.22E-01
		205.33	*	4.70	1.35E+00		2.21E+00
+	U-238d	63.29	*	3.80	5.61E+01	1.71E+00	3.94E+00
		92.56	*	5.41	5.14E+01		1.71E+00
	AM-241	59.54		35.70	-1.99E-01	7.25E-01	7.25E-01
	CM-243	99.52		14.40	-5.68E-01	5.46E-01	9.95E-01
		103.73		23.00	-1.30E+00		5.46E-01
		116.93		8.32	-7.67E-01		1.64E+00
		228.19		10.56	4.11E-02		1.16E+00
		277.60		14.00	1.46E-01		8.95E-01
	CM-245	99.52		21.10	-3.88E-01	3.74E-01	6.79E-01
		103.73		33.60	-8.87E-01		3.74E-01
		116.93		12.20	-5.23E-01		1.12E+00

Analysis Report for RCF19362

J16DX0 SAF-RC-087 FF2-618-7 BG/STOCKPILES

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	174.94	9.50	3.62E-01		1.35E+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, Edward S Wallace 4-02-08
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19363
Sample Description	: J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.400E+01 grams
Facility	: Default
Sample Taken On	: 3/28/2008 10:10:00AM
Acquisition Started	: 3/31/2008 10:21:33AM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.8 seconds
Dead Time	: 0.02 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/31/2008
Efficiency Calibration Used Done On	: 2/5/2008
Efficiency Calibration Description	: 80g Pill box 2/5/2008
Sample Number	: 18284

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.29E+01	3.63E+00	
CS-137		0.998	6.92E-01	1.73E-01	
PB-212		0.707	1.02E+00	2.24E-01	
RA-226d		0.404	2.97E-01	1.51E-01	
TH-232d		0.996	4.59E-01	1.42E-01	
U-235		0.999	3.29E+00	5.85E-01	
U-238d	@	1.000	4.35E+01	5.24E+00	

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/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 : 3/31/2008 11:21:43AM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
	4	84.37	Th-231	7.33E-02	18.72
M	5	89.95	Ac-228	3.38E-02	17.31
	7	98.45	Pa-234	3.75E-02	31.93
M	8	109.39	NP	1.26E-02	35.06
m	9	112.61	NP	5.65E-02	11.05
	20	766.63	NP	1.24E-02	26.69
	23	1001.17	Pa-234m	1.78E-02	18.66

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	1.29E+01	2.04E+00	2.04E+00
	CO-60	1173.24		99.90	-3.80E-02	1.70E-01	2.01E-01
		1332.50		99.98	-2.58E-02		1.70E-01
	NB-94	702.63		99.81	1.11E-01	1.59E-01	1.79E-01
		871.10		99.89	-3.47E-02		1.59E-01
	AG-108m	433.94		90.50	-8.21E-03	1.39E-01	1.39E-01
		614.28		89.80	5.82E-02		1.83E-01
		722.94		90.80	4.28E-02		2.03E-01
+	CS-137	661.66	*	85.21	6.92E-01	2.03E-01	2.03E-01
	EU-152	40.12		38.40	-2.01E-01	3.49E-01	3.49E-01
		45.38		11.10	-4.89E-01		1.20E+00
		121.78		28.40	2.77E-01		3.69E-01

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		244.69		7.51	3.10E-01		1.39E+00
		344.29		26.60	-6.96E-02		4.06E-01
		411.12		2.23	-9.82E-02		5.16E+00
		443.89		2.80	-2.26E+00		4.29E+00
		778.92		12.98	-1.43E+00		1.24E+00
		867.38		4.21	-1.44E+00		3.71E+00
		964.11		14.50	-9.50E-01		1.65E+00
		1085.89		9.94	1.11E+00		2.11E+00
		1089.71		1.71	1.01E-01		1.13E+01
		1112.07		13.60	-3.86E-01		1.53E+00
		1212.93		1.40	-1.99E-01		1.53E+01
		1299.16		1.63	4.90E+00		1.27E+01
		1408.00		20.80	1.42E-01		8.52E-01
	EU-154	123.10		40.50	1.46E-03	2.54E-01	2.54E-01
		723.36		19.70	1.97E-01		9.39E-01
		873.23		11.45	-6.27E-01		1.36E+00
		1004.78		17.90	-1.17E-02		1.68E+00
		1274.54		35.50	-5.78E-02		5.49E-01
	EU-155	86.54		34.00	-1.54E-02	4.89E-01	4.89E-01
		105.31		20.60	1.81E-01		5.32E-01
+	PB-212	74.81	*	10.50	1.26E+00	6.84E-01	1.14E+00
		77.11	*	17.70	9.24E-01		6.84E-01
		87.19		6.27	-8.33E-02		2.70E+00
+	RA-226d	186.11	*	3.28	5.28E+01	3.16E-01	3.25E+00
		241.92		7.46	7.83E-01		1.99E+00
		295.09		19.20	2.39E-01		5.57E-01
		351.87	*	37.10	2.75E-01		3.16E-01
		609.31	*	46.10	3.19E-01		3.24E-01
		1120.27		15.00	7.37E-01		1.53E+00
		1764.49		15.90	1.03E+00		1.43E+00
+	TH-232d	238.58	*	43.60	4.41E-01	2.83E-01	2.83E-01
		338.42	*	12.40	4.26E-01		8.74E-01
		583.02	*	30.87	4.39E-01		3.53E-01
		911.16	*	29.00	4.44E-01		5.83E-01
		968.97	*	17.40	7.09E-01		8.04E-01
+	U-235	143.79	*	10.50	3.08E+00	2.01E-01	9.77E-01
		163.38	*	4.70	3.37E+00		2.40E+00
		185.74	*	53.00	3.27E+00		2.01E-01
		205.33	*	4.70	4.13E+00		1.96E+00
+	U-238d	63.29	*	3.80	4.35E+01	2.41E+00	4.23E+00
		92.56	*	5.41	4.46E+01		2.41E+00
	AM-241	59.54		35.70	-3.69E-02	3.89E-01	3.89E-01
	CM-243	99.52		14.40	-6.07E-02	4.70E-01	9.28E-01
		103.73		23.00	-1.46E-01		4.70E-01
		116.93		8.32	-9.29E-01		1.34E+00
		228.19		10.56	-4.29E-01		8.74E-01
		277.60		14.00	-4.97E-02		7.01E-01
	CM-245	99.52		21.10	-4.14E-02	3.22E-01	6.33E-01

Analysis Report for RCF19363

J16DX1 SAF-RC-087 FF2-618-7 BG/STOCKPILES

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	103.73	33.60	-1.00E-01		3.22E-01
	116.93	12.20	-6.34E-01		9.11E-01
	174.94	9.50	-1.21E-01		9.79E-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, Edward S. Wallace 4-02-08
(print/sign/date)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4 3 08 1030 GM Screen Result 0.1 K

Client: WCH SDG #: J00166 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D030231 Chain of Custody # RC-087-059,-060

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: 4
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: 4 3 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

J8D070175 J00166 DUE 4 8 08

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-061	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-99-051	Field Logbook No.: EL-1395-12 — COA: RG61872600	Method of Shipment: Government Vehicle - Hand Delivery	
Shipped To: TestAmerica Incorporated, Richland	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	60mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											
Sample No.	Matrix *	Sample Date	Sample Time									
J16J24 KKT7H	SOIL	4-2-08	0745	X					J16J22			SEA F007
J16J25 KKT7K	SOIL	4-2-08	0745	X					J16J23			" F007B

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Blawrence	0930 4-2-08	Received By/Stored In: RT Coffman/RT Coffman	0930 4/2/08
Relinquished By/Removed From: RT Coffman/RT Coffman	1000 4/2/08	Received By/Stored In: Dennis Stigom	4/2/08 1000
Relinquished By/Removed From: Dennis Stigom	4/2/08 1050	Received By/Stored In: LVLANE TALR	1050 4 7 08
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}

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

30

J8D070175 J00166 DUE 4808

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-075	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-99-051	Field Logbook No.: EL-1395-12; COA: RG61872600	Method of Shipment: Govt Vehicle - Hand Delivery	
Shipped To: TestAmerica Incorporated, Richland	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	aG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time					RCF					
J16J53 KKT7M	SOIL	4-2-08	0715	X				J16J33				SEG	F001
J16J54 KKT7Q	SOIL	4-2-08	0720	X				J16J34				"	F002
J16J55 KKT7R	SOIL	4-2-08	0725	X				J16J35				"	F003

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: B Lawrence 4-2-08 Date/Time 0970	Received By/Stored In: RT COFFMAN/RT Coffman Date/Time 0930 4/2/08	
Relinquished By/Removed From: RT COFFMAN/RT Coffman 4/2/08 Date/Time 1000	Received By/Stored In: David St John Date/Time 4/2/08 1000	
Relinquished By/Removed From: David St John 4/2/08 1050 Date/Time	Received By/Stored In: KK LJ LANE TALR 4708 Date/Time 1050	
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}

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

TESTAMERICA

31

J8D070175 J00166 DUE 4 8 08

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-076	Page 1 of 1
Collector: B Lawrence, E. Harries	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 2B
Project Designation: 618-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground/Stockpiles		SAF No.: RC-087	Data Turnaround: 24 Hours
Ice Chest No.: FRC-99-051	Field Logbook No.: EL-1395-12	COA: RG61872600	Method of Shipment: Govt Vehicle - Hand Delivery	
Shipped To: TestAmerica Incorporated, Richland	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	aG											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											
Sample No.	Matrix *	Sample Date	Sample Time									
J16J56 KKT7T	SOIL	4-2-08	0730	X				J16J36			SEE	F004
J16J57 KKT7V	SOIL	4-2-08	0735	X				J16J37			"	F005
J16J58 KKT7W	SOIL	4-2-08	0740	X				J16J38			"	F006

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	0930 4-2-08	RT COFFMAN/RT Coffman	0930 4/2/08
RT COFFMAN/RT Coffman	1000 4/2/08	[illegible]	1000 4/2/08
[illegible]	1050 4/2/08	[illegible]	1050 4/2/08
		LJ LANE TALR	4/2/08

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}

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

TESTAMERICA

32

J8D070175 J00166 DUE 4 8 08

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-077 | Page 1 of 1

Collector	B Lawrence, E. Harries
Project Designation	618-7 Burial Ground - Soil
Ice Chest No.	ERC-99-051
Shipped To	TestAmerica Incorporated, Richland
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.	N/A
Project Coordinator	KESSNER, JH
SAF No.	RC-087
Price Code	2B
Data Turnaround	24 Hours
Method of Shipment	Govt Vehicle - Hand Delivery
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	aG											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											
Sample No.	Matrix *	Sample Date	Sample Time									
J16J59 KKT71	SOIL	4/3/08	0715	X				J16J39				SEG G-001
J16J60 KKT73	SOIL	4/3/08	0725	X				J16J40				" G-003
J16J61 KKT75	SOIL	4/3/08	0735	X				J16J41				" G-005

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	0815 4-3-08	RT Coffman / RT Coffman	0815 4/3/08
RT Coffman / RT Coffman	1030 4/7/08	L.D. St. John / [illegible]	4/7/08 1030
L.D. St. John / [illegible]	4/7/08 1050	[illegible] LJ LANETAHR	4 7 08 1050

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}

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X Other

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

WCH-EE-011

TESTAMERICA

33

Radiological Counting Facility

Analysis Report for RCF19374
J16J22 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19374
Sample Description	: J16J22 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.700E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:45:00AM
Acquisition Started	: 4/2/2008 11:34:17AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3648.2 seconds
Dead Time	: 1.32 %
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	: 18362

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.38E+01	2.83E+00	
PB-212		0.710	7.62E-01	1.52E-01	
RA-226d		0.616	3.26E-01	1.49E-01	
TH-232d		0.744	6.44E-01	1.54E-01	
U-238d	@	0.999	1.45E+00	1.34E+00	

Analysis Report for RCF19374

J16J22 FF2/618-7 Burial Ground 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 : 4/2/2008 12:35:15PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
9	510.87 Annihilation photon	8.66E-03	59.10

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	1.38E+01	2.63E+00	2.63E+00
	CO-60	1173.24		99.90	9.33E-02	2.47E-01	2.83E-01
		1332.50		99.98	-1.31E-01		2.47E-01
	NB-94	702.63		99.81	7.98E-02	2.15E-01	2.28E-01
		871.10		99.89	5.19E-03		2.15E-01
	AG-108m	433.94		90.50	3.78E-02	1.78E-01	1.78E-01
		614.28		89.80	-1.17E-02		3.07E-01
		722.94		90.80	2.03E-01		2.65E-01
	CS-137	661.66		85.21	-5.89E-04	2.36E-01	2.36E-01
	EU-152	40.12		38.40	7.17E-02	2.87E-01	2.87E-01
		45.38		11.10	1.86E-01		9.13E-01
		121.78		28.40	1.04E-01		3.11E-01
		244.69		7.51	-8.03E-01		1.69E+00
		344.29		26.60	-2.67E-01		5.91E-01
		411.12		2.23	-2.25E+00		7.10E+00
		443.89		2.80	-1.99E+00		5.88E+00
		778.92		12.98	6.70E-02		1.47E+00
		867.38		4.21	2.03E+00		5.77E+00
		964.11		14.50	6.63E-01		2.15E+00

Analysis Report for RCF19374

J16J22 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1085.89		9.94	2.88E-01		2.62E+00
		1089.71		1.71	5.06E+00		1.54E+01
		1112.07		13.60	-2.25E+00		1.98E+00
		1212.93		1.40	-8.25E+00		1.92E+01
		1299.16		1.63	-6.64E+00		1.63E+01
		1408.00		20.80	4.79E-01		1.19E+00
	EU-154	123.10		40.50	-1.65E-01	2.15E-01	2.15E-01
		723.36		19.70	8.33E-01		1.22E+00
		873.23		11.45	-2.47E+00		1.81E+00
		1004.78		17.90	-7.45E-02		1.13E+00
		1274.54		35.50	-8.43E-01		8.50E-01
	EU-155	86.54		34.00	1.75E-02	3.21E-01	3.21E-01
		105.31		20.60	2.84E-01		4.41E-01
+	PB-212	74.81	*	10.50	8.09E-01	3.12E-01	6.33E-01
		77.11	*	17.70	7.43E-01		3.12E-01
		87.19		6.27	-5.80E-02		1.74E+00
+	RA-226d	186.11		3.28	2.45E+00	3.46E-01	3.93E+00
		241.92		7.46	-1.98E-01		2.39E+00
		295.09	*	19.20	3.32E-01		5.73E-01
		351.87	*	37.10	2.27E-01		3.69E-01
		609.31	*	46.10	4.29E-01		3.46E-01
		1120.27		15.00	-2.59E-01		2.07E+00
		1764.49		15.90	7.54E-01		1.80E+00
+	TH-232d	238.58	*	43.60	6.07E-01	2.95E-01	2.95E-01
		338.42	*	12.40	7.58E-01		9.15E-01
		583.02	*	30.87	6.74E-01		3.69E-01
		911.16		29.00	4.32E-01		1.05E+00
		968.97	*	17.40	7.11E-01		9.02E-01
	U-235	143.79		10.50	-5.27E-02	2.43E-01	9.42E-01
		163.38		4.70	-1.11E-01		2.24E+00
		185.74		53.00	1.52E-01		2.43E-01
		205.33		4.70	-2.69E-01		2.63E+00
+	U-238d	63.29	*	3.80	1.45E+00	1.12E+00	2.17E+00
		92.56	*	5.41	1.35E+00		1.12E+00
	AM-241	59.54		35.70	9.14E-03	2.95E-01	2.95E-01
	CM-243	99.52		14.40	-1.74E-01	3.85E-01	6.06E-01
		103.73		23.00	-1.61E-02		3.85E-01
		116.93		8.32	2.84E-01		1.10E+00
		228.19		10.56	2.40E-01		1.10E+00
		277.60		14.00	5.08E-01		1.02E+00
	CM-245	99.52		21.10	-1.19E-01	2.64E-01	4.14E-01
		103.73		33.60	-1.10E-02		2.64E-01
		116.93		12.20	1.94E-01		7.49E-01
		174.94		9.50	-1.39E-01		1.18E+00

Analysis Report for RCF19374

J16J22 FF2/618-7 Burial Ground 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 03 2008

(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19375
J16J23 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19375
Sample Description	: J16J23 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.500E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:45:00AM
Acquisition Started	: 4/2/2008 11:34:25AM
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	: 18363

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.62E+01	3.48E+00	
PB-212		0.709	9.62E-01	2.17E-01	
RA-226d		0.672	4.43E-01	2.05E-01	
TH-232d		0.419	9.35E-01	2.44E-01	
U-235		0.540	3.77E-01	1.95E-01	
U-238d	@	1.000	3.12E+00	1.96E+00	

Analysis Report for RCF19375

J16J23 FF2/618-7 Burial Ground 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 : 4/2/2008 12:34:36PM
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	1.62E+01	3.41E+00	3.41E+00
	CO-60	1173.24		99.90	1.08E-01	3.13E-01	3.33E-01
		1332.50		99.98	-1.38E-01		3.13E-01
	NB-94	702.63		99.81	-2.97E-01	1.96E-01	1.96E-01
		871.10		99.89	3.18E-02		2.98E-01
	AG-108m	433.94		90.50	4.50E-02	2.17E-01	2.17E-01
		614.28		89.80	8.69E-02		3.09E-01
		722.94		90.80	2.20E-01		3.17E-01
	CS-137	661.66		85.21	1.74E-01	2.76E-01	2.76E-01
	EU-152	40.12		38.40	-8.29E-02	3.13E-01	3.13E-01
		45.38		11.10	1.21E+00		1.15E+00
		121.78		28.40	2.97E-02		3.24E-01
		244.69		7.51	1.74E+00		2.23E+00
		344.29		26.60	-8.68E-01		6.06E-01
		411.12		2.23	6.20E+00		8.66E+00
		443.89		2.80	-4.12E+00		6.83E+00
		778.92		12.98	7.95E-01		2.01E+00
		867.38		4.21	-2.01E+00		7.69E+00

Analysis Report for RCF19375

J16J23 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	1.33E+00		2.22E+00
		1085.89		9.94	-8.08E-01		2.94E+00
		1089.71		1.71	1.14E+00		1.72E+01
		1112.07		13.60	-1.35E+00		2.80E+00
		1212.93		1.40	4.11E+00		2.72E+01
		1299.16		1.63	-3.41E+00		1.91E+01
		1408.00		20.80	2.21E-01		1.35E+00
	EU-154	123.10		40.50	-1.17E-01	2.23E-01	2.23E-01
		723.36		19.70	1.02E+00		1.46E+00
		873.23		11.45	2.11E+00		2.68E+00
		1004.78		17.90	6.98E-01		1.61E+00
		1274.54		35.50	-4.68E-01		9.54E-01
	EU-155	86.54		34.00	2.24E-01	3.66E-01	3.66E-01
		105.31		20.60	-3.40E-02		4.41E-01
+	PB-212	74.81	*	10.50	1.21E+00	5.71E-01	9.73E-01
		77.11	*	17.70	8.67E-01		5.71E-01
		87.19		6.27	4.83E-01		2.02E+00
+	RA-226d	186.11	*	3.28	6.53E+00	4.87E-01	4.81E+00
		241.92		7.46	1.28E+00		3.38E+00
		295.09	*	19.20	4.42E-01		6.20E-01
		351.87	*	37.10	5.52E-01		4.87E-01
		609.31	*	46.10	2.97E-01		6.06E-01
		1120.27		15.00	3.90E+00		2.96E+00
		1764.49		15.90	2.17E+00		2.62E+00
+	TH-232d	238.58	*	43.60	1.13E+00	3.97E-01	3.97E-01
		338.42		12.40	-1.31E-01		1.52E+00
		583.02	*	30.87	5.28E-01		6.76E-01
		911.16		29.00	1.46E+00		1.27E+00
		968.97		17.40	1.44E+00		2.03E+00
+	U-235	143.79		10.50	3.38E-01	2.98E-01	1.11E+00
		163.38		4.70	9.36E-01		2.54E+00
		185.74	*	53.00	4.04E-01		2.98E-01
		205.33		4.70	-1.37E+00		2.88E+00
+	U-238d	63.29	*	3.80	3.12E+00	2.15E+00	3.09E+00
		92.56	*	5.41	3.73E+00		2.15E+00
	AM-241	59.54		35.70	-3.10E-02	2.84E-01	2.84E-01
	CM-243	99.52		14.40	-3.08E-01	3.82E-01	6.42E-01
		103.73		23.00	-2.14E-01		3.82E-01
		116.93		8.32	-1.80E-01		1.17E+00
		228.19		10.56	-4.85E-01		1.34E+00
		277.60		14.00	-1.39E-01		1.13E+00
	CM-245	99.52		21.10	-2.11E-01	2.62E-01	4.38E-01
		103.73		33.60	-1.46E-01		2.62E-01
		116.93		12.20	-1.23E-01		8.00E-01
		174.94		9.50	-1.14E-01		1.28E+00

Analysis Report for RCF19375

J16J23 FF2/618-7 Burial Ground 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 (print/sign/date)

APR 03 2008

Radiological Counting Facility

Analysis Report for RCF19376

J16J33 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19376
Sample Description	: J16J33 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.900E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:15:00AM
Acquisition Started	: 4/2/2008 12:41:25PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3641.9 seconds
Dead Time	: 1.15 %
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	: 18369

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		1.000	1.49E+01	2.69E+00	
PB-212		0.707	8.50E-01	1.63E-01	
RA-226d		0.718	4.70E-01	1.37E-01	
TH-232d		0.823	5.19E-01	1.58E-01	
U-238d	@	0.999	2.82E+00	1.40E+00	

Analysis Report for RCF19376

J16J33 FF2/618-7 Burial Ground 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 : 4/2/2008 1:42:10PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.		Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
m	4	90.03 NP	7.94E-03	34.63

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	1.49E+01	2.18E+00	2.18E+00
	CO-60	1173.24		99.90	9.00E-02	2.45E-01	2.45E-01
		1332.50		99.98	1.93E-02		2.49E-01
	NB-94	702.63		99.81	-3.33E-02	1.65E-01	1.65E-01
		871.10		99.89	3.19E-02		1.79E-01
	AG-108m	433.94		90.50	6.45E-02	1.34E-01	1.34E-01
		614.28		89.80	-7.17E-03		2.28E-01
		722.94		90.80	4.39E-03		1.87E-01
	CS-137	661.66		85.21	-3.24E-02	1.72E-01	1.72E-01
	EU-152	40.12		38.40	5.14E-03	2.18E-01	2.18E-01
		45.38		11.10	3.09E-01		7.83E-01
		121.78		28.40	2.52E-02		2.81E-01
		244.69		7.51	-1.98E+00		1.53E+00
		344.29		26.60	-4.50E-01		4.81E-01
		411.12		2.23	2.32E+00		5.70E+00
		443.89		2.80	-1.19E+00		4.54E+00
		778.92		12.98	3.61E-01		1.24E+00
		867.38		4.21	3.98E+00		4.79E+00
		964.11		14.50	-1.04E+00		1.88E+00

Analysis Report for RCF19376

J16J33 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1085.89		9.94	8.19E-02		2.18E+00
		1089.71		1.71	1.19E+01		1.27E+01
		1112.07		13.60	-1.49E+00		1.57E+00
		1212.93		1.40	1.08E+01		2.02E+01
		1299.16		1.63	-1.53E+01		1.31E+01
		1408.00		20.80	3.37E-01		1.08E+00
	EU-154	123.10		40.50	-6.51E-02	1.95E-01	1.95E-01
		723.36		19.70	1.74E-01		8.69E-01
		873.23		11.45	-4.84E-01		1.55E+00
		1004.78		17.90	2.37E-01		1.30E+00
		1274.54		35.50	-2.72E-01		6.23E-01
	EU-155	86.54		34.00	4.81E-02	3.04E-01	3.04E-01
		105.31		20.60	-3.36E-01		3.76E-01
+	PB-212	74.81	*	10.50	8.74E-01	3.14E-01	5.64E-01
		77.11	*	17.70	8.37E-01		3.14E-01
		87.19		6.27	3.26E-01		1.63E+00
+	RA-226d	186.11		3.28	2.45E+00	2.30E-01	3.29E+00
		241.92		7.46	-8.74E-01		2.19E+00
		295.09	*	19.20	4.45E-01		4.15E-01
		351.87	*	37.10	5.44E-01		2:30E-01
		609.31	*	46.10	3.95E-01		2.79E-01
		1120.27		15.00	1.11E+00		1.76E+00
		1764.49	*	15.90	8.85E-01		8.11E-01
+	TH-232d	238.58	*	43.60	5.29E-01	2.43E-01	2.43E-01
		338.42		12.40	9.06E-02		1.05E+00
		583.02	*	30.87	5.53E-01		3.28E-01
		911.16	*	29.00	4.44E-01		5.18E-01
		968.97	*	17.40	5.03E-01		9.85E-01
	U-235	143.79		10.50	-1.70E-01	2.03E-01	8.01E-01
		163.38		4.70	1.57E+00		2.00E+00
		185.74		53.00	1.51E-01		2.03E-01
		205.33		4.70	1.56E-02		2.19E+00
+	U-238d	63.29	*	3.80	2.82E+00	1.10E+00	2.16E+00
		92.56	*	5.41	2.46E+00		1.10E+00
	AM-241	59.54		35.70	5.93E-02	2.95E-01	2.95E-01
	CM-243	99.52		14.40	1.45E-01	3.39E-01	5.87E-01
		103.73		23.00	-2.89E-01		3.39E-01
		116.93		8.32	3.02E-02		1.00E+00
		228.19		10.56	3.82E-01		9.25E-01
		277.60		14.00	3.04E-01		8.07E-01
	CM-245	99.52		21.10	9.87E-02	2.32E-01	4.01E-01
		103.73		33.60	-1.98E-01		2.32E-01
		116.93		12.20	2.06E-02		6.84E-01
		174.94		9.50	-3.25E-01		9.89E-01

Analysis Report for RCF19376

J16J33 FF2/618-7 Burial Ground 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 Edward S Wallace
(print/sign/date)

APR 03 2008

Radiological Counting Facility

Analysis Report for RCF19377

J16J34 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19377
Sample Description	: J16J34 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.900E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:20:00AM
Acquisition Started	: 4/2/2008 1:57:01PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3640.0 seconds
Dead Time	: 1.10 %
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	: 18374

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.55E+01	2.54E+00	
PB-212		0.707	8.60E-01	1.55E-01	
RA-226d		0.675	4.11E-01	1.36E-01	
TH-232d		0.854	5.37E-01	1.57E-01	
U-235		0.546	3.52E-01	1.27E-01	
U-238d	@	1.000	9.01E+00	1.51E+00	

Analysis Report for RCF19377

J16J34 FF2/618-7 Burial Ground 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 : 4/2/2008 2:57:45PM
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
NP = No Peak
UK = Unknown
Errors quoted at 2.000 sigma

NUCLIDE MDA REPORT

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

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	K-40	1460.83	*	10.67	1.55E+01	1.85E+00	1.85E+00
	CO-60	1173.24		99.90	2.07E-02	1.98E-01	2.21E-01
		1332.50		99.98	-6.43E-02		1.98E-01
	NB-94	702.63		99.81	7.74E-02	1.68E-01	1.68E-01
		871.10		99.89	-5.62E-03		1.82E-01
	AG-108m	433.94		90.50	1.50E-02	1.29E-01	1.29E-01
		614.28		89.80	-1.11E-01		2.10E-01
		722.94		90.80	5.00E-02		1.78E-01
	CS-137	661.66		85.21	6.50E-02	1.74E-01	1.74E-01
	EU-152	40.12		38.40	-8.79E-02	2.00E-01	2.00E-01
		45.38		11.10	1.60E-01		7.32E-01
		121.78		28.40	-1.34E-01		2.55E-01
		244.69		7.51	-1.04E+00		1.34E+00
		344.29		26.60	-1.27E-01		4.03E-01
		411.12		2.23	3.90E+00		4.86E+00
		443.89		2.80	1.33E+00		4.01E+00
		778.92		12.98	8.43E-02		1.21E+00
		867.38		4.21	-1.22E+00		4.59E+00

Analysis Report for RCF19377

J16J34 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	1.39E+00		1.54E+00
		1085.89		9.94	2.82E-01		1.90E+00
		1089.71		1.71	-2.26E+00		1.02E+01
		1112.07		13.60	-2.55E+00		1.37E+00
		1212.93		1.40	-1.83E+00		1.50E+01
		1299.16		1.63	3.47E+00		1.28E+01
		1408.00		20.80	-6.36E-02		9.07E-01
	EU-154	123.10		40.50	6.79E-03	1.83E-01	1.83E-01
		723.36		19.70	4.16E-01		8.40E-01
		873.23		11.45	6.02E-01		1.59E+00
		1004.78		17.90	9.09E-01		1.10E+00
		1274.54		35.50	3.77E-01		7.41E-01
	EU-155	86.54		34.00	-2.93E-01	2.89E-01	2.89E-01
		105.31		20.60	-1.75E-01		3.52E-01
+	PB-212	74.81	*	10.50	1.14E+00	3.42E-01	6.13E-01
		77.11	*	17.70	7.62E-01		3.42E-01
		87.19		6.27	-9.17E-01		1.62E+00
+	RA-226d	186.11	*	3.28	6.10E+00	2.17E-01	1.94E+00
		241.92		7.46	-7.90E-02		1.89E+00
		295.09	*	19.20	4.34E-01		4.51E-01
		351.87	*	37.10	5.22E-01		2.17E-01
		609.31	*	46.10	3.35E-01		2.80E-01
		1120.27		15.00	3.58E-01		1.38E+00
		1764.49		15.90	6.73E-01		1.38E+00
+	TH-232d	238.58	*	43.60	6.88E-01	2.13E-01	2.13E-01
		338.42	*	12.40	4.71E-01		6.08E-01
		583.02	*	30.87	4.15E-01		3.84E-01
		911.16	*	29.00	6.22E-01		4.07E-01
		968.97		17.40	4.54E-01		1.27E+00
+	U-235	143.79		10.50	7.77E-02	1.20E-01	7.89E-01
		163.38		4.70	-1.50E-02		1.83E+00
		185.74	*	53.00	3.77E-01		1.20E-01
		205.33		4.70	1.65E+00		2.01E+00
+	U-238d	63.29	*	3.80	9.01E+00	1.45E+00	1.81E+00
		92.56	*	5.41	1.03E+01		1.45E+00
	AM-241	59.54		35.70	-1.57E+00	3.39E-01	3.39E-01
	CM-243	99.52		14.40	-2.41E-01	3.11E-01	5.41E-01
		103.73		23.00	-5.03E-01		3.11E-01
		116.93		8.32	7.60E-02		9.43E-01
		228.19		10.56	-1.38E-01		8.35E-01
		277.60		14.00	-4.37E-01		7.29E-01
	CM-245	99.52		21.10	-1.65E-01	2.13E-01	3.69E-01
		103.73		33.60	-3.45E-01		2.13E-01
		116.93		12.20	5.18E-02		6.43E-01
		174.94		9.50	-6.23E-01		8.34E-01

Analysis Report for RCF19377

J16J34 FF2/618-7 Burial Ground 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 03 2008 Edward S Wallace
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19378

J16J35 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19378
Sample Description	: J16J35 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 7.000E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:25:00AM
Acquisition Started	: 4/2/2008 1:57:08PM
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	: 18375

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.983	1.07E+01	3.22E+00	
RA-226d		0.675	2.55E-01	1.28E-01	
U-235		0.550	4.17E-01	1.68E-01	
U-238d	@	1.000	6.54E+00	1.81E+00	

Analysis Report for RCF19378

J16J35 FF2/618-7 Burial Ground 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 : 4/2/2008 2:57:15PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
2	77.19 Pb-212	1.62E-02	51.90
5	238.61 Pb-212	3.04E-02	18.29

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

NP = No Peak
UK = Unknown

NUCLIDE MDA REPORT

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

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	K-40	1460.83	*	10.67	1.07E+01	2.17E+00	2.17E+00
	CO-60	1173.24		99.90	1.09E-03	1.62E-01	2.18E-01
		1332.50		99.98	-5.65E-02		1.62E-01
	NB-94	702.63		99.81	-2.86E-02	1.63E-01	1.63E-01
		871.10		99.89	-7.19E-02		1.72E-01
	AG-108m	433.94		90.50	2.85E-02	1.23E-01	1.23E-01
		614.28		89.80	5.60E-02		1.90E-01
		722.94		90.80	3.86E-02		1.68E-01
	CS-137	661.66		85.21	2.95E-02	1.76E-01	1.76E-01
	EU-152	40.12		38.40	-2.33E-02	2.40E-01	2.48E-01
		45.38		11.10	4.33E-01		8.17E-01
		121.78		28.40	2.52E-02		2.40E-01
		244.69		7.51	4.69E-01		1.27E+00
		344.29		26.60	-2.27E-01		3.44E-01
		411.12		2.23	-6.69E-01		4.73E+00
		443.89		2.80	1.40E+00		3.82E+00
		778.92		12.98	-2.54E-01		1.10E+00
		867.38		4.21	-1.05E+00		4.10E+00

Analysis Report for RCF19378

J16J35 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	6.35E-01		1.54E+00
		1085.89		9.94	-6.91E-01		1.58E+00
		1089.71		1.71	-5.63E+00		9.04E+00
		1112.07		13.60	-1.09E+00		1.62E+00
		1212.93		1.40	7.04E+00		1.70E+01
		1299.16		1.63	1.53E+00		1.15E+01
		1408.00		20.80	2.34E-02		8.79E-01
	EU-154	123.10		40.50	5.04E-02	1.72E-01	1.72E-01
		723.36		19.70	1.78E-01		7.73E-01
		873.23		11.45	-1.83E-01		1.55E+00
		1004.78		17.90	4.42E-01		1.10E+00
		1274.54		35.50	1.98E-01		6.08E-01
	EU-155	86.54		34.00	-1.75E-01	2.62E-01	2.62E-01
		105.31		20.60	-5.42E-02		3.24E-01
	PB-212	74.81		10.50	-1.08E-01	6.06E-01	8.36E-01
		77.11		17.70	1.17E+00		6.06E-01
		87.19		6.27	4.05E-01		1.45E+00
+	RA-226d	186.11	*	3.28	6.99E+00	2.90E-01	2.72E+00
		241.92		7.46	-2.62E-01		1.80E+00
		295.09	*	19.20	2.96E-01		4.36E-01
		351.87	*	37.10	3.20E-01		2.90E-01
		609.31	*	46.10	1.81E-01		3.12E-01
		1120.27		15.00	1.14E+00		1.64E+00
		1764.49		15.90	4.01E-01		1.21E+00
	TH-232d	238.58		43.60	4.22E-01	3.08E-01	3.08E-01
		338.42		12.40	2.38E-02		8.31E-01
		583.02		30.87	5.48E-01		5.45E-01
		911.16		29.00	2.67E-01		7.38E-01
		968.97		17.40	5.21E-01		1.28E+00
+	U-235	143.79		10.50	5.60E-01	1.68E-01	7.41E-01
		163.38		4.70	8.92E-01		1.55E+00
		185.74	*	53.00	4.33E-01		1.68E-01
		205.33		4.70	-8.93E-01		1.57E+00
+	U-238d	63.29	*	3.80	6.54E+00	1.76E+00	2.49E+00
		92.56	*	5.41	5.06E+00		1.76E+00
	AM-241	59.54		35.70	-1.95E-02	2.05E-01	2.05E-01
	CM-243	99.52		14.40	1.14E-01	2.91E-01	5.02E-01
		103.73		23.00	-8.24E-02		2.91E-01
		116.93		8.32	7.48E-02		8.32E-01
		228.19		10.56	6.63E-01		8.27E-01
		277.60		14.00	3.60E-01		6.30E-01
	CM-245	99.52		21.10	7.75E-02	1.99E-01	3.43E-01
		103.73		33.60	-5.64E-02		1.99E-01
		116.93		12.20	5.10E-02		5.68E-01
		174.94		9.50	-5.53E-01		6.74E-01

Analysis Report for RCF19378

J16J35 FF2/618-7 Burial Ground 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 03 2008 (print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19379

J16J36 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19379
Sample Description	: J16J36 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.600E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:30:00AM
Acquisition Started	: 4/2/2008 2:59:17PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3640.8 seconds
Dead Time	: 1.12 %
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	: 18379

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.997	1.20E+01	2.50E+00	
PB-212		0.706	8.85E-01	2.00E-01	
RA-226d		0.676	2.38E-01	1.34E-01	
TH-232d		0.855	4.09E-01	1.57E-01	
U-235		1.000	1.59E+00	3.08E-01	
U-238d	@	1.000	3.15E+01	3.24E+00	

Analysis Report for RCF19379

J16J36 FF2/618-7 Burial Ground 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 : 4/2/2008 4:00:01PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
	4	84.02 Th-231	1.84E-02	51.16
m	6	98.41 No Peak	2.53E-02	14.28
	7	112.99 No Peak	2.57E-02	32.17
	19	1001.16 Pa-234m	1.14E-02	23.70

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	1.20E+01	2.23E+00	2.23E+00
	CO-60	1173.24		99.90	-2.14E-02	2.06E-01	2.70E-01
		1332.50		99.98	6.27E-02		2.06E-01
	NB-94	702.63		99.81	-1.27E-01	1.79E-01	1.83E-01
		871.10		99.89	-1.39E-02		1.79E-01
	AG-108m	433.94		90.50	1.55E-02	1.61E-01	1.61E-01
		614.28		89.80	-6.94E-03		2.43E-01
		722.94		90.80	5.34E-04		1.99E-01
	CS-137	661.66		85.21	-6.24E-02	1.95E-01	1.95E-01
	EU-152	40.12		38.40	-5.84E-02	2.82E-01	2.82E-01
		45.38		11.10	8.56E-03		1.07E+00
		121.78		28.40	1.35E-01		3.54E-01
		244.69		7.51	-1.53E+00		1.51E+00
		344.29		26.60	-6.58E-02		5.08E-01
		411.12		2.23	-1.60E+00		6.22E+00

Analysis Report for RCF19379

J16J36 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		443.89		2.80	3.07E+00		4.91E+00
		778.92		12.98	-7.40E-01		1.67E+00
		867.38		4.21	1.47E-01		4.63E+00
		964.11		14.50	1.48E-01		1.68E+00
		1085.89		9.94	2.71E-01		2.28E+00
		1089.71		1.71	-1.92E+00		1.44E+01
		1112.07		13.60	-2.06E+00		1.57E+00
		1212.93		1.40	1.66E+00		1.89E+01
		1299.16		1.63	-1.23E+00		1.32E+01
		1408.00		20.80	-5.33E-01		8.80E-01
	EU-154	123.10		40.50	5.31E-02	2.48E-01	2.48E-01
		723.36		19.70	-3.66E-01		8.93E-01
		873.23		11.45	-8.54E-01		1.58E+00
		1004.78		17.90	2.22E+00		1.81E+00
		1274.54		35.50	1.90E-01		6.94E-01
	EU-155	86.54		34.00	-1.61E-01	4.50E-01	4.50E-01
		105.31		20.60	-5.83E-02		5.39E-01
+	PB-212	74.81	*	10.50	9.54E-01	5.15E-01	9.05E-01
		77.11	*	17.70	8.56E-01		5.15E-01
		87.19		6.27	-8.72E-01		2.56E+00
+	RA-226d	186.11	*	3.28	2.77E+01	3.34E-01	3.53E+00
		241.92		7.46	3.49E-01		2.13E+00
		295.09	*	19.20	2.15E-01		4.24E-01
		351.87	*	37.10	2.17E-01		3.38E-01
		609.31	*	46.10	2.70E-01		3.34E-01
		1120.27		15.00	-3.96E-01		1.53E+00
		1764.49		15.90	5.63E-01		1.42E+00
+	TH-232d	238.58	*	43.60	4.46E-01	2.76E-01	2.76E-01
		338.42	*	12.40	7.65E-01		7.67E-01
		583.02	*	30.87	3.66E-01		4.08E-01
		911.16	*	29.00	3.00E-01		5.26E-01
		968.97		17.40	8.66E-01		1.45E+00
+	U-235	143.79	*	10.50	1.29E+00	2.19E-01	6.92E-01
		163.38	*	4.70	2.19E+00		1.84E+00
		185.74	*	53.00	1.72E+00		2.19E-01
		205.33	*	4.70	2.50E+00		2.14E+00
+	U-238d	63.29	*	3.80	3.15E+01	1.49E+00	3.14E+00
		92.56	*	5.41	2.73E+01		1.49E+00
	AM-241	59.54		35.70	-6.48E-02	5.57E-01	5.57E-01
	CM-243	99.52		14.40	-3.52E-01	4.77E-01	8.21E-01
		103.73		23.00	-2.23E-02		4.77E-01
		116.93		8.32	1.89E-02		1.33E+00
		228.19		10.56	4.74E-01		1.06E+00
		277.60		14.00	4.08E-01		8.90E-01
	CM-245	99.52		21.10	-2.41E-01	3.26E-01	5.60E-01
		103.73		33.60	-1.53E-02		3.26E-01
		116.93		12.20	1.29E-02		9.07E-01
		174.94		9.50	-6.38E-01		1.12E+00

Analysis Report for RCF19379

J16J36 FF2/618-7 Burial Ground 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 03 2008 (print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19380

J16J37 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19380
Sample Description	: J16J37 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.200E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:35:00AM
Acquisition Started	: 4/2/2008 4:07:28PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3642.2 seconds
Dead Time	: 1.16 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/10/2008
Efficiency Calibration Used Done On	: 1/11/2008
Efficiency Calibration Description	: 80g Pill Box 71385A-238 1/10/2008
Sample Number	: 18384

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.997	1.46E+01	2.81E+00	
CS-137		0.999	1.85E-01	1.22E-01	
PB-212		0.707	1.10E+00	2.57E-01	
RA-226d		0.407	5.25E-01	1.91E-01	
TH-232d		0.853	5.07E-01	1.80E-01	
U-235		1.000	2.93E+00	4.70E-01	
U-238d	@	1.000	7.07E+01	5.81E+00	

Analysis Report for RCF19380

J16J37 FF2/618-7 Burial Ground 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 : 4/2/2008 5:08:13PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
M	4	84.21 No Peak	4.13E-02	14.67
m	5	89.78 No Peak	3.66E-02	15.01
m	7	98.46 No Peak	6.15E-02	9.21
	8	112.75 No Peak	5.27E-02	20.69
m	13	209.02 No Peak	1.02E-02	25.71
	20	766.70 No Peak	9.32E-03	27.59
	22	1001.12 Pa-234m	2.04E-02	15.06

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	1.46E+01	2.35E+00	2.35E+00
	CO-60	1173.24		99.90	-1.47E-01	2.39E-01	2.60E-01
		1332.50		99.98	6.69E-02		2.39E-01
	NB-94	702.63		99.81	-8.70E-03	2.13E-01	2.13E-01
		871.10		99.89	7.05E-02		2.26E-01
	AG-108m	433.94		90.50	9.33E-02	1.88E-01	1.88E-01
		614.28		89.80	-7.96E-02		2.90E-01
		722.94		90.80	-1.23E-02		2.55E-01
+	CS-137	661.66	*	85.21	1.85E-01	1.86E-01	1.86E-01
	EU-152	40.12		38.40	8.01E-02	3.79E-01	3.79E-01
		45.38		11.10	-1.12E+00		1.41E+00
		121.78		28.40	1.28E-01		4.50E-01

Analysis Report for RCF19380

J16J37 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		244.69		7.51	-2.50E-01		1.82E+00
		344.29		26.60	3.01E-01		6.07E-01
		411.12		2.23	-3.92E-01		6.79E+00
		443.89		2.80	3.76E+00		6.09E+00
		778.92		12.98	-1.50E+00		1.60E+00
		867.38		4.21	2.30E+00		5.34E+00
		964.11		14.50	-7.51E-01		1.93E+00
		1085.89		9.94	3.35E-01		2.65E+00
		1089.71		1.71	9.21E+00		1.63E+01
		1112.07		13.60	-2.05E-01		1.90E+00
		1212.93		1.40	1.03E+01		1.96E+01
		1299.16		1.63	9.30E+00		1.73E+01
		1408.00		20.80	2.47E-01		1.05E+00
	EU-154	123.10		40.50	1.19E-02	3.17E-01	3.17E-01
		723.36		19.70	1.22E-01		1.18E+00
		873.23		11.45	-6.38E-01		1.96E+00
		1004.78		17.90	2.26E+00		2.10E+00
		1274.54		35.50	-6.86E-01		6.94E-01
	EU-155	86.54		34.00	-1.18E+01	6.19E-01	6.19E-01
		105.31		20.60	-2.79E-01		6.72E-01
+	PB-212	74.81	*	10.50	1.35E+00	7.25E-01	1.16E+00
		77.11	*	17.70	1.00E+00		7.25E-01
		87.19		6.27	-1.48E+02		3.57E+00
+	RA-226d	186.11	*	3.28	4.74E+01	3.48E-01	4.48E+00
		241.92		7.46	1.35E+00		2.45E+00
		295.09		19.20	-8.40E-01		7.83E-01
		351.87	*	37.10	5.65E-01		3.48E-01
		609.31	*	46.10	4.98E-01		3.57E-01
		1120.27		15.00	6.95E-01		1.96E+00
		1764.49		15.90	5.84E-01		1.80E+00
+	TH-232d	238.58	*	43.60	4.20E-01	3.21E-01	3.21E-01
		338.42	*	12.40	5.76E-01		9.08E-01
		583.02	*	30.87	5.23E-01		5.44E-01
		911.16	*	29.00	6.32E-01		5.57E-01
		968.97		17.40	1.86E+00		1.70E+00
+	U-235	143.79	*	10.50	2.95E+00	2.77E-01	1.12E+00
		163.38	*	4.70	2.95E+00		2.20E+00
		185.74	*	53.00	2.93E+00		2.77E-01
		205.33	*	4.70	2.95E+00		1.72E+00
+	U-238d	63.29	*	3.80	7.07E+01	2.05E+00	4.89E+00
		92.56	*	5.41	6.77E+01		2.05E+00
	AM-241	59.54		35.70	-1.78E-01	8.32E-01	8.32E-01
	CM-243	99.52		14.40	7.26E-02	6.04E-01	1.18E+00
		103.73		23.00	-4.63E-01		6.04E-01
		116.93		8.32	-7.44E-01		1.74E+00
		228.19		10.56	-3.04E-01		1.22E+00
		277.60		14.00	-3.60E-01		9.73E-01
	CM-245	99.52		21.10	4.96E-02	4.13E-01	8.05E-01

Analysis Report for RCF19380

J16J37 FF2/618-7 Burial Ground Stockpile Soil Sample

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	103.73	33.60	-3.17E-01		4.13E-01
	116.93	12.20	-5.07E-01		1.19E+00
	174.94	9.50	-4.38E-01		1.39E+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 03 2008 Edward S Wallace
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19381

J16J38 FF2/618-7 Burial Ground Stockpile Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19381
Sample Description	: J16J38 FF2/618-7 Burial Ground Stockpile Soil Sample
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.200E+01 grams
Facility	: Default
Sample Taken On	: 4/2/2008 7:40:00AM
Acquisition Started	: 4/2/2008 4:07:35PM
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	: 18385

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.995	1.38E+01	4.02E+00	
PB-212		0.707	8.60E-01	1.71E-01	
TH-232d		0.433	6.57E-01	2.21E-01	
U-235		0.551	3.21E-01	1.40E-01	
U-238d	@	1.000	5.66E+00	1.87E+00	

Analysis Report for RCF19381

J16J38 FF2/618-7 Burial Ground 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 : 4/2/2008 5:07:43PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
7	295.14	Pb-214	7.09E-03	60.61
8	352.08	Pb-214	5.93E-03	64.45

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	1.38E+01	2.63E+00	2.63E+00
	CO-60	1173.24		99.90	-1.47E-01	2.12E-01	2.27E-01
		1332.50		99.98	-3.43E-02		2.12E-01
	NB-94	702.63		99.81	-5.57E-02	1.55E-01	1.55E-01
		871.10		99.89	-1.82E-02		1.89E-01
	AG-108m	433.94		90.50	-8.25E-02	1.38E-01	1.38E-01
		614.28		89.80	-7.03E-03		2.13E-01
		722.94		90.80	2.00E-02		1.84E-01
	CS-137	661.66		85.21	-2.08E-02	2.16E-01	2.16E-01
	EU-152	40.12		38.40	4.26E-03	2.55E-01	2.67E-01
		45.38		11.10	3.33E-01		9.00E-01
		121.78		28.40	-1.57E-01		2.55E-01
		244.69		7.51	8.26E-01		1.23E+00
		344.29		26.60	-5.09E-01		4.23E-01
		411.12		2.23	7.62E-01		5.03E+00
		443.89		2.80	-1.80E+00		4.28E+00
		778.92		12.98	5.52E-01		1.28E+00
		867.38		4.21	-3.53E+00		4.48E+00

Analysis Report for RCF19381

J16J38 FF2/618-7 Burial Ground Stockpile Soil Sample

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	1.00E+00		1.80E+00
		1085.89		9.94	1.42E+00		2.72E+00
		1089.71		1.71	-6.56E+00		1.43E+01
		1112.07		13.60	-1.65E+00		1.70E+00
		1212.93		1.40	1.40E+01		2.13E+01
		1299.16		1.63	-5.80E+00		1.35E+01
		1408.00		20.80	-4.30E-01		9.42E-01
	EU-154	123.10		40.50	5.62E-02	1.89E-01	1.89E-01
		723.36		19.70	9.21E-02		8.47E-01
		873.23		11.45	7.82E-01		1.64E+00
		1004.78		17.90	8.59E-01		1.31E+00
		1274.54		35.50	-3.81E-01		5.38E-01
	EU-155	86.54		34.00	-1.72E-02	2.92E-01	2.92E-01
		105.31		20.60	9.56E-02		3.70E-01
+	PB-212	74.81	*	10.50	6.81E-01	4.03E-01	7.14E-01
		77.11	*	17.70	9.64E-01		4.03E-01
		87.19		6.27	9.46E-02		1.65E+00
	RA-226d	186.11		3.28	4.98E+00	3.97E-01	3.52E+00
		241.92		7.46	8.13E-01		2.01E+00
		295.09		19.20	2.80E-01		6.14E-01
		351.87		37.10	4.19E-01		3.97E-01
		609.31		46.10	5.40E-01		4.56E-01
		1120.27		15.00	1.00E+00		1.87E+00
		1764.49		15.90	2.31E-01		1.48E+00
+	TH-232d	238.58	*	43.60	7.09E-01	2.47E-01	2.47E-01
		338.42		12.40	8.18E-01		1.14E+00
		583.02	*	30.87	5.77E-01		5.19E-01
		911.16		29.00	8.51E-01		8.46E-01
		968.97		17.40	1.08E+00		1.54E+00
+	U-235	143.79		10.50	2.17E-01	1.56E-01	7.70E-01
		163.38		4.70	1.32E+00		1.78E+00
		185.74	*	53.00	3.21E-01		1.56E-01
		205.33		4.70	-1.57E-01		1.91E+00
+	U-238d	63.29	*	3.80	5.66E+00	1.94E+00	2.68E+00
		92.56	*	5.41	5.75E+00		1.94E+00
	AM-241	59.54		35.70	-1.00E-02	2.19E-01	2.19E-01
	CM-243	99.52		14.40	1.02E-01	3.34E-01	5.47E-01
		103.73		23.00	6.61E-02		3.34E-01
		116.93		8.32	-7.61E-01		8.49E-01
		228.19		10.56	-2.43E-01		8.73E-01
		277.60		14.00	2.80E-01		7.21E-01
	CM-245	99.52		21.10	6.98E-02	2.28E-01	3.73E-01
		103.73		33.60	4.53E-02		2.28E-01
		116.93		12.20	-5.19E-01		5.79E-01
		174.94		9.50	-4.16E-01		7.92E-01

Analysis Report for RCF19381

J16J38 FF2/618-7 Burial Ground 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 03 2008 Edward S Wallace
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19405
J16J39 SAF-RC-087 FF2 618-7BG&STOCK PILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19405
Sample Description	: J16J39 SAF-RC-087 FF2 618-7BG&STOCK PILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.300E+01 grams
Facility	: Default
Sample Taken On	: 4/3/2008 7:15:00PM
Acquisition Started	: 4/3/2008 2:41:11PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3641.3 seconds
Dead Time	: 1.13 %
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	: 18435

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.997	1.35E+01	2.69E+00	
PB-212		0.707	8.35E-01	1.63E-01	
RA-226d		0.676	3.89E-01	1.48E-01	
TH-232d		0.852	6.03E-01	1.58E-01	
U-235		0.546	2.38E-01	1.42E-01	
U-238d	@	1.000	4.18E+00	1.35E+00	

Analysis Report for RCF19405

J16J39 SAF-RC-087 FF2 618-7BG&STOCK PILES

? = 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 : 4/3/2008 3:41:55PM
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	1.35E+01	2.31E+00	2.31E+00
	CO-60	1173.24		99.90	1.08E-01	2.39E-01	2.49E-01
		1332.50		99.98	-9.00E-02		2.39E-01
	NB-94	702.63		99.81	-2.37E-02	1.66E-01	1.66E-01
		871.10		99.89	-6.59E-02		2.28E-01
	AG-108m	433.94		90.50	5.78E-02	1.56E-01	1.56E-01
		614.28		89.80	-4.41E-02		2.41E-01
		722.94		90.80	5.60E-02		2.17E-01
	CS-137	661.66		85.21	6.60E-03	2.07E-01	2.07E-01
	EU-152	40.12		38.40	1.14E-01	2.35E-01	2.35E-01
		45.38		11.10	-8.10E-02		7.90E-01
		121.78		28.40	9.08E-02		2.91E-01
		244.69		7.51	-2.50E+00		1.48E+00
		344.29		26.60	2.67E-02		4.97E-01
		411.12		2.23	-2.27E+00		5.77E+00
		443.89		2.80	-7.81E-01		4.74E+00
		778.92		12.98	-3.67E-01		1.39E+00
		867.38		4.21	2.53E+00		5.53E+00

Analysis Report for RCF19405

J16J39 SAF-RC-087 FF2 618-7BG&STOCK PILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	1.93E+00		1.97E+00
		1085.89		9.94	1.44E+00		2.61E+00
		1089.71		1.71	2.16E-01		1.46E+01
		1112.07		13.60	-5.28E-01		1.81E+00
		1212.93		1.40	9.38E+00		1.91E+01
		1299.16		1.63	-9.00E+00		9.80E+00
		1408.00		20.80	1.23E-01		9.81E-01
	EU-154	123.10		40.50	1.19E-02	2.05E-01	2.05E-01
		723.36		19.70	6.32E-01		1.03E+00
		873.23		11.45	1.03E+00		2.00E+00
		1004.78		17.90	4.10E-01		1.21E+00
		1274.54		35.50	1.50E-01		6.59E-01
	EU-155	86.54		34.00	1.07E-01	3.20E-01	3.20E-01
		105.31		20.60	-2.93E-01		3.71E-01
+	PB-212	74.81	*	10.50	9.65E-01	3.29E-01	5.97E-01
		77.11	*	17.70	7.81E-01		3.29E-01
		87.19		6.27	5.08E-01		1.74E+00
+	RA-226d	186.11	*	3.28	4.24E+00	3.18E-01	3.18E+00
		241.92		7.46	-7.84E-01		2.13E+00
		295.09	*	19.20	3.90E-01		5.25E-01
		351.87	*	37.10	3.37E-01		3.27E-01
		609.31	*	46.10	4.34E-01		3.18E-01
		1120.27		15.00	-5.32E-01		1.86E+00
		1764.49		15.90	5.39E-01		1.48E+00
+	TH-232d	238.58	*	43.60	5.74E-01	2.11E-01	2.11E-01
		338.42	*	12.40	4.71E-01		7.26E-01
		583.02	*	30.87	5.48E-01		3.36E-01
		911.16	*	29.00	8.09E-01		4.01E-01
		968.97		17.40	6.95E-01		1.52E+00
+	U-235	143.79		10.50	5.92E-01	1.97E-01	9.28E-01
		163.38		4.70	-1.01E+00		1.96E+00
		185.74	*	53.00	2.62E-01		1.97E-01
		205.33		4.70	2.28E-01		2.38E+00
+	U-238d	63.29	*	3.80	4.18E+00	1.77E+00	1.91E+00
		92.56	*	5.41	2.60E+00		1.77E+00
	AM-241	59.54		35.70	4.76E-02	2.87E-01	2.87E-01
	CM-243	99.52		14.40	-8.63E-02	3.41E-01	5.89E-01
		103.73		23.00	-9.55E-02		3.41E-01
		116.93		8.32	4.34E-01		1.03E+00
		228.19		10.56	-2.29E-01		9.77E-01
		277.60		14.00	2.91E-01		8.59E-01
	CM-245	99.52		21.10	-5.89E-02	2.33E-01	4.02E-01
		103.73		33.60	-6.54E-02		2.33E-01
		116.93		12.20	2.96E-01		7.02E-01
		174.94		9.50	-4.20E-01		1.01E+00

Analysis Report for RCF19405

J16J39 SAF-RC-087 FF2 618-7BG&STOCK PILES

+ = 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 07 2008 Edward S Wallace

(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19406

J16J40 SAF-RC-087 FF2 618-7BG&STOCK PILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19406
Sample Description	: J16J40 SAF-RC-087 FF2 618-7BG&STOCK PILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.700E+01 grams
Facility	: Default
Sample Taken On	: 4/3/2008 7:25:00PM
Acquisition Started	: 4/3/2008 3:43:33PM
Procedure	: 80 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 80 Gram Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3647.0 seconds
Dead Time	: 1.29 %
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	: 18440

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40		0.999	1.42E+01	2.69E+00	
X	EU-155		0.373			
	PB-212		0.999	8.04E-01	1.41E-01	
	RA-226d		0.679	3.75E-01	1.38E-01	
	TH-232d		0.681	5.13E-01	1.59E-01	
	U-235		0.794	2.69E-01	1.22E-01	
	U-238d	@	0.998	1.29E+00	1.18E+00	

Analysis Report for RCF19406

J16J40 SAF-RC-087 FF2 618-7BG&STOCK PILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		867.38		4.21	3.02E+00		4.94E+00
		964.11		14.50	1.27E+00		1.66E+00
		1085.89		9.94	5.26E-01		2.21E+00
		1089.71		1.71	-4.50E+00		1.20E+01
		1112.07		13.60	-1.18E+00		1.76E+00
		1212.93		1.40	5.21E+00		1.81E+01
		1299.16		1.63	5.03E+00		1.37E+01
		1408.00		20.80	3.38E-01		1.05E+00
	EU-154	123.10		40.50	3.08E-02	2.00E-01	2.00E-01
		723.36		19.70	5.37E-01		9.33E-01
		873.23		11.45	-3.42E-01		1.71E+00
		1004.78		17.90	2.92E-01		1.17E+00
		1274.54		35.50	1.85E-01		6.83E-01
	EU-155	86.54	*	34.00	1.56E-01	1.66E-01	1.66E-01
		105.31		20.60	-9.66E-02		3.72E-01
+	PB-212	74.81	*	10.50	9.08E-01	3.15E-01	6.07E-01
		77.11	*	17.70	7.53E-01		3.15E-01
		87.19	*	6.27	8.48E-01		9.02E-01
+	RA-226d	186.11	*	3.28	4.72E+00	2.73E-01	2.73E+00
		241.92		7.46	-3.58E-01		1.87E+00
		295.09	*	19.20	2.96E-01		5.48E-01
		351.87	*	37.10	4.27E-01		2.85E-01
		609.31	*	46.10	3.65E-01		2.73E-01
		1120.27		15.00	-9.50E-02		1.70E+00
		1764.49		15.90	9.29E-01		1.63E+00
+	TH-232d	238.58	*	43.60	4.23E-01	1.90E-01	1.90E-01
		338.42		12.40	1.40E+00		1.07E+00
		583.02	*	30.87	5.18E-01		4.19E-01
		911.16	*	29.00	7.12E-01		4.52E-01
		968.97		17.40	1.73E+00		1.47E+00
+	U-235	143.79	*	10.50	2.72E-01	1.69E-01	5.03E-01
		163.38		4.70	1.10E+00		2.06E+00
		185.74	*	53.00	2.92E-01		1.69E-01
		205.33		4.70	7.46E-01		2.29E+00
+	U-238d	63.29	*	3.80	1.29E+00	1.07E+00	1.91E+00
		92.56	*	5.41	2.53E+00		1.07E+00
	AM-241	59.54		35.70	-1.22E-01	2.68E-01	2.68E-01
	CM-243	99.52		14.40	-3.08E-01	3.30E-01	5.20E-01
		103.73		23.00	-1.63E-01		3.30E-01
		116.93		8.32	4.93E-01		1.00E+00
		228.19		10.56	5.24E-01		9.55E-01
		277.60		14.00	-4.90E-01		7.67E-01
	CM-245	99.52		21.10	-2.10E-01	2.26E-01	3.55E-01
		103.73		33.60	-1.11E-01		2.26E-01
		116.93		12.20	3.36E-01		6.85E-01
		174.94		9.50	1.87E-01		9.75E-01

Analysis Report for RCF19406

J16J40 SAF-RC-087 FF2 618-7BG&STOCK PILES

? = 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 : 4/3/2008 4:44:23PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
	1	46.29 No Peak	9.59E-03	53.95
M	5	84.39 No Peak	9.73E-03	29.72

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	1.42E+01	2.28E+00	2.28E+00
	CO-60	1173.24		99.90	-7.55E-04	2.03E-01	2.07E-01
		1332.50		99.98	-6.19E-02		2.03E-01
	NB-94	702.63		99.81	4.76E-02	1.71E-01	1.71E-01
		871.10		99.89	3.28E-02		1.99E-01
	AG-108m	433.94		90.50	-1.52E-01	1.27E-01	1.27E-01
		614.28		89.80	-3.07E-02		2.28E-01
		722.94		90.80	6.19E-02		2.02E-01
	CS-137	661.66		85.21	2.06E-02	1.87E-01	1.87E-01
	EU-152	40.12		38.40	5.04E-02	2.12E-01	2.12E-01
		45.38		11.10	5.64E-02		7.66E-01
		121.78		28.40	3.73E-02		2.87E-01
		244.69		7.51	-9.81E-01		1.38E+00
		344.29		26.60	-6.56E-01		4.60E-01
		411.12		2.23	2.79E-01		5.96E+00
		443.89		2.80	-1.89E-01		4.54E+00
		778.92		12.98	-6.93E-01		1.29E+00

Analysis Report for RCF19406

J16J40 SAF-RC-087 FF2 618-7BG&STOCK PILES

+ = 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 07 2008 (print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19407

J16J41SAF-RC-087 FF2 618-7BG&STOCK PILES

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19407
Sample Description	: J16J41SAF-RC-087 FF2 618-7BG&STOCK PILES
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.200E+01 grams
Facility	: Default
Sample Taken On	: 4/3/2008 7:35:00PM
Acquisition Started	: 4/3/2008 3:43:40PM
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	: 18441

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.986	1.33E+01	3.88E+00	
PB-212		0.707	8.00E-01	1.65E-01	
U-235		0.551	4.23E-01	1.65E-01	
U-238d	@	0.999	2.72E+00	1.52E+00	

Analysis Report for RCF19407

J16J41SAF-RC-087 FF2 618-7BG&STOCK PILES

? = 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 : 4/3/2008 4:43:48PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
6	238.75 Pb-212	3.84E-02	14.56

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	2.38E+00	2.38E+00
	CO-60	1173.24		99.90	3.31E-03	2.03E-01	2.43E-01
		1332.50		99.98	-4.51E-02		2.03E-01
	NB-94	702.63		99.81	5.13E-04	1.63E-01	1.84E-01
		871.10		99.89	4.33E-03		1.63E-01
	AG-108m	433.94		90.50	-1.30E-01	1.20E-01	1.20E-01
		614.28		89.80	-1.72E-01		2.00E-01
		722.94		90.80	2.24E-02		2.15E-01
	CS-137	661.66		85.21	9.22E-02	1.80E-01	1.80E-01
	EU-152	40.12		38.40	3.51E-03	2.67E-01	2.73E-01
		45.38		11.10	4.74E-01		9.14E-01
		121.78		28.40	1.54E-01		2.67E-01
		244.69		7.51	1.05E+00		1.36E+00
		344.29		26.60	-2.50E-01		4.00E-01
		411.12		2.23	1.28E+00		5.51E+00
		443.89		2.80	4.79E-01		4.61E+00
		778.92		12.98	-2.43E-01		1.30E+00
		867.38		4.21	-9.67E-01		3.97E+00
		964.11		14.50	8.99E-01		1.62E+00

Analysis Report for RCF19407

J16J41SAF-RC-087 FF2 618-7BG&STOCK PILES

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		1085.89		9.94	-1.22E-01		2.00E+00
		1089.71		1.71	8.93E+00		1.36E+01
		1112.07		13.60	-2.77E-01		1.74E+00
		1212.93		1.40	4.73E+00		1.72E+01
		1299.16		1.63	-1.50E+00		1.47E+01
		1408.00		20.80	-3.63E-01		9.67E-01
	EU-154	123.10		40.50	9.69E-02	1.86E-01	1.86E-01
		723.36		19.70	1.03E-01		9.90E-01
		873.23		11.45	-8.63E-01		1.38E+00
		1004.78		17.90	-4.03E-01		1.11E+00
		1274.54		35.50	1.22E-01		7.15E-01
	EU-155	86.54		34.00	-1.04E-02	2.79E-01	2.79E-01
		105.31		20.60	-2.15E-01		3.22E-01
+	PB-212	74.81	*	10.50	6.43E-01	3.95E-01	6.65E-01
		77.11	*	17.70	8.93E-01		3.95E-01
		87.19		6.27	2.28E+00		1.56E+00
	RA-226d	186.11		3.28	6.43E+00	3.86E-01	3.58E+00
		241.92		7.46	1.18E+00		1.99E+00
		295.09		19.20	1.21E-01		6.27E-01
		351.87		37.10	5.03E-01		3.86E-01
		609.31		46.10	1.39E-01		4.42E-01
		1120.27		15.00	1.22E+00		1.89E+00
		1764.49		15.90	1.45E+00		1.83E+00
	TH-232d	238.58		43.60	5.81E-01	3.36E-01	3.36E-01
		338.42		12.40	6.42E-01		1.00E+00
		583.02		30.87	3.21E-01		5.62E-01
		911.16		29.00	1.13E+00		8.83E-01
		968.97		17.40	5.85E-01		1.32E+00
+	U-235	143.79		10.50	5.71E-01	1.61E-01	8.34E-01
		163.38		4.70	1.05E+00		1.71E+00
		185.74	*	53.00	4.23E-01		1.61E-01
		205.33		4.70	-3.13E-01		1.81E+00
+	U-238d	63.29	*	3.80	2.72E+00	1.84E+00	2.53E+00
		92.56	*	5.41	2.38E+00		1.84E+00
	AM-241	59.54		35.70	1.70E-01	2.26E-01	2.26E-01
	CM-243	99.52		14.40	9.79E-02	2.86E-01	4.87E-01
		103.73		23.00	-6.85E-02		2.86E-01
		116.93		8.32	-3.70E-01		8.80E-01
		228.19		10.56	-4.72E-01		8.34E-01
		277.60		14.00	2.91E-01		6.82E-01
	CM-245	99.52		21.10	6.68E-02	1.96E-01	3.33E-01
		103.73		33.60	-4.69E-02		1.96E-01
		116.93		12.20	-2.53E-01		6.00E-01
		174.94		9.50	-1.07E-01		7.89E-01

Analysis Report for RCF19407

J16J41SAF-RC-087 FF2 618-7BG&STOCK PILES

+ = 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 07 2008

Edward S Wallace
(print/sign/date)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4808 1050 GM Screen Result 0.1K

Client: WCH SDG #: J00166 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D070175 Chain of Custody # RC-087-061,-075,-076,-077

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: 11
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: 4 7 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-078	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-1395-12	COA RG61872600	Method of Shipment	
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										
J16J62	SOIL	4-03-08	1500	X								J16J42	
~~J16J63~~	~~SOIL~~												
~~J16J64~~	~~SOIL~~												

79 RK 4-3-08 RK 4-3-08

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	1545 4-3-08	RB Kerkow / RB Kerkow	1545 4/03/08
RB Kerkow / RB Kerkow	1630 4/3/08	REF 1B 1060, RBK	1630 4/3/08
1060 / 1B	4/8/08 0945	MStankovich	0945 4/8/08
WCH MStankovich	1000 4/8/08	LJLANE TALK	1000 4/8/08

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}

J8D080192
J00166
DUE 4 9 08
KKWA9

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 RCF19412

J16J42 SAF:RC-087 FF2-618-7 Burial Ground Soil Sample

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19412
Sample Description	: J16J42 SAF:RC-087 FF2-618-7 Burial Ground Soil Sample
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.000E+01 grams
Facility	: Default
Sample Taken On	: 4/3/2008 3:00:00PM
Acquisition Started	: 4/7/2008 6:34:47AM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3642.9 seconds
Dead Time	: 1.18 %
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	: 18449

TIE TO J16J62

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40		0.999	1.34E+01	2.96E+00	
X	EU-155		0.388			
	PB-212		0.998	4.93E-01	1.37E-01	
	RA-226d		0.672	3.53E-01	1.54E-01	
	TH-232d		0.431	5.19E-01	1.73E-01	
	U-235		0.548	2.40E-01	1.53E-01	
	U-238d	@	1.000	3.99E+00	1.51E+00	

Analysis Report for RCF19412

J16J42 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 : 4/7/2008 7:35:34AM
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	1.34E+01	2.74E+00	2.74E+00
CO-60	1173.24	99.90	-1.23E-02	2.66E-01	2.66E-01
	1332.50	99.98	8.79E-02		2.93E-01
NB-94	702.63	99.81	-8.59E-02	2.17E-01	2.17E-01
	871.10	99.89	-2.42E-01		2.36E-01
AG-108m	433.94	90.50	1.13E-02	2.04E-01	2.04E-01
	614.28	89.80	-5.86E-02		2.97E-01
	722.94	90.80	1.01E-01		2.72E-01
CS-137	661.66	85.21	1.95E-01	2.75E-01	2.75E-01
EU-152	40.12	38.40	-1.73E-01	3.09E-01	3.09E-01
	45.38	11.10	2.95E-01		1.01E+00
	121.78	28.40	-8.97E-02		3.42E-01
	244.69	7.51	-1.40E+00		1.87E+00
	344.29	26.60	-2.18E-01		6.06E-01
	411.12	2.23	5.89E-01		7.93E+00
	443.89	2.80	4.30E+00		6.59E+00
	778.92	12.98	1.14E+00		1.78E+00
	867.38	4.21	1.27E+00		6.40E+00

Analysis Report for RCF19412

J16J42 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	2.30E+00		2.33E+00
		1085.89		9.94	-1.51E+00		2.39E+00
		1089.71		1.71	-3.98E+00		1.39E+01
		1112.07		13.60	-6.33E-01		2.31E+00
		1212.93		1.40	3.56E+00		1.99E+01
		1299.16		1.63	-1.60E+01		1.50E+01
		1408.00		20.80	-1.81E-01		1.16E+00
	EU-154	123.10		40.50	2.13E-02	2.45E-01	2.45E-01
		723.36		19.70	1.33E-01		1.25E+00
		873.23		11.45	-4.33E-01		2.03E+00
		1004.78		17.90	2.96E-01		1.56E+00
		1274.54		35.50	1.52E-01		8.07E-01
	EU-155	86.54	*	34.00	1.01E-01	1.78E-01	1.78E-01
		105.31		20.60	-4.29E-01		4.71E-01
+	PB-212	74.81	*	10.50	6.16E-01	3.89E-01	6.63E-01
		77.11	*	17.70	4.43E-01		3.89E-01
		87.19	*	6.27	5.47E-01		9.65E-01
+	RA-226d	186.11	*	3.28	4.24E+00	3.47E-01	3.87E+00
		241.92		7.46	8.34E-02		2.53E+00
		295.09	*	19.20	5.12E-01		5.95E-01
		351.87	*	37.10	2.86E-01		3.47E-01
		609.31	*	46.10	3.71E-01		4.03E-01
		1120.27		15.00	-2.32E-01		2.23E+00
		1764.49		15.90	1.13E+00		1.99E+00
+	TH-232d	238.58	*	43.60	4.98E-01	3.07E-01	3.07E-01
		338.42		12.40	4.61E-01		1.46E+00
		583.02	*	30.87	5.68E-01		4.52E-01
		911.16		29.00	3.49E-01		9.91E-01
		968.97		17.40	5.61E-01		1.81E+00
+	U-235	143.79		10.50	4.03E-01	2.39E-01	1.09E+00
		163.38		4.70	-1.66E+00		2.45E+00
		185.74	*	53.00	2.62E-01		2.39E-01
		205.33		4.70	9.93E-01		2.85E+00
+	U-238d	63.29	*	3.80	3.99E+00	1.14E+0C	2.23E+00
		92.56	*	5.41	2.44E+00		1.14E+00
	AM-241	59.54		35.70	-8.07E-03	3.04E-01	3.04E-01
	CM-243	99.52		14.40	-4.19E-01	4.15E-01	6.93E-01
		103.73		23.00	-5.56E-01		4.15E-01
		116.93		8.32	-5.62E-01		1.19E+00
		228.19		10.56	2.05E-01		1.23E+00
		277.60		14.00	-2.47E-01		1.03E+00
	CM-245	99.52		21.10	-2.86E-01	2.84E-01	4.73E-01
		103.73		33.60	-3.81E-01		2.84E-01
		116.93		12.20	-3.83E-01		8.11E-01
		174.94		9.50	-7.30E-01		1.16E+00

Analysis Report for RCF19412

J16J42 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 07 2008

(print/sign/date)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4 8 08 1000 GM Screen Result 0.1K

Client: WCH SDG #: J00166 NA[ ] SAF #: RC-057 NA [ ]

Work Order Number: J8D080192 Chain of Custody # RC-057-078

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: 1
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ___ Tape
   - ✓ Custody Seals
   - ___ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ___ Broken
   - ___ Leaking
   - ___ Have Air Bubbles
   - (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] SOIL pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added _____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 4-8 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

TESTAMERICA

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-079	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-1395-12; COA: RG61872600	Method of Shipment	
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.										

Sample No.	Matrix *	Sample Date	Sample Time										
J16J65 KKW83	SOIL	4-7-08	0815	X								SEG	G-006
J16J66 KKW88	SOIL	4-7-08	0825	X								"	G007
~~J16J67~~	~~SOIL~~												
RTC 4/7/08													

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / S. Wagner	4/7/08 0900 RTC	RT Coffman / RT Coffman	4/7/08 0900 RTC
RT Coffman / RT Coffman	4/7/08 0825	MJ Stankovich / MJ Stankovich	4/7/08 0825
MJ Stankovich / MJ Stankovich	4/8/08 1500	R L Lane / R L Lane TALR	4/8/08 1500

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}

JSD080302
J00166
DUE 4908

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 RCF19415

J16J45 SAF:RC-087 FF2/ 618-7 Burial Grounds Soil

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19415
Sample Description	: J16J45 SAF:RC-087 FF2/ 618-7 Burial Grounds Soil
Sample Type	: 80 gram pill box
Unit	:
Sample Point	
Sample Size	: 6.200E+01 grams
Facility	: Default
Sample Taken On	: 4/7/2008 8:15:00AM
Acquisition Started	: 4/8/2008 6:31:46AM
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	: 18491

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.993	1.09E+01	3.44E+00	
PB-212		0.707	1.06E+00	1.85E-01	
RA-226d		0.674	3.14E-01	1.47E-01	
TH-232d		0.427	5.50E-01	1.63E-01	
U-235		0.552	6.08E-01	2.18E-01	
U-238d	@	1.000	9.10E+00	2.14E+00	

Analysis Report for RCF19415

J16J45 SAF:RC-087 FF2/ 618-7 Burial Grounds Soil

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

UNIDENTIFIED PEAKS

Peak Locate Performed on : 4/8/2008 7:31:54AM
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
NP = No Peak
UK = Unknown
Errors quoted at 2.000 sigma

NUCLIDE MDA REPORT

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

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	K-40	1460.83	*	10.67	1.09E+01	2.72E+00	2.72E+00
	CO-60	1173.24		99.90	-7.61E-02	1.83E-01	2.06E-01
		1332.50		99.98	-3.31E-02		1.83E-01
	NB-94	702.63		99.81	1.17E-02	1.72E-01	1.72E-01
		871.10		99.89	-2.18E-02		1.87E-01
	AG-108m	433.94		90.50	-7.08E-02	1.32E-01	1.32E-01
		614.28		89.80	1.34E-02		2.18E-01
		722.94		90.80	2.31E-01		2.16E-01
	CS-137	661.66		85.21	2.84E-02	1.89E-01	1.89E-01
	EU-152	40.12		38.40	-1.73E-02	2.59E-01	2.75E-01
		45.38		11.10	5.97E-01		9.71E-01
		121.78		28.40	2.66E-03		2.59E-01
		244.69		7.51	4.09E-01		1.40E+00
		344.29		26.60	-1.19E-01		4.03E-01
		411.12		2.23	-1.85E+00		5.54E+00
		443.89		2.80	1.71E+00		4.72E+00
		778.92		12.98	-7.85E-01		1.28E+00
		867.38		4.21	-1.04E+00		4.73E+00

Analysis Report for RCF19415

J16J45 SAF:RC-087 FF2/ 618-7 Burial Grounds Soil

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	1.77E-01		1.59E+00
		1085.89		9.94	-1.67E-01		2.07E+00
		1089.71		1.71	7.60E+00		1.29E+01
		1112.07		13.60	-9.44E-01		1.68E+00
		1212.93		1.40	7.20E+00		1.67E+01
		1299.16		1.63	5.30E-01		1.40E+01
		1408.00		20.80	3.76E-01		1.13E+00
	EU-154	123.10		40.50	4.32E-02	1.81E-01	1.81E-01
		723.36		19.70	1.07E+00		9.97E-01
		873.23		11.45	-2.93E-01		1.60E+00
		1004.78		17.90	-4.03E-01		1.22E+00
		1274.54		35.50	-2.52E-01		5.76E-01
	EU-155	86.54		34.00	1.66E-01	3.23E-01	3.23E-01
		105.31		20.60	-1.83E-02		3.86E-01
+	PB-212	74.81	*	10.50	1.18E+00	4.70E-01	7.37E-01
		77.11	*	17.70	1.00E+00		4.70E-01
		87.19		6.27	6.35E-01		1.75E+00
+	RA-226d	186.11	*	3.28	1.01E+01	3.28E-01	2.84E+00
		241.92		7.46	2.06E-01		2.02E+00
		295.09	*	19.20	3.76E-01		4.52E-01
		351.87	*	37.10	3.69E-01		3.28E-01
		609.31	*	46.10	2.25E-01		3.78E-01
		1120.27		15.00	7.39E-01		1.63E+00
		1764.49		15.90	1.50E+00		1.86E+00
+	TH-232d	238.58	*	43.60	5.33E-01	1.85E-01	1.85E-01
		338.42		12.40	3.08E-01		1.03E+00
		583.02	*	30.87	5.82E-01		3.66E-01
		911.16		29.00	1.29E-01		8.27E-01
		968.97		17.40	1.46E+00		1.50E+00
+	U-235	143.79		10.50	4.25E-01	1.75E-01	8.39E-01
		163.38		4.70	-7.52E-01		1.76E+00
		185.74	*	53.00	6.28E-01		1.75E-01
		205.33		4.70	-5.10E-01		1.87E+00
+	U-238d	63.29	*	3.80	9.10E+00	1.82E+00	2.76E+00
		92.56	*	5.41	8.45E+00		1.82E+00
	AM-241	59.54		35.70	-3.52E-02	2.52E-01	2.52E-01
	CM-243	99.52		14.40	1.99E-01	3.41E-01	5.34E-01
		103.73		23.00	8.40E-02		3.41E-01
		116.93		8.32	-7.60E-02		9.40E-01
		228.19		10.56	2.50E-01		8.59E-01
		277.60		14.00	1.85E-03		7.46E-01
	CM-245	99.52		21.10	1.36E-01	2.33E-01	3.64E-01
		103.73		33.60	5.75E-02		2.33E-01
		116.93		12.20	-5.18E-02		6.41E-01
		174.94		9.50	4.60E-01		8.75E-01

Analysis Report for RCF19415

J16J45 SAF:RC-087 FF2/ 618-7 Burial Grounds Soil

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

Reviewed and Approved: EDWARD S. WALLACE

APR 08 2008 Edward S Wallace
(print/sign/date)

Radiological Counting Facility

Analysis Report for RCF19416

J16J46 SAF:RC-087 FF2/618-7 Burial Ground Soil

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19416
Sample Description	: J16J46 SAF:RC-087 FF2/618-7 Burial Ground Soil
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.500E+01 grams
Facility	: Default
Sample Taken On	: 4/7/2008 8:25:00AM
Acquisition Started	: 4/8/2008 7:33:04AM
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	: 18495

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.52E+01	3.68E+00	
PB-212		0.709	9.36E-01	2.11E-01	
RA-226d		0.672	5.06E-01	2.12E-01	
TH-232d		0.420	8.30E-01	2.40E-01	
U-235		0.540	1.68E-01	1.83E-01	
U-238d	@	0.999	1.86E+00	1.94E+00	

Analysis Report for RCF19416

J16J46 SAF:RC-087 FF2/618-7 Burial Ground Soil

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

UNIDENTIFIED PEAKS

Peak Locate Performed on : 4/8/2008 8:33:12AM
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	1.52E+01	4.18E+00	4.18E+00
	CO-60	1173.24		99.90	-4.71E-02	2.74E-01	2.90E-01
		1332.50		99.98	9.33E-02		2.74E-01
	NB-94	702.63		99.81	-1.33E-01	2.62E-01	2.65E-01
		871.10		99.89	-4.08E-02		2.62E-01
	AG-108m	433.94		90.50	-4.80E-02	2.30E-01	2.30E-01
		614.28		89.80	9.07E-02		3.06E-01
		722.94		90.80	-2.18E-03		3.17E-01
	CS-137	661.66		85.21	1.40E-01	2.89E-01	2.89E-01
	EU-152	40.12		38.40	-8.83E-02	3.30E-01	3.30E-01
		45.38		11.10	-4.25E-02		1.05E+00
		121.78		28.40	1.33E-02		3.43E-01
		244.69		7.51	-2.34E-01		1.93E+00
		344.29		26.60	-2.47E-01		6.38E-01
		411.12		2.23	-5.45E-01		8.46E+00
		443.89		2.80	-3.83E-01		6.41E+00
		778.92		12.98	9.21E-01		2.03E+00
		867.38		4.21	-1.98E+00		6.57E+00

Analysis Report for RCF19416

J16J46 SAF:RC-087 FF2/618-7 Burial Ground Soil

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		964.11		14.50	1.04E+00		2.34E+00
		1085.89		9.94	-2.70E-01		3.11E+00
		1089.71		1.71	-7.57E+00		1.69E+01
		1112.07		13.60	-3.02E-01		2.16E+00
		1212.93		1.40	2.69E+01		2.84E+01
		1299.16		1.63	-1.26E+01		2.02E+01
		1408.00		20.80	-4.43E-01		1.42E+00
	EU-154	123.10		40.50	3.77E-02	2.46E-01	2.46E-01
		723.36		19.70	-1.00E-02		1.46E+00
		873.23		11.45	1.73E-01		2.32E+00
		1004.78		17.90	-8.06E-01		1.65E+00
		1274.54		35.50	-2.79E-01		7.96E-01
	EU-155	86.54		34.00	4.28E-01	3.59E-01	3.59E-01
		105.31		20.60	-3.36E-02		4.40E-01
+	PB-212	74.81	*	10.50	8.84E-01	4.94E-01	9.01E-01
		77.11	*	17.70	9.61E-01		4.94E-01
		87.19		6.27	2.49E+00		1.97E+00
+	RA-226d	186.11	*	3.28	3.22E+00	5.08E-01	4.77E+00
		241.92		7.46	1.62E-01		3.20E+00
		295.09	*	19.20	7.41E-01		8.53E-01
		351.87	*	37.10	6.69E-01		5.18E-01
		609.31	*	46.10	2.91E-01		5.08E-01
		1120.27		15.00	5.40E-01		2.41E+00
		1764.49		15.90	-4.43E-01		2.27E+00
+	TH-232d	238.58	*	43.60	8.97E-01	4.14E-01	4.14E-01
		338.42		12.40	7.30E-01		1.49E+00
		583.02	*	30.87	6.88E-01		6.38E-01
		911.16		29.00	1.45E+00		1.27E+00
		968.97		17.40	1.50E+00		2.05E+00
+	U-235	143.79		10.50	2.84E-02	2.95E-01	9.87E-01
		163.38		4.70	-1.07E+00		2.45E+00
		185.74	*	53.00	1.99E-01		2.95E-01
		205.33		4.70	1.04E+00		3.05E+00
+	U-238d	63.29	*	3.80	1.86E+00	2.15E+00	3.16E+00
		92.56	*	5.41	2.48E+00		2.15E+00
	AM-241	59.54		35.70	1.49E-01	2.60E-01	2.60E-01
	CM-243	99.52		14.40	1.91E-01	3.88E-01	6.49E-01
		103.73		23.00	-5.28E-02		3.88E-01
		116.93		8.32	-1.15E+00		1.05E+00
		228.19		10.56	-1.39E+00		1.21E+00
		277.60		14.00	2.47E-01		1.08E+00
	CM-245	99.52		21.10	1.30E-01	2.66E-01	4.43E-01
		103.73		33.60	-3.61E-02		2.66E-01
		116.93		12.20	-7.87E-01		7.13E-01
		174.94		9.50	-7.05E-01		1.28E+00

Analysis Report for RCF19416

J16J46 SAF:RC-087 FF2/618-7 Burial Ground Soil

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

Reviewed and Approved: EDWARD S. WALLACE

APR 08 2008 Edward S Wallace
(print/sign/date)

TESTAMERICA

94

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-072	Page 1 of 1
Collector: B Lawrence, E. Harries	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code / Data Turnaround: 24 Hours
Project Designation: 618-7 Burial Ground - 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	
Shipped To: Radiological Counting Facility	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	Snap Vial											
No. of Container(s)	1											
Volume	80g											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											
Sample No.	Matrix *	Sample Date	Sample Time		RCF							
J16J45	SOIL	4-7-08	0815	X	19415						S65	G-006
J16J46	SOIL	4-7-08	0825	X	19416						V	G-007
~~J16J47~~	~~SOIL~~											

RC 4/7/08

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	4/7/08 0908	RT Coffman / RT Coffman	4/7/08 0908
RT Coffman / RT Coffman	4/7/08 0925	[illegible] / [illegible]	4/7/08 0925 RCF

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 19416

TESTAMERICA

95

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-072	Page 1 of 1
Collector B Lawrence, E. Harries	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code / Data Turnaround 24 Hours
Project Designation 618-7 Burial Ground - 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	
Shipped To Radiological Counting Facility	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	Snap Vial									
No. of Container(s)	1									
Volume	80g									
SAMPLE ANALYSIS	RCF GEA Shipping Screen									
Sample No.	Matrix *	Sample Date	Sample Time		RCF					
J16J45	SOIL	4-7-08	0815	X	19415				Sirs	G-006
J16J46	SOIL	4-7-08	0825	X	19416				V	G-007
~~J16J47~~	~~SOIL~~									

R 4/7/08

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / S. Hazzard	4/7/08 0908	RT Coffman / RT Coffman	4/7/08 0908
RT Coffman / RT Coffman	4/7/08 0925	[illegible]	4/7/08 0925 RCF

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 19415

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4 8 08 1500 GM Screen Result 0.1 K

Client: WCH SDG #: J00166 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D080302 Chain of Custody # RC-087-079

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: 2
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? SOIL NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added _____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 4 8 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

TESTAMERICA

97

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-087-0783	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-1395-12	COA RG61872600	Method of Shipment	
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										
~~J16J62~~	~~SOIL~~	~~4/4/08~~											
J16J63 KKOCW	SOIL	4·4·08	0805	X								J16J43	
J16J64 KKOC2	SOIL	4·4·08	0810	X								J16J43	

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	0845 4/4/08	R. Fahlberg R. Fahlberg	0845 4·4·08
R. Fahlberg R. Fahlberg	4·4·08 0930	Ref 1A Shipping Facility	4·4·08 0930
1060/1A	4/9/08 0900	mstankovich	0900 4/9/08
WCH mstankovich	4/9/08 0905	RK LILAK THLR	0905 4/9/08

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}

J8D090173
J00166
DUE 4 10 08

Matrix *
S=Soil
SE=Sediment
SO=Solid
St=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 RCF19426

J16HF8,J16HN0,J16HP6,J16HM4-6,J16D65 SAF:RC-001 300PS/321 Bldg

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19426
Sample Description	: J16HF8,J16HN0,J16HP6,J16HM4-6,J16D65 SAF:RC-001 300PS/321 Bldg
Sample Type	: Non Standard Geo
Unit	:
Sample Point	
Sample Size	: 1.000E+00 units
Facility	: Default
Sample Taken On	: 4/7/2008 12:00:00PM
Acquisition Started	: 4/8/2008 3:14:20PM
Procedure	: Non Standard Geometry
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: Non Standard Geo
Live Time	: 3600.0 seconds
Real Time	: 3600.6 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	: Non-Standard Geo (1234-95-2) 2/4/2008
Sample Number	: 18512

Qualitative Only

Non-Standard Geometry

Calibrations for determining sample activity are geometry-specific. This sample does not conform to one of the currently calibrated geometries. Reported activities may differ from the acutal sample activity for this reason.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/units)	Wt mean Activity Uncertainty	Comments
PB-212	0.708	2.03E+01	9.63E+00	
RA-226d	0.828	6.29E+01	1.27E+01	

Analysis Report for RCF19426

J16HF8,J16HN0,J16HP6,J16HM4-6,J16D65 SAF:RC-001 300PS/321 Bldg

? = 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 : 4/8/2008 4:14:28PM
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
NP = No Peak
UK = Unknown
Errors quoted at 2.000 sigma

NUCLIDE MDA REPORT

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

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
K-40	1460.83	10.67	2.34E+02	2.58E+02	2.58E+02
CO-60	1173.24	99.90	4.69E+00	1.70E+01	1.70E+01
	1332.50	99.98	1.84E+00		1.74E+01
NB-94	702.63	99.81	-7.04E+00	1.33E+01	1.34E+01
	871.10	99.89	1.85E+00		1.33E+01
AG-108m	433.94	90.50	8.90E-01	1.02E+01	1.02E+01
	614.28	89.80	-2.19E+01		2.02E+01
	722.94	90.80	8.63E-01		1.34E+01
CS-137	661.66	85.21	2.12E+00	1.41E+01	1.41E+01
EU-152	40.12	38.40	-1.10E+00	1.40E+01	1.40E+01
	45.38	11.10	2.54E+01		5.30E+01
	121.78	28.40	-2.83E+00		1.60E+01
	244.69	7.51	8.69E+01		1.14E+02
	344.29	26.60	6.27E+00		3.66E+01
	411.12	2.23	-1.76E+02		3.96E+02
	443.89	2.80	-2.10E+02		2.97E+02
	778.92	12.98	-2.03E+01		8.40E+01
	867.38	4.21	-9.42E+01		3.15E+02
	964.11	14.50	3.07E+01		1.09E+02
	1085.89	9.94	6.12E+00		1.59E+02

Analysis Report for RCF19426

J16HF8,J16HN0,J16HP6,J16HM4-6,J16D65 SAF:RC-001 300PS/321 Bldg

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/units)	Nuclide MDA (pCi/units)	Line MDA (pCi/units)
		1089.71		1.71	-1.28E+02		9.12E+02
		1112.07		13.60	-1.10E+02		1.20E+02
		1212.93		1.40	-4.53E+02		9.57E+02
		1299.16		1.63	3.56E+01		8.97E+02
		1408.00		20.80	8.28E+00		8.62E+01
	EU-154	123.10		40.50	-7.66E+00	1.10E+01	1.10E+01
		723.36		19.70	3.98E+00		6.17E+01
		873.23		11.45	-6.93E+01		1.15E+02
		1004.78		17.90	-2.32E+01		7.55E+01
		1274.54		35.50	5.70E+00		4.25E+01
	EU-155	86.54		34.00	1.29E+01	1.53E+01	1.53E+01
		105.31		20.60	-2.23E+00		2.01E+01
+	PB-212	74.81	*	10.50	2.82E+01	2.36E+01	3.92E+01
		77.11	*	17.70	1.76E+01		2.36E+01
		87.19		6.27	6.88E+01		8.35E+01
+	RA-226d	186.11		3.28	1.75E+02	2.68E+01	2.33E+02
		241.92		7.46	5.55E+01		1.26E+02
		295.09	*	19.20	5.07E+01		4.72E+01
		351.87	*	37.10	5.53E+01		3.03E+01
		609.31	*	46.10	7.03E+01		2.68E+01
		1120.27	*	15.00	9.81E+01		8.66E+01
		1764.49	*	15.90	7.80E+01		8.75E+01
	TH-232d	238.58		43.60	2.25E+00	2.04E+01	2.04E+01
		338.42		12.40	-8.29E+00		7.59E+01
		583.02		30.87	3.09E+01		4.32E+01
		911.16		29.00	-4.25E+00		4.85E+01
		968.97		17.40	-1.30E+01		8.67E+01
	U-235	143.79		10.50	-4.65E+01	1.44E+01	4.87E+01
		163.38		4.70	-3.31E+01		1.28E+02
		185.74		53.00	1.08E+01		1.44E+01
		205.33		4.70	-1.52E+02		1.41E+02
	U-238d	63.29		3.80	1.32E+02	1.02E+02	1.25E+02
		92.56		5.41	5.56E+01		1.02E+02
	AM-241	59.54		35.70	1.36E+00	1.14E+01	1.14E+01
	CM-243	99.52		14.40	2.69E+01	1.79E+01	3.05E+01
		103.73		23.00	-2.36E+00		1.79E+01
		116.93		8.32	7.08E+00		5.86E+01
		228.19		10.56	2.20E+01		7.41E+01
		277.60		14.00	1.65E+01		5.79E+01
	CM-245	99.52		21.10	1.84E+01	1.22E+01	2.08E+01
		103.73		33.60	-1.61E+00		1.22E+01
		116.93		12.20	4.82E+00		4.00E+01
		174.94		9.50	2.05E+01		6.73E+01

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

Analysis Report for RCF19426

J16HF8,J16HN0,J16HP6,J16HM4-6,J16D65 SAF:RC-001 300PS/321 Bldg

Reviewed and Approved: EDWARD S. WALLACE

APR 08 2008 Edward S Wallace

(print/sign/date)

TESTAMERICA

Hanford's River Corridor Closure Project

Washington Closure Hanford

Survey Number 040708-300-321 -jrb
Sampling Date 4/7/2008

Chain of Custody / Sample Analysis Request

Data Turnaround
- ☐ 24 Hours
- ☑ Standard

☐ Ghost Wipe
☐ Other Wipe

IH Technician BRUNSON, JEFFREY R
Type of Sample Personal
Shipped To DataChem Salt Lake City
Possible Hazards NA
Special Handling NA

Company Contact HENRY RUBY / 509-531-1229
Location 321
COA R32100 J451
Method NIOSH 7400/7300
Project Coordinato Joan H. Kessner

SAF Number: RC-001
Method of Shipment:
Bill of Lading / Air Bill No:

Sample ID	Air	Wipe	Bulk	Other	Blank	Volume	Comments	Asbestos	Beryllium	Lead	Cadmium	Chromium	Dust	hex	Hg	Silica
✓ J16HF8	☐	☐	☐	☐	☑		Metals Perimeter Blank (in RBA)	☐	☑	☑	☑	☑	☐	☐	☐	☐
✓ J16HN0	☑	☐	☐	☐	☐	1133.21	Metals Perimeter (in RBA)	☐	☑	☑	☑	☑	☐	☐	☐	☐
✓ J16HM3	☑	☐	☐	☐	☐	627.655	Metal Personal-Scott Murbach	☐	☑	☑	☑	☑	☐	☐	☐	☐
✓ J16HP6	☑	☐	☐	☐	☐	324.52	Metal Personal-Jerry Hunt	☐	☑	☑	☑	☑	☐	☐	☐	☐
✓ J16HM4	☑	☐	☐	☐	☐	87.45	Excursion-Tom Murbach	☑	☐	☐	☐	☐	☐	☐	☐	☐
✓ J16HM5	☑	☐	☐	☐	☐	233.2	Asbestos Personal (AM)-Tom Murbach	☑	☐	☐	☐	☐	☐	☐	☐	☐
✓ J16HM6	☑	☐	☐	☐	☐	349.8	Asbestos Personal (PM)-Tom Murbach	☑	☐	☐	☐	☐	☐	☐	☐	☐
✓ J16D65	☐	☐	☐	☐	☑		Asbestos Personal Blank	☑	☐	☐	☐	☐	☐	☐	☐	☐

RCF 19426

COPY

Hanford's River Corridor Closure Project

Washington Closure Hanford

Chain of Custody / Sample Analysis Request

Enter the First Sample Number from Page 1 J16HF8

Relinquished By / Stored	Date / Time	Received By / Stored	Date / Time
Jeff Bruson	4-7-08 1630	300/324/ Locked room 212	4-7-08 1630
Jetta D Jones 300/324 locked room 212	4-08-08 1310	MStankovich	4/8/08 1310
MStankovich	4/8/08 1320	R Zimmerman RCF	4/8/08 1320

LABORATORY SECTION

Received By _____ Title _____ Date / Time _____

COPY

Reviewed By _____ Date _____

TESTAMERICA

Radiological Counting Facility

Analysis Report for RCF19418

J16J44 SAF:RC-087 FF2/618-7 Burial Gound Soil

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF19418
Sample Description	: J16J44 SAF:RC-087 FF2/618-7 Burial Gound Soil
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 5.200E+01 grams
Facility	: Default
Sample Taken On	: 4/4/2008 8:10:00AM
Acquisition Started	: 4/8/2008 11:52:03AM
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	: 18509

INTERFERENCE CORRECTED REPORT

Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40		0.999	1.54E+01	3.52E+00	
U-235		0.540	7.57E-01	2.01E-01	
U-238d	@	1.000	9.14E+00	2.70E+00	

Analysis Report for RCF19418

J16J44 SAF:RC-087 FF2/618-7 Burial Gound Soil

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

UNIDENTIFIED PEAKS

Peak Locate Performed on : 4/8/2008 12:52:10PM
Peak Locate From Channel : 80
Peak Locate To Channel : 4096

Peak No.	Energy (keV)		Peak Rate (CPS)	Peak Rate (%) Uncertainty
1	46.60	Pb-210	1.20E-02	45.41
3	77.22	Pb-212	1.71E-02	48.65
6	238.56	Pb-212	1.55E-02	33.74
7	295.32	Pb-214	1.36E-02	29.67
8	351.92	Pb-214	1.20E-02	33.58
9	969.40	Ac-228	3.16E-03	50.55

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	1.54E+01	3.54E+00	3.54E+00
	CO-60	1173.24		99.90	-7.90E-02	3.05E-01	3.43E-01
		1332.50		99.98	3.31E-03		3.05E-01
	NB-94	702.63		99.81	-3.06E-02	2.24E-01	2.78E-01
		871.10		99.89	-6.47E-02		2.24E-01
	AG-108m	433.94		90.50	-1.54E-01	1.98E-01	1.98E-01
		614.28		89.80	-1.07E-02		3.06E-01
		722.94		90.80	-1.32E-01		2.98E-01
	CS-137	661.66		85.21	-5.05E-03	2.70E-01	2.70E-01
	EU-152	40.12		38.40	7.89E-02	3.65E-01	3.73E-01
		45.38		11.10	-1.59E-01		1.30E+00
		121.78		28.40	1.78E-01		3.65E-01
		244.69		7.51	8.72E-01		2.40E+00
		344.29		26.60	-3.43E-01		6.37E-01
		411.12		2.23	-2.52E+00		7.98E+00

Analysis Report for RCF19418

J16J44 SAF:RC-087 FF2/618-7 Burial Gound Soil

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
		443.89		2.80	4.52E+00		8.39E+00
		778.92		12.98	-5.21E-01		2.15E+00
		867.38		4.21	-5.15E+00		5.50E+00
		964.11		14.50	-1.60E+00		2.41E+00
		1085.89		9.94	-8.00E-01		2.82E+00
		1089.71		1.71	1.48E+00		1.64E+01
		1112.07		13.60	1.75E+00		2.65E+00
		1212.93		1.40	7.70E+00		2.37E+01
		1299.16		1.63	9.60E+00		2.06E+01
		1408.00		20.80	4.13E-01		1.64E+00
	EU-154	123.10		40.50	-1.90E-02	2.55E-01	2.55E-01
		723.36		19.70	-6.09E-01		1.37E+00
		873.23		11.45	-5.95E-01		2.11E+00
		1004.78		17.90	7.58E-01		1.97E+00
		1274.54		35.50	4.43E-01		9.63E-01
	EU-155	86.54		34.00	-9.38E-02	4.12E-01	4.12E-01
		105.31		20.60	-3.06E-01		5.07E-01
	PB-212	74.81		10.50	-1.19E-02	9.50E-01	1.36E+00
		77.11		17.70	1.41E+00		9.50E-01
		87.19		6.27	1.90E+00		2.30E+00
	RA-226d	186.11		3.28	1.53E+01	6.64E-01	6.58E+00
		241.92		7.46	8.93E-01		3.05E+00
		295.09		19.20	8.91E-01		1.03E+00
		351.87		37.10	9.28E-01		6.81E-01
		609.31		46.10	2.70E-01		6.64E-01
		1120.27		15.00	5.64E-02		2.18E+00
		1764.49		15.90	2.43E+00		3.01E+00
	TH-232d	238.58		43.60	6.64E-01	5.04E-01	5.04E-01
		338.42		12.40	3.94E-01		1.56E+00
		583.02		30.87	1.98E-01		9.08E-01
		911.16		29.00	7.41E-01		1.09E+00
		968.97		17.40	4.52E-01		1.94E+00
+	U-235	143.79		10.50	9.11E-01	2.70E-01	1.21E+00
		163.38		4.70	7.44E-01		2.79E+00
		185.74	*	53.00	7.57E-01		2.70E-01
		205.33		4.70	9.18E-01		3.05E+00
+	U-238d	63.29	*	3.80	9.14E+00	2.37E+00	3.93E+00
		92.56	*	5.41	9.97E+00		2.37E+00
	AM-241	59.54		35.70	2.36E-02	2.87E-01	2.87E-01
	CM-243	99.52		14.40	-1.95E-01	4.67E-01	7.37E-01
		103.73		23.00	2.13E-01		4.67E-01
		116.93		8.32	-1.59E+00		1.23E+00
		228.19		10.56	2.38E-01		1.44E+00
		277.60		14.00	6.80E-01		1.21E+00
	CM-245	99.52		21.10	-1.33E-01	3.20E-01	5.03E-01
		103.73		33.60	1.46E-01		3.20E-01
		116.93		12.20	-1.08E+00		8.38E-01
		174.94		9.50	-3.64E-01		1.42E+00

Analysis Report for RCF19418

J16J44 SAF:RC-087 FF2/618-7 Burial Gound Soil

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

Reviewed and Approved: **EDWARD S. WALLACE**

APR 08 2008 (print/sign/date)

Edward S Wallace

TESTAMERICA

108

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-0718 | 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	Price Code: 2A
Shipped To: Radiological Counting Facility	Offsite Property No.: NA		Data Turnaround: 24 Hours
			Method of Shipment: GOVERNMENT VEHICLE
			Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None											
Type of Container	Snap Vial											
No. of Container(s)	1											
Volume	80g											
SAMPLE ANALYSIS	RCF GEA Shipping Screen											

Sample No.	Matrix *	Sample Date	Sample Time										
~~J16J42~~	~~SOIL~~	~~4/4/08~~			RCF								
J16J43	SOIL	4.4.08	0805	X	19417								
J16J44	SOIL	4.4.08	0810	X	19418								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries (E. Harries)	4/4/08 0845	R. Fahlberg (R. Fahlberg)	0845 4.4.08
R. Fahlberg (R. Fahlberg)	4.4.08 0930	Ref 1A Shipping facility	4.4.08 0930
1000/CA	4/7/08 1000	M. Mstanbouch	4/7/08 1000
M. Mstanbouch	4/7/08 1010	[illegible]	4/7/08 1010

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
Li=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 19418

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4908 0905 GM Screen Result 0.1K

Client: WCH SDG #: J001166 NA[ ] SAF #: RC-087 NA [ ]

Work Order Number: J8D090173 Chain of Custody # RC-087-078B

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: 2
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? SOIL NA [✓] 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: LJC Date: 4 9 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____